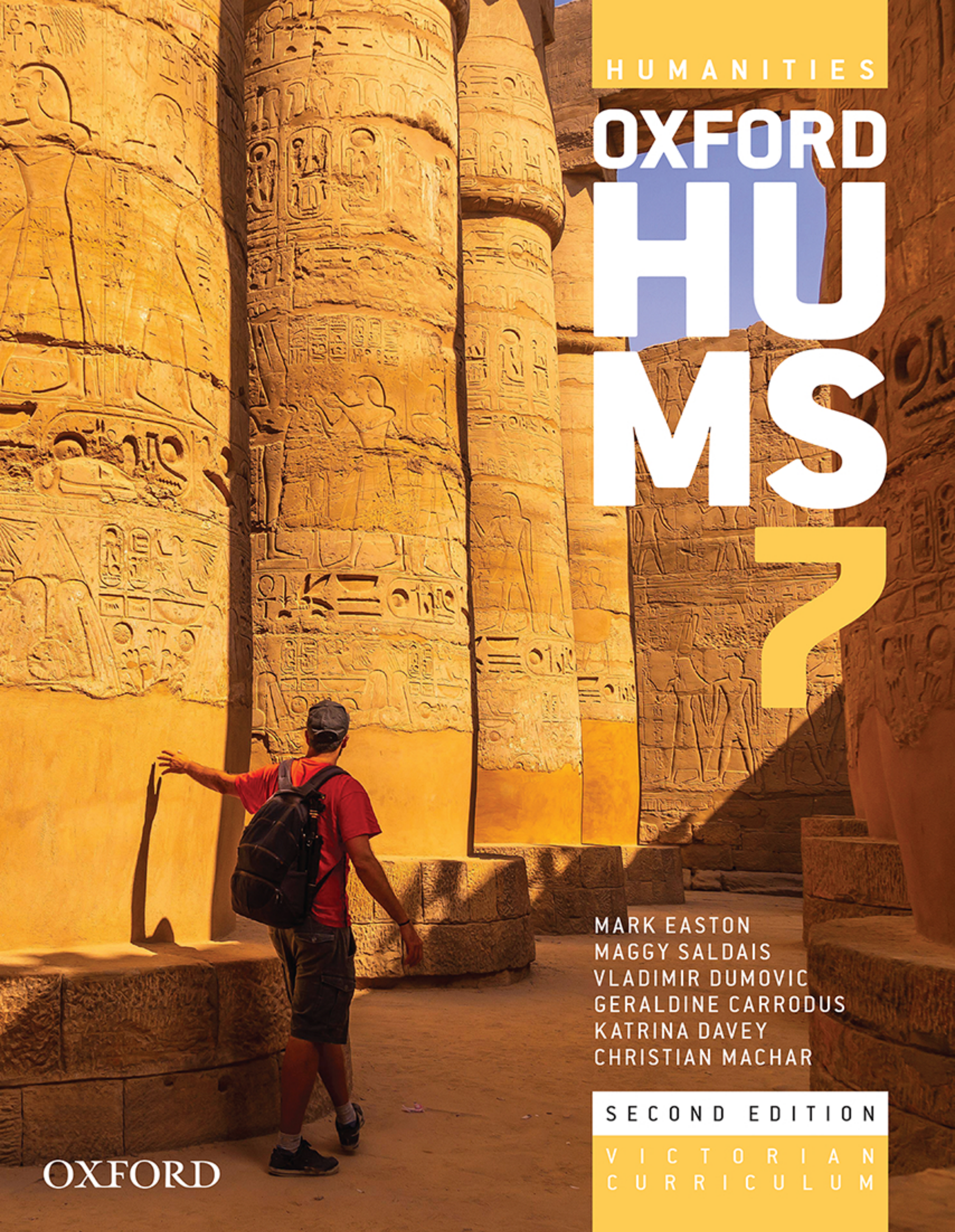

HUMANITIES

OXFORD HUMS 7

MARK EASTON
MAGGY SALDAIS
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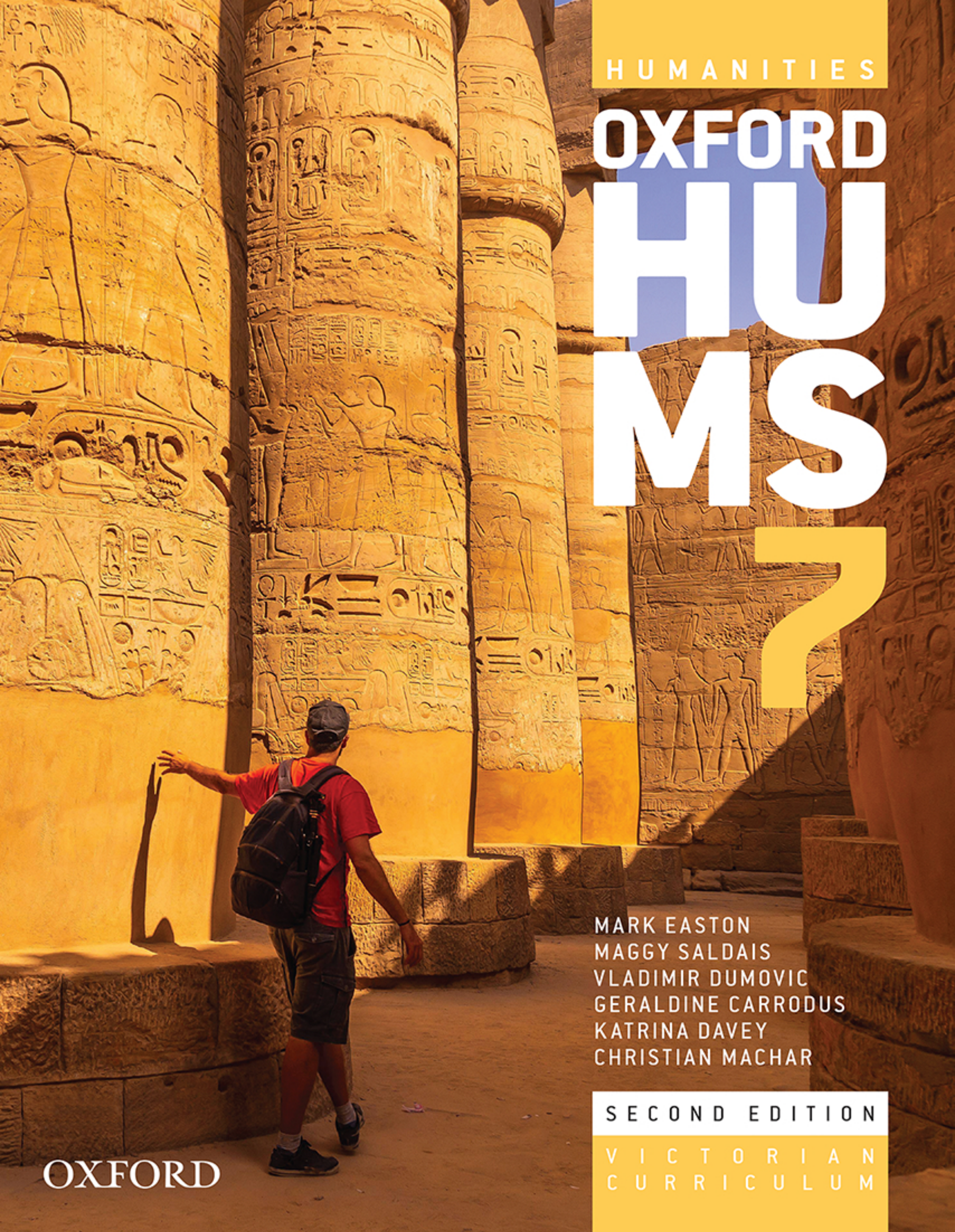

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Throughout Humanities, you will study four distinct subjects: Geography, History, Economics & Business and Civics & Citizenship. Each of these subjects has its own set of key skill areas that you will learn about and develop through the course of your study. This table of contents shows where you can find the opportunities to practise these skills, both in the book and on obook pro. For more information on the key skill areas listed, visit the Toolkit for each subject.

Geography skills

	Key skill	Practise the skill	Chapter	Page number
Curriculum strand: Place, space & interconnection	ASKING QUESTIONS & CONDUCTING RESEARCH	Planning a geographical inquiry Researching a location from afar Investigating who makes policy in Australia	1 4 4	13 obook pro obook pro
	CONDUCTING FIELDWORK	Writing a basic fieldwork report Water usage at my house Conducting a survey and collecting the results Completing a map survey Completing a street survey Capturing and annotating a geographical photo	1 3 4 5 5 5	obook pro obook pro 131 174 175 185
	INTERPRETING GEOGRAPHICAL IMAGES	Using satellite images Analysing change Comparing different types of geographical images	2 3 5	69 obook pro obook pro
	ANALYSING MAPS	Understanding BOLTSS features Understanding direction Understanding six-figure grid references and topographic maps Using a map legend and scale Using a topographic map Analysing a map	1 1 1 2 2 4	obook pro obook pro obook pro 47 60 141
Curriculum strand: Data & information	IDENTIFYING PATTERNS & RELATIONSHIPS	Using maps to describe change Interpreting a flow map Reading a weather map Interpreting a proportional circle map	3 3 3 4	85 97 105 123
	COLLECTING & REPRESENTING DATA	Distinguishing between quantitative data and qualitative data Drawing climate graphs Creating a line graph Reading population pyramids Drawing a concept map Interpreting graphs Reading a scatterplot	1 3 4 4 4 5 5	obook pro 93 120 126 133 162 obook pro
	COMMUNICATING & REFLECTING	Creating an annotated visual display Justifying your response Proposing a strategy	1 4 5	33 obook pro obook pro

Economics & business skills

	Key skill	Practise the skill	Chapter	Page number
Curriculum strand: Reasoning & interpretation	ASKING QUESTIONS & CONDUCTING RESEARCH	Finding statistics Why do house prices increase? Savings accounts	16 17 18	obook pro obook pro obook pro
	REASONING & DECISION MAKING	Evaluating pros and cons Making a list of pros and cons Creating a budget	16 17 18	444 451 473
	ANALYSING SOURCES	Analysing house prices Reading a nutrition label	17 18	455 468
	COMMUNICATING & REFLECTING	Using a model Constructing a demand graph	17 17	451 458

History skills

	Key skill	Practise the skill	Chapter	Page number
Curriculum strand: Chronology	SEQUENCING EVENTS	Creating a timeline Creating a visual representation of a historical event Ordering significant events Plotting events on a timeline	6 10 11 12	199 295 333 281
Curriculum strand: Cause & effect	ANALYSING CAUSE & EFFECT	Analysing the causes and effects of the Great Wall of China Julius Caesar's death Analysing a map in history Foot binding	6 12 15 15	201 obook 400 obook
Curriculum strand: Continuity & change	IDENTIFYING CONTINUITY & CHANGE	Identifying examples of continuity and change in the Olympic Games The use of fire Using a Venn diagram to help with comparison Exploring changes in the Mauryan Empire	6 8 11 14	203 obook 307 obook
Curriculum strand: Historical significance	DETERMINING HISTORICAL SIGNIFICANCE	Mungo Man The Battle of Kadesh Understanding the significance of the Vedic people	8 10 14	obook obook obook
Curriculum strand: Historical sources as evidence	ASKING QUESTIONS & CONDUCTING RESEARCH	Generating questions Generating historical inquiry questions Using the internet to find relevant and reliable sources Generating historical inquiry questions	6 11 11 15	195 315 329 432
	ANALYSING SOURCES	Analysing primary and secondary sources Interpreting primary sources Considering perspectives Using primary sources as evidence Understanding bias Assessing the usefulness of sources Analysing sources using DAMMIT Understanding perspectives Understanding purpose, perspectives and empathy Analysing visual sources Identifying and analysing perspectives Understanding perspectives Identifying features in visual sources	8 10 10 10 11 11 12 12 12 14 14 15 15	251 266 271 276 311 339 353 357 387 obook obook 412 425
	COMMUNICATING & REFLECTING	Creating and delivering an audiovisual presentation Creating a flow chart Writing an extended response	8 10 12	239 289 363

Please note: there are some duplicate skills provided throughout History to cater for the different depth study options.

Civics & citizenship skills

	Key skill	Practise the skill	Chapter	Page number
Curriculum strand: Reasoning & interpretation	ASKING QUESTIONS & CONDUCTING RESEARCH	Asking what, who, when, where, how and why Conducting a census survey	19 20	481 495
	EVALUATING & DECISION MAKING	Recognising different points of view Shared values	19 20	obook obook
	ANALYSING SOURCES	Separating fact from opinion Migration and multiculturalism	19 20	obook obook
	COMMUNICATING & REFLECTING	Writing a letter to your local MP or to the prime minister Your role as a citizen	20 19	501 obook

Oxford Humanities Victorian Curriculum has been developed to meet the requirements of the *Victorian Curriculum: Humanities* across Years 7–10. As well as offering complete coverage of *Geography, History, Economics and Business,* and *Civics and Citizenship*, this new edition ensures that students build their Humanities skills across all four subjects, preparing them for success in Humanities in VCE.

The series offers a completely integrated suite of print and digital resources to meet your needs, including:

- Student Book
- Student obook pro
- Teacher obook pro.

Key features of Student Books

- The Student Books combine complete curriculum coverage with clear and engaging design.
- Each print Student Book comes with complete access to all of the digital resources available on Student obook pro.

Focus on skill development

Key skills

- Key skill activities enable students to practise and master skills in each subject. More key skill activities are available via Student obook pro to provide comprehensive coverage of Humanities skills.

Visible thinking prompts

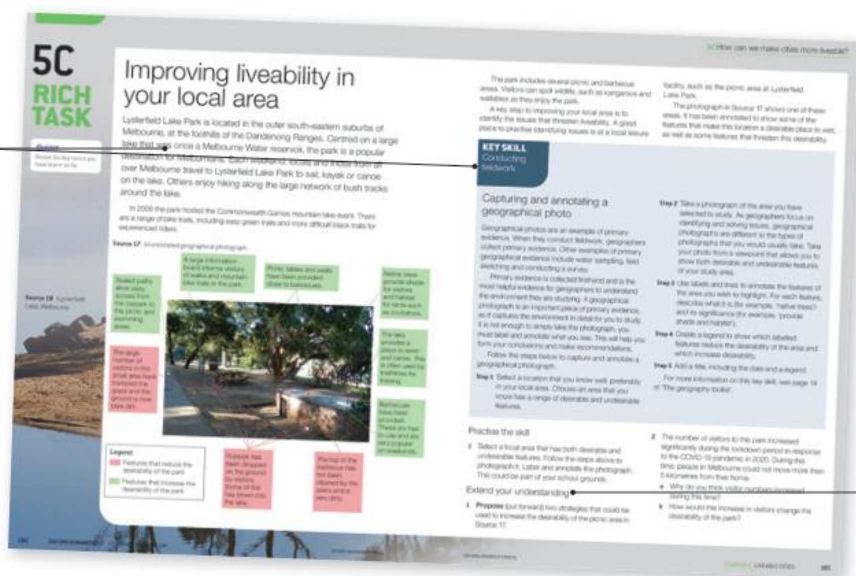
- Visible thinking prompts encourage students to develop their critical thinking and analysis skills.

Check your learning

- Each topic finishes with a set of questions that enable students to consolidate their learning.

Task words

- Questions are generally phrased using bolded task words, which state what is expected of a student and help develop their understanding of questions beyond 'who, what, when, where and why'.



Rich tasks

- Rich tasks provide in-depth skills practice, encouraging students to apply the knowledge and skills they have learnt to a new case study, event or issue.

Extend your understanding

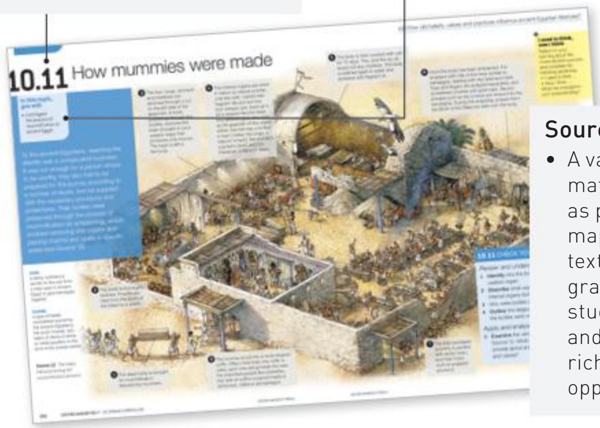
- These activities challenge students to conduct further research or complete group work to deepen their understanding of an issue or skill.

Focus on engagement

Topic-based approach
- Chapter content is sequenced in numbered topics to support teaching and learning.

Learning outcomes
- Each topic begins with a statement of learning outcomes, which link the content to the curriculum.

Integrated digital resources
- Digital icons signpost a range of engaging resources that can be accessed via Student obook pro, including drag-and-drop activities, video quizzes, virtual site studies and quick quizzes. These resources are directly integrated with the topic being covered.



Source materials
- A variety of source materials such as photographs, maps, illustrations, text extracts and graphs will spark students' curiosity and provide rich learning opportunities.

Focus on support for mixed-ability classrooms

Margin glossary terms
- On-page glossary definitions are provided for key terms, supporting students at their point of learning. Key terms also appear in a glossary at the end of the book, and can be revised in a fun Quizlet game via Student obook pro.

Easy-to-access text and design
- The text is written in clear and concise language and the text design is engaging and easy to navigate.

Structured questions
- Questions for each topic are graded according to Bloom's taxonomy, catering for a range of abilities.

Customisable chapter review section
- Each chapter ends with a chapter review that gives students the chance to consolidate their knowledge and apply the skills they have learnt throughout. A marking rubric and customisable version of the chapter review is available via Teacher obook pro to support differentiation.

Focus on STEAM

Integrated STEAM projects
- Take the hard work out of cross-curricular learning with engaging STEAM projects. Two fully integrated projects are included at the end of each book in the series, and are scaffolded and mapped to the Humanities, Science and Maths curricula. The same projects also feature in the corresponding Oxford Science and Oxford Maths series to assist cross-curricular learning.

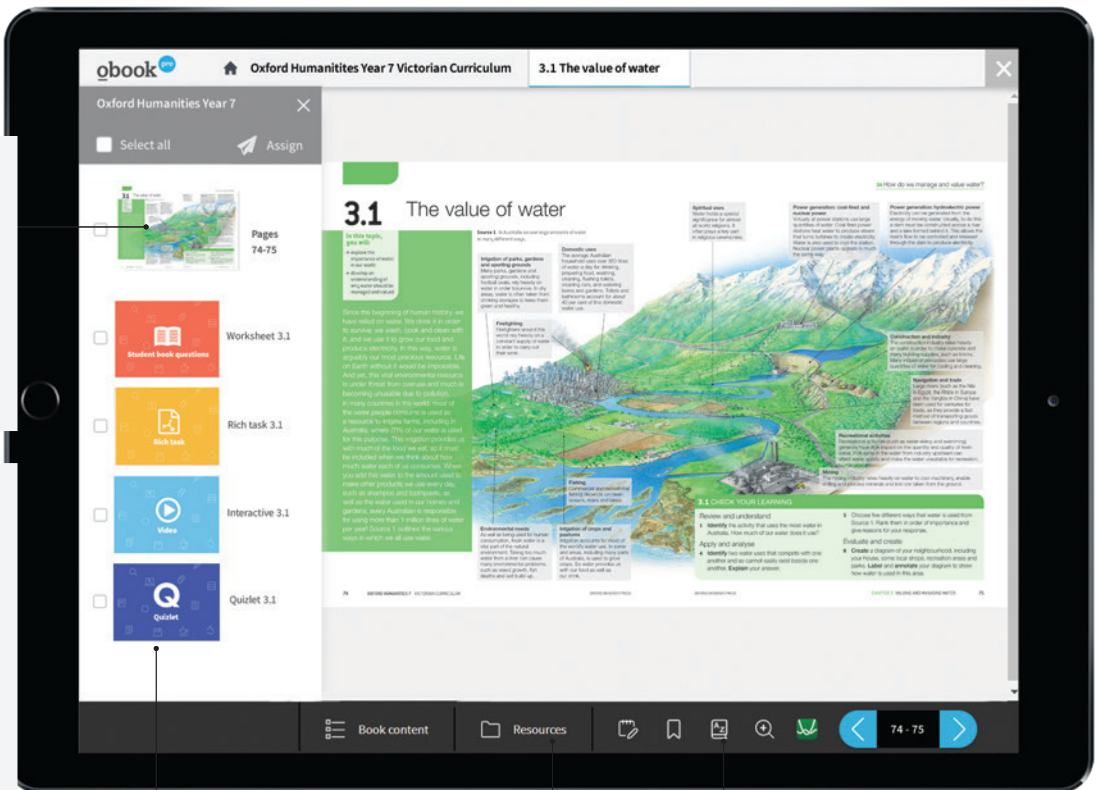
Problem solving through design thinking
- Each STEAM project investigates a real-world problem that students are encouraged to problem-solve using design thinking.

Full digital support
- Each STEAM project is supported by a wealth of digital resources, including student booklets to scaffold students through the design thinking process of each project, videos to support key concepts and skills, and implementation and assessment advice for teachers.

Key features of Student obook pro

- Student obook pro is a completely digital product delivered via Oxford's online learning platform, **Oxford Digital**.
- It offers a complete digital version of the Student Book with interactive note-taking, highlighting and bookmarking functionality, allowing students to revisit points of learning.
- A complete ePDF of the Student Book is also available to download for offline use and read-aloud functionality.

Focus on eLearning



Complete digital version of the Student Book

- This digital version of the Student Book is true to the print version, making it easy to navigate and transition between print and digital.

Interactive assessments

- Each topic in the Student Book is accompanied by an interactive assessment that can be used to consolidate skills and knowledge and for formative assessment.
- These interactive assessments are autocorrecting, with students receiving instant feedback on achievement and progress. Students can also access all their online assessment results to track their own progress and reflect on their learning.

Quizlet

- Integrated Quizlet sets, including real-time online quizzes with live leaderboards, motivate students by providing interactive games that can be played solo or as a class. Quizlet can be used for revision or as a warm-up activity when a chapter is introduced.

Additional resources

- A rich variety of additional resources such as interactive layered maps, videos, worksheets, quizzes and weblinks are linked to individual topics in the book so they can be accessed at the point of learning.

Integrated dictionary

- Each digital Student Book provides an integrated Australian Concise Oxford Dictionary look-up feature, so students can quickly access any terminology they aren't sure of and continue their learning.

Benefits for students

- integrated Australian Concise Oxford Dictionary look-up feature
- interactive assessments to consolidate understanding
- integrated Quizlet sets including real-time online quizzes with live leaderboards
- additional resources available at the point of learning
- access to their online assessment results to track their own progress

Key features of Teacher obook pro

obook pro

- Teacher obook pro is a completely digital product delivered via **Oxford Digital**.
- Each chapter and topic of the Student Book is accompanied by full teaching support. Teaching programs clearly direct learning pathways throughout each chapter and provide ideas for differentiation.
- Teachers can use their Teacher obook pro to share notes and easily assign resources or assessments to students, including due dates and email notifications.

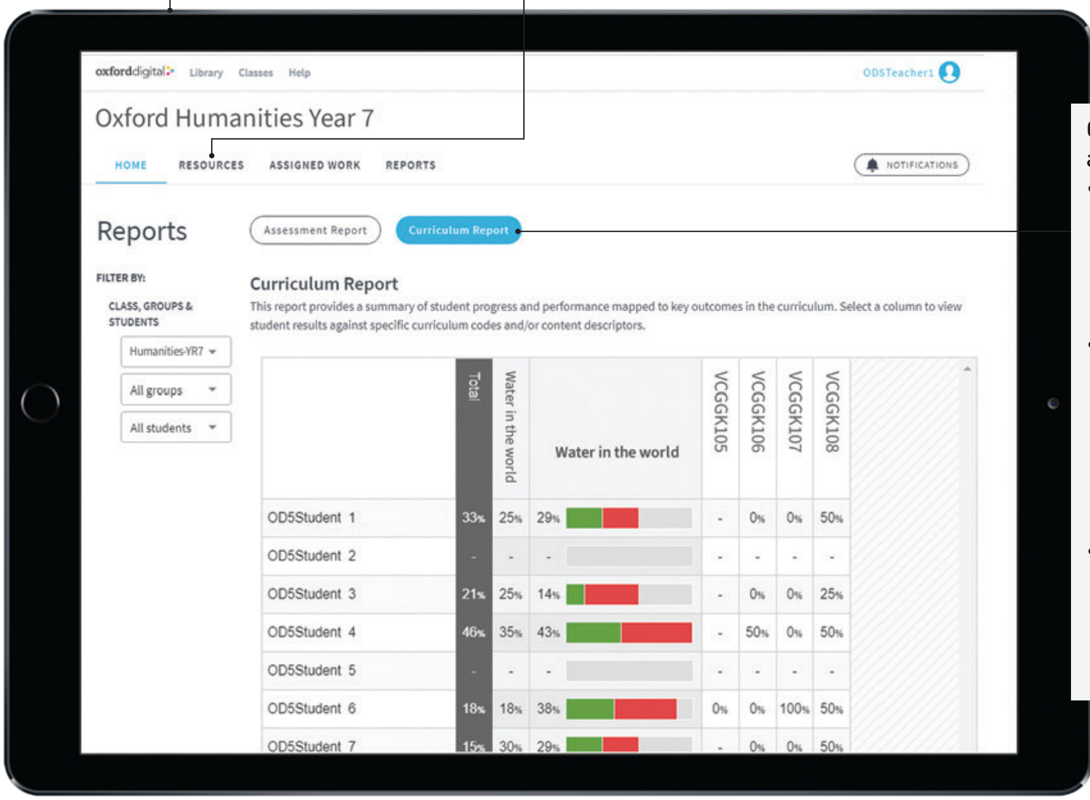
Focus on assessment and reporting

Complete teaching support

- Teaching support provides full lesson and assessment planning, ensuring there is more time to focus on students.

Additional resources

- Each chapter of the Student Book is accompanied by additional resources, including answers to every Student Book question, differentiated worksheets and class tests to monitor student progress.



Curriculum and assessment reports

- Teachers are provided with clear and tangible evidence of student learning progress through curriculum and assessment reports.
- Assessment reports directly show how students are performing in each online interactive assessment, providing instant feedback for teachers about areas of understanding.
- Curriculum reports summarise student performance against specific curriculum content descriptors and curriculum codes.

Benefits for teachers

- Teachers have access to all student resources.
- As well as online assessment, teachers have access to editable class tests that are provided at the end of each chapter. These tests can be used as formative or summative assessment and can be edited to suit the class's learning outcomes.
- As students complete online assessments, their results are measured against curriculum outcomes through the curriculum report. This allows easy understanding of how students are progressing, and where they may need support.

PART 1

Geography

Concepts and skills

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CHAPTER 1

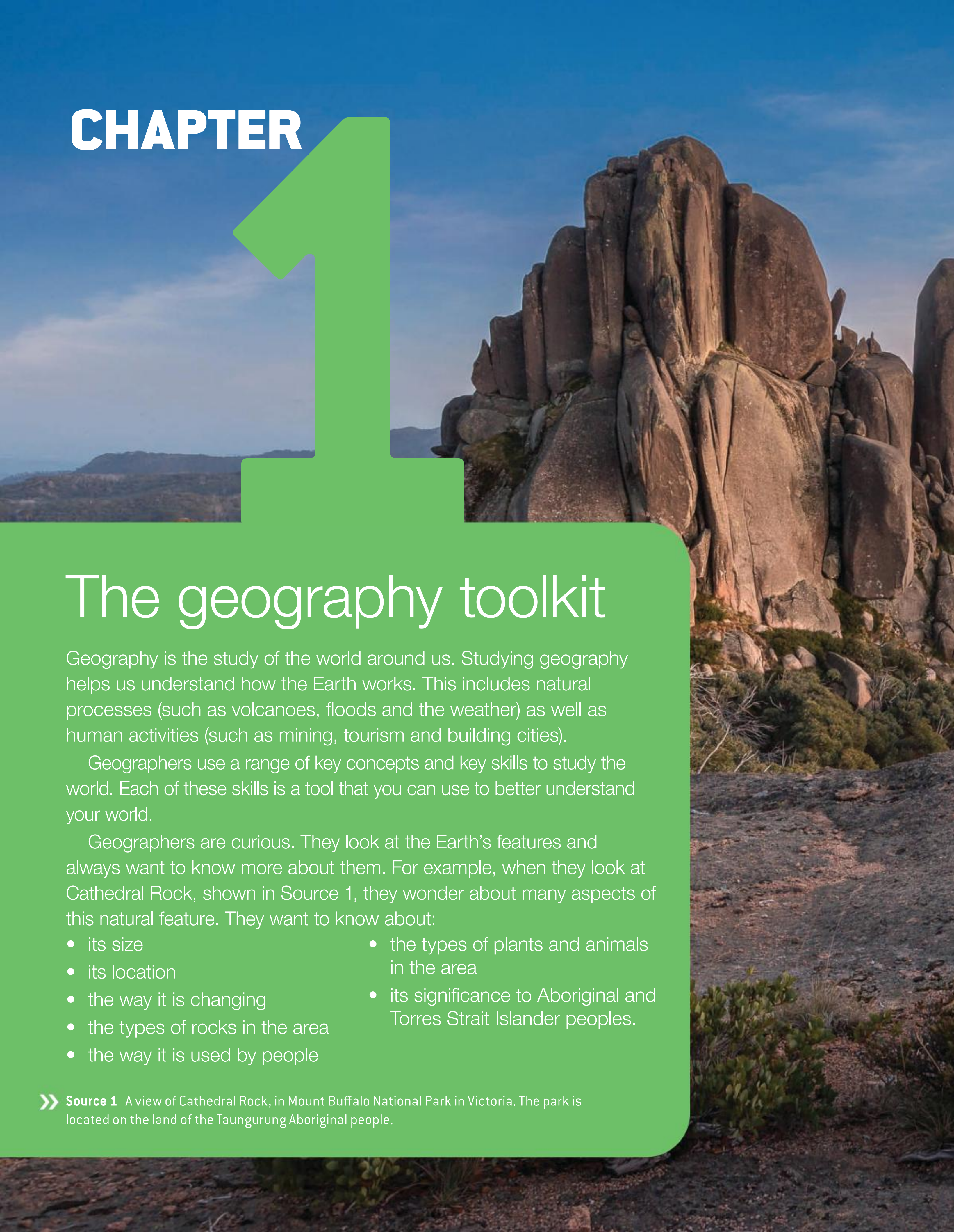
The geography toolkit

Geography is the study of the world around us. Studying geography helps us understand how the Earth works. This includes natural processes (such as volcanoes, floods and the weather) as well as human activities (such as mining, tourism and building cities).

Geographers use a range of key concepts and key skills to study the world. Each of these skills is a tool that you can use to better understand your world.

Geographers are curious. They look at the Earth's features and always want to know more about them. For example, when they look at Cathedral Rock, shown in Source 1, they wonder about many aspects of this natural feature. They want to know about:

- its size
- its location
- the way it is changing
- the types of rocks in the area
- the way it is used by people
- the types of plants and animals in the area
- its significance to Aboriginal and Torres Strait Islander peoples.



Source 1 A view of Cathedral Rock, in Mount Buffalo National Park in Victoria. The park is located on the land of the Taungurung Aboriginal people.

Concepts and skills

1A
What are the geographical concepts?

1B
What are the geographical skills?

1.1 Geographical concepts

Geographers use seven concepts to help investigate and understand the world. As you learn to use each of the key ideas you will begin to think like a geographer. At times you will use several of these at once, while at other times you may focus on just one.

These are the seven key concepts in geography:

- place
- space
- sustainability
- interconnection
- environment
- change
- scale.

Place

Places are parts of the Earth's surface that are identified and given meaning by people. A place can be as small as your bedroom or as large as the entire planet! The life of every person and animal on Earth is influenced by place. Places can be natural (shaped by the environment and largely unchanged by humans) or built (constructed by humans). Places determine our relationships with one another (for example, our closest relationships are likely to be with people in the same place). The environmental and social qualities of a place also influence the way we live. Climate, landscapes, types of plants and resources, transport networks, entertainment venues and workplaces all have a major impact on the way we live.

For Aboriginal and Torres Strait Islander peoples, place also has a deeper spiritual meaning. A sense of identity comes from the relationship with place. Aboriginal peoples refer to place as Country and believe that there is a responsibility to look after it.

Geographers use the concept of place when conducting any **geographical inquiry**. Just as place influences people, people also influence place. The ways in which we live, and the actions we take, change the places in which we live. Geographers investigate the outcomes of these changes.

Source 1 An aerial view of Tokyo, Japan – an example of a built environment

Space

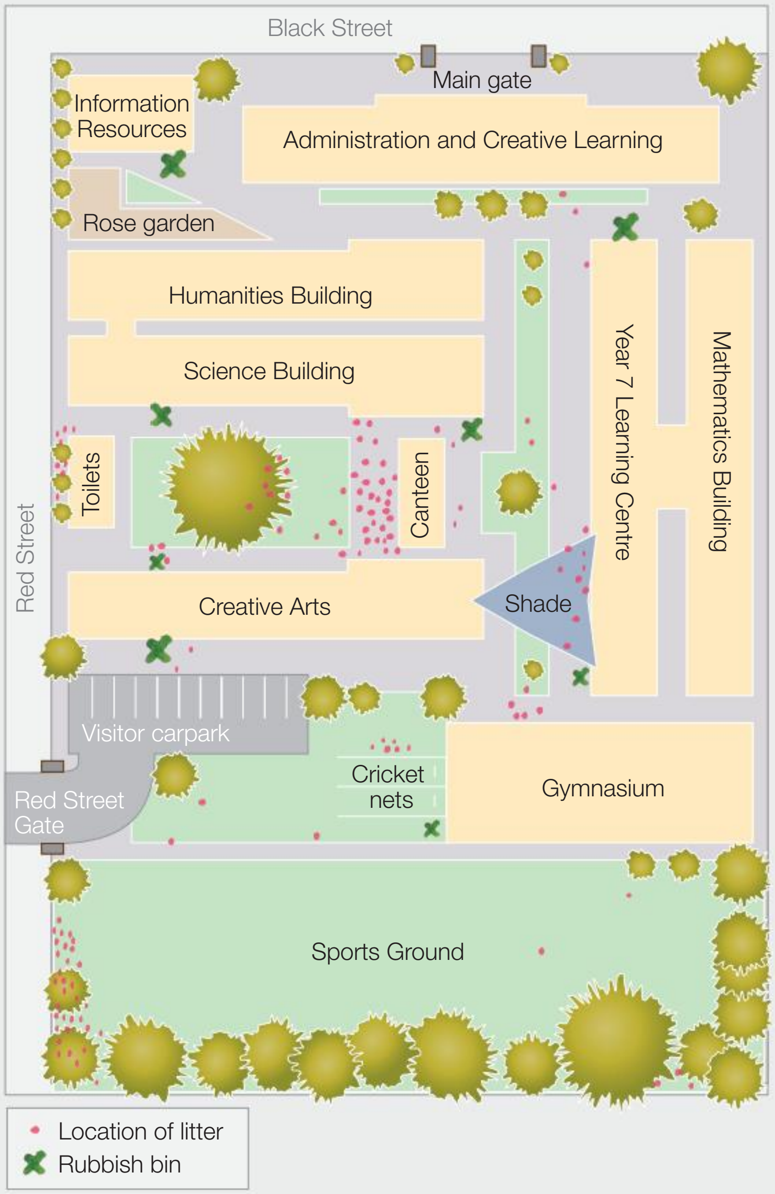
To a geographer, the concept of space is the way that things are arranged on the Earth's surface. Geographers investigate spaces, look for patterns and try to find explanations. The concept of space helps them to do this. It has three main elements:

- location – where things are located on the Earth's surface
- spatial distribution – the shapes and patterns in which things are arranged on the Earth's surface
- organisation – how and why things are arranged and managed on the Earth's surface by people.

Geographers investigate the way that people use and change the space in which they live. They recognise that different groups of people use space in different ways and that this changes over time. They also investigate the ways in which improvements in transport and communication have made links between places quicker and easier and how this is changing the world.

The concepts of place and space can be difficult to separate, but it will help if you remember that places can be divided into spaces. For example, a small place, such as your school, has different spaces. Each of these spaces has its own purpose. There are spaces for learning (such as classrooms and computer rooms), playing (such as playgrounds and play equipment), eating (such as the cafeteria or canteen) and running the school (such as staffrooms and administration buildings).

Larger places (such as your suburb, town or city) are also organised into different spaces. There are spaces for housing (such as homes for families), businesses (such as shops and offices), industry (such as factories and warehouses), entertainment (such as concert halls and theatres) and sport and recreation (such as stadiums, parks and gardens).



Source 2 A sketch map of Gumtree College showing the locations of the bins and litter

Sustainability

The concept of sustainability relates to the ongoing capacity of Earth to maintain all life. In order to live sustainably, we must manage the Earth's resources so that they can be used to meet our own needs without compromising these resources for future generations.

Sustainability is an important concept for geographers. They use it to investigate how natural and human systems work, and to understand how resources can be managed in such a way that means they will be sustained into the future.

Many of the world's resources (such as oil, coal and natural gas) are non-renewable. This means that if we continue to use them they will run out one day. Other resources (such as wind, forests, solar and water) are renewable. This means that they replace themselves naturally, or can be replaced to meet the needs of society. Sustainability encourages us to think more closely about these different types of resources – the ways in which they are formed and the speed at which they are being used. It also encourages us to look more closely at renewable options and take greater care of the Earth. Actions to improve sustainability can operate at any scale: local, national, international or global.

Source 3 Farmers are increasingly using sustainable farming practices to ensure the environmental future of their farm.

Interconnection

No place or thing on Earth exists in isolation. All environments and every living and non-living thing found within them are connected. These connections can be on a local level or a global level.

Geographers use the concept of interconnection to better understand the complex links between natural and human processes that shape our Earth. Places and people can be linked through many different ways. These can be categorised as:

- natural processes, such as the water cycle and food chain
- human activities, such as the movement of people, the production and trade of goods and the flow of investment and money linked within and between different countries.

Think of the Earth as a single living organism, much like the human body. Your brain, heart, lungs, stomach, arms and legs all work together as a single system to keep you alive and healthy. In much the same way, the Earth's living systems (such as climate, plants, animals, oceans, soils, atmosphere and energy) all function together and are interconnected. Even a slight rise in the Earth's temperature, for example, will affect the oceans (by damaging coral reefs and affecting the populations of fish and other sea creatures), the land (through failure of crops and drought) and the polar ice caps (by increasing sea levels and forcing millions of people to relocate their homes).

Source 4 This port on Curtis Island off Queensland is an example of interconnection. Gas is liquefied on Curtis Island before being loaded onto ships and traveling to buyers in countries such as China.

Environment

Our world is made up of many different environments. Some environments are natural (or physical) such as deserts, grasslands, mountains, coral reefs, forests, oceans and ice caps. For an environment to be considered natural, its soils, rocks, climate, plants and animals must remain largely untouched by humans. Today, there are very few truly natural environments left on Earth.

Other environments have been so altered by humans that very few natural features remain. These environments are known as built (or human) environments and include large cities, towns, suburbs and vast areas of farmland. Human environments not only affect the natural features, they also affect the climate. For example, a large city, such as New York, will often be a few degrees hotter than the surrounding areas because concrete in the buildings traps the Sun's heat. Most environments on Earth are now a combination of natural and human features.

The study of different environments helps geographers to better understand and appreciate natural processes, such as how weather works, how mountains are formed and how rainforests and coral reefs grow. The concept helps geographers to analyse the changes humans make to natural environments and better appreciate their impacts, so that they can be managed more wisely.

Source 5 A scientist looking out over McMurdo Station at Observation Hill in Antarctica; the line between the natural and built environment is clearly illustrated in this photograph.

Change

Changes are constantly happening on Earth. Some changes occur very rapidly and are obvious, while others take place over millions of years and are almost undetectable to us. The concept of change is important because it helps us to understand what is happening around us and how the Earth has been shaped and changed by natural forces, such as climate, earthquakes, volcanoes, running water and storms, to name just a few. In more recent times, humans have shaped and changed the Earth to suit their own needs, but events such as volcanic eruptions and tsunamis are a reminder that powerful natural forces continue to alter the face of the Earth, regardless of what humans do.

Changes take place on many different levels, from personal and local right through to national and global. Small local changes that happen quickly, such as a tree falling over on your street, are often easy to observe and explain. Larger regional or national changes, such as an earthquake, can happen quickly and their effects can be widespread and have devastating impacts on places and people. Changes that take place on a global scale can take much longer. Global warming, for example, is a long-term change that happens over centuries or decades. Its widespread effects are becoming clearer each year.

Observing and understanding natural and human-made changes is an important part of any geographical inquiry. Geographers need to look at different types of changes, why they have occurred, over what time period they have occurred and what further changes may take place as a result. Sometimes changes can be positive, such as the conservation of plants and animals in national parks, while other changes can have negative consequences, such as the deforestation of native rainforests. Geographers play an important role in ensuring that change is managed in a sustainable way.

Source 6 Satellite images are a good tool for geographers to observe change, because the changes are obvious when comparing two images of the same place at different times. The changes that took place in a Japanese coastal suburb of Rikuzentakata as a result of a tsunami in March 2011 were devastating and very rapid. The top image shows the area before the tsunami and the bottom image shows the same area after the tsunami had struck.

Scale

The concept of scale is used to guide geographical inquiries. Geographers study things that take place on many different spatial levels – from small areas (such as a local park) to very large areas (such as the use of oil and coal all over the world). They use the concept of scale to look for explanations and outcomes at these different levels. A geographical inquiry of the ways in which people use parks, for example, may be carried out at a range of scales (from smallest to largest):

- local – such as an inquiry into the daily visitors to a neighbourhood skate park
- regional – such as an inquiry into the types of visitors staying at campsites in the Gariwerd (Grampians) region of Victoria
- national – such as an inquiry into the yearly tourist numbers visiting national parks Australia-wide
- international – such as an inquiry into animal poaching in national parks and wild game reserves in different countries across Africa
- global – such as an inquiry into the use of all marine parks around the world and their effectiveness in protecting different species of marine animals.

For more information on scale, read the key concept box on page 79.

Source 7 Geographical inquiries can be carried out on a number of different spatial levels: local, regional, national, international and global.

Check your learning
Log onto your obook pro to complete the questions for topic 1.1.

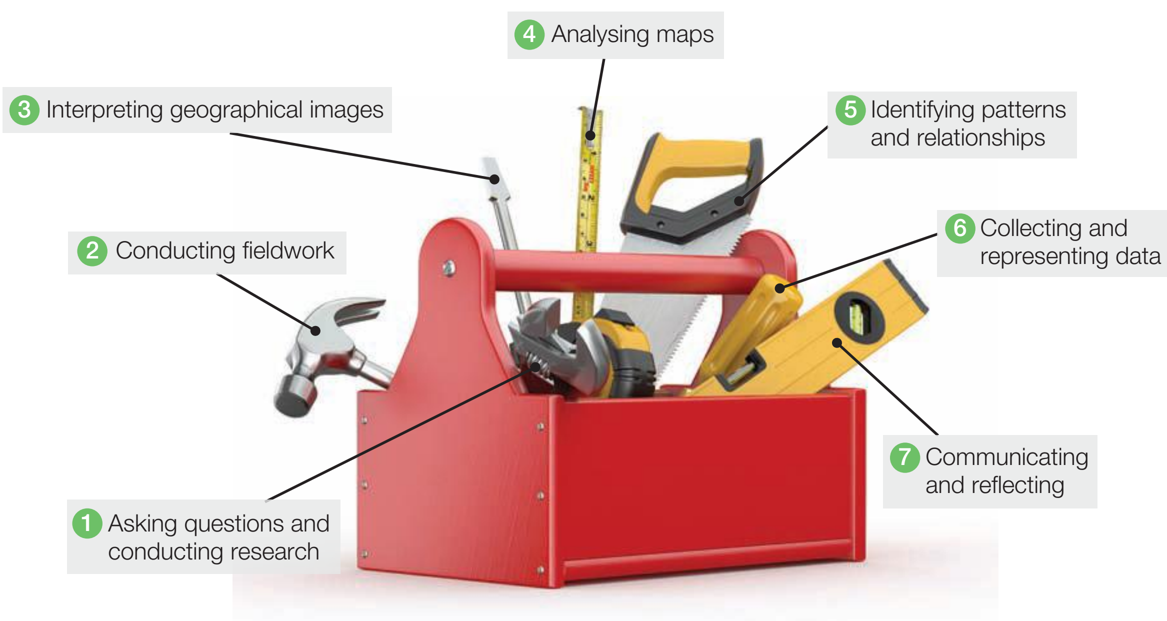
1.2 Geographical skills

Geographers examine the world and try to explain what they see. There are a number of key skills that geographers use to successfully investigate the world around them. They are:

1. Asking questions and conducting research
2. Conducting fieldwork
3. Interpreting geographical images
4. Analysing maps
5. Identifying patterns and relationships
6. Collecting and representing data
7. Communicating and reflecting.

By studying geography you will gradually master each of these skills. Some of them you will find easy to master; others may take a little longer. As you develop each new skill, you will gain another important tool for explaining the natural processes and human activities that shape our amazing planet.

Each of the skills you will learn over the course of this year is explained in this section. It might help you to think of each of these skills as individual tools in your toolkit.



Source 1 There are seven stages in any geographical inquiry. At each stage, geographers use different skills. Each of these skills is like a tool in a toolkit.

1.3 Asking questions and conducting research

geographical inquiry a process that geographers use to guide their investigations of places, people and things

If you look out the window of your classroom you could ask some simple questions to form the basis of a geographical investigation, also known as a **geographical inquiry**. If the sun is shining, you could begin an inquiry into the hours of sunlight and the pattern of temperatures in your area. If you can see lots of trees or buildings, you could begin an inquiry into what type of environment you are in and the different forces that have shaped it. Once you have observed what is around you, the next stage is to develop some geographical questions to focus your inquiry. Geographical questions can be as simple as 'What is it?' and 'Where is it?' or more complex, such as 'What is the connection between these two things?' and 'How and why have things changed over time?'

KEY SKILL
Asking questions & conducting research

Planning a geographical inquiry

Look at the image of Uluru in Source 3. As a geographer, no longer will you look at something in your world, such as Uluru, and think of it as an interesting place to visit. Instead, you will begin to ask questions about how it was formed and came to look the way it does. You will also start to ask questions about the area in which it is located, its vegetation, how it is managed and its significance for Aboriginal peoples.

Here is an example of how to begin planning a geographical inquiry into Uluru. You can see that this geographer has chosen one key inquiry question to focus on, and made some notes about how they might begin to find answers.

Source 2 A guide for planning the direction of a geographical inquiry into Uluru

Key inquiry question	Data needed	Possible sources of data
Is it a good thing that so many tourists visit Uluru?	» Information on the importance and significance of Uluru to the Anangu, who are the Aboriginal people in the area » Information on the management and maintenance of the park	» Conduct fieldwork into visitor numbers » Create surveys and questionnaires for visitors to complete » Contact Parks Australia and Uluru-Kata Tjuta National Park for information on how the park is managed » Download resources from the Parks Australia website; for example, podcasts, maps, visitor guides, geological reports, audio tours and images

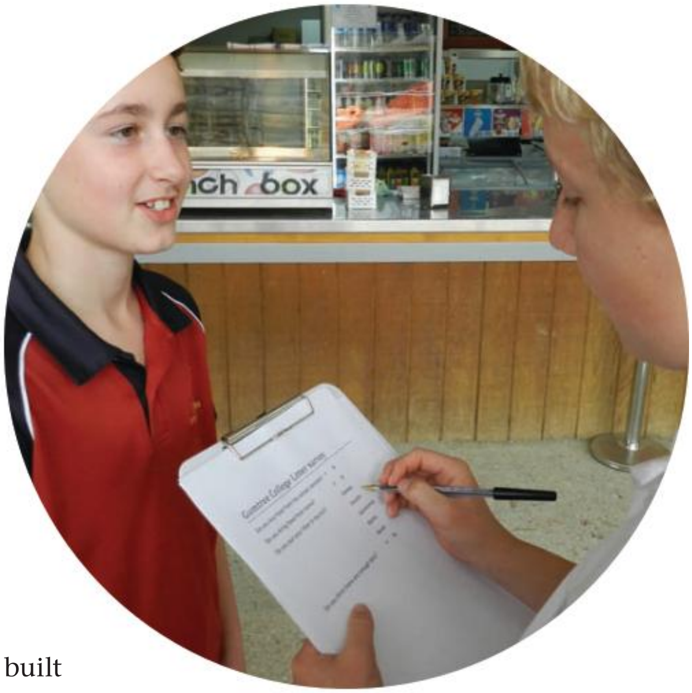
Check your learning
Log onto your obook pro to complete the questions for topic 1.3.

Source 3 Uluru is a place of great spiritual significance to Aboriginal peoples. It is also a popular tourist destination.

1.4 Conducting fieldwork

fieldwork
geographical study that takes place outside the classroom at the site of inquiry

Fieldwork is any geographical study that takes place outside the classroom or, as geographers say, 'in the field'. It can be conducted at a number of scales – in your school grounds, within your local community, in another state or even in another country. Fieldwork is an essential part of geography because the world outside the classroom is the geographer's 'laboratory'.



Source 4 Students conducting fieldwork in their school canteen

Fieldwork provides the opportunity for firsthand investigation of both natural and built environments, and to develop skills associated with observing, measuring and recording. Different forms of geographical data can be collected and analysed to find relationships between the natural and human environments. The results of a fieldwork investigation are presented and communicated in a fieldwork report. There is a worksheet available on your obook pro to learn the steps to writing a basic fieldwork report.

Key skill worksheet
Conducting fieldwork: Writing a basic fieldwork report

Fieldwork also involves identifying issues or problems and finding possible solutions. It is a way to engage with the real world and make a contribution to developing more sustainable and fair ways to manage the Earth's resources.

Different types of fieldwork

Most topics you learn about in class can also be studied during fieldwork. The types of fieldwork you conduct will differ according to your topic and the places you visit, but all these activities will help you to better understand your world. Source 5 provides examples of fieldwork locations and activities for the range of topics you will be studying in Year 7.

Source 5 Examples of fieldwork locations and activities for a range of topics in Year 7 geography

Topic	Possible location	Sample fieldwork activity
Water in our environment	Local river or stream	Water sampling
Water as a resource	Water treatment plant, desalination plant or dam	Taking geographic photographs
Growing cities	Edge of a large city	Observing and describing
Changing cities	Urban renewal project	Land use mapping

Check your learning
Log onto your obook pro to complete the questions for topic 1.4.

1.5 Interpreting geographical images

Geographical images are taken to depict and present a place or particular feature of the landscape, for the purpose of demonstrating an aspect that is being studied. Just like maps or graphs, geographers use and interpret types of photographs as sources of data. Whether you take a geographical image during a fieldwork study, or collect them from your research online, you need to be able to interpret them.

Source 6 Landscapes can be photographed from different angles depending on the position of the camera. Each angle has its own special features. You will hear these terms as you study geography. Look at the images to familiarise yourself with the different types of geographical images.

Ground level

The camera is held by someone at the same level as the landscape being photographed.

This angle allows you to clearly see the height of any object and the detail in vertical surfaces.

Oblique aerial photograph

The camera is positioned above the landscape and angled towards the scene being photographed.

This angle allows you to see both the foreground and the background of the scene. You can also see both the height of an object and its width or area.

Vertical aerial photograph

The camera is positioned directly above the landscape.

This vertical (or plan) view allows you to see the extent of any feature. However, it is difficult to judge the height of the landscape (e.g. the trees) from this view.

Satellite images

This image is taken from space. It allows you to see large areas of the Earth's surface.

These images are often used to investigate patterns. It is difficult, however, to see smaller features of the environment.

Check your learning
Log onto your obook pro to complete the questions for topic 1.5.

1.6 Analysing maps

map
a simplified plan of an area shown from directly above the area

An important skill in geography is the ability to identify and explain patterns in the world around you. Often these patterns appear on a **map**. In fact, you will also create your own maps to display data you have found during fieldwork or through research.

Before doing so, it is important to develop an understanding of the essential features that appear on maps and how to read them.

Essential features of maps

plan view
a way of showing something as if the viewer is looking down on it from above; a bird's-eye view

Maps are drawn in the **plan view** (directly from above) because this ensures the scale will be the same across the entire area. If maps were drawn from an angle some parts of the mapped area would look distorted, and so it would not be an accurate representation of the area. When properly used, maps can reveal a great deal about our planet and the ways in which we use it.

Key skill worksheet
Analysing maps: Understanding BOLTSS features

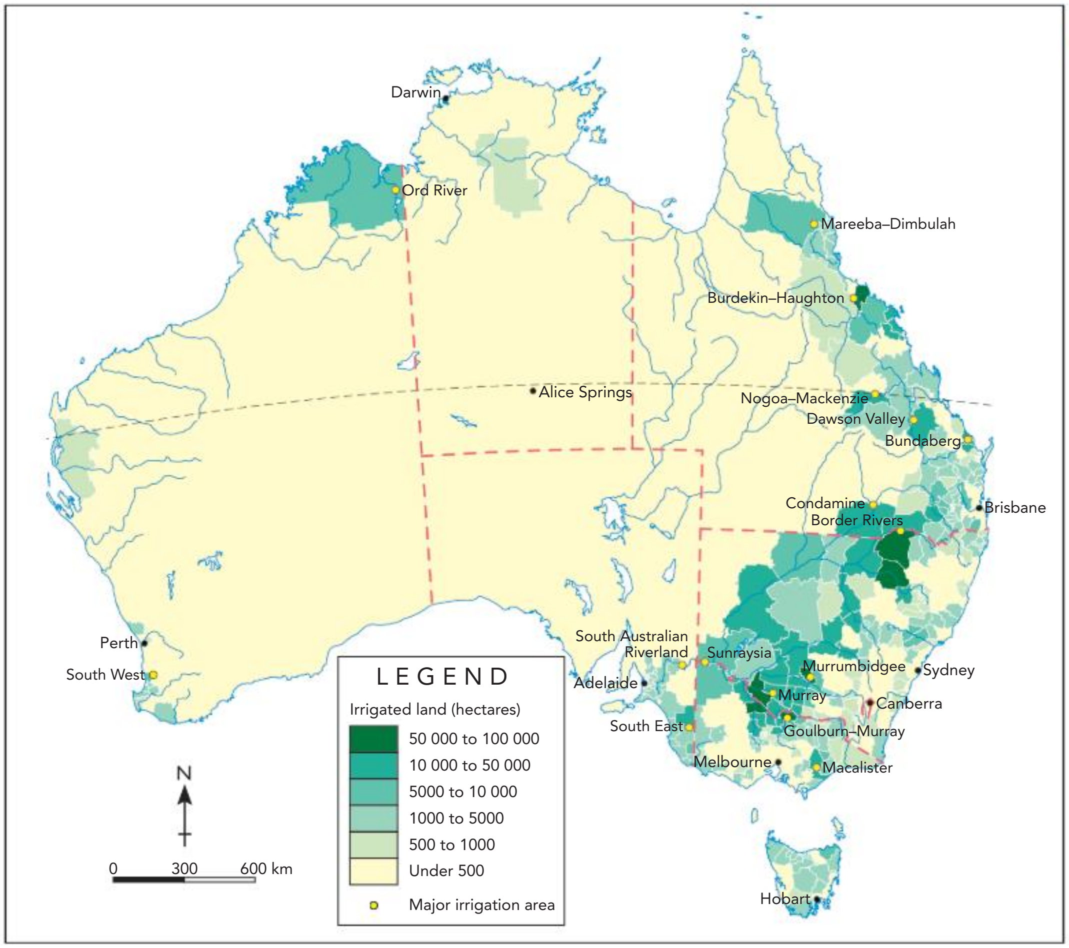
BOLTSS

Regardless of the type of maps you are creating or analysing, all will share some common features. There are six features that ensure every map is drawn in a clear, concise and accurate way. To help you remember these features, you can use a mnemonic (memory aid) that consists of the first letter of each of the features: border, orientation, legend, title, scale and source. Together, these six letters make up the word BOLTSS.

B	Border – an outline or box drawn around the map.
O	Orientation – an indication of direction, usually shown with a north arrow or compass rose.
L	Legend – an explanation of the symbols, colours and patterns used on the map (also known as a key).
T	Title – a heading that describes the map and what it is showing.
S	Scale – a way of indicating what distances on the map represent in the real world. Scale can be shown in three different ways: as a written scale, a line scale or a ratio. Source 10 shows the three ways a scale can be represented on a map.
S	Source – where the information used to create the map came from. If these details are not known, simply write 'Source: unknown'. If you have created the map from your own data, simply write 'Source: own map' or 'Source: [add your name]'.

Source 7 These are the six features of BOLTSS.

AUSTRALIA: IRRIGATED LAND



Source 8 A map of Australia showing all the features of BOLTSS Source: Oxford University Press

Direction

Direction must always be shown on maps because it enables the user to work out the location of features shown. Direction is shown on maps using compass points. A **compass** is an instrument with a magnetised needle that will always point to the Earth's magnetic field near the North Pole (known as magnetic north). The face of a compass shows a circle made up of 360 degrees (see Source 9).

The four main directions on a compass are north, south, east and west. These are known as **cardinal points**. Most maps are oriented to north. Once north has been established, you can find the other points of the compass. Using compass points is an accurate way of giving directions because the compass always points to magnetic north, no matter which direction you are facing.

Compass bearings provide an even more precise way to give directions. A bearing is an angle that is measured clockwise from magnetic north. The bearing of magnetic north can be either 0 degrees or 360 degrees, the bearing of south is 180 degrees, the bearing of east is 90 degrees and the bearing of west is 270 degrees. These bearings are also shown in Source 9.

Source 9 A compass face showing cardinal points and compass bearings

Key skill worksheet
Analysing maps: Understanding direction

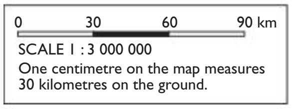
compass
an instrument with a magnetic needle that points to the north; used for navigation

cardinal points
the four main directions: north, south, east and west

compass bearings
a precise way of giving compass directions, such as 135° south-east

Scale

distance
the amount of space between two objects or places, generally measured by using the scale on a map



Source 10 An example of the different types of map scales

Maps are scaled representations of real areas. These representations have been designed to fit on a piece of paper or on a computer screen. Maps look the same as the real areas they are representing, just reduced to a size you can work with. Scale on maps allows you to work out the **distances** in the real world.

Look at Source 10. It shows the three types of scale that can be used on maps and how they work.

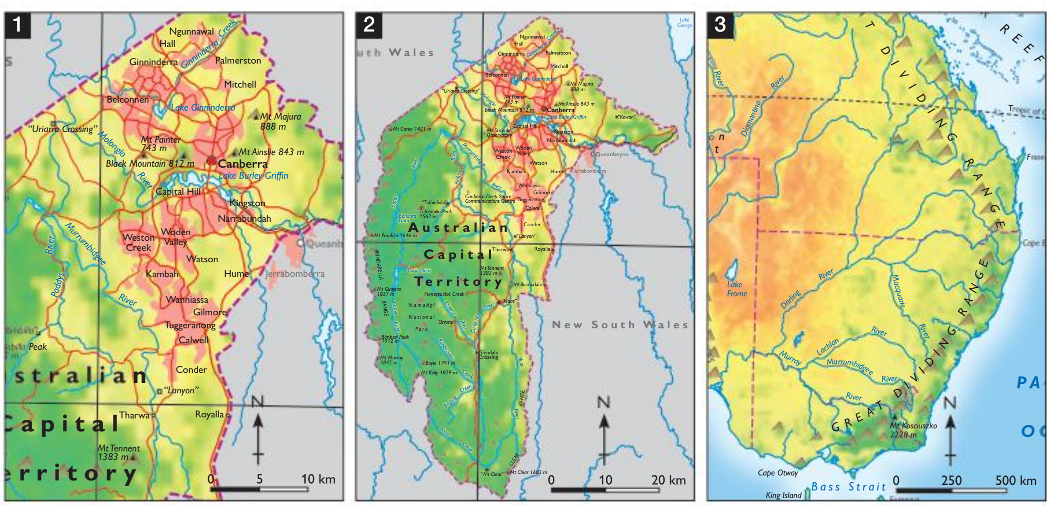
- Written scale – a written scale tells you how much a distance on the map represents on the ground. The written scale on Source 10 is 'one centimetre on the map measures 30 kilometres on the ground'. Using this information we can easily work out that 5 centimetres on the map would be equal to 150 kilometres on the ground, and so on.
- Line scale – a line scale is a numbered line that acts like a ruler. You can use it to measure distances on the map. The Source 10 line scale shows that 1 centimetre is equal to 30 kilometres.
- Ratio scale – a ratio scale shows scale in numbers. The ratio scale for Source 10 is 1:3 000 000, so 1 unit (that is, 1 centimetre) on the map represents 3 000 000 centimetres on the ground. Of course, 3 000 000 centimetres is equal to 30 kilometres.

Comparing map scales

Maps are often shown at different scales depending on the amount of detail they need to show. Source 11 shows three maps at different scales.

- Map 1 is a large-scale map. It shows a large amount of detail but only a small area. You can see the city area (in pink) and Lake Burley Griffin.
- Map 2 is a medium-scale map. It shows a medium amount of detail and a medium area. You can see the whole of the Australian Capital Territory (ACT).
- Map 3 is a small-scale map. It shows a small amount of detail but a large area. You can only just see the border of the ACT.

ACT AND EASTERN AUSTRALIA



Large-scale maps show detailed information about a small area.

Small-scale maps show general information about a large area.

Source 11

Source: Oxford University Press

Locating places on maps

Maps are used for many different purposes, but the most commonly used maps help us to find things we are looking for. These maps are often overlaid with a set of lines that form a grid. These gridlines divide the map into smaller areas and help us find places more easily. There are several ways in which you can locate things on maps and methods you can use to help other people find these places. Some of these methods will give you a general idea of where something is, while others can help you pinpoint the exact location of something.

alphanumeric grid
a coordinate system on a grid in which each cell is identified by a combination of a letter and number; using this system makes it easy to locate a specific position on a map

eastings
the gridlines that run vertically on a topographical map

northings
the gridlines that run horizontally on a topographical map

Grid and area referencing

Alphanumeric grid referencing

In maps that use **alphanumeric grid** referencing, the spaces between gridlines are labelled with letters and numbers. The letters appear along the bottom (or top and bottom) of the map, while the numbers appear down the left-hand side (or both sides) of the map. For example, in Source 12 the grid reference for the Paradise Centre is J6.

Area referencing (AR)

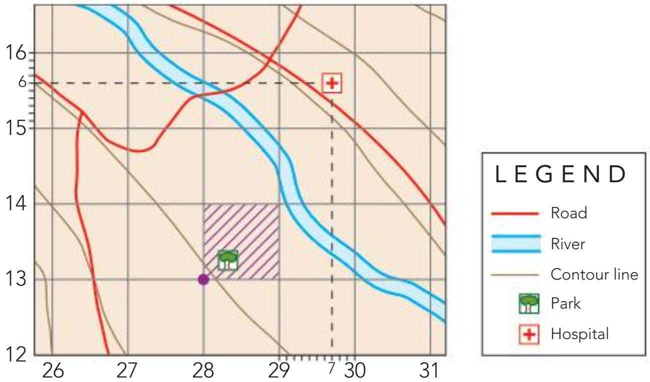
The area referencing (AR) method is used on topographic maps that have gridlines. Each line is given a two-digit number. The lines that run up and down the map are known as **eastings** (because the numbers increase as you move east). The lines that run across the map are known as **northings** (because the numbers increase as you move north). A four-figure area reference will pinpoint the bottom left-hand corner of the grid square in which you will find the feature. The eastings are given first, then the northings. For example, in Source 13 on the next page the park is located in AR2813.

SURFERS PARADISE STREET MAP

Source 12

Source: *Brisway*

TOPOGRAPHIC MAP EXTRACT SHOWING AR AND GR



Source 13 Source: Oxford University Press

Six-figure grid referencing (GR)

Six-figure grid references (GR) help locate exact points on a topographic map. The area between each easting is divided into ten further parts (tenths), as is the area between each northing. This is just like adding a finer set of gridlines over the existing gridlines, allowing you to be very specific about where things are within each grid square. As with area referencing, the eastings are given first then the northings. The difference is that one more figure is added to the easting and one more figure is added to the northing. This makes six figures in total. For example, in Source 13 the hospital is located in GR297156.

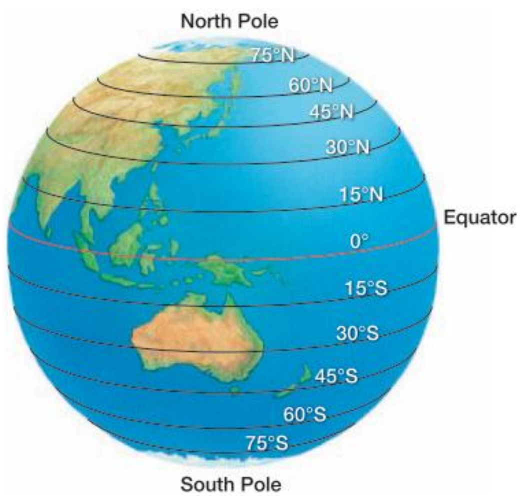
Key skill worksheet
Analysing maps: Understanding six-figure grid referencing and topographic maps

latitude
imaginary lines running east–west around the Earth's surface, parallel to the Equator, used to work out location and direction

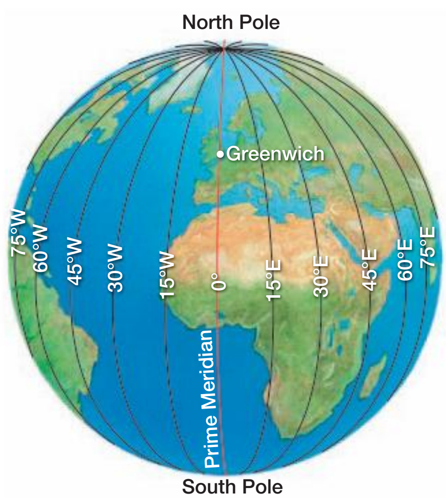
longitude
imaginary lines running north–south around the Earth's surface, from the North Pole to the South Pole, used to work out location and direction

Equator
an imaginary line that runs around the middle of the Earth separating the Northern Hemisphere from the Southern Hemisphere

Prime Meridian
an imaginary line of longitude that runs from the North Pole to the South Pole; longitude is defined as 0° at the Prime Meridian



Source 14 Lines (or parallels) of latitude



Source 15 Lines (or meridians) of longitude

Latitude and longitude

Maps that show large areas of the Earth's surface (such as world maps) use a set of imaginary lines that form a grid. These gridlines, known as **latitude** and **longitude**, help us to locate places accurately.

Lines that run from east to west are known as lines (or parallels) of latitude. Lines that run from north to south are known as lines (or meridians) of longitude. Each of the lines is separated by degrees rather than distance because the world is round, not flat.

The line of latitude midway between the North Pole (90 degrees north) and South Pole (90 degrees south) is known as the **Equator** (see Source 14), which is located at 0 degrees latitude. It divides the Earth into the northern hemisphere and southern hemisphere.

Lines of latitude are measured in degrees north and south of the Equator.

Lines of longitude are measured east and west of the Greenwich meridian (also known as the **Prime Meridian**), which is located at 0 degrees longitude (see Source 15).

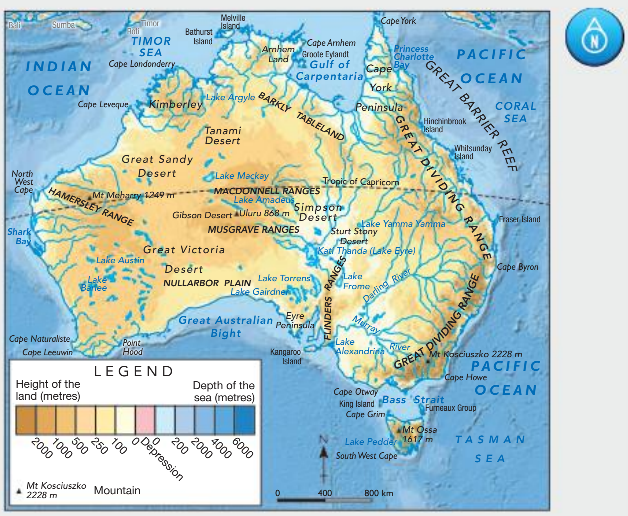
Simple maps

Geographers use different types of maps to show a whole range of different natural and built features – and to analyse the connections between them.

Physical maps

Physical maps show the locations and names of natural features of the Earth. These may include deserts, mountains, rivers, plains, oceans, reefs, volcanoes and lakes.

PHYSICAL MAP OF AUSTRALIA SHOWING OCEANS AND MAJOR MOUNTAIN RANGES, RIVERS, LAKES AND DESERTS



Source 16 Source: Oxford University Press

Political maps

Political maps show the locations and names of built features of the Earth. These may include country borders, state and territory borders, cities and towns.

POLITICAL MAP OF AUSTRALIA SHOWING STATE AND TERRITORY BORDERS, CITIES AND TOWNS

Source 17 Source: Oxford University Press

Dot distribution maps

Dot distribution maps use dots (or shapes) to represent (and sometimes compare) a range of different features. The dots show the location of the chosen feature. The size and colour of the dots on the map can show different characteristics of that feature. For example, in Source 18, small towns are shown as small green dots and big cities are shown as big red squares. Other dot distribution maps show the location of a single feature, such as litter (see Source 2 on page 7). Dot distribution maps help to show patterns and links between features – geographers refer to this as spatial distribution.

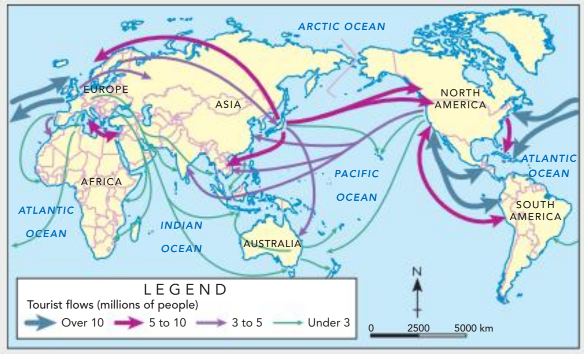
DOT DISTRIBUTION MAP OF AUSTRALIA SHOWING POPULATION

Source 18 Source: Oxford University Press

Flow maps

Flow maps show movement from one place to another. Arrows of different thicknesses or colours are used to show where different things (such as people or goods) are moving to and from, and compare the numbers involved in the movement.

FLOW MAP SHOWING THE FLOW OF TOURISTS WORLDWIDE

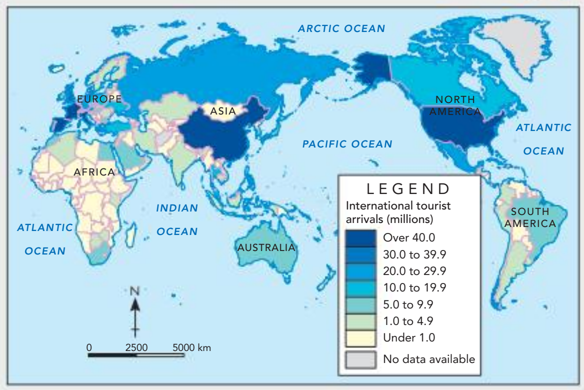


Source 19 Source: Oxford University Press

Choropleth maps

Choropleth maps use different shades of the same colour to give a quick impression of the pattern formed by the data being shown. Darker shades show the highest values or the greatest amounts, while lighter shades show the lowest values or the least amounts.

CHOROPLETH MAP SHOWING INTERNATIONAL TOURIST ARRIVALS WORLDWIDE PRIOR TO 2020



Source 20 Source: Oxford University Press

Overlay maps

Overlay maps show how features on the Earth's surface may be related to each other. To create an overlay map, you first need to produce a base map showing one feature (such as the location of Australian rainforests) and then place a piece of tracing paper or plastic sheet over this base map showing the other feature you are investigating (such as areas with a moist tropical climate).

Source 21 An overlay map showing the location of Australian rainforests on a base map (top) and areas with a moist tropical climate on an overlay (bottom)

More complex maps

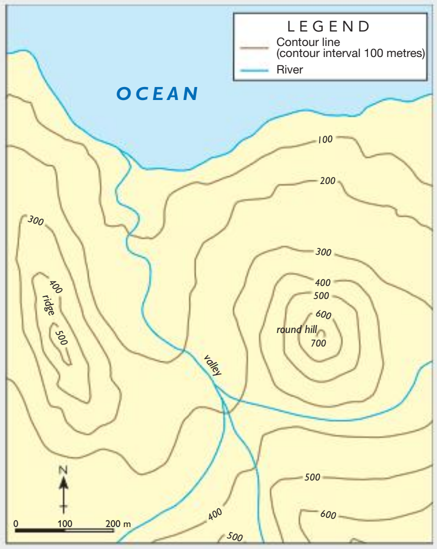
Geographers also use a number of more complex maps to represent information.

Topographic maps

Topographic maps show the shape of the land (such as the shapes formed by valleys, hills and ridges) by using **contour lines**. Numbers on some of the contour lines show the height of the land above sea level. The closer together the contour lines are, the steeper the land. Symbols and colours are also used on topographic maps to show other natural features (such as forests, rivers and lakes) and built features (such as towns, roads and mines). The contour patterns of three common features are shown below the topographic map in Source 22.

contour lines
lines drawn on a map that connect points at the same height to show the height and steepness of land

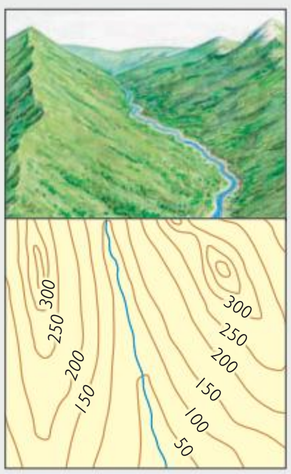
TOPOGRAPHIC MAP SHOWING A ROUND HILL, A VALLEY AND A RIDGE



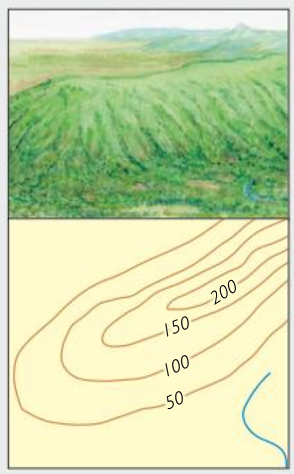
Source 22 Source: Oxford University Press

A ROUND HILL

A VALLEY



A RIDGE



Weather maps

Weather maps show conditions in the atmosphere, such as air pressure, wind speed and wind direction. They also show the size and location of warm and cold fronts. Weather maps are also known as synoptic charts. They are most commonly seen on the nightly news.

Source 23 Weather maps feature in the nightly news on television.

Thematic maps

Thematic maps show a particular theme or topic; for example, the distribution of resources (such as coal and gas), the different types of forests around the world, access to safe drinking water, or the types of crops and animals farmed in Australia.

THEMATIC MAP OF AUSTRALIA SHOWING TYPES OF ANIMALS AND CROPS GROWN

Source 24 Source: Oxford University Press

Geographic Information Systems (GIS)

Geographic Information Systems (GIS) are a way of creating, viewing, organising and analysing geographical information with the use of a software application. GIS allow geographers to access and share an incredible amount of data and look at the world in new ways. GIS are made up of three elements:

- digital base maps
- data that is layered over the base map (such as a chart, overlay or table)
- a software application or platform that links these elements together and allows the user to interact with all of this information.

GIS combine satellite images, graphs and databases to allow you to identify patterns and trends so that you can gain a better understanding of the world around you. They allow you to turn different layers of data on and off in order to isolate exactly what you are looking for. You can even create and share your own maps, look at 3D models of areas and record video simulations, known as flyovers.

GIS are already a part of many people's everyday lives. Governments, companies and individuals all around the world use GIS. There are a number of GIS platforms available today, but one of the most commonly used and free GIS is Google Earth.

Source 25 Today, a GIS can be found on almost every smartphone, in the form of apps such as Google Maps and Google Earth.

1.7 Identifying patterns and relationships

In geography, an important skill to master is that of identifying trends, patterns and relationships in the information you are looking at. You can do this by looking at the information to identify any possible links and relationships and draw conclusions. There are two main ways to do this:

1 the SHEEPT method
2 the PQE method.

S	Social – factors relating to culture and people
H	Historical – factors relating to past events
E	Environmental – factors relating to the natural environment (including climate, landforms and vegetation)
E	Economic – factors relating to the earning or spending of money (including income earned from industry and tourism, and the cost of building a dam or highway)
P	Political – factors relating to governments (including laws, regulations and policies)
T	Technological – factors relating to the availability and use of different types of technology (including the development of greener technologies, alternative energy sources and GIS).

Source 26 These are the six factors of the SHEEPT method.

Using the SHEEPT method

SHEEPT is a tool used by geographers to help them consider the many factors that may contribute to the patterns identified in their data. When you are examining issues related to your inquiry, it is useful to think about them in terms of these six factors and rank them in order of importance. This will help you reach your conclusions. Source 26 explains what the letters SHEEPT stand for.

Using the PQE method

PQE is a tool used by geographers to analyse the data they have gathered (such as maps, tables, graphs and diagrams) and reach conclusions. The letters PQE stand for:

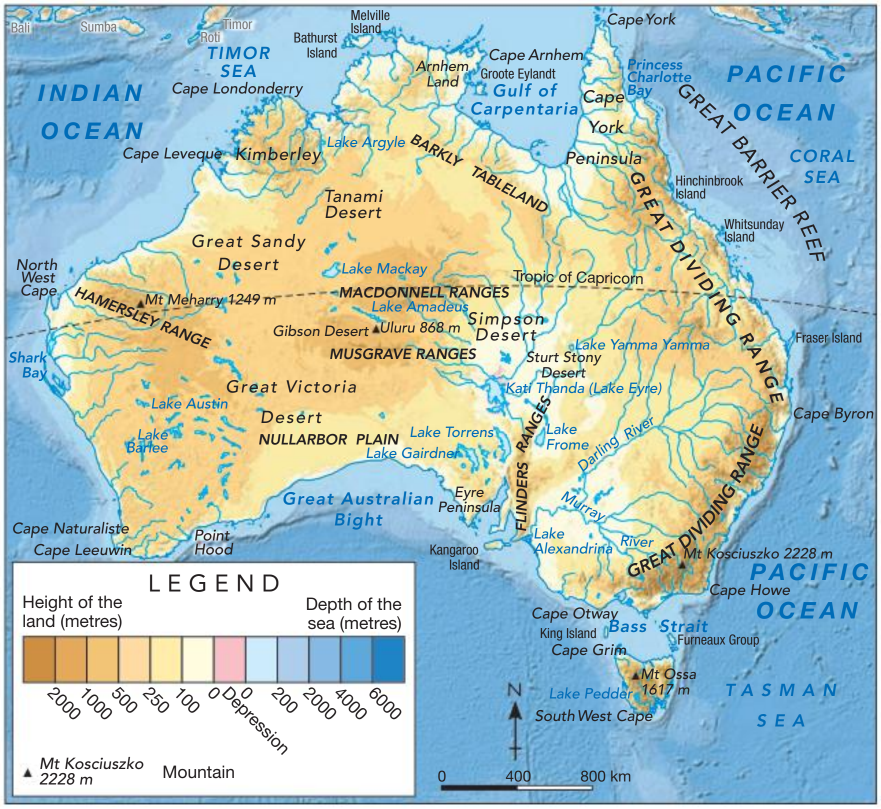
- **Pattern (P)** – when looking at data, you look for things that stand out or form patterns. A pattern may be a group of similar features on a diagram, a concentration of a particular feature on a map, or a particular shape that is created by data on a column graph.
- **Quantify (Q)** – in this step, read the map closely to try and quantify (i.e. measure) statistics, amounts, sizes and locations to find a pattern (or patterns)
- **Exceptions (E)** – often you may find that there are things in your data that do not fit into a pattern you have identified. These are called **exceptions**. They also need to be identified and quantified.

PQE sample

On the next page, there is a sample response that has been written using the PQE method to describe the **distribution** of mountains in the physical map of Australia (Source 27 on the next page). Read the highlighted sections closely. These are sentence starters that can be used to structure your response whenever using the PQE method.

distribution
the way in which things are arranged on the Earth's surface; the pattern formed by the way objects or places are distributed across a space

PHYSICAL MAP OF AUSTRALIA SHOWING OCEANS AND MAJOR MOUNTAIN RANGES, RIVERS, LAKES AND DESERTS



Source 27

Source: Oxford University Press

Check your learning

Log onto your obook pro to complete the questions for topic 1.7.

If you can identify the type of map that you are looking at, make sure that you name it. See pages xx of the toolkit for an overview of different types of maps.

Pattern – in this step, you need to give a general overview of any patterns you may identify.

The uneven pattern of this physical map shows Australia's largest lakes are situated in central and south-central Australia.

Quantify – in this step, you need to add specific and accurate information to define and explain the patterns.

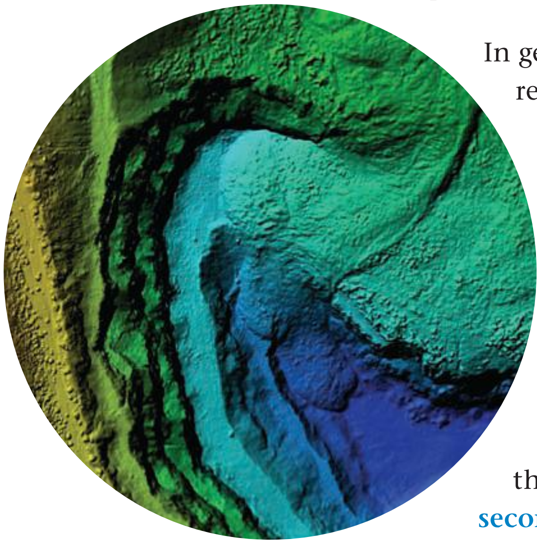
The evidence that quantifies this pattern is the location of the lakes on the continent. They stretch from the McDonnell Ranges in the north (near the Tropic of Capricorn) to the Flinders Ranges in the south. These lakes include Lake Amadeus, Lake Mackay, Lake Eyre, Lake Frome, Lake Torrens and Lake Gairdner.

Exception – in this step, you need to identify anything that does not fit your patterns.

The exception to this pattern is a few smaller lakes located in Western Australia, including Lake Argyle near the Kimberly region and many scattered lakes, near Lake Austin and Lake Barlee in the south.

Source 28 This sample PQE method analysis includes sentence starters you can use to structure your response.

1.8 Collecting and representing data



In geography, an important skill to master is that of collecting and representing data. In any geographical inquiry, you will collect data that helps you answer your key question.

Geographers find answers to their questions in many places. They may collect information themselves by interviewing people, taking photographs, making sketches out in the field or conducting surveys and questionnaires. This kind of information will generally only be relevant to a particular inquiry and is called **primary data**.

Often a geographer collects information that supports their inquiry but has not been specifically collected or designed by the geographer for the inquiry. This type of information is called **secondary data**.

Source 29 This elevation model, made after proccesing aerial pictures taken from a drone, is an example of a primary resource.

Source 30 Examples of primary and secondary data

Some examples of primary data	Some examples of secondary data
» Hand-drawn maps and field sketches » Photographs and images taken for the inquiry » Questionnaires and surveys designed and created for the inquiry » Graphs created from data (such as number of visitors, number of cars counted, and temperature and wind statistics) gathered by the geographer for the inquiry	» Information from textbooks, atlases, maps, graphs, reports and websites that were not created specifically for the inquiry » Data that was collected by a government department (such as census data), the media, companies and other organisations and was not collected specifically for the inquiry

primary data
data for geographical inquiry that was collected in the field by a geographer conducting the inquiry (e.g. survey data, hand-drawn maps or photographs)

secondary data
data used for a geographical inquiry that was not collected by the geographer conducting the inquiry (e.g. textbooks, atlases and government websites)

Representing data

In addition to maps, geographers use a range of other visual representations to communicate information they have collected.

- Tables allow geographers to present and compare data by organising it under different headings (see Source 31 on the next page).
- Graphs allow geographers to compare data and present it in an interesting and attractive way. There are a number of different types of graphs used by geographers for different purposes. The most common of these are explained on the following pages.
- Diagrams allow geographers to show the features or characteristics of some places or things much more effectively than describing them in words. A concept map is a handy tool that you might use to show a complex idea, such as strategies for sustainability (see Source 39 on page 31).

Source 31 A table showing the populations of Australian states and territories in 2020

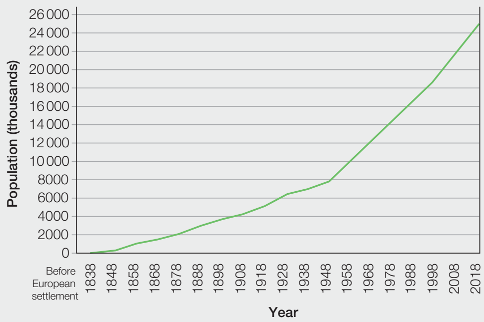
State/Territory	Population	Percentage of Australia's population
New South Wales	8 166 400	31.8%
Victoria	6 680 600	26.1%
Queensland	5 184 800	20.1%
Western Australia	2 667 100	10.4%
South Australia	1 659 800	6.9%
Tasmania	541 100	2.1%
Australian Capital Territory	246 500	1.7%
Northern Territory	431 200	1.0%
Australia	25 693 100	100.0%

Simple graphs

Graphs are one of the most effective visual representations when it comes to showing numerical (or quantitative) data. Some kinds of graphs are simple, while others are more complex. This year you will be learning how to create different types of graphs and interpreting the information that they provide. Some of these graphs are described below.

Line graphs

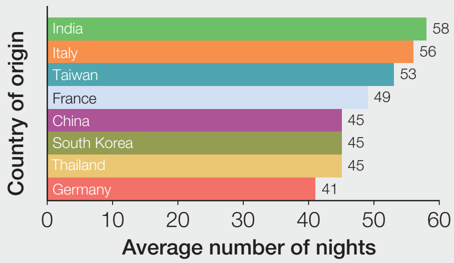
Line graphs show information as a series of points that are joined up to form a line. The line shows a trend or change over time. The horizontal axis (*x*) will usually show units of time and the vertical axis (*y*) will usually show amounts.



Source 32 A line graph showing the increase in Australia's population, 1838–2018

Bar graphs

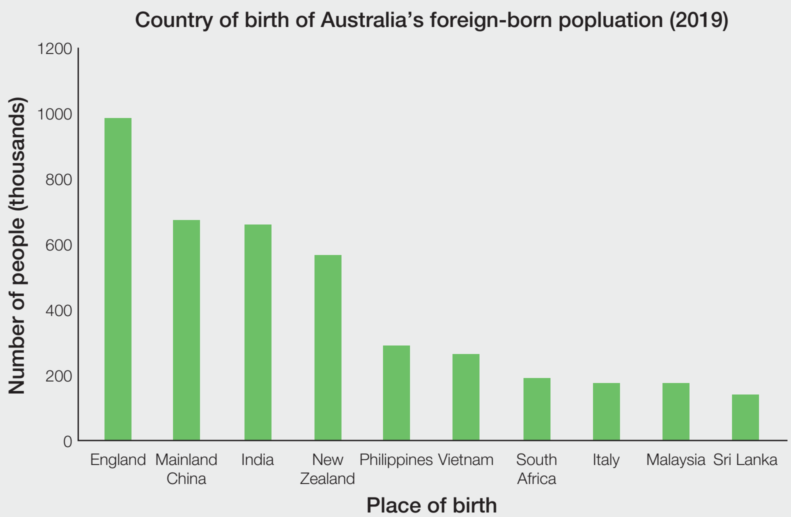
Bar graphs show information as a series of bars that run in a horizontal direction and are stacked one on top of the other. They are usually used to compare quantities.



Source 33 A bar graph showing average number of nights spent in Australia by tourists from different countries, 2009

Column graphs

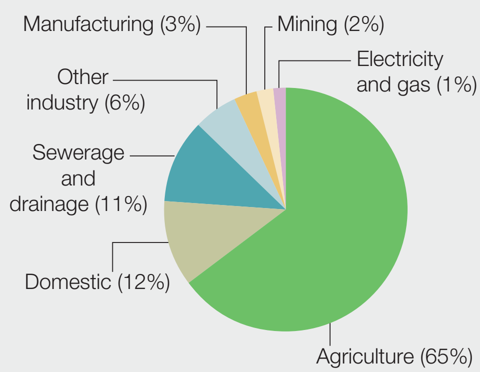
Column graphs are similar to bar graphs, but they show information as a series of vertical columns arranged side by side. They are also usually used to compare quantities.



Source 34 A column graph showing the top ten countries of birth for Australia's foreign-born population in 2019

Pie graphs

Pie graphs are shaped like a circle and are divided up so that the information being shown represents the slices of a pie. The circle of 360 degrees represents 100% and each of the slices is a percentage of that total. The slices of the pie are organised from largest to smallest in a clockwise direction starting from 12 o'clock.



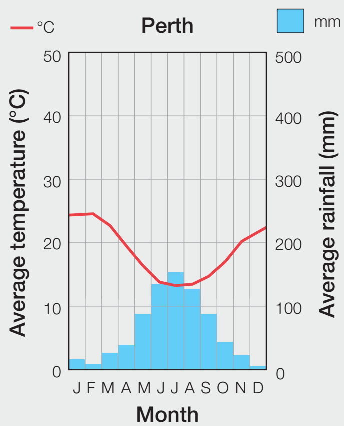
Source 35 A pie graph showing the different uses for water throughout Australia

More complex graphs

Over the course of the year you will also be working with other more complex graphs. You will not necessarily be creating these yourself, but you will be learning how to make sense of the information they provide. Some of these graphs are described below.

Climate graphs

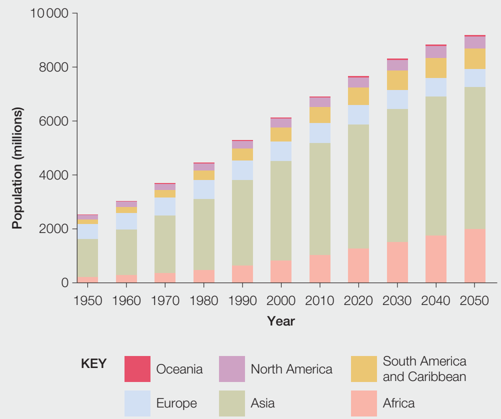
Climate graphs show the average monthly temperature and rainfall for a place over a year. Climate graphs combine line and column graphs. Temperature is recorded as a line graph and rainfall is recorded as a column graph.



Source 36 A climate graph showing the average monthly temperature and rainfall in Perth

Compound column graphs

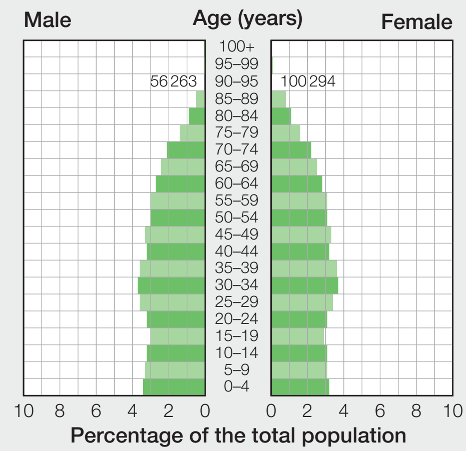
Compound column graphs are a more complex type of column graph in which each column is split into sections so results can be more easily compared.



Source 37 A compound column graph showing the increase in world population by region, 1950–2050

Population pyramids

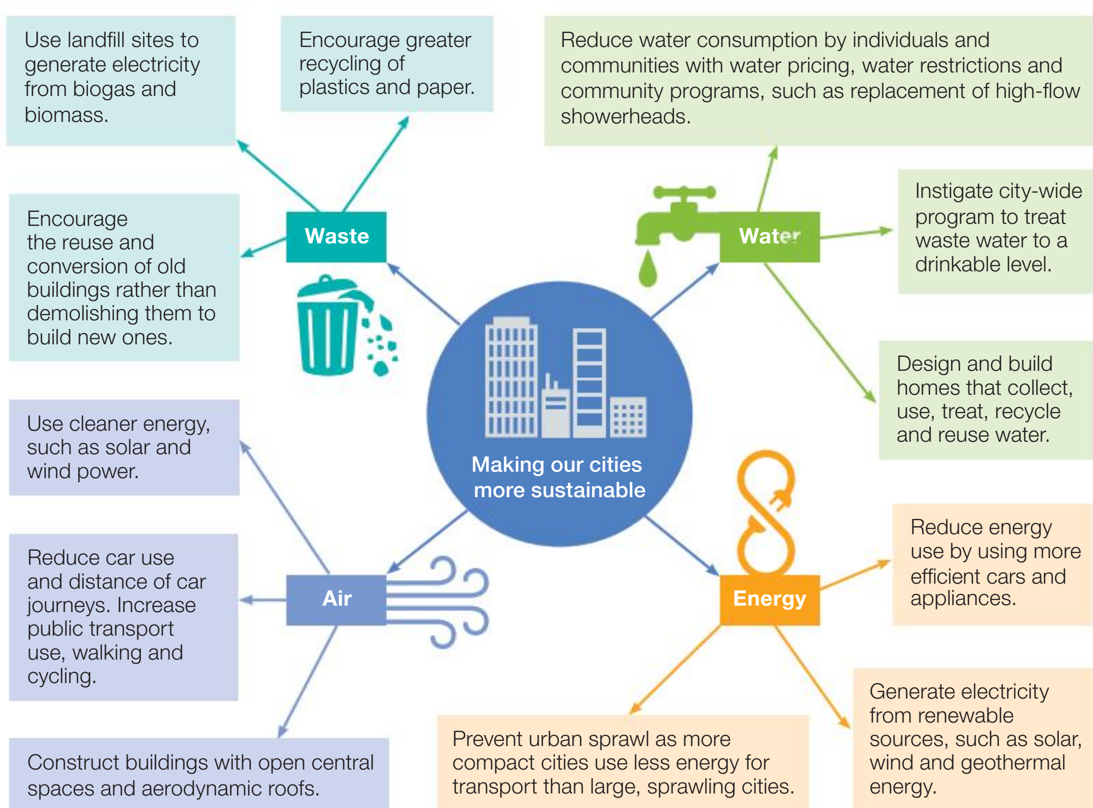
Population pyramids are bar graphs that show the percentage of males and females in different age groups in a population. They help geographers identify trends in population growth in a country. Population pyramids are organised so that younger age groups are at the bottom and older age groups are at the top. Percentages of males are placed on the left-hand side and percentages of females are placed on the right-hand side.



Source 38 A population pyramid for Australia in 2009. From it you can see, for example, that there are more females than males over the age of 80.

Diagrams and other graphic representations

Geographers create diagrams and other graphic representations to help them look for patterns in the data they have gathered. These tools also help people who were not involved in the inquiry (such as the general public, the government or people in the media) understand the work that has been done.



Source 39 A concept map showing strategies for a more sustainable city

Distinguishing between quantitative and qualitative data

Primary and secondary data provide either **quantitative data** or **qualitative data**. Quantitative data includes anything that can be recorded as numbers (for example, Uluru is 3.6 kilometres long and 1.9 kilometres wide and has a circumference of 9.4 kilometres). Qualitative data, on the other hand, includes anything that can be recorded in words (for example, Uluru, one of Australia's best-known natural landmarks, is very large).

Good geographical inquiries will always be based on a combination of primary and secondary data that is both quantitative and qualitative. Even though qualitative data is an important part of any geographical inquiry, quantitative data is considered more valuable because it is less open to personal interpretations and can be more accurately represented in graphs and charts. Before you move to the next stage of your inquiry, it is important to check that you have recorded all your data without errors and that it is balanced and fair. Your data should not reflect your personal opinions, emotions or attitudes; instead it should present the facts in a clear and concise way.

quantitative data
any information that can be recorded as numbers; e.g. Uluru is 3.6 kilometres long

qualitative data
any information that can be recorded in words; e.g. Uluru is very large

Key skill worksheet
Collecting & representing data: Distinguishing between quantitative and qualitative data

Source 40 Examples of quantitative and qualitative data

Some examples of quantitative data	Some examples of qualitative data
» Climate and temperature statistics » Tourist numbers » Population figures (including birth and death rates) » Types and amounts of food grown » Plant and animal species and wildlife in certain areas » Forest clearance rates » Numbers of people killed in natural disasters » Numbers of volcanic eruptions and earthquakes	» Opinions » Points of view » Personal stories » Likes and dislikes » Feelings

Check your learning
Log onto your obook pro to complete the questions for topic 1.8.

1.9 Communicating and reflecting

The ability to put your thoughts and findings into words is an important skill that you will develop as you study geography.

Use correct geographical terminology

Quizlet
Become familiar with geographical terms by reviewing them on Quizlet.

An important part of communicating your findings in geography is using geographical terminology. Source 41 lists and defines some commonly used geographical terms; additional geographical terms can also be found in the glossary at the end of this book and on Quizlet.

Source 41 Some useful geographical terms

Term	Definition
BOLTSS	The six essential features that should be included on every map: border, orientation, legend, title, scale and source
direction	A way of orienting a map, usually shown by compass points, such as north
distance	The amount of space between two objects or places, generally measured by using the scale on a map
distribution	The way in which things are arranged on the Earth's surface; the pattern formed by the way objects or places are distributed across a space
exception	A feature that falls outside a usual pattern or does not follow an observed pattern
geographical inquiry	The stages that geographers follow to guide their investigations
key inquiry question	A question that helps geographers to plan and focus their geographical inquiries
primary data	Data collected for a geographical inquiry by a person conducting an inquiry, such as survey data, hand-drawn maps or photographs
region	An area of the Earth's surface with a feature that makes it different from surrounding areas
scale	A line that indicates the distances on a map as represented in the real world
secondary data	Data collected for a geographical inquiry from another source, such as textbooks, atlases and government websites
spatial pattern	The distribution of features on the Earth's surface that may form particular patterns, such as linear (in lines), clustered or radial (like spokes on a wheel)
trend	A general direction in which something is developing or changing (e.g. the trend in population in Australia is positive because the population is growing)

Present findings using a range of communication forms and digital technologies

Geographers use a wide range of methods to inform other people about what they have found over the course of a geographical inquiry.

Some of the methods that geographers use to communicate their findings include:

- written methods, such as essays or reports
- oral forms, such as oral reports, presentations, discussions and debates
- graphic forms, such as maps, graphs, and diagrams
- visual forms, such as **annotated visual displays (AVDs)**, photographs, sketches, satellite images and posters
- digital forms, such as Wikis, Geographic Information Systems (GIS), databases, 3D models and simulations, and multimedia presentations.

annotated visual display (AVD)
a way of presenting the final results of a research project, incorporating images, graphs, notes and explanations in a poster-style format

KEY SKILL
Communicating & reflecting

Creating an annotated visual display (AVD)

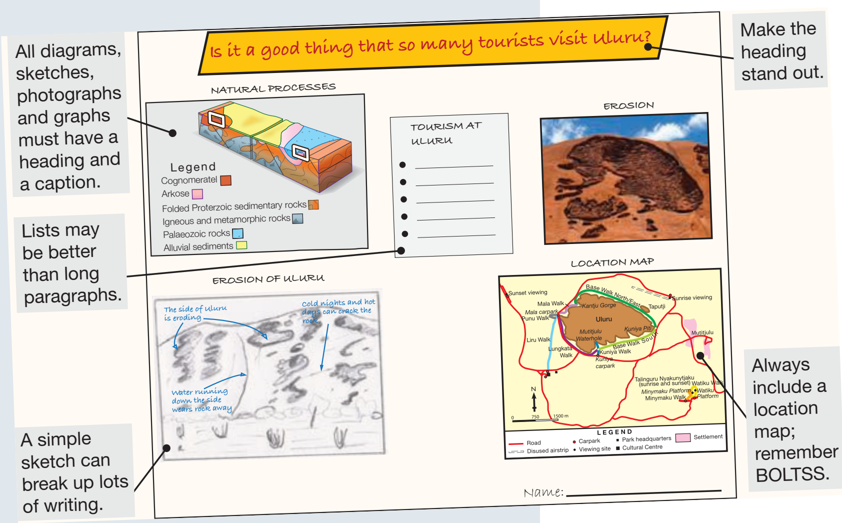
An AVD combines written text with visual images (such as photographs) and other graphic representations (such as maps, graphs, tables, sketches and diagrams). To create a successful AVD there are a few steps to follow.

Step 1 First, gather your data. Print your photographs, refine your sketches and tidy up any data that you have collected – in fact, tables of raw data are usually much more effective when they are made into graphs. Make sure all your maps have BOLTSS. Each resource (including graphs, maps, sketches, photographs, cross-sections or written explanations) should have a title. Photographs should also always have a caption.

Step 2 Next, organise your results. On a large poster, lay out your information and data. All written descriptions and answers should not be written directly onto the poster paper, but be typed, or neatly printed on separate sheets of white paper. This will allow you to arrange them on the poster paper in the most logical and relevant way before you glue them down. The key inquiry question that began your geographical inquiry may guide your final layout. In the example in Source 41, this question acts as the heading for the poster.

Step 3 Next, present your results. When you are happy with your layout, design a main heading and other smaller headings. Don't forget to write your name in small, neat letters next to the heading or at the bottom of the AVD. Use glue to stick to attach your resources onto your AVD.

Step 4 Finally, acknowledge your sources. If you have used books or other resources (such as websites) these need to be acknowledged in a bibliography or list of references. This can be stuck on the back of your AVD.



Source 42 An annotated visual display (AVD)
Natural processes illustration © Director of National Parks (Parks Australia) www.parksaustralia.gov.au

Reflect on what you have learnt

An important geographical skill is the ability to reflect on what you have learnt and decide whether any action needs to be taken. Reflecting involves not only looking at what you have learnt but also at how it has been learnt. It involves asking critical questions about the way in which your geographical inquiry was conducted and your role in it. One of the best ways to reflect on your progress is to complete a self-evaluation checklist, rating your performance at each stage and adding comments.

Source 43 A self-evaluation checklist

The title of my geographical inquiry is:		
My geographical inquiry set out to investigate:		
GENERAL POINTS	**My rating**	**Comments**
I was able to complete all stages of my geographical inquiry.	1 2 3 4 5	
I was able to answer all my key inquiry questions.	1 2 3 4 5	
I was able to plan my inquiry effectively.	1 2 3 4 5	
My maps, graphs, tables and diagrams were clear and accurate.	1 2 3 4 5	
I was able to analyse my data and reach a conclusion.	1 2 3 4 5	
I was able to communicate my findings in an interesting and appropriate way.	1 2 3 4 5	
AREAS OF STRENGTH	**Comments**	
My areas of strength are:		
I'm getting much better at:		
AREAS NEEDING IMPROVEMENT		
The part I found most difficult was:		
I need the most help with:		

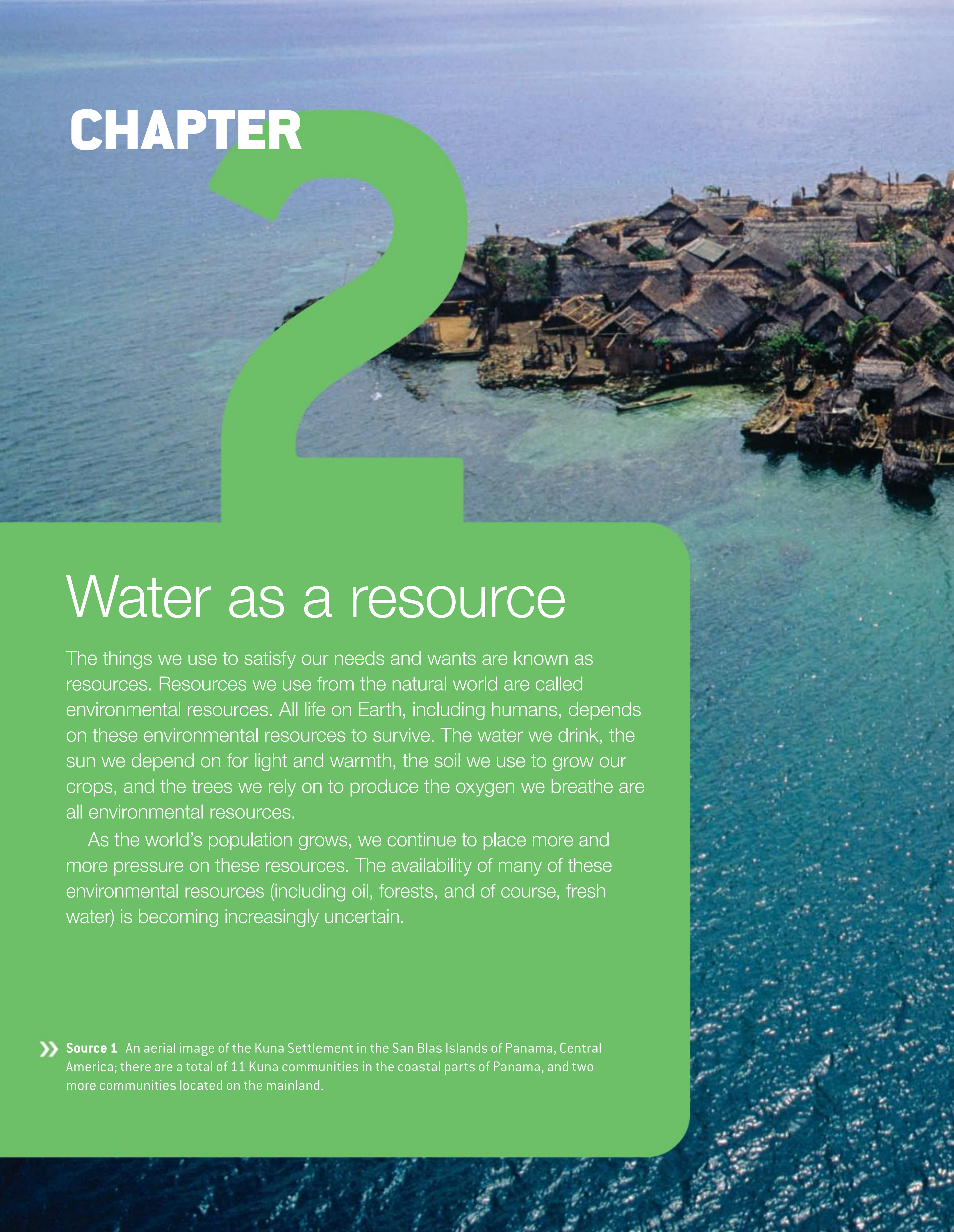
Justify possible methods of response

After reflecting on what you have learnt, you may discover that action is needed in order to respond to the issue you have been investigating. There are a number of different ways that geographers can take action to make a change. These include:

- creating a fact sheet or multimedia presentation to inform your school or community
- using social media to raise awareness and gather support
- emailing your local government representative or Member of Parliament about the issue
- inviting an expert speaker to present at your school assembly
- planning a campaign to raise money for the issue.

The geographical inquiry into Uluru (see page 13) based around the key inquiry question 'Is it a good thing that so many tourists visit Uluru?' may lead us to actively campaign for tourism at Uluru to be managed in a more sustainable way so that this important landmark can be enjoyed by future generations.

Check your learning
Log onto your obook pro to complete the questions for topic 1.9.



CHAPTER 2

Water as a resource

The things we use to satisfy our needs and wants are known as resources. Resources we use from the natural world are called environmental resources. All life on Earth, including humans, depends on these environmental resources to survive. The water we drink, the sun we depend on for light and warmth, the soil we use to grow our crops, and the trees we rely on to produce the oxygen we breathe are all environmental resources.

As the world's population grows, we continue to place more and more pressure on these resources. The availability of many of these environmental resources (including oil, forests, and of course, fresh water) is becoming increasingly uncertain.

Source 1 An aerial image of the Kuna Settlement in the San Blas Islands of Panama, Central America; there are a total of 11 Kuna communities in the coastal parts of Panama, and two more communities located on the mainland.

2A
How is water an environmental resource?

2B
How does water connect and affect places?

2C
How much water do we have in the world?

2.1 Environmental resources: an overview

In this topic, you will:

- classify environmental resources as renewable and non-renewable
- outline the ways in which parts of the natural environment can be used by people.

Over thousands of years, humans have developed ways of life that depend on the **environmental resources** found on Earth. We have found and used resources in almost every corner of the Earth. Water from rainfall, minerals from rocks, and food from the forests and oceans have allowed us to build homes, farms, cities and highways all over the world. Oil is drilled from beneath polar ice caps and water is drilled from far below barren deserts. Deep in the rainforests we have found plants that can cure illnesses and we have even worked out how to generate electricity from the waters flowing in our rivers.

environmental resources anything human or natural that can be used by people to satisfy a need

Types of environmental resources

Geographers divide all the environmental resources on Earth into three types.

1 Renewable resources

Renewable resources will replenish themselves naturally over time if we do not use them too quickly. The trees in a forest are a good example of a renewable resource. We can cut them down for wood, but they will grow back in time. We just need to manage them carefully. In countries such as Australia, fresh water is considered a renewable resource but it needs to be carefully managed to ensure that enough is available for everybody.

renewable resources resources that can regenerate or be regrown (such as trees) as opposed to those that cannot be regenerated (such as coal)

Quiz me!
A quick quiz on environmental resources

2 Non-renewable resources

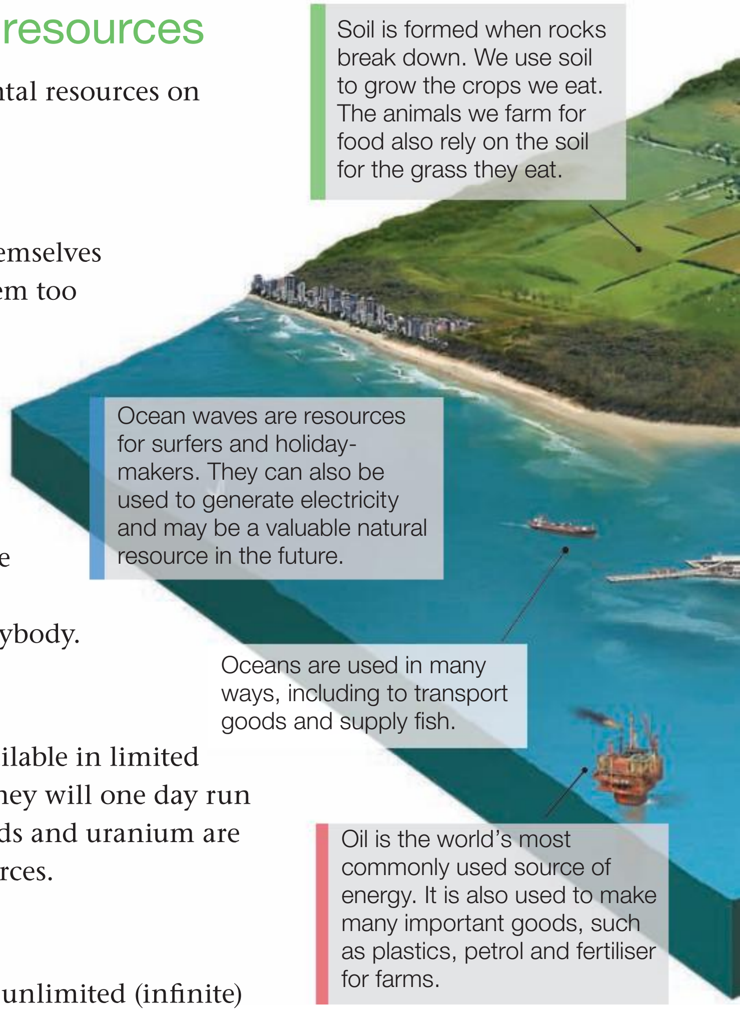
Non-renewable resources are only available in limited (finite) amounts. If we overuse them, they will one day run out. Minerals such as coal, oil, diamonds and uranium are good examples of non-renewable resources.

non-renewable resources resources that cannot be regenerated once they are used up (such as oil or coal)

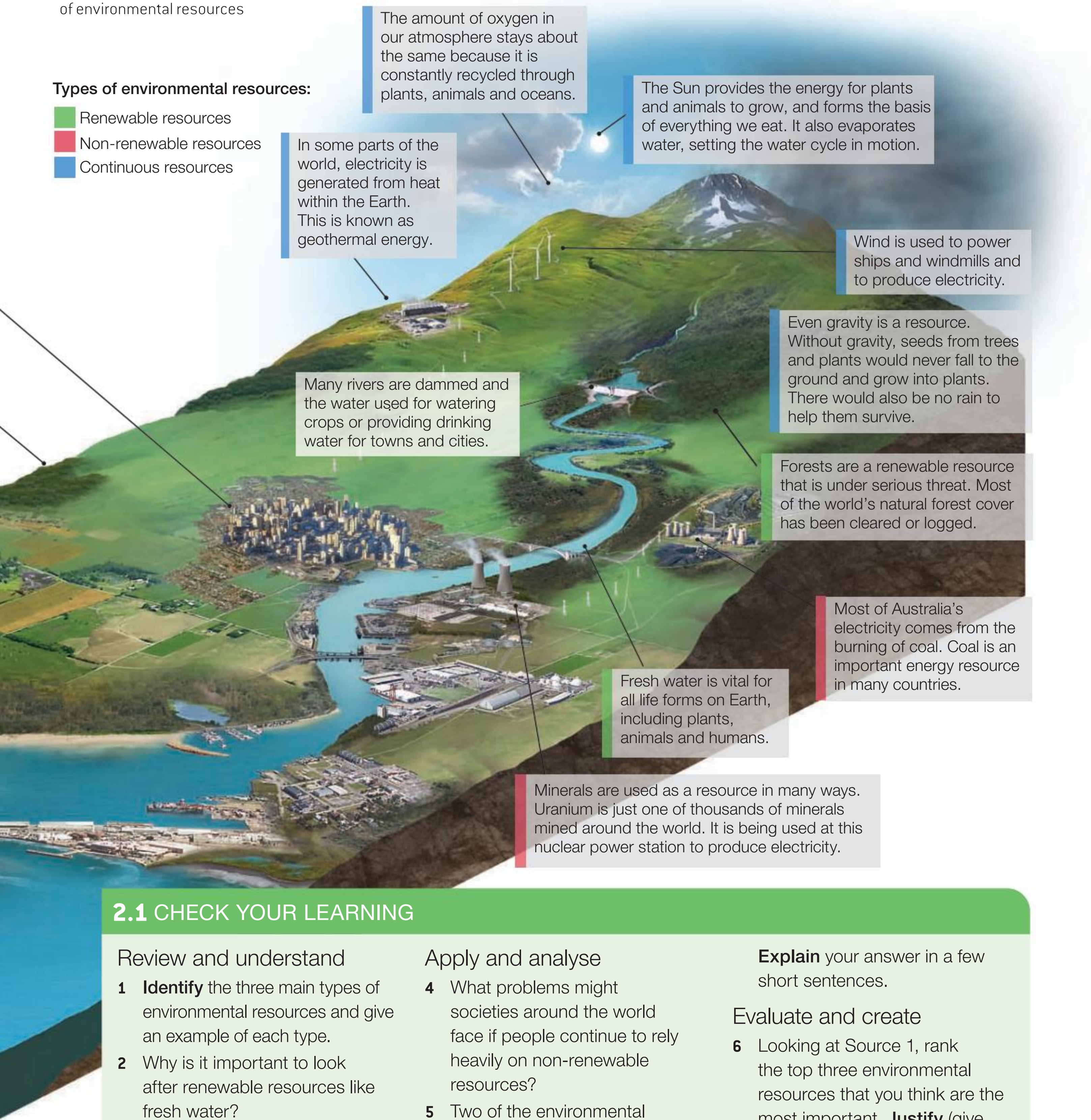
3 Continuous resources

Continuous resources are available in unlimited (infinite) amounts. No matter how much or how often we use them, they will never run out. Energy from the Sun and wind are both examples of continuous resources.

continuous resources resources, such as the Sun, that will never run out no matter how much they are used



Source 1 An overview of many types of environmental resources



2.1 CHECK YOUR LEARNING

Review and understand

1 **Identify** the three main types of environmental resources and give an example of each type.

2 Why is it important to look after renewable resources like fresh water?

3 **Describe** how you may have used a non-renewable resource in the last hour.

Apply and analyse

4 What problems might societies around the world face if people continue to rely heavily on non-renewable resources?

5 Two of the environmental resources shown in Source 1 have not been classified using the legend. How would you classify each of these? **Explain** your answer in a few short sentences.

Evaluate and create

6 Looking at Source 1, rank the top three environmental resources that you think are the most important. **Justify** (give reasons for) your answer in a few short sentences and be prepared to discuss this with the class.

2.2 Where water comes from

In this topic, you will:

» develop an understanding of the water cycle.

water cycle
the continuous cycle by which water evaporates from lakes and oceans, condenses into clouds, falls on land as rain, finds its way into rivers (often after human use) and returns to the oceans

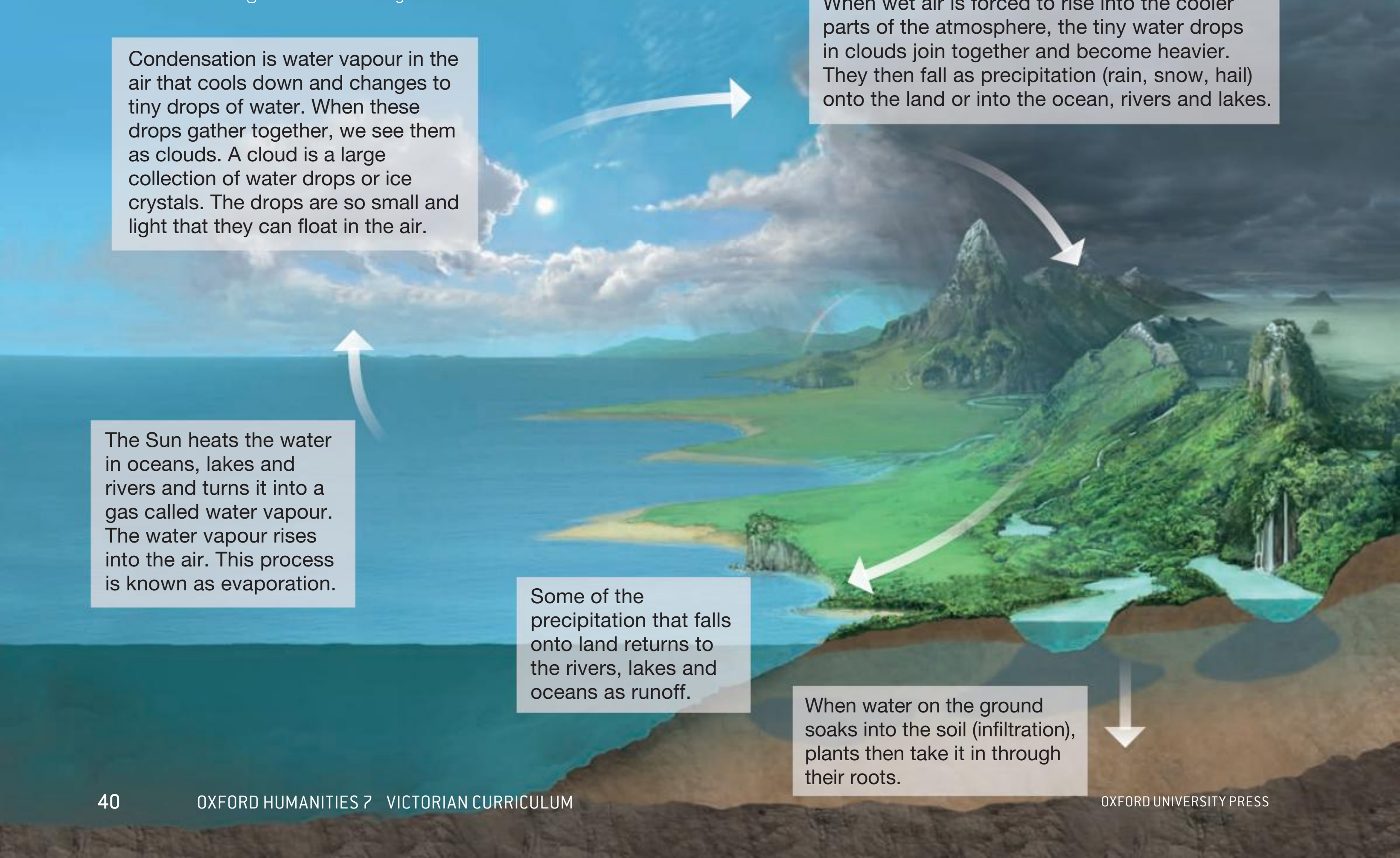
condensation
the process that takes place when a gas cools and forms a liquid; for example, water vapour becoming water droplets

Water is one of our most precious environmental resources. Without it, nothing can survive. It is an essential, renewable resource that occurs naturally on Earth. It can exist as a solid (such as ice in a glacier), a liquid (such as water in a river) or a gas (such as steam). Fresh water is an available resource when in liquid form and a potential resource as a gas or a solid. Liquid water is constantly being recycled through the atmosphere, rivers and oceans in a natural system known as the **water cycle** (see Source 2).

In the water cycle, water from the oceans and lakes is heated and evaporated by the Sun. The evaporated water vapour, which is like steam, then rises until it reaches the cooler parts of the atmosphere. Cold air cannot hold as much moisture as warm air, so the water vapour turns back into liquid water in a process known as **condensation**. These drops of water then form into clouds, which may be carried onto land by winds, and forced to rise. The colder air can no longer hold the condensed droplets and they fall as rain. The rainwater finds its way back to the world's lakes and oceans through rivers and streams and the process begins again.

As you can see in Source 2, rain falls when wet air masses are forced to rise. There are several reasons that air masses rise. Each of these will produce different types of rainfall at different places on the Earth's surface. One of the reasons that air masses rise is the heating of the ground in tropical areas. This creates heavy rainfall and thunderstorms. The other two reasons are shown in Sources 3 and 4.

Source 2 The stages of the water cycle



Are we drinking the same water as Ned Kelly?

Due to the endless water cycle on Earth, we could be drinking the same water that Ned Kelly did back in the 1860s! The water cycle is a constant process that joins the world's land, oceans and atmosphere together. For example, the same water that evaporates from the ocean ends up back in the ocean after going through the cycle and falling as rain. While the water molecules in the cycle are constantly changing states, they are never fully used. The ability of water to replenish itself is invaluable, as water is essential to the survival of all living things on Earth.

For more information on this key concept, refer to page 8 of 'The geography toolkit'.

KEY CONCEPT
Interconnection

Source 3 When air crosses a barrier (such as a mountain range) it rises and cools, producing rain. As a result, one side of a mountain range is often wetter than the other side. This is known as orographic rainfall.

Source 4 When two air masses meet, one is forced upwards. The air then cools, the water droplets condense and a line of rain occurs. This line is known as frontal rain.

2.2 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** the water cycle.

2 What causes water to fall as rain?

Apply and analyse

3 **Classify** (organise) these words into the correct order within the water cycle: precipitation, condensation and evaporation. Write a definition for each in your own words.

4 **Compare** frontal rainfall and orographic rainfall. How are they different? How are they similar?

5 **Suggest** one place in Australia that is likely to receive orographic rainfall. Give reasons for your answer.

6 Why is the water cycle a good example of the geographical concept of interconnection?

7 Look closely at Source 3. Using your knowledge of the water cycle, **explain** how you think the rivers shown in Source 3 have impacted this landscape.

Evaluate and create

8 Imagine that you are a water droplet in a cloud. Describe your journey through the water cycle in language that a young child would find interesting. Here is a start: 'Floating along with billions of my closest friends, I thought nothing would ever change …'

Quiz me!
A quick quiz on where water comes from

2.3 Water as an available resource

In this topic, you will:

» identify different types of available water resources.

Although most of the surface of the Earth is covered with water, only a tiny percentage of that water is fresh and readily available for human consumption. This water, known as **available water**, includes the **surface water** in dams, rivers and lakes as well as underground water held in soils and rocks. Most of the world's water is not immediately available as a resource and can be thought of as **potential water** (explored further in topic 2.4).

available water
fresh water that is accessible for use by humans without treatment

surface water
any body of water above ground, including streams, rivers, lakes, wetlands, reservoirs, creeks and the ocean

potential water
water that needs to be treated in some way to make it ready for use

Available water

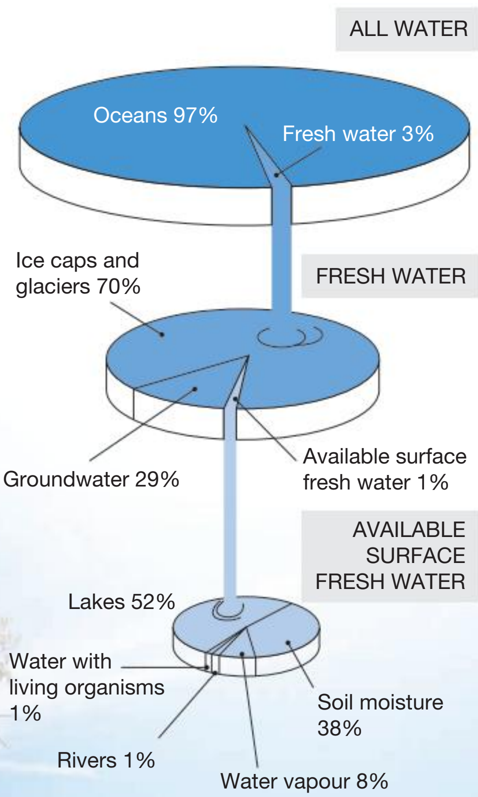
Our most available form of water is surface water, such as lakes and rivers. Most of the world's large cities and towns use surface water to supply the needs of its residents. As such, these settlements are almost always built close to a river, lake or stream. To make it easier to capture flowing water in a river, a dam or weir is usually built across it. Water can be piped from the lake that builds up behind the dam to supply the needs of towns and farms.

Surface water has been used as a resource by humans for thousands of years but as populations grow and more water is needed, people are also using other forms of water. One of the largest sources is groundwater locked away in underground **aquifers**. When it rains, water seeps into the soil to provide moisture for plants to survive. As water passes through the spaces between soil and rock it becomes groundwater.

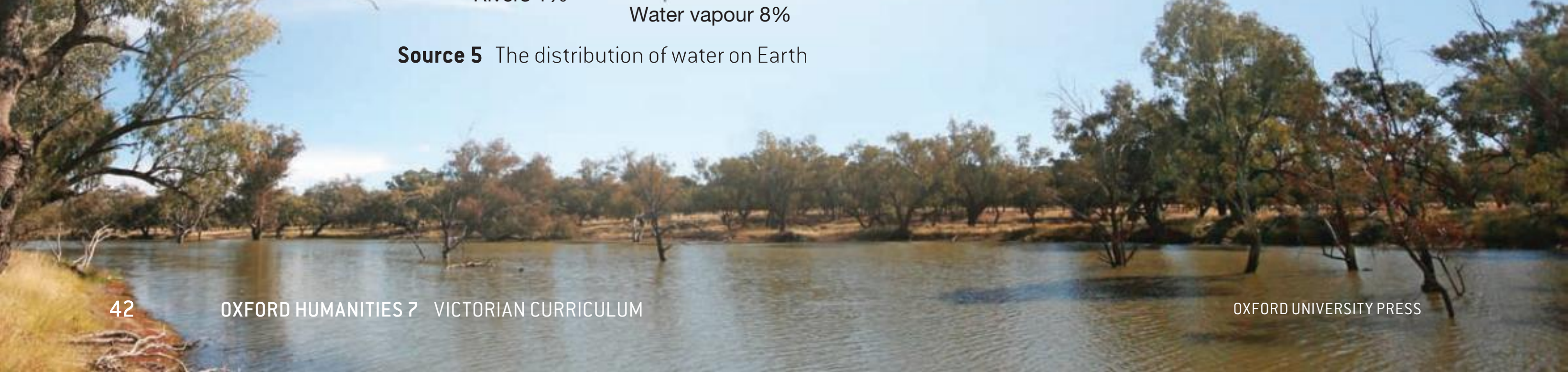
Groundwater is fed by surface water from rainfall and rivers, and naturally comes to the surface at springs or at oases in dry areas. Groundwater can also be pumped to the surface by bores drilled into the ground.

aquifers
layers of rock or soil in the ground that hold water or that water can pass through

Video
Freshwater resources



Source 5 The distribution of water on Earth



Source 6 Warragamba Dam supplies water to about 5 million residents in Sydney and is one of the largest in the world built for this purpose.

Source 7 In many places of low rainfall, water is pumped from underground aquifers to irrigate crops, such as in the Midwest of the United States.

2.3 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** an 'aquifer'.

2 **Identify** two available water resources.

Apply and analyse

3 **Explain** why towns and cities are usually built near rivers and lakes.

4 **Distinguish between** surface water and groundwater. When you distinguish between two things, you should talk about how they are different.

5 Source 6 is an aerial photograph of the Warragamba Dam. **Examine** Source 6 to answer the following questions. Refer to page 15 of 'The geography toolkit' for help if you get stuck.

- a Create a T-chart in your notebook, with one column titled, 'What this image tells me about dams' and the other, 'What this image does not tell me about dams'. Brainstorm your responses in each column.
- b Why are oblique aerial photographs like this one helpful for geographers?
- c **Identify** the scale at which this aerial photograph has been taken (local, regional or national).

6 Can you think of reasons why the supply of surface water is lower in certain areas and higher in others?

Evaluate and create

7 Pumping water from aquifers and damming rivers are two ways humans make fresh water available, but both methods can create other problems.

- a Use the internet to **research** two of these problems.
- b **Propose** one solution for each of these problems. Your solution should offer help as to how the problem could be managed better and improve sustainability.

8 Launch Google Earth and complete the following exercises.

- a **Identify** the exact location (latitude and longitude) of Warragamba Dam.
- b Measure and record the straight-line distance from Warragamba Dam to Warragamba Recreation Reserve.
- c **Identify** the relative location of Warragamba Dam to another place close by, such as the dam lookout, public school or Visitors Centre.

2.4

Water as a potential resource

In this topic, you will:

» outline different types of potential water resources.

Source 8 Dubai Electricity and Water Authority at Jebel Ali; this massive desalination plant supplies much of Dubai's fresh water.

Most of the water on Earth is not immediately available for human use. About 97.5% of the Earth's water is found in the oceans and is too salty for drinking or **irrigating** crops. Much of the remaining 2.5% of the Earth's water is locked in the polar ice caps and in flowing rivers of ice, known as glaciers. Other potential water resources include water vapour in the atmosphere and **wastewater**.

irrigating
watering crops in some way other than by precipitation

wastewater
water that has been used by people in domestic or industrial settings for washing, cleaning or flushing that contains waste products

desalination
the process of removing salt from seawater

Desalination

In order to make ocean water an available resource, the salt usually needs to be removed. This process is known as **desalination**. Desalination plants now supply fresh water to several Australian cities including Perth, Sydney and Adelaide. As of 2020, there are approximately 16 000 desalination plants either active or under construction across the world.

Explore it!
A virtual field trip to the Victorian Desalination Plant in Wonthaggi

Frozen water

Antarctica contains nearly 70% of the world's fresh water as ice in an ice sheet that covers large sections of bedrock (solid ground) in Antarctica. This ice sheet has an average thickness of greater than 2 kilometres, with some areas that scientists have found to be twice this thickness. If this ice were to melt, sea levels around the world would rise by up to 60 metres.

The world's freshwater resources

Available fresh water is not evenly distributed across the planet. Some areas of the world have much more than they need, while other areas do not have enough.

Countries with large rivers, such as the Amazon River in Brazil, and those with high rainfall, such as Indonesia and Papua New Guinea, can be thought of as being 'water rich'. Other countries, including Australia, can be considered to be 'water poor'.

Source 9 The Victorian Desalination Plant in Wonthaggi was completed in 2012. It can produce 410 megalitres of water per day.

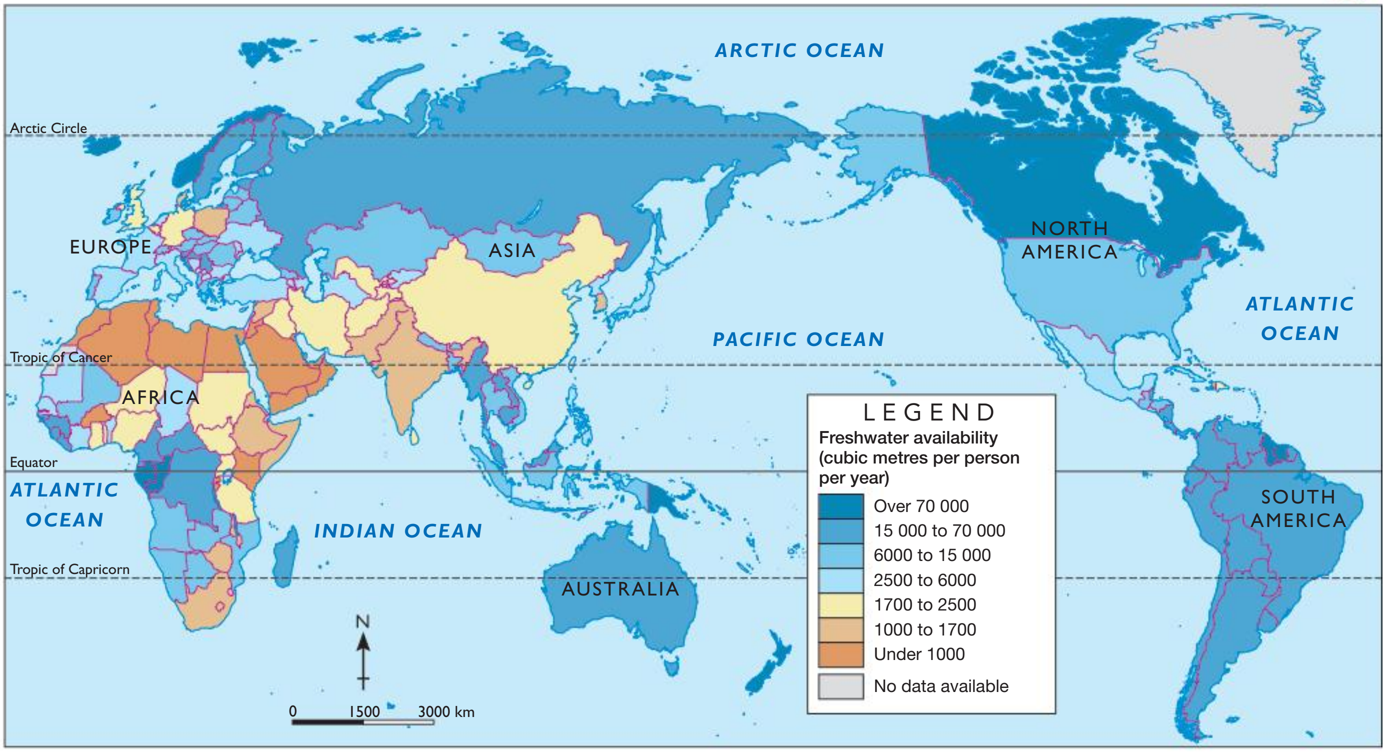
I used to think, now I think

Reflect on your learning about water as a potential resource and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

WORLD: FRESHWATER RESOURCES AVAILABLE PER PERSON PER YEAR



Source 10

Source: Oxford University Press

2.4 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** 'desalination.'
2. Why do some countries use potential water to supply their needs?

Apply and analyse

3. What is the difference between available water and potential water?
4. Use the data from Source 10 and the world map in the back of this book to answer the following questions:
   a. **Identify** a water-rich continent. Find one country within this continent and record how much freshwater availability it has.
   b. **Identify** a water-poor continent. Find one country within this continent and record how much freshwater availability it has.
   c. Can you think of two reasons why there may be an uneven distribution of freshwater availability around the world?
   d. **Compare** the freshwater resources of Australia, New Zealand and Papua New Guinea. Copy the following table into your book and fill it out to help make the comparison.

Similarities	Differences

Evaluate and create

5. Australia is often described as the 'driest inhabited continent on Earth'. Does Source 10 support this description? Why do you think this is the case?
6. Treating seawater to remove salt makes it available for human use but it may also create some environmental issues. Working in a small group, **propose** (put forward) two issues that may be created and strategies that could be used to avoid these issues.

2A RICH TASK

Quizlet

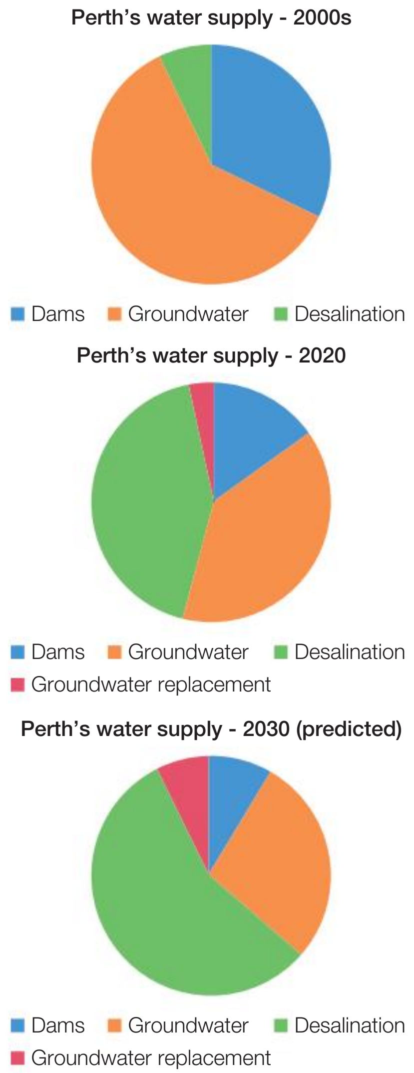
Revise the key terms you have learnt so far.

Perth's water supply

Perth faces challenges in supplying its rapidly growing population with enough fresh water. A decline in rainfall over the last 100 years has meant that Perth residents can no longer rely on rivers, lakes and dams to supply all their water needs. About 40% of Perth's water now comes from the ground.

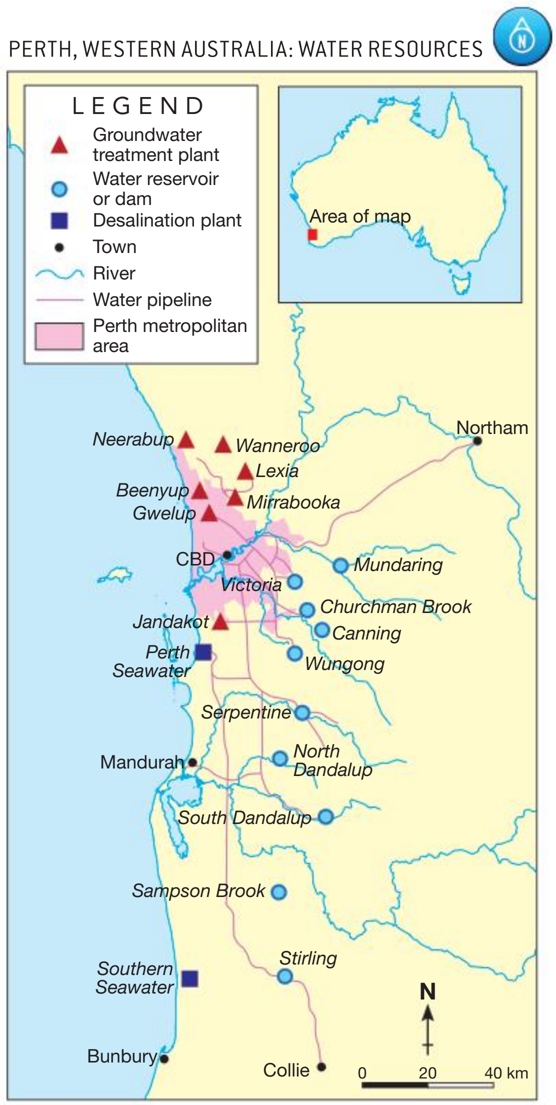
North of the city are large aquifers which have collected rainwater for thousands of years and stored it within sand or limestone layers. Wells are dug to access the water, which is then treated, mixed with rainwater and used by Perth residents in their homes and farms. More than 40% of Perth's water comes from two large desalination plants. In recent years, wastewater has been treated and pumped back into aquifers for storage.

Source 11 Lake Brockman (or Logue Brook Dam) is now used for recreational activities, and the surrounding forest provides opportunities for hiking and camping. The dam was originally constructed in 1963 to provide water for irrigation.



Source 12 A visual representation of Perth's water supply from the 2000s to today, and projected into 2030

PERTH, WESTERN AUSTRALIA: WATER RESOURCES



Source 13 Source: Oxford University Press

KEY SKILL
Analysing maps

Using a map legend and scale

In order to show the features on maps clearly, various symbols and colours are used. To help us unlock the information on the map these symbols are explained in a legend (or key). There are three main types of map symbols:

- point symbols – show features in one particular place (such as a railway station or desalination plant)
- line symbols – show features that connect places on the map (such as roads and rivers)
- area symbols – use colours or patterns to represent large areas (such as lakes and cities).

Maps also include a scale. Scales indicate what distances on the map represent in the real world. Scale can be shown in three different ways: as a written scale, a line scale or a ratio.

For more information on this key skill, refer to page 16 of 'The geography toolkit'.

Practise the skill

Study Source 13.

1 a **Identify** the symbol that has been used for desalination plants on this map.
  b Locate one example of where this symbol is used on the map.
  c **Identify** how many groundwater treatment plants supply water to Perth.
  d What do you notice about the location of the dams?

2 a **Identify** the type of scale used on the map.
  b Using the scale, find the distance between:
    i Bunbury and Neerabup
    ii North Dandalup and Northam
    iii the two desalination plants.

Extend your understanding

1 What type of graph has been used in Source 12? How does this method of representing data help you interpret it?

2 Look carefully at Source 12.
  a **Describe** how Perth's supply of water resources changed over time.
  b Using information from this topic, **explain** why this change has occurred.

3 Copy the following table into your book and complete it.

Water resources in Perth	Is this a potential or available water source?	Why is it this type of water source?

4 Do you think it is possible to drought-proof a city? **Justify** (give reasons for) your answer.

5 What do you think will happen to the water in an aquifer if water continues to be pumped out of it for use in a city such as Perth?

6 a Use your research skills to explore some of the strategies being used to address water problems in other parts of Australia.
  b Pick one strategy from your research. How effective is this strategy? What are its strengths and weaknesses?

2.5 Water connects places

In this topic, you will:

» investigate the environmental, economic and social effects of water as it connects places.

mouth
the end of a river where it enters a lake or ocean

fertile
soils that have the nutrients and minerals to support the growing of plants

silt
small sediment particles that travel downstream through rain, water flow and eroding riverbanks

Worksheet
Canal locks

Water connects places in many ways as it moves through the atmosphere, across the Earth's surface and beneath the ground. Many places around the world are connected to each other through the ways they use these sources of water.

Connecting people through trade and transport

Rivers have historically acted as the freeways of the world as they enable transport and trade between places. Rivers are used as transport networks by carrying people and the goods they need across vast distances.

Rivers are not the only bodies of water that connect people through trade and transport – from tiny canoes carrying families to riverside markets in places such as Papua New Guinea and Brazil, to huge ocean-going container ships crossing the world's oceans, water connects communities across the world.

Moving water

Towns and cities have often developed along rivers and near lakes and other freshwater sources. People are drawn to freshwater supplies and will adapt their way of life to the features of the local environment. For example, in the high mountains of Pakistan and Afghanistan, communities depend on the seasonal melting of the snow and glaciers to provide them with fresh water. The snow melt also feeds the region's great rivers (the Indus and the Ganges) that supply water to the many cities and communities established along their banks.

The movement of water in rivers can also connect places together in negative ways. Flooded rivers can affect many settlements along their banks. Floods are among the world's deadliest natural disasters. If pollution or toxic chemicals enter the water at one location on the river, they quickly affect other parts of the river downstream, and the people who use it.

2.5 CHECK YOUR LEARNING

Review and understand

1 **Identify** one way in which water connects people.

2 **Create** a table with three columns: environmental factors, social factors and economic factors. Add one example of water connecting places in each column.

Apply and analyse

3 Why can pollution from one part of a river affect places further downstream?

4 **Examine** Source 1.

a How do you think the choice of crop grown in Source 4 has been determined by the local environment?

b What crops do you think would be grown in the location shown in Source 2?

c Write a short paragraph comparing the access to water that farmers or food growers have in these two areas.

Evaluate and create

5 Using Google Earth, explore the Nile River in Egypt. Based on your observations, predict how the river has affected where people choose to live in Egypt. **Justify** your response using specific examples from what you can see, and what you have learnt about how water connects places.

Moving soil

The place where a river meets a lake, larger river or ocean is known as the **mouth**. The soil at the mouth of the river is rich and **fertile** from the deposits of **silt** that have travelled down the river from the mountains. Over time, this silt builds up to large flat areas with rich soil, which are perfect for farming. The mouths of rivers around the world support some of Earth's largest and most productive farming areas (for example, the Mekong River as seen in Source 4).

Many major port cities have also been built at river mouths, including Rotterdam at the mouth of the Rhine river in the Netherlands, and Rome at the mouth of the Tiber River in Italy.

Source 1 The water that flows through the river systems around the world connects people and places in many ways.

Source 2 Communities in the Himalayas (a mountain range in Asia) depend on annual glacial melts to replenish their water supplies. Once replenished, excess water flows into rivers, connecting these communities with others downstream.

Source 3 Large cities and towns around the world are connected by rivers. River waters allow people to travel and goods to be transported and traded. This barge on the Rhine river is carrying coal from the city of Cologne south to Switzerland.

Source 4 Farming communities along the Mekong Delta in Vietnam plant their rice crops in the rich soil of the floodplains.

2.6 Water affects places

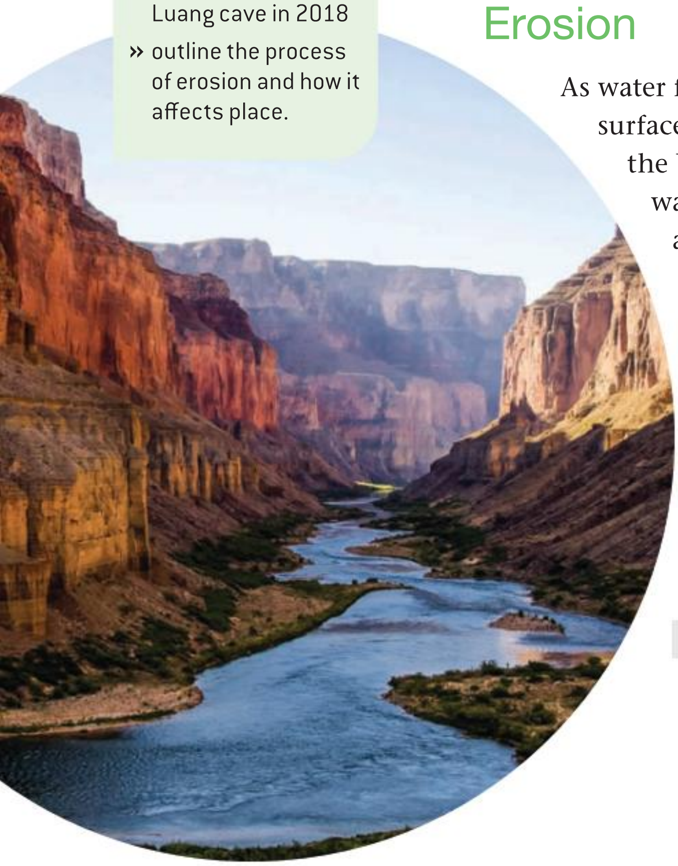
In this topic, you will:

- » investigate the way that rainfall, surface water and groundwater affected the Tham Luang cave in 2018
- » outline the process of erosion and how it affects place.

Water can affect places in both positive and negative ways. On the positive side, water from rain and rivers is used to irrigate the crops and farm the livestock that we eat. This water has a positive effect on the places in which we live. Without it, no life could exist. On the other hand, water can cause serious damage and problems in different places. For example, snowstorms can shut down cities for days and heavy rainfall can cause widespread flooding.

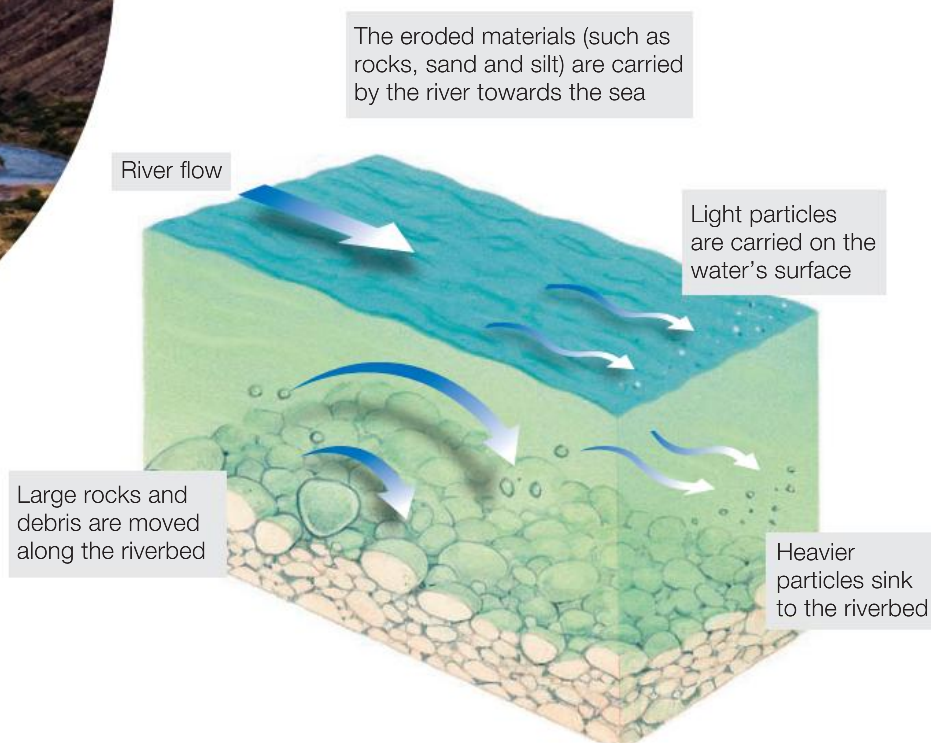
Erosion

As water flows across the Earth's surface, it gradually wears away that surface. This process is called **erosion** and it is particularly obvious on the banks of rivers. Fast-flowing rivers that carry large volumes of water erode more than slower, smaller rivers. The rate of erosion also depends on how big and hard the rocks are that the river flows over. For example, hard rocks will erode much more slowly than softer rocks. Some of the world's most spectacular landforms, such as the Grand Canyon in the United States, have been formed through this process.



Source 5 The Grand Canyon has been eroded by the Colorado River over millions of years.

erosion
the wearing away of the Earth's surface by forces such as river, wind and ice



Source 6 The flow of water transports eroded material such as rocks, stones and sand.

Explore it!
A virtual field trip to the Grand Canyon

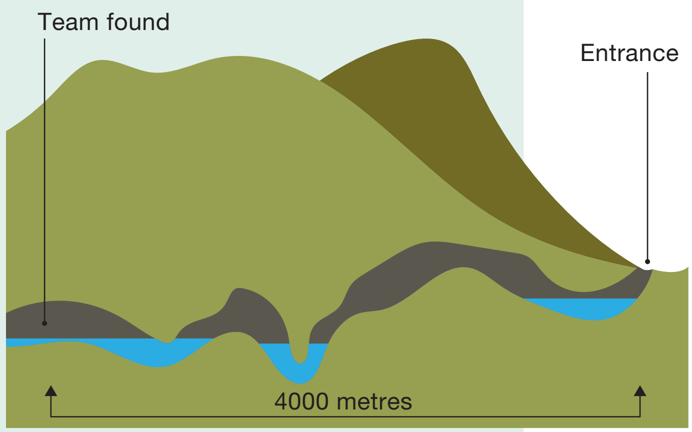
CASE STUDY

Tham Luang cave rescue

Twelve members of a junior football team and their coach made world headlines when they became trapped in an underground cave in Northern Thailand in 2018.

On 23 June 2018, the team was exploring the cave. Heavy rainfall in the area had created an abundance of surface water, which flowed through the rocks above the cave and caused the naturally occurring groundwater in the cave to flood. To escape the rising water, the group travelled deeper into the cave where they awaited rescue in total darkness on a muddy bank, 4 kilometres from the cave's entrance.

Pumps were used to reduce water levels in the cave and specialist divers from around the world were brought in to navigate the narrow, twisting cave to reach the group. The boys and their coach were sedated, strapped to these expert divers, and escorted to safety through the narrow cave system. The whole ordeal lasted 18 days.



Source 7 An illustration showing the Tham Luang cave, including sections full of water.

June								July								
23rd	24th	25th	26th	27th	28th	29th	30th	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
5.7 mm	1.4 mm	14.0 mm	16.2 mm	16.5 mm	1.8 mm	0 mm	0 mm	13.7 mm	0 mm	0 mm	0 mm	0 mm	2 mm	2 mm	4 mm	11 mm

Source 8 Rainfall data for Chiang Rai, Thailand, near to the cave; the group went missing when they entered the cave on 23 June. On that day, there was 5.7 millimetres of rainfall in the area.

2.6 CHECK YOUR LEARNING

Review and understand

1 How can rivers change natural landscapes?

2 What caused the football team and their coach to become trapped in the cave at Tham Luang?

3 Expert divers were used to help rescue the boys and their coach.

- **a** **Outline** the dangers faced by the rescuers.
- **b** **Identify** the strategies used to overcome these dangers.

Apply and analyse

4 **Explain** why fast-flowing rivers erode more than slow-moving rivers.

5 Does the Tham Luang cave rescue demonstrate the interconnection between rainfall and groundwater? How?

Evaluate and create

6 Examine Source 8.

- **a** In your notebook, **create** a column graph using the data. Plot the rainfall on the *y* axis (vertical) and the days on the *x* axis (horizontal). For more information on graphs, refer to page 27 of 'The geography toolkit'.
- **b** Look at your graph closely and **describe** the pattern of rainfall in Chiang Rai during this time.
- **c** One of the first proposals for the rescue in Tham Luang was to wait until the water level fell. Use evidence from your graph to **explain** why this proposal was not carried out.

7 Using Google Earth, find the Tham Luang cave. Next, find the relative location of the cave from one other place of your choice and record the answer.

2.7 Water as an environmental resource

In this topic, you will:

- » investigate the importance of water in the natural environment
- » explore the importance of protecting rivers and wetlands.

Fresh water is not just an essential resource for people, it is also a vital element in the natural world. All life forms on planet Earth – from microscopic bacteria, to large animals, to entire forests – rely on a supply of clean, fresh water.

Unfortunately, human activities can have devastating impacts on the natural environment and even bring about the extinction of individual species. For example, the Yangtze River dolphin was once found throughout this Chinese river but due to a combination of factors including dam building and fishing, it is now considered extinct.

See, think, wonder *

Look at the image of the tiger in Source 9.
- What do you see?
- What do you think?
- What do you wonder?

Rivers

Rivers are a vital part of the natural world and perform many important tasks. They transport water and nutrients to a range of ecosystems, supporting millions of species of plants and animals. Birds and animals not only drink from the world's rivers but often feed from them too. Many species, including the platypus, also nest in riverbanks. In places where land has been cleared for farming and other human uses, rivers provide corridors for the movement of animal species.

Rivers also drain surface water and carry it into oceans and lakes, linking together the land and sea. In Australia, large rivers such as the Murray and Darling occasionally flood onto the surrounding land. While floods can cause a hazard for humans, they do provide a vital source of water and nutrients to **floodplains**. Crops that rely heavily on water, such as rice, are grown on floodplains.

floodplains
low-lying land next to a river or stream that is regularly flooded

Wetlands

A wetland is an area that is covered in water for all, or part of the year. A floodplain is an example of a wetland. Like rivers, wetlands are a vital part of the natural environment. They are sometimes referred to as the 'nursery of life' as species of animals, including crabs and fish, spend the early part of their life cycle in a wetland area. Wetlands along coasts protect the land from erosion by waves and reduce the impacts of storms. They also filter water, absorbing pollutants and capturing vital nutrients.

Source 9 Top: The Barmah-Millewa floodplain is fed by Australia's largest river, the Murray. **Middle:** The Sundarbans in Bangladesh and India are home to the world's largest tiger population. Unlike most cats, tigers like the water and are regularly seen swimming from island to island in the Sundarbans. **Bottom:** A satellite image of the very eastern part of the Sundarbans. This image was taken by a European Space Agency satellite, located nearly 88 kilometres above the Earth's surface.

The world's largest coastal wetland is the Sundarbans mangrove forest in Bangladesh and India. Located at the mouths of several rivers, including the Ganges and Brahmaputra Rivers, it is one of the most **biodiverse** places on Earth. Home to an estimated 260 different bird species, the Sundarbans mangrove forest also supports populations of threatened species including crocodiles and pythons. It also acts as a storm barrier from typhoons in the Bay of Bengal.

More than 4 million people live in the region, farming the rich soils and harvesting trees for timber. Concerned about the long-term future of the area, the United Nations has placed the Sundarbans forest on the World Heritage list. This is in recognition of its 'outstanding value to humanity' and should help to conserve and protect it for the future.

biodiverse
a term used to describe an ecosystem containing a large range of different types of plants and animals

Quiz me!
A quick quiz on water as an environmental resource

2.7 CHECK YOUR LEARNING

Review and understand

1 **Identify** three different functions of rivers.
2 In your own words, **define** the following terms:
  a wetlands
  b floodplains.
3 **Outline** some negative impacts that human activity might have on water.

Apply and analyse

4 **Explain** why healthy rivers and wetlands are important environmental resources for human beings.
5 Source 9 (bottom) is a satellite image of the very eastern part of the Sundarbans. In this image, dark green areas represent areas of natural forest whereas the lighter coloured green and brown areas represent areas that have been cleared by people.
  a Based on the image, how much of this area do you think has been cleared?
  b Why do you think these areas have been cleared?
  c Do you think the clearing of these areas has affected the natural ecosystems there? **Explain** your answer.

Evaluate and create

6 There are 20 World Heritage sites in Australia. In small groups, brainstorm as many as you can.
  a **Research** these World Heritage sites using the internet.
  b **Identify** how many of these 20 sites have been listed to protect rivers or wetlands.
  c As a group, decide whether you think it is important to protect rivers and wetlands or not. Give reasons for your answers and discuss these with the rest of the class.
7 Locate some rivers, streams and wetlands in your local area. You may use Google Maps, Google Earth or a street directory to help you. Once you have found them, complete the following:
  a In a short paragraph, **describe** what you know about these ecosystems.
  b **Identify** whether these are natural places, or if they have been altered by humans.
  c In a short paragraph, **summarise** your thoughts on the access to or amount of fresh water in your local area.

2.8 Water as an economic resource

In this topic, you will:

» explore the use of water to grow food and produce electricity

» examine the Snowy Mountains Scheme.

Water for food

Farmers are by far the biggest users of water in Australia. Approximately 70% of the fresh water used each year in Australia is used for agriculture. This water is used to produce an enormous range of products, many of which you consume every day.

In places with reliable rainfall, farmers capture rainwater in dams and tanks and in drier places they use bores to access water from aquifers beneath their land. In many parts of Australia, water is taken from rivers and carried in pipes and channels to individual farms. Farmers are allowed to use a certain amount of water from rivers each year and in some cases are charged for the amount of water they use.

Water is used to water crops and to raise animals such as cows, sheep and pigs. For example, it takes up to 50 000 litres of water to produce 1 kilogram of beef.

Apricots

Apricots are grown and processed in northern Victoria and southern New South Wales. They are processed in various plants centred around Shepparton, Victoria.

Estimated water needed to produce 1 kilogram of apricots: 1391 litres

Bread

The main ingredient in bread is wheat. New South Wales produces the most wheat in Australia; most of this in the east of the Murray–Darling Basin.

Estimated water needed to produce 1 kilogram of wheat: 750 litres

Milk and butter

More than 60% of Australia's milk and milk products comes from Victoria. Leongatha in Victoria is home to a huge dairy factory.

Estimated water needed to produce 1 glass of milk: 200 litres

Estimated water needed to produce 1 kilogram of butter: 18 070 litres

Raspberry jam

The main ingredient in raspberry jam is sugar. Virtually all of Australia's sugar is grown in Queensland. Raspberries grown in the Goulburn Valley make up 40% of the jam.

Estimated water needed to produce 1 kilogram of sugar: 173 litres

Estimated amount of water needed to produce 1 kilogram of raspberries: 713 litres

Rice Bubbles

Rice Bubbles are made from 89% whole white rice, which is grown in the Murrumbidgee Irrigation Area (part of the Murray–Darling Basin). Much of the rice industry is centred around Deniliquin in southern New South Wales.

Estimated water needed to produce 1 kilogram of rice: 1550 litres

Source 10 The amount of water needed to produce typical breakfast foods

Graph it!
Water for energy

hydroelectricity
a form of energy that harnesses the power of water in motion to generate electricity

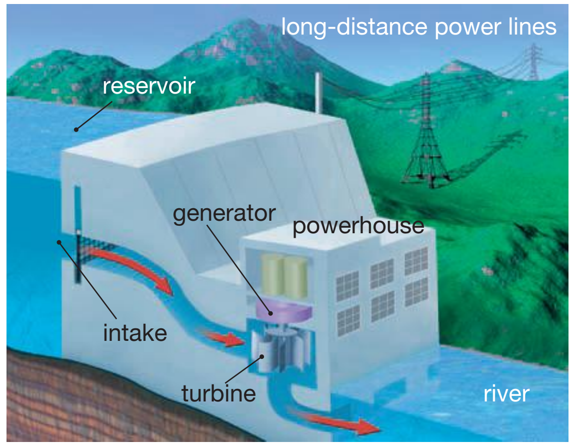
Water for energy

Electricity can be generated using the force of flowing water in rivers. A dam is built across a river, creating a large reservoir of water. This water is then released through turbines, causing them to turn. The spinning turbines rotate giant magnets around a huge coil of copper wire to create electricity. The faster the water flows, the more electricity is created. This type of electricity is known as **hydroelectricity**.

There are currently 124 operating hydroelectric plants in Australia. Together, they can produce enough electricity to supply 6.5% of the total electricity needs of the country, which is about 2.8 million homes.

Hydroelectricity is the largest source of renewable, non-polluting energy in the world. The main negative impact of building a hydroelectric plant is that the natural flow of the river is stopped and the land behind the dam is flooded. The flooding of valleys behind the dam can destroy natural habitats and human features such as houses, fences and roads.

In Australia, hydroelectricity is the largest source of renewable energy. Other sources include non-renewable resources such as coal and gas.



Source 11 How a hydroelectric power station works

The Snowy Mountains Scheme

CASE STUDY

Australia's largest engineering project is the Snowy Mountains Scheme. Built between 1949 and 1974, the Scheme diverts the Snowy River into dams and tunnels through the Great Dividing Range to flow into the Murray and Murrumbidgee rivers.

The Scheme consists of nine power stations, 16 major dams, 80 kilometres of aqueducts and 145 kilometres of interconnected tunnels. It has been described as one of the civil engineering wonders of the modern world. In 2019 work began on Snowy 2.0, which will add one new underground power station.

The Scheme contains Australia's three largest hydroelectricity plants.

The diverted water is used to irrigate large areas of farmland throughout New South Wales and Victoria, and the hydroelectric power created supplies power to New South Wales, Victoria and the ACT.

Source 12 Tumut 3 is one of the many power stations in the Snowy Mountain Scheme.

*** I used to think, now I think**

Look at Source 11. Reflect on your learning about hydroelectricity and how water could create power. Complete the following sentences.

- I used to think …
- Now I think …

What has changed your understanding?

2.8 CHECK YOUR LEARNING

Review and understand

1 What type of environmental resource is hydroelectricity?

2 **Identify** one advantage and one disadvantage of building a dam.

Apply and analyse

3 **a** **Rank** the foods in Source 10 from requiring the most water for production to requiring the least.

b **Summarise** what you have learned.

Evaluate and create

4 It can take up to 50 000 litres of water to produce 1 kilogram of beef. In a short paragraph, **suggest** two reasons why you think it takes so much water to do so.

5 **Evaluate** the Snowy Mountains Scheme by answering these questions:

- what are its strengths and weaknesses?
- how do you think these weaknesses could be tackled to make the Scheme stronger?

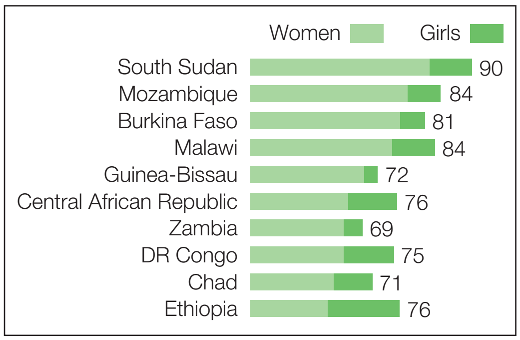
2.9 Water as a social resource

In this topic, you will:

» investigate ways in which access to a safe supply of water varies across the world.

Drinking water, sometimes called potable water, is water that is safe to drink and use for cooking and washing. In Australia, most water undergoes some form of treatment to make it safe to drink. Water treatment removes sediments, pollutants and microorganisms that can make us sick.

Australians are among the world's biggest water users, using almost 500 litres of water per person per day. This figure is for all water use, including water used in agriculture and industry. While this amount has declined in recent years, it still ranks among the highest in the world. Experts estimate that each Australian will need to use 12% less water by 2030 to stay within the limits imposed by our rainfall. Some households have started to use strategies to save water, while many others continue to waste large amounts.



Source 13 The gender of those who collect water in countries where more than 10% of households do not have a water supply in their home

Access to safe drinking water

In Australia we take for granted that we have flushing toilets, running water from taps, and clean, safe drinking water. However, millions of people around the world get sick or die each year from drinking contaminated water.

The United Nations estimates that more than 785 million people do not have access to a reliable freshwater supply, and two billion people do not have basic sanitation, such as running water to clean their hands or flush their toilets. Most of these people live in rural areas rather than in cities.

KEY CONCEPT
Environment

Aysha's story

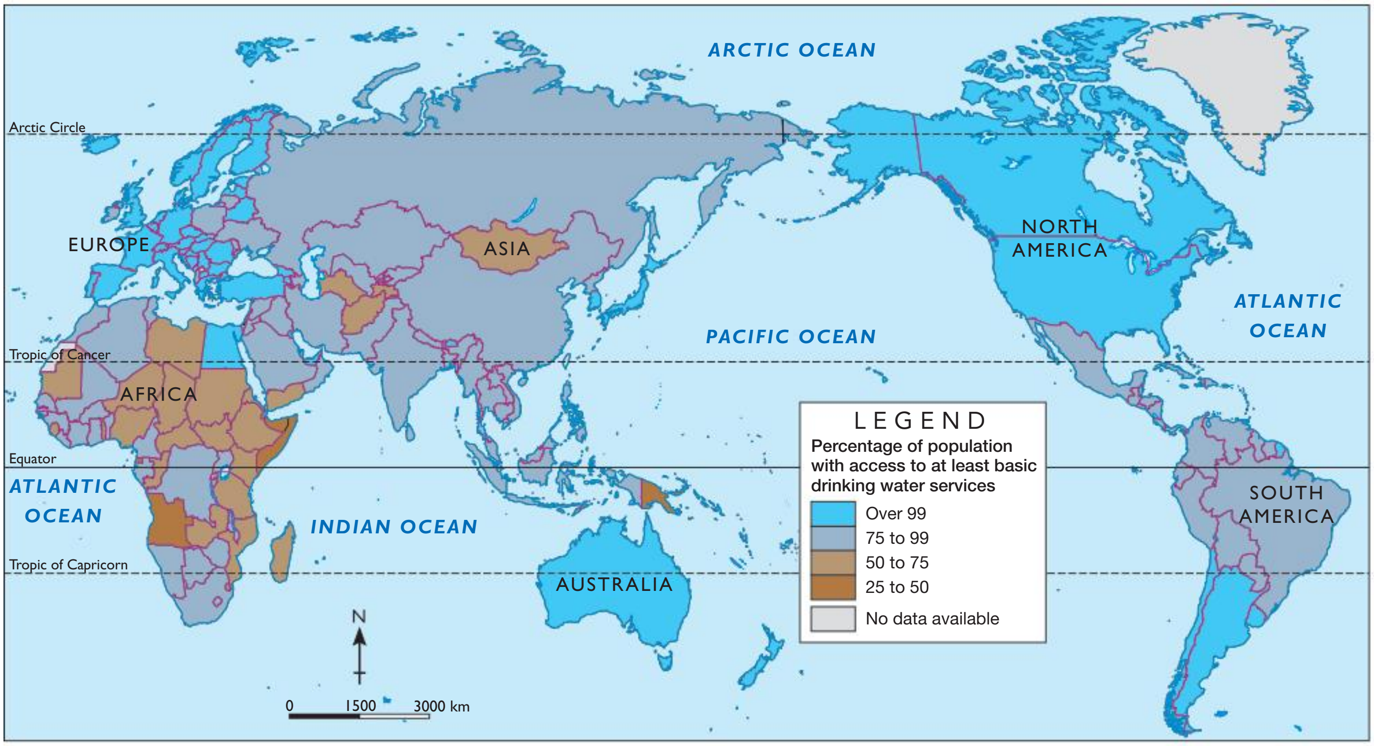
The world in which we live is made up of many different environments, both natural and human-made. In Australia we have vast infrastructure to ensure that all our towns and cities have access to clean water. However, the environment and lack of infrastructure in other parts of the world mean that this is not the same for everyone.

Thirteen-year-old Aysha lives in the region of Afar in Ethiopia. This region receives little rainfall throughout the year and often faces drought. Aysha's day begins at 6:30am when she wakes on the dirt floor of her home. She ties plastic water containers to the family camel and sets off alone to the river. This is a 4-hour walk across barren, rocky ground. Reaching the river, she fills the containers with the muddy water, takes a drink and washes herself and her clothes. She is finally able to have a meal after arriving back at her village in the late afternoon, and then there is time for some reading lessons with her brother. She is expected to clean the dishes and prepare a drink of tea for the family before falling asleep. Tomorrow, her day will be just the same.

For more information on this key concept, refer to page 9 of 'The geography toolkit'.

Source 14 In South Sudan many women and girls spend hours each day collecting and carrying water.

WORLD: ACCESS TO SAFE DRINKING WATER



Source 15 Source: Oxford University Press

Each year, millions of people die from diseases carried in their water. Millions of women and children around the world, particularly in Africa, spend several hours a day collecting and carrying enough water to keep their families alive for another day.

2.9 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'potable water'.

2 How many people do not have access to a reliable freshwater supply, according to the United Nations?

3 **Describe** some of the natural features of Aysha's environment in Ethiopia.

Apply and analyse

4 Use Source 15 and the world map in the back of this book to answer the following questions.

a **Identify** two countries with the best access to safe water and two countries with poor access.

b Using the PQE method, **describe** access to safe drinking water at a global scale. See page 25 of 'The geography toolkit' for a reminder on how to use the PQE method.

5 Read Aysha's story.

a The average toilet in Australia uses 8 litres per flush. **Compare** water usage between Australia and Ethiopia, using examples from this topic.

b **Explain** how Aysha's daily routine would affect her education.

Evaluate and create

6 In small groups, complete the following tasks.

a **Propose** (put forward) solutions for Aysha's access to water.

b **Discuss** why changes to infrastructure, such as installing a pipe from the river to the village, have not been made in Aysha's community.

c Using the internet, locate one strategy to combat water scarcity that is currently being used in Africa. **Discuss** whether or not this is a good strategy, and how you might improve it.

2.10 Water as a cultural resource

In this topic, you will:

» understand the importance of water to Aboriginal and Torres Strait Islander peoples.

Explore it!
A virtual field trip to Budj Bim Cultural Landscape

Water is a vital resource valued by all Australians. It holds an important spiritual and cultural value for Aboriginal and Torres Strait Islander peoples, who regard the rivers and waterholes as an inseparable part of their land.

A spiritual connection with water

Prior to European settlement, most Aboriginal peoples lived in well-watered coastal areas and along the rivers of the Murray–Darling Basin. They mapped the location of water in their artwork. In these maps, spirals often identified the location of pools and wells while wavy lines usually showed the location of running water.

Aboriginal peoples also passed on their knowledge of water resources through stories. The Worrorra people live in the Prince Regent River region of the Kimberley. Their Dreaming (or Lalai) stories tell of the formation of the Prince Regent River.

The stories tell of how the Wunggurr snake (a Creator being) dug a path where the Prince Regent River now flows by travelling from far inland to the sea. Other Creator beings called Wandjina (see Source 16) then took the animal forms of Rock Cod and Melo (a large sea snail), and created Malandum (the Prince Regent River) by swimming upstream along this path. At what is now called King Cascade Falls, Rock Cod was forced to stop abruptly by the Lalai Bowerbird and thrust herself against the soft mud, where she created a step-like cliff. Today, a waterfall flows over these rocks from the stream above where the Bowerbird lives.

Aboriginal water management today

In modern Australian society, Aboriginal and Torres Strait Islander peoples have been largely left out of the decision-making process when it comes to managing water sources. In some remote areas of Australia, many traditional water sources have become unreliable or unusable because landowners have given their cattle access to these areas without consulting local Aboriginal peoples.

Source 16 Aboriginal paintings of Wandjina figures in the Kimberley

In northern Victoria, however, the Yorta Yorta people work together with Parks Victoria to manage flooding in the Barmah Forest. The forest relies on annual flooding to maintain its health, and the flow of water onto the floodplain supports native flora and fauna that are of significance to the Yorta Yorta people.

There is hope that Aboriginal and Torres Strait Islander peoples will be more included in decisions about water use and management. An agreement between the federal and state governments in 2004 stated that Aboriginal and Torres Strait Islander peoples should be included in water planning wherever possible, however this is yet to be put into action in many regions.

aquaculture
the farming of fish and other aquatic animals and plants

CASE STUDY

Budj Bim Cultural Landscape, Western Victoria

Western Victoria is home to one of the world's most extensive and oldest **aquaculture** systems. It was created by the Gunditjmara people, who are the traditional owners of the areas that include Warrnambool, Port Fairy, Woolsthorpe and Portland.

On the shores of Lake Condah, the Gunditjmara people used volcanic rock to construct a series of canals, walls and stone traps. The structures, thought to be more than 6000 years old, joined a series of natural pools and swamps. This allowed the local people to control the flow of water throughout the year, helped to ensure a reliable supply of water in hot months, and control the movement of fish and eels for food.

Historians have uncovered evidence of many permanent homes at the site, suggesting that the stone walls and traps supported a reasonably large community. They are one of the earliest known examples of fish farming in the world, and have been listed as a United Nations World Heritage Site.

Source 17 Some of the stone walls and canals built at Lake Condah

2.10 CHECK YOUR LEARNING

Review and understand

1 **Identify** the environment where most Aboriginal peoples lived in Australia before Europeans arrived in 1788.

2 Why is the Budj Bim cultural landscape a special place?

3 Why do the Yorta Yorta people work with Parks Victoria?

Apply and analyse

4 Is the Dreaming story of the formation of the Prince Regent River different from your understanding of how rivers are formed? Write a short reflection on how different groups can have different perspectives on the same place.

5 Budj Bim has been included on the World Heritage list, as has the Sundarbans area (see page 52).

- a Using Google Earth or your atlas, **identify** the absolute location of both these places.
- b **Compare** these two places. How are they similar? How are they different?

Evaluate and create

6 In the past, many non-Indigenous Australians believed that Aboriginal peoples were nomadic, meaning they did not stay in one place. Does the Budj Bim cultural landscape support this belief? **Explain** your answer.

2B

RICH TASK

Quizlet

Revise the key terms you have learnt so far.

The Three Gorges Dam

China's Three Gorges Dam is not only the world's largest dam, it is also the largest power station ever built. More than 2 kilometres long and 180 metres high, the dam has turned the Yangtze River into a lake that extends for 660 kilometres. As well as producing electricity, the dam has increased the Yangtze River's shipping capacity, and has reduced the flooding hazard downstream. The building of the Three Gorges Dam stirred protests around the world, as it involved displacing 1.25 million people and flooding more than 600 square kilometres of land (about 30 000 times the size of the Melbourne Cricket Ground).

KEY SKILL
Analysing maps

Using a topographic map

Topographic maps are detailed maps that use several features to show the shape and height of land. These features include:

- **contour lines** – these lines join all places of the same height and are shown on the map as brown lines with the height written on them. The closer together the contour lines are, the steeper the land.
- **grids** – a square grid is overlaid onto topographic maps to help find the general area or location of features on the map. Each line on the grid is given a two-digit number, known as eastings (the horizontal line) and northings (the vertical line). The space between each of these intersecting lines are known as **tenths**.
- **spot height** – a point on a map where the height above mean sea level is recorded, typically by a dot with the number written beside it. The legend will tell you how this height is measured.
- **symbols and colours** – topographic maps show natural features (such as forests and lakes) and human-made features (such as towns and mines).

The town of Yang Gui Dian in Source 19 is located at GR996068. This is known as a six-figure **grid reference** (GR), and it works like this:

- The first two numbers in the GR (99) tell us that the town is to the right of the north-south line number 99.
- The third number in the GR (6) represents the number of tenths between the 99 line and the 00 line where Yang Gui Dian sits.
- The next two numbers in the GR (06) tell us that the town is located north of the 06 line that run across the map and the last number (8) that the town is eight-tenths between the 06 and the 07 line.

  It sounds a little complicated, but it is really quite easy. You can think of the third and sixth numbers as being like decimal points: 99.6/06.8.

For more information on this key skill, refer to page 16 of 'The geography toolkit'.

Source 18 An oblique aerial view of the Three Gorges Dam on the Yangtze River in China; the hydroelectric power station is to the left of the dam wall.

Practise the skill

1 **Identify** the features located at the following grid references:
  a GR028133
  b GR005101
  c GR044105.

2 **Identify** the grid references for the following features:
  a the locks to the north of the dam
  b the town of Sha Ping
  c the lake to the right of Sha Ping.

3 How high above sea level is Sha Ping?

4 Provide a grid reference for a place on the map that is more than 800 metres above sea level.

5 Provide the grid reference for one natural feature and one human-made feature on the map.

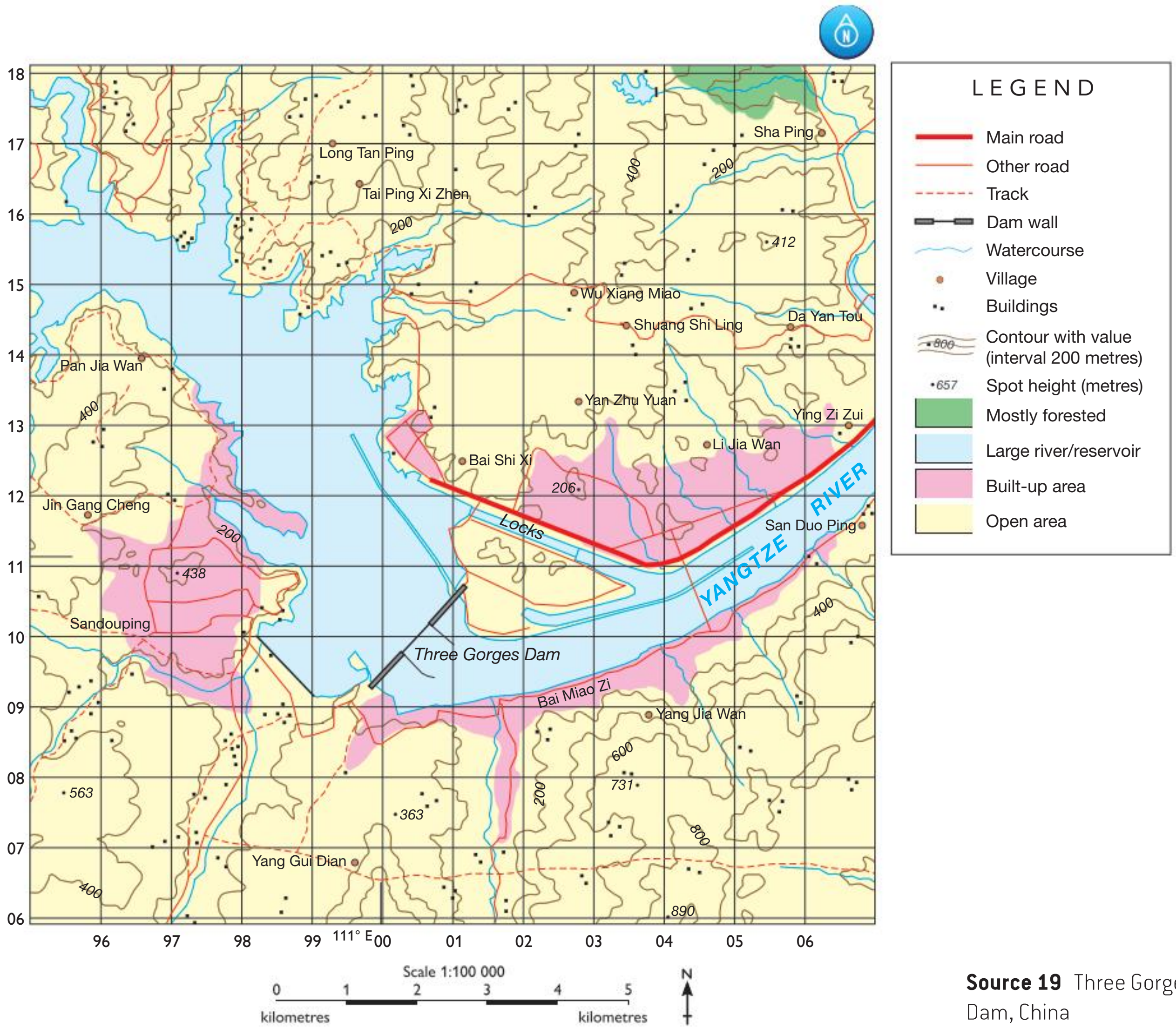
Extend your understanding

1 The Three Gorges Dam was built to provide electricity, reduce air pollution, reduce the dangers of flooding and increase the area where boats could travel on the river. How can building one dam achieve these four things?

2 **Compare** the Three Gorges Dam to the Snowy Mountains Scheme on page 55. What are some of the key differences and similarities between these two projects?

3 **Research** the impact of the Three Gorges Dam on its surrounding area. Use your research to write a short paragraph in response to this question:

  'What does the Three Gorges Dam tell us about the importance of access to water for people?'



Source 19 Three Gorges Dam, China

2.11 Water in Australia

In this topic, you will:

» learn about the quantity of Australia's water resources

» interpret the spatial distribution of rainfall in Australia.

climate
the average weather – particularly rainfall and temperature – experienced in a particular area over a period of time (usually 30 years)

Australia's water supplies are not evenly distributed. The northern third of the continent is a water-rich area, as it is located in an area of tropical **climate** and receives heavy rainfall with **monsoons** in the summer. By comparison, vast interior areas of the country receive very little rain.

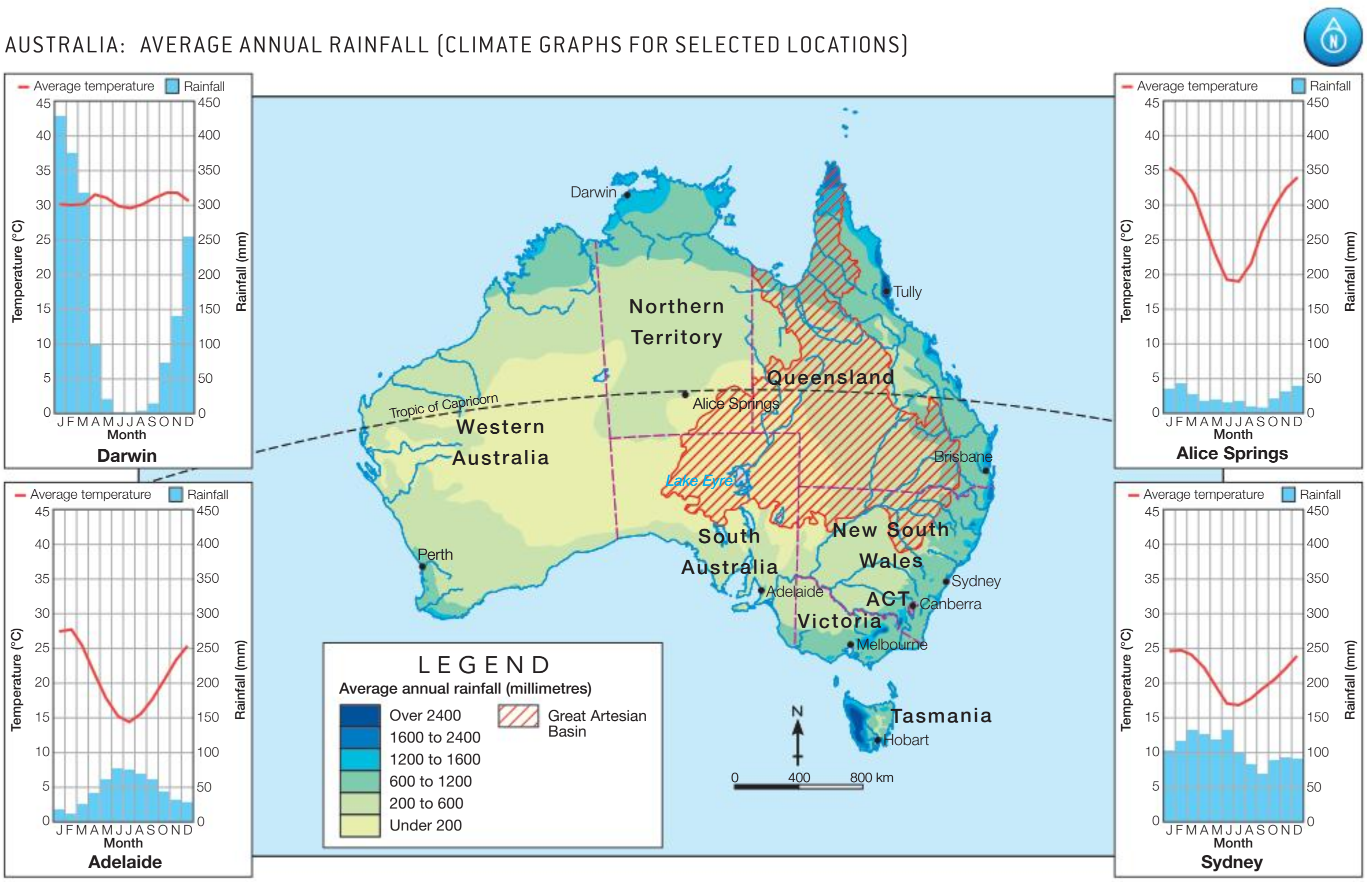
Virtually all of Australia's large cities and towns are positioned on the coast, especially in the east and south-east. While most of these areas receive reliable rainfall, pressure from water users has put a strain on water resources in these areas.

Rainfall distribution in Australia

Much of the Australian continent is dry. It is only the northern, eastern and south-western coastal regions that receive good annual rainfall. The climate of the eastern half of Australia is influenced by the Great Dividing Range, which extends 3500 kilometres from the northern tip of Cape York into Victoria. Winds from the south-east push warm, moist air over the land. Forced to rise and cool, water droplets fall onto the east coast as rain, but as the air descends to the west, it becomes warmer and drier.

Being such a large country, Australia has a great deal of variation in rainfall. The wettest town in Australia is Tully, near Innisfail in north Queensland, which averages 4083 millimetres of rainfall a year. Tully receives so much rain because of its location within the tropics on the north-eastern slopes of the Great Dividing Range.

AUSTRALIA: AVERAGE ANNUAL RAINFALL (CLIMATE GRAPHS FOR SELECTED LOCATIONS)



Source 1

Source: Oxford University Press

The driest place in Australia is on the shores of Kati Thanda (Lake Eyre) in South Australia, which receives little more than 100 millimetres per year. Kati Thanda receives so little rain because it lies far from any supply of moisture. Air masses reaching the interior of the country have generally dropped their rain onto the south-eastern corner of Western Australia, and so they are dry by the time they arrive at Kati Thanda.

Many communities in the interior of Australia rely on underground water as well as the little rain that falls. Lying beneath much of eastern Australia is the world's largest underground water supply, the Great Artesian Basin (see Source 1). It is more than 1.7 million square kilometres in size and covers approximately 22% of Australia. The water is trapped underground in a sandstone layer covered by sedimentary rock, creating an aquifer. Farmers and communities access this water by drilling a well and pumping water to the surface with a windmill.

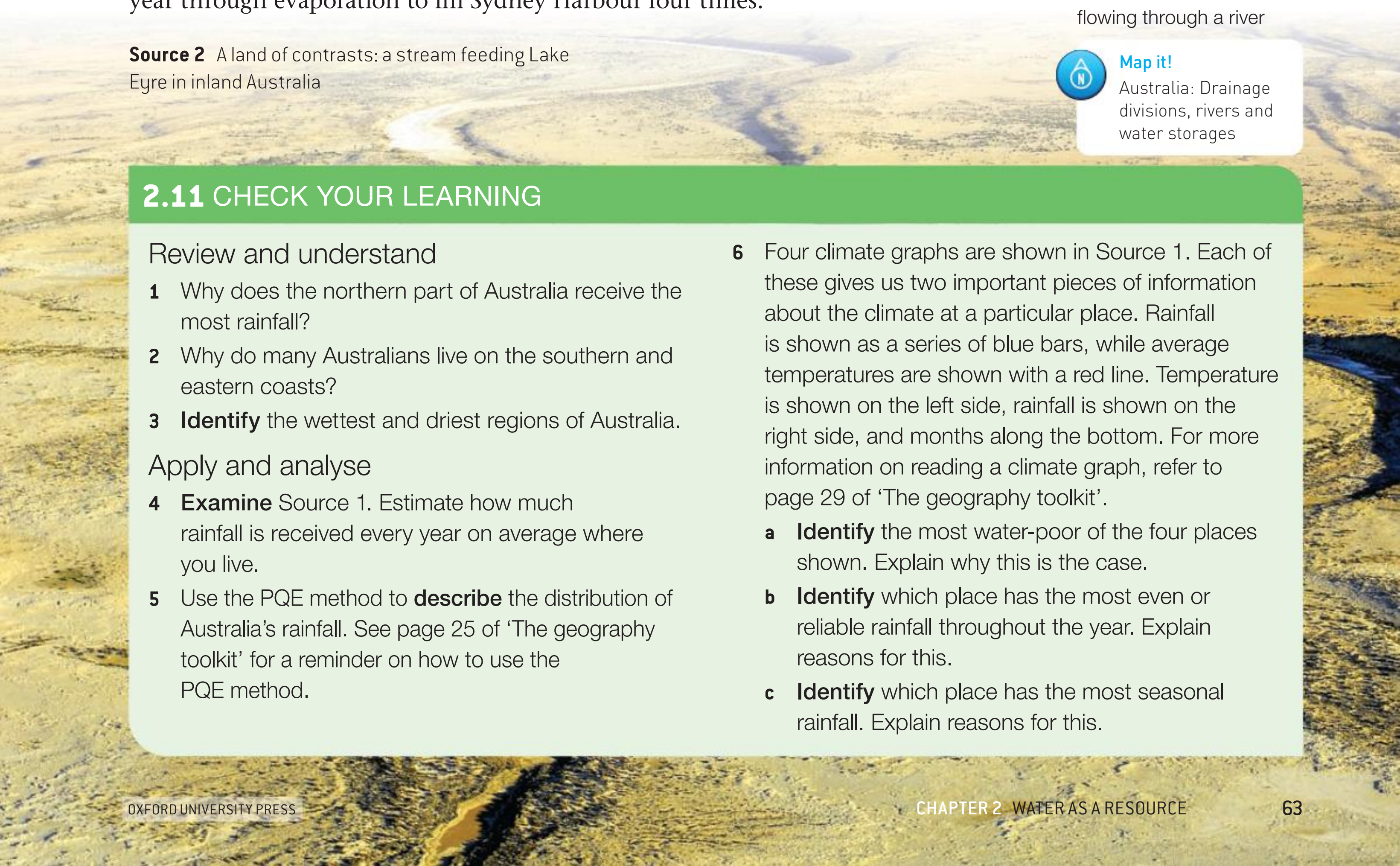
Source 3 Australia's heaviest rainfall makes Tully the white-water rafting capital of Australia.

Australia's river resources

Rivers are a vital source of fresh water for many people. Australia has the lowest volume of water in rivers and the smallest number of permanent wetlands of any continent except Antarctica. On average, just 12% of Australia's rainfall is collected in rivers; this is referred to as the river **discharge**. The remaining 88% of rainfall is used by plants, held in natural water storages (such as lakes, wetlands and aquifers) or returned to the atmosphere through evaporation. The Darling River, part of Australia's largest river basin (the Murray–Darling Basin), loses enough water every year through evaporation to fill Sydney Harbour four times.

monsoon
weather or climate produced by major wind systems that change direction seasonally; in northern Australia, the north western and south-easterly winds that produce the rainy season between December and February

discharge
the volume of water flowing through a river



Source 2 A land of contrasts: a stream feeding Lake Eyre in inland Australia

Map it!
Australia: Drainage divisions, rivers and water storages

2.11 CHECK YOUR LEARNING

Review and understand

1 Why does the northern part of Australia receive the most rainfall?

2 Why do many Australians live on the southern and eastern coasts?

3 **Identify** the wettest and driest regions of Australia.

Apply and analyse

4 **Examine** Source 1. Estimate how much rainfall is received every year on average where you live.

5 Use the PQE method to **describe** the distribution of Australia's rainfall. See page 25 of 'The geography toolkit' for a reminder on how to use the PQE method.

6 Four climate graphs are shown in Source 1. Each of these gives us two important pieces of information about the climate at a particular place. Rainfall is shown as a series of blue bars, while average temperatures are shown with a red line. Temperature is shown on the left side, rainfall is shown on the right side, and months along the bottom. For more information on reading a climate graph, refer to page 29 of 'The geography toolkit'.

a **Identify** the most water-poor of the four places shown. Explain why this is the case.

b **Identify** which place has the most even or reliable rainfall throughout the year. Explain reasons for this.

c **Identify** which place has the most seasonal rainfall. Explain reasons for this.

2.12 Australia: a land of drought and rain

In this topic, you will:

- learn about the variability of Australia's water resources
- explore ways in which this variability affects individuals and communities.

Australia is the world's driest inhabited continent. Seventy per cent of the country receives less than 500 millimetres of rainfall per year, and because of this the supply of water in rivers is also highly variable. In previous topics you learnt about where these variations occur, but there is also variability in *when* they occur. Australia passes through cycles of wet periods and dry periods. Scientists are beginning to learn more about the processes that cause these cycles to occur.

2010–11: Australia's wettest years

Taken together, 2010 and 2011 were the wettest 24 months in Australia's recorded history. The wetter conditions in Australia were due to warmer than average temperatures in the Pacific Ocean, leading to increased evaporation and rainfall.

Most of the country received higher than average rainfall, and flooding occurred in many states. Rivers flowed in much of inland Australia for the first time in many years and water storages in dams rose by 20%.

In January 2011, Australia's deadliest floods in over 70 years struck south-eastern Queensland. More than 78% of Queensland was declared a disaster zone, with more than 2.5 million people affected and 35 people tragically killed.

Source 4 On 11 January 2011, the banks of the Brisbane River broke and the surrounding areas were evacuated. One of the bridges built over the river collapsed.

2019: Australia's driest year

The driest and warmest year ever recorded in Australia was 2019. The country received 40% less rainfall than average, and every capital city received lower rainfall than normal. The amount of water flowing into rivers fell to record lows, and many inland rivers ceased to flow.

Large areas of the country, particularly in New South Wales and Queensland, entered their third year of drought. Scientists believe that the low rainfall in 2019 was due largely to cooler water in the Indian Ocean which led to less evaporation than usual and therefore less rainfall.

As the country dried, grasslands and forests became tinder-dry. Several dry lightning storms started a series of fires which became the biggest in the country's recorded history. This is explored further on page 68.

Climate change

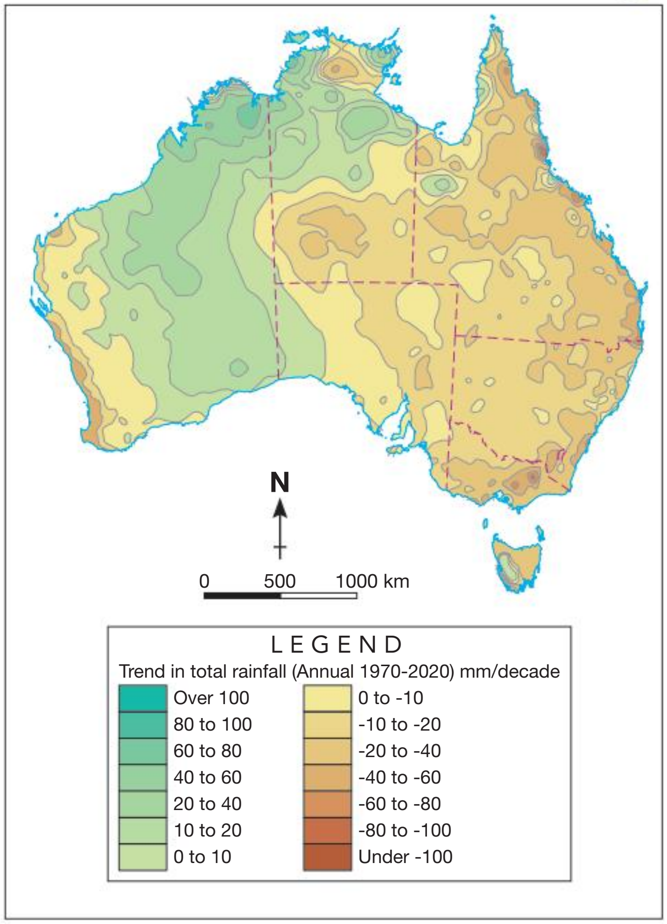
For many years scientists have been warning the public that the climate is changing. While Australians have typically viewed droughts and floods as a natural part of the cycle of rainfall in our country, recent events are beginning to change this opinion.

Average temperatures in Australia have been slowly rising since 1950. This long-term warming trend means that most years now are warmer than almost any from before 1950. In summer we now experience very hot days more frequently – for example, in 2019 there were 33 days when the national daily average maximum temperature was higher than 39°C.

While virtually all the world's scientific community now accepts that the atmosphere is warming, experts are less sure about how this affects certain places and specific climates. It seems clear, however, that the changing climate means less rainfall in many parts of Australia. This puts an even greater pressure on current sources of water.

Much of Australia's fresh water comes from water collected in rivers, lakes and dams. This water will evaporate more quickly as temperatures rise, meaning that there will be less available for use in cities and farming areas. Source 5 shows the trends in rainfall over the last five decades. The green areas have had an increase in rainfall, while the yellow and brown areas have had a decrease.

AUSTRALIA: RAINFALL TRENDS 1970–2020



Source 5 Source: Oxford University Press

Map it!
Australia: Rainfall trends 1970–2020

2.12 CHECK YOUR LEARNING

Review and understand

1 **Identify** three factors that contributed to wet conditions in Australia in 2010–2011.

2 Why might a warmer climate lead to less water being available in Australia?

Apply and analyse

3 **Summarise** the 2011 Queensland floods, and their impact.

4 Why does Australia's rainfall increase or decrease as a result of ocean temperatures? Use your knowledge of the water cycle to answer this question.

5 **Examine** Source 5.

a **Identify** which parts of Australia experienced large decreases in rainfall between 1970 and 2020.

b How would you describe the overall rainfall pattern in Australia when it is different in so many places?

c **Describe** how rainfall in the place where you live has changed over time. Give one reason for this change.

Evaluate and create

6 **Discuss** how Australians have adapted to living in a country where the availability of water is so variable. You will find some examples on previous pages in this chapter.

2.13 Water in the world

In this topic, you will:

- » develop an understanding of the relationship between rainfall, evaporation and runoff (the 'water balance')
- » use the water balance to explain the difference between water as a resource in Australia and South America.

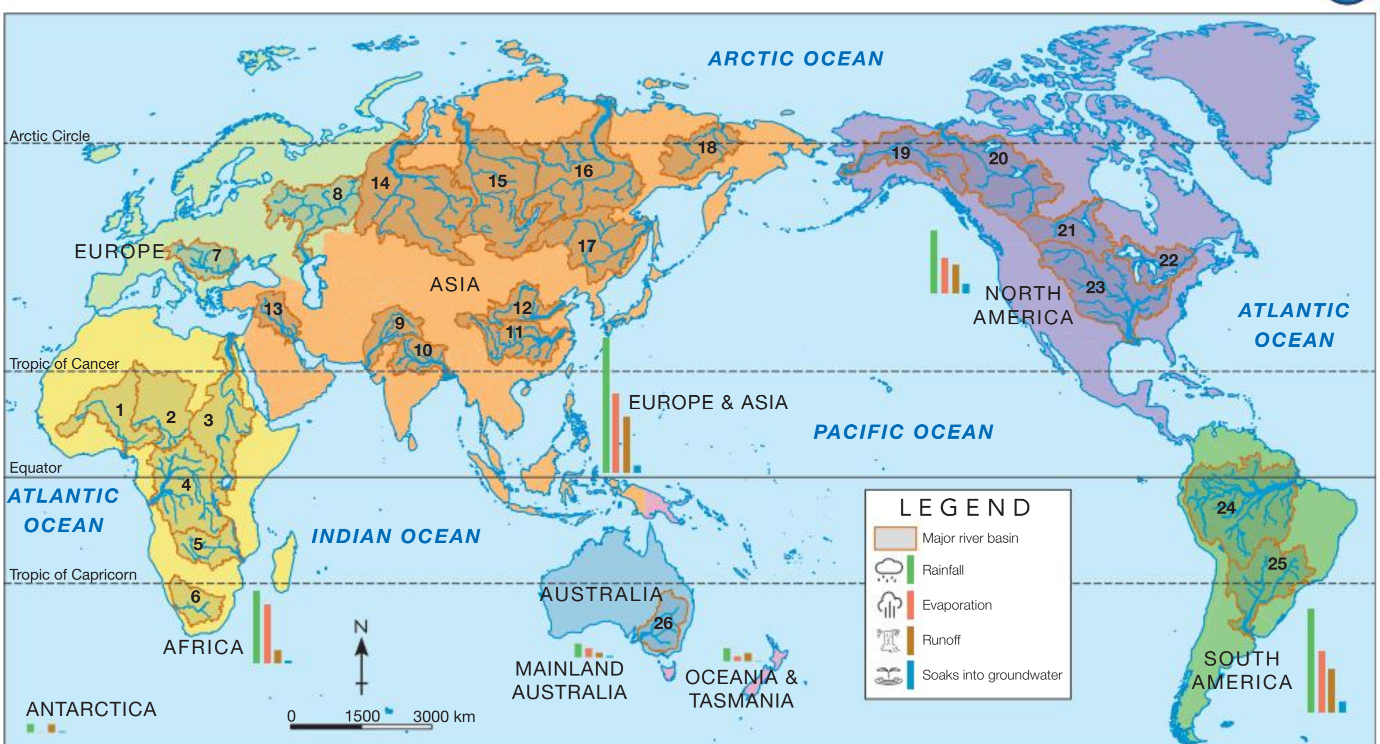
In the same way that water resources vary from place to place in Australia, there is also great variability across the world. Some places receive large amounts of rainfall while others may receive none at all.

When water falls as rain, about 62% of it evaporates back into the atmosphere. The remaining portion runs off the land into the ocean or into rivers. A small portion also flows into the world's aquifers. The estimate of the amount of water entering and leaving a place, such as a continent, country or city is referred to as the **water balance**. It differs from place to place depending on factors such as rainfall, temperature and rock type.

water balance
a calculation of the amount of water entering and leaving a particular place

As much of Australia is a dry place with relatively little tree or cloud cover, more water is evaporated than in most other places. In contrast, there is much greater rainfall in South America and as a result, South America experiences the highest volumes of water in its rivers in the world. For example, the Amazon River (the second-longest river in the world) carries more water than any other river on Earth, with an average greater than the next seven largest rivers combined. This is more than 500 times greater than Australia's largest river system, the Murray–Darling.

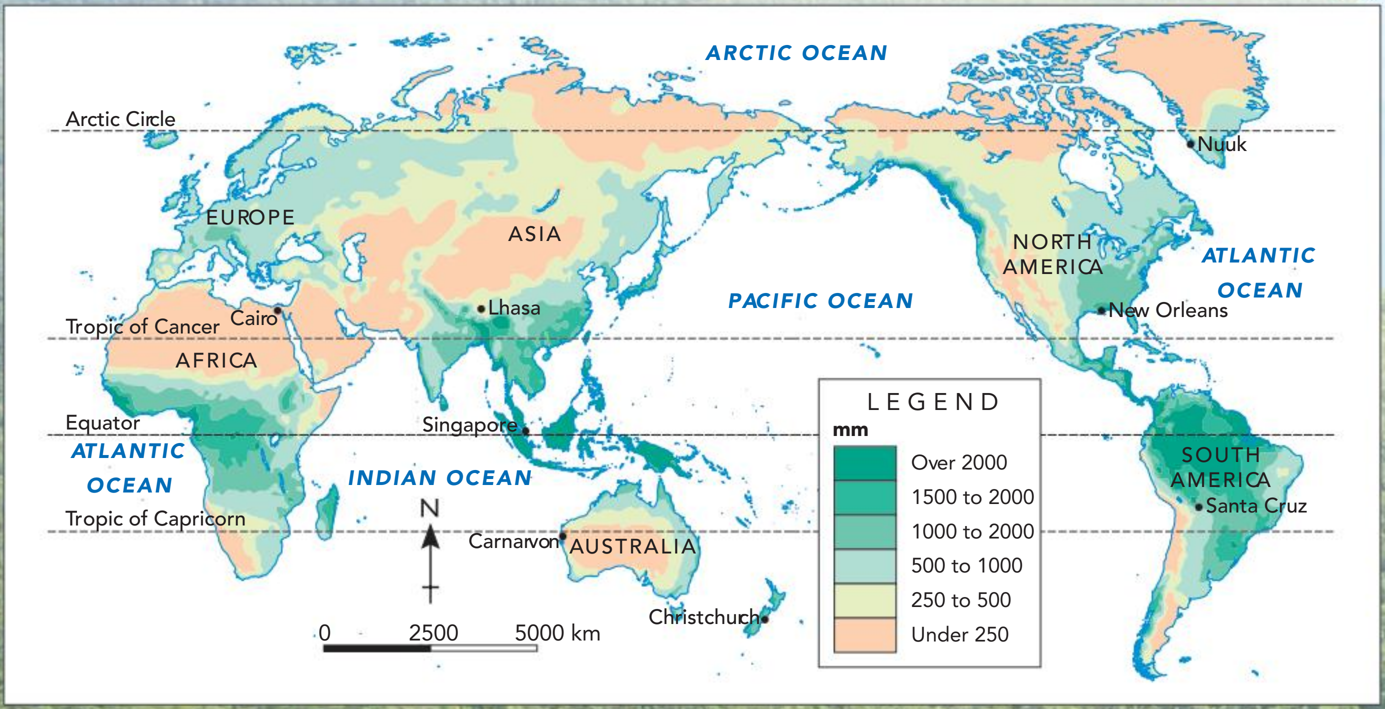
WORLD: MAJOR RIVER BASINS



Africa		Europe	Asia				North America		South America	Australia
1 Niger	**4** Congo	**7** Danube	**9** Indus	**12** Hwang	**15** Yenisey	**18** Kolyma	**19** Yukon	**22** St Lawrence	**24** Amazon	**26** Murray/Darling
2 Lake Chad	**5** Zambezi	**8** Volga	**10** Ganges	**13** Tigris/Euphrates	**16** Lena		**20** Mackenzie	**23** Mississippi/Missouri	**25** Parana	
3 Nile	**6** Orange		**11** Yangtze	**14** Ob	**17** Amur		**21** Nelson			

Source 6 Source: Oxford University Press

WORLD: ANNUAL RAINFALL



Source 7

Source: Oxford University Press

2.13 CHECK YOUR LEARNING

Review and understand

1 **Identify** the river that carries the most water and where it is located.

2 Using Source 6, **rank** the six main land masses or regions in order from having the most run-off to having the least.

Apply and analyse

3 **Examine** Source 7 and answer the following questions to compare Carnarvon and Santa Cruz.

a **Identify** which type of scale is used on this map. Using the scale, **estimate** the distance between Carnarvon and Santa Cruz.

b **Identify** the wettest region in the world. Explain how the map tells you this information.

c **Compare** the pattern of rainfall in Carnarvon and Santa Cruz.

4 a **Identify** how much rainfall evaporates back into the atmosphere.

b What role does evaporation play in the water cycle? Use your knowledge of the water cycle to **explain**.

5 What factors have influenced the water balance in Australia?

6 **Compare** Sources 6 and 7 to answer the following questions.

a Identify the part of Africa that experiences the lowest amount of rainfall. What type of landscape would you expect to find here? Explain your answer.

b Identify the part of Asia that is the wettest. What are some advantages and disadvantages the people who live here might face with such high rainfall?

Evaluate and create

7 Why do you think Antarctica has lower levels of rainfall, evaporation, runoff, and water soaked into groundwater?

8 Using the data in Sources 6 and 7, **compare** the large volume of water in the Amazon River and the smaller volume of water in the Murray–Darling river system. What are their similarities and differences?

2C RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Black Summer

The summer of 2019–2020 will be long remembered by Australians, as bushfires burnt in every state and territory. The fires followed the hottest and driest year on record, and by the time they finished, more than 240 000 square kilometres had been burnt. That is an area about the size of the United Kingdom. Almost 6000 buildings were destroyed, and an estimated 3 billion animals were killed or displaced. Thirty-four people sadly died in the fires, and nearly 450 people are estimated to have died from related smoke inhalation.

In mid-February 2020, however, Australians were reminded of the variability of Australia's climate. Parts of New South Wales and Queensland received more rain in a week than they had received in all of 2019. Rivers flooded, homes lost electricity and floodwaters swept away cars, trees and roads. In New South Wales, the rains helped to put out about 30 active fires – but it would be another month before all of the fires were under control.

Source 8a Satellite image of Nowra area on 25 January 2020, while fires raged in the area

Source 8b Satellite image of Nowra area on 10 February 2020, after heavy rainfall in the area

KEY SKILL
Interpreting geographical images

Using satellite images

Images taken from satellites have become one of the geographer's most useful tools. They can be used to observe large areas of the Earth's surface and are particularly useful when studying how areas change over time. The two images in Source 8, for example, are of the same area taken 16 days apart and allow us to see how the heavy rains in early February have affected this landscape. When using images such as these, you should always consult a map of the same region because this helps you to interpret what is shown in the satellite images.

Step 1 Find a key feature, such as a river or main road, as a reference point on both sources.

Step 2 Note the areas of the image where there has been little or no change.

Step 3 List the differences in the later image where there has been change.

Step 4 Look for other information on the image that shows what might have contributed to the change.

Step 5 Describe the type of change – permanent change or seasonal change (such as different stages of crop production or plant growth).

For more information on this key skill, refer to page 15 of 'The geography toolkit'.

Practise the skill

Study Source 8.

a **Identify** and **describe** the purpose of the satellite images used in Source 8.

b **Describe** the changes that you can see between these two images.

c **Identify** why these changes occurred.

d Do you think these changes are permanent or seasonal? **Explain** your answer.

Extend your understanding

1 Locate the Shoalhaven River in the satellite images.
- **a** **Explain** how the colour of the river changed.
- **b** What does this tell you about how the river is changing the landscape?
- **c** Use a ruler and the scale on the satellite image to **determine** how the width of the river has changed.
- **d** **Explain** the impact of this change on the people who live or farm beside the river.

2 Locate Broughton Creek. How has this creek changed between 25 January and 10 February 2020?

3 Shoalhaven Heads is an important recreation and holiday area. It has a surf lifesaving club, golf course, several caravan parks, bird watching areas and a boat ramp. How do you think the two natural disasters in early 2020 affected each of these activities?

Source 9 Footage of a drenched site in Conjola Park (in Shoalhaven) that had been destroyed by bushfires just days earlier

2 CHAPTER REVIEW

Review questions

2A How is water an environmental resource?

1 **Outline** one reason why people in some places experience water scarcity while people in other places have abundant supplies. (2 marks)

2 **Identify** the three major types of environmental resources. (3 marks)

3 **Create** a diagram that represents the process of the water cycle. Include labels and annotations. (5 marks)

(Total: 10 marks)

2B How does water connect and affect places?

1 **Describe** how rivers connect communities in different places. (2 marks)

2 **Distinguish between** the spiritual use for water and the social use for water. Remember, when you distinguish between two things you should talk about how they are different. (4 marks)

3 Hydroelectricity is an economic resource. What are two of its strengths and two of its weaknesses? (4 marks)

(Total: 10 marks)

2C How much water do we have in the world?

1 **Describe** one way that climate change affects the availability of water in Australia. (2 marks)

2 **Compare** rainfall in Australia with one other continent. Do this by talking about their similarities and differences. Be sure to use specific examples from this chapter in your answer. (4 marks)

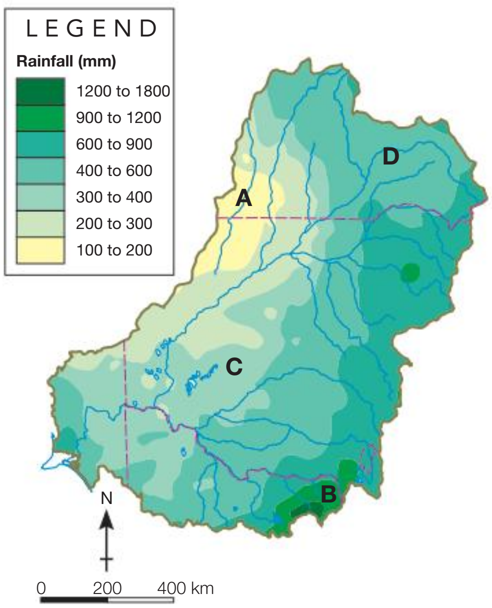
3 'It is the unpredictability of rainfall in Australia that is the biggest problem, not the amount of rainfall.' Do you agree or disagree with this statement? **Explain** your answer. (4 marks)

(Total: 10 marks)

Review activity

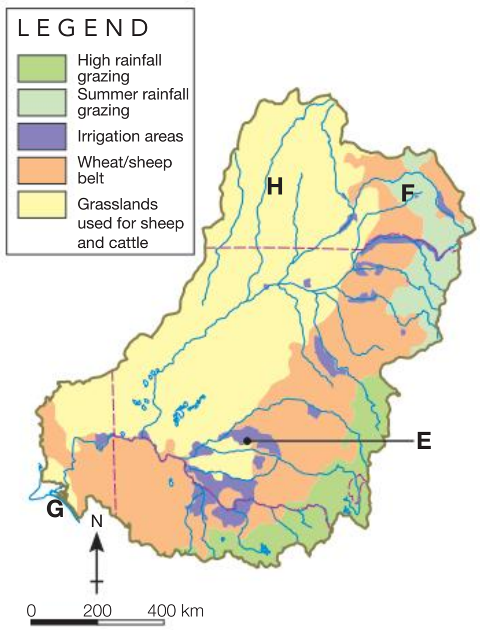
Look closely at Sources 10 and 11 and answer the questions that follow.

MURRAY–DARLING BASIN: RAINFALL PER YEAR



Source 10 Source: Oxford University Press

MURRAY–DARLING BASIN: FARMING TYPES



Source 11 Source: Oxford University Press

1 Look closely at the map in Source 10.

- **a** **Identify** the letter (A–D) located in the driest region. (1 mark)
- **b** **Identify** the letter (A–D) located in the wettest region. (1 mark)
- **c** **Rank** the four locations from driest to wettest. (2 marks)
- **d** Using the PQE method, **describe** the annual pattern of rainfall in the Murray–Darling Basin. (3 marks)

2 Look closely at the map in Source 11.

- **a** **Identify** the type of farming that occurs at F. (1 mark)
- **b** **Identify** the type of farming that occurs at H. (1 mark)
- **c** **Identify** the letter that is located at the mouth of a river. (1 mark)
- **d** **Describe** the location of irrigation areas in the Murray–Darling Basin. (2 marks)

3 Use both maps to answer the following questions.

- **a** **Outline** the main type of farming in areas with 600–900 millimetres of rainfall. (2 marks)
- **b** **Explain** how much rainfall is needed in 'high rainfall grazing' areas. (3 marks)
- **c** **Explain** how the amount of rainfall influences the type of farming that occurs. Use some of the letters from the maps in your answer. (3 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 2

Key skill worksheet
Communicating & reflecting: Chapter 2

Quizlet
Play a game of Quizlet on Water as a resource.

Chapter review quiz
Chapter 2

CHAPTER 3

Valuing and managing water

Water is one of the most precious resources that the Earth provides. However, it is also one of the most fragile and unpredictable. In some places there is so little clean, fresh water available that people can die from thirst. By contrast, in other places an oversupply of water can cause dangerous hazards that need to be managed carefully. Learning to manage our precious, fragile and unpredictable water resources has become one of our most important challenges.

Source 1 Local residents of Bhiwandi, Thane District in Maharashtra, fill water from a water tanker into huge, plastic containers. Here, the landscape does not provide residents with enough clean and fresh water.

Water in the world

3A
How do we manage and value water?

3B
How can we manage water scarcity?

3C
How can we manage tropical cyclones as a water hazard?.

3.1 The value of water

In this topic, you will:

» explore the importance of water in our world

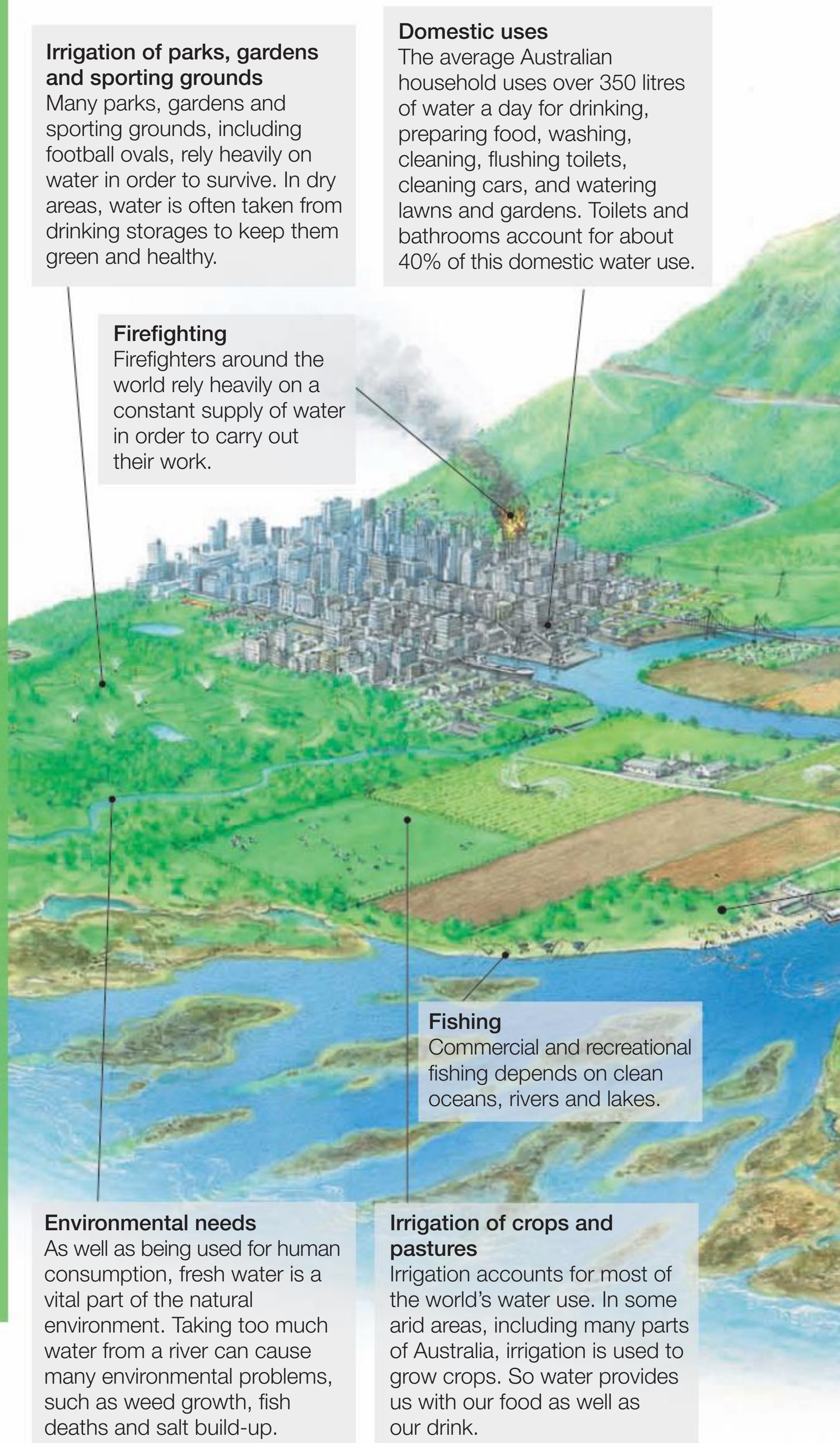
» develop an understanding of why water should be managed and valued.

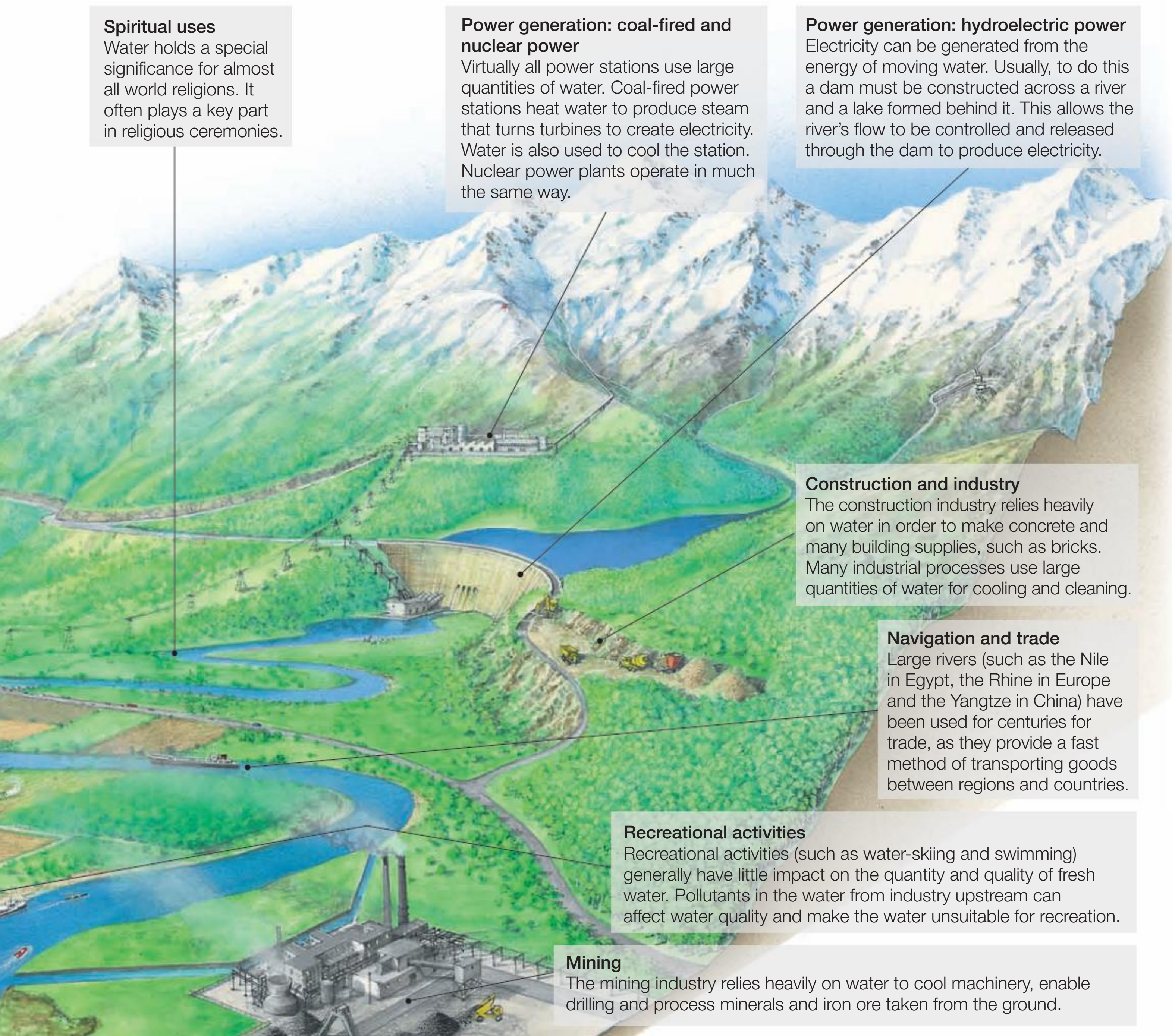
Since the beginning of human history, we have relied on water. We drink it in order to survive; we wash, cook and clean with it; and we use it to grow our food and produce electricity. In this way, water is arguably our most precious resource. Life on Earth without it would be impossible. And yet, this vital environmental resource is under threat from overuse and much is becoming unusable due to pollution.

In many countries in the world, most of the water people consume is used as a resource to irrigate farms, including in Australia, where 70% of our water is used for this purpose. This irrigation provides us with much of the food we eat, so it must be included when we think about how much water each of us consumes. When you add this water to the amount used to make other products we use every day, such as shampoo and toothpaste, as well as the water used in our homes and gardens, every Australian is responsible for using more than 1 million litres of water per year! Source 1 outlines the various ways in which we all use water.

Quiz me!
A quick quiz on the value of water

Source 1 In Australia we use large amounts of water in many different ways.





3.1 CHECK YOUR LEARNING

Review and understand

1 **Identify** the activity that uses the most water in Australia. How much of our water does it use?

Apply and analyse

2 Identify two water uses that compete with one another and so cannot easily exist beside one another. **Explain** your answer.

Evaluate and create

3 Choose five different ways from Source 1 that water is used. **Rank** them in order of importance and give reasons for your ranking.

4 **Create** a diagram of your neighbourhood, including your house, some local shops, recreation areas and parks. Label and annotate your diagram to show how water is used in this area.

3.2 The value of water for growing food

In this topic, you will:

- investigate how communities form their way of life based on the water supplies they have available
- compare Australia's Murrumbidgee area and Vietnam's Mekong Delta as economies based on irrigation.

As the quantity and reliability of water varies from place to place, this means that the way in which water is irrigated also changes. For example, in wet areas rainfall is trapped in dams or taken from rivers, and in drier places it may be pumped from the ground.

Growing rice

Source 2 Rice seedlings being placed in the rice paddy for planting, Mekong Delta, Vietnam

Rice is the world's most important food crop and the main food source for over half of the world's population. Rice production is heavily dependent on water. A semi-aquatic plant, rice is grown in flooded fields. For this reason, rice-growing communities tend to be in regions of the world with high rainfall. About 90% of the world's rice is grown in Asia, with India and China being the largest producers of rice.

In both Australia and Vietnam rice is an important crop that relies on **irrigation**, but there are significant differences in the way that water is sourced and used to grow rice in these two places.

irrigation
the watering of crops in some way other than by precipitation

delta
a fan-shaped deposit of soil formed where a river enters an ocean or lake

Rice farming in Vietnam

Vietnam is home to some of the world's richest agricultural regions. It is the fifth-biggest producer, the second-largest exporter and the seventh-largest consumer of rice. In Vietnam, 75% of people's daily calorie needs are met by rice.

The Mekong **Delta** is called the 'rice bowl' of Vietnam, with over half of the country's rice produced there. The delta is formed by sediment (small particles of rock and dirt) deposited by the Mekong River which provides rich soil for farming. The Mekong Delta region is also prone to flooding, making it perfect for rice production. The rice is grown in flooded fields known as paddies. The water for these paddies comes from the abundant rainfall in the region and from the Mekong river. The region receives over 1500 millimetres of rainfall a year.

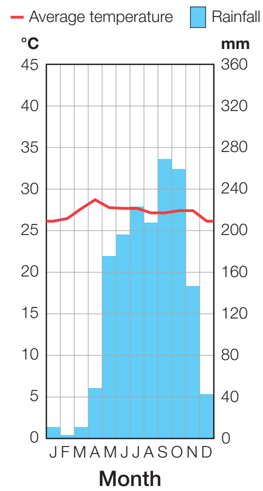
Of the 17 million people in the delta region, 80% are employed in rice cultivation. The rice farmers live in houses built on stilts and the roads in the region are located on raised embankments to provide protection from flooding.

Source 3 Aerial image of rice farming in the Mekong Delta in Vietnam. Farming here is dependent on the rich soils and plentiful water of the region.

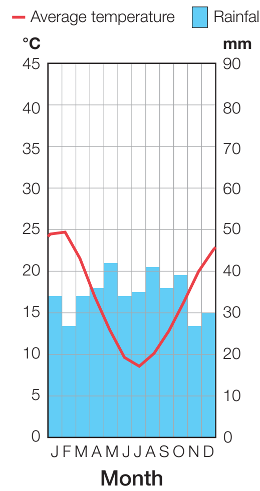
Rice farming in Australia

In a dry country like Australia, rice farmers must use water efficiently for a successful crop yield (see Source 6). To ensure no water is wasted, the soil of Australian rice farms is checked and approved by professionals to ensure that it can hold water and no water will escape below the soil.

Australian rice growers use 50% less water than the world average to grow 1 kilogram of rice. Australia's rice-growing regions include the Murrumbidgee Valley in south-western New South Wales (see Source 5). This region is suitable for rice cultivation as it has available water, irrigation infrastructure, large areas of flat land, and suitable soils. Most of the water used to irrigate the rice fields is taken from the Murrumbidgee River. Farmers are allocated a certain amount of water each year and make decisions on how much rice to plant based on the amount of water allocated to them. In dry years they will plant less rice and instead grow other crops that require less water. In contrast to Can Tho city in the Mekong Delta (see Source 4), the city of Griffith in the Murrumbidgee Valley receives about 400 millimetres of rainfall a year.



Source 4 Climate graph: Can Tho city in the Mekong Delta. Data available at CLIMATE-DATA.ORG



Source 5 Climate graph: Griffith, New South Wales. Data available at CLIMATE-DATA.ORG

Source 6 Australian farmers are careful to minimise water wastage. They even use lasers to ensure rice fields are level. Raised levees divide fields into individual bays to allow farmers to control the flow of water.

3.2 CHECK YOUR LEARNING

Review and understand

1. **Identify** the continent where most of the world's rice is grown.
2. Why do rice-growing communities tend to be in regions of the world with high rainfall?
3. **Outline** how farmers manage their water use in rice-growing regions across Australia.

Apply and analyse

4. **Compare** rice-growing in Australia and Vietnam. How is it similar? How is it different?
5. **Explain** why irrigation techniques in Griffith and the Mekong Delta are different. The data in Sources 4 and 5 will help you to answer this question.

Evaluate and create

6. Some people believe that rice should not be grown in a dry country such as Australia, while others believe that rice growing makes a valuable contribution to the country. **Create** a PMI (plus, minus, interesting) brainstorm of rice growing in Australia and share your thoughts in a class discussion.
7. a Using Google Maps, **identify** the absolute location (latitude and longitude) of Griffith.
   b Using Google Maps, **identify** the relative location (distance and direction) of Griffith from Sydney.
   c Absolute and relative location are tied directly to one of the geographical concepts (see page 6 of 'The geography toolkit'). **Identify** the geographical concept that absolute and relative location are connected to, and give reasons for your answer.

3.3 Competition for water supplies

In this topic, you will:

- discover how different communities value water differently
- explore how these different values can affect people and places.

Fresh water from rivers is used by people in cities, farms and factories. Competition for this precious economic resource has seen the introduction of dams all over the world to store the water flowing down rivers and ensure a constant supply of water to the people nearby. Because people living along the entire length of rivers depend on them for water, competition also exists between upstream and downstream users. The flow and quality of water available to downstream users depends on how the river is used upstream.

CASE STUDY

The Mekong River

The Mekong River provides an excellent example of what happens when water is valued in different ways. The river begins in the high mountains of China and flows through six countries before reaching the sea at the Mekong Delta. Each of the communities that live beside the river use its water resources, which means that more than 70 million people rely on this source of water to support their way of life.

For thousands of years life beside the river was controlled by the annual cycle of river flow. The monsoon rains of the wet season flooded the river and sent a great pulse of water down its length for many months. This fed the natural ecosystems of the river and its floodplains with water, which was then used by farmers to irrigate their crops and fill their dams. This pulse of water also carried huge quantities of soil downstream to the Mekong Delta to help keep the area above sea level and supply farmers with the rich soil needed to grow crops (see Source 2 on page 76).

In recent years, however, this flow has been interrupted by building dams on the Mekong River, and the rivers that feed into it. As the demand for cheap, renewable energy has grown upstream countries, such as China and Laos, have built hydroelectric dams on the Mekong River and its tributaries to provide electricity for its people. There are 13 dams already built on the Mekong River and more are planned, including 120 dams on the rivers that feed into the Mekong River.

tributaries
rivers that flow into a larger river

MEKONG RIVER: DAMS

Source 7

Source: Oxford University Press

This has changed the flow of the river because the dams now trap the annual pulse of water, releasing it gradually downstream. They also trap the fertile soil, creating concerns for downstream water users that the fertile soil surrounding the Mekong Delta will no longer be as reliable for farming and producing crops. Communities who live in the Mekong Delta region are also worried that the low-lying delta will eventually wash away without the annual supply of new soil from the river.

Source 8 A dam under construction in northern Laos on a key tributary of the Mekong River; the dam is being built by China's largest hydropower company.

River management

The water in the Mekong River is one of South-East Asia's most precious resources but is very difficult to manage. The river flows through more than one country, which makes it an international resource. When one country looks after its own needs without considering the impacts on people in other countries, that country is valuing the water only as a national resource. The water in the Mekong River must not be managed at the local or national scale but at the international scale, considering the needs of all water users and the environment in the entire river basin.

For more information on this key concept, refer to page 10 of 'The geography toolkit'.

KEY CONCEPT
Scale

Watch it!
A video and quiz on competition for water supplies

3.3 CHECK YOUR LEARNING

Review and understand

1 **List** the benefits that the Mekong River provided the region and its people before the building of dams.

2 Look at Source 7.

 a Using the scale of the map and a ruler, **estimate** how long the Mekong River is.

 b **Describe** the distribution of constructed dams on the Mekong River.

Apply and analyse

3 Why have these dams been built? Do you think more will be built in the future?

4 **Explain** how this story of the Mekong River illustrates the different ways in which people value water.

5 The Mekong River flows through more than one country. Why does this make it an important resource to be managed at the international scale?

Evaluate and create

6 **Create** a flowchart that shows the interconnection between upstream and downstream water use.

7 While the focus in this topic is on irrigated farming, millions of people on the lower Mekong River also rely on fish from the river for their nutrition. Brainstorm how the upstream dams might affect the supply of fish.

8 Work in small groups to come up with one strategy that could be used to address the negative impacts that people downstream on the Mekong River face. Present your strategy to the class and vote on the best one.

3.4 The challenges of managing water

In this topic, you will:

» examine why water is a difficult resource to manage

» investigate the spiritual significance of water in India.

Water is an essential environmental resource that is important for the health of humans and the environment. Different values are often placed on water; for example, water used for economic purposes can also have great spiritual and cultural importance for a community. Water management can be difficult because:

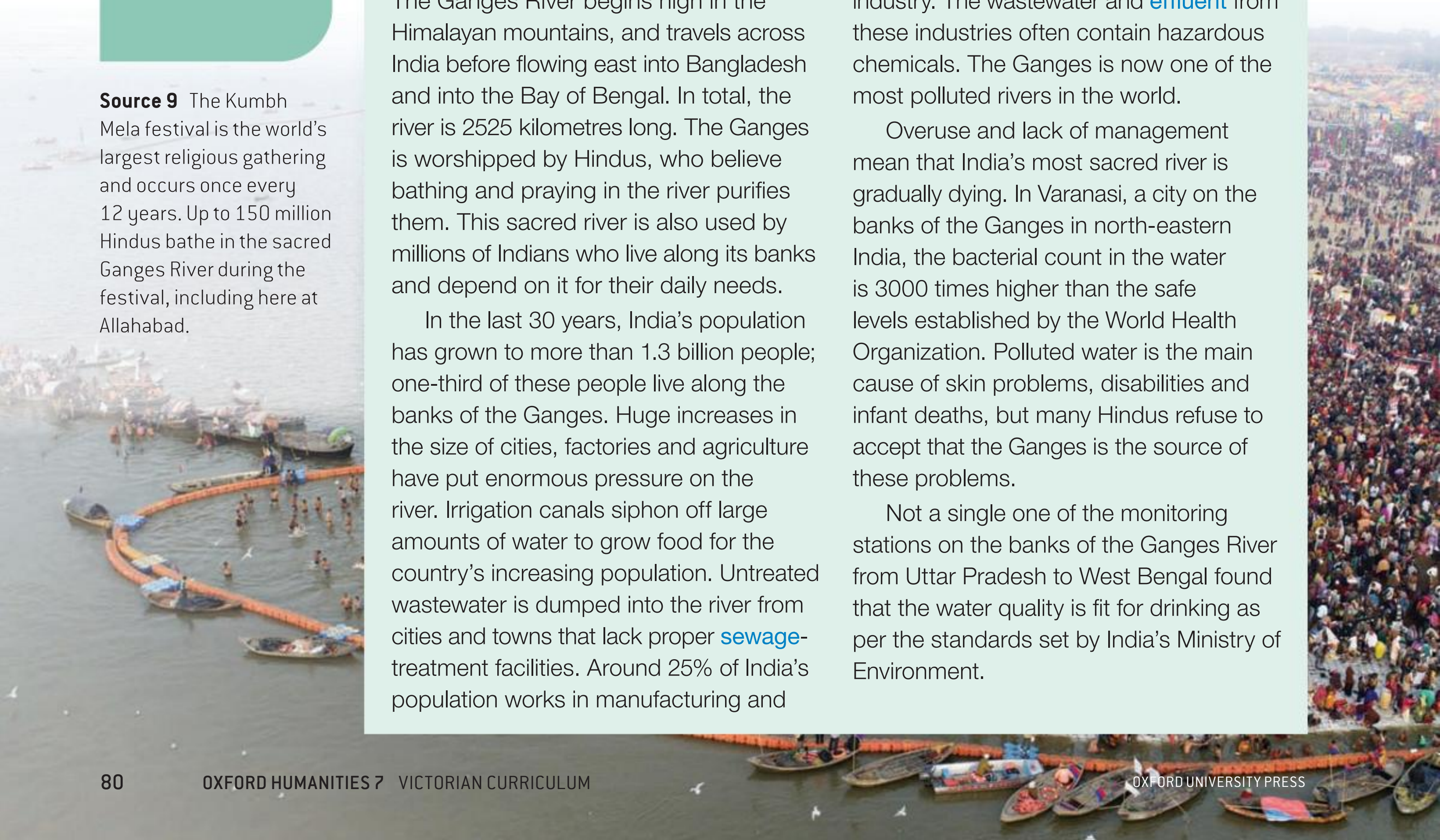
- water is an essential resource needed by every person on the planet
- water moves through the environment quickly, so it is difficult to capture and store
- the availability of water is not constant – it changes over time and in different locations
- water is a shared resource with many competing uses
- it is difficult to put a monetary (financial) value on water.

Over the past 50 years the world's population has doubled, and the output from farms and industries has surged to meet increasing demands. The growth in demand and competition for water has put a much greater strain on global water supplies. We need to make good decisions to ensure access to water, and to minimise the impact our water use has on the natural environment.

effluent
liquid waste containing contaminants, including sewage, that is put into rivers

sewage
human urine and faeces carried in water

CASE STUDY



Source 9 The Kumbh Mela festival is the world's largest religious gathering and occurs once every 12 years. Up to 150 million Hindus bathe in the sacred Ganges River during the festival, including here at Allahabad.

Ganges River, India

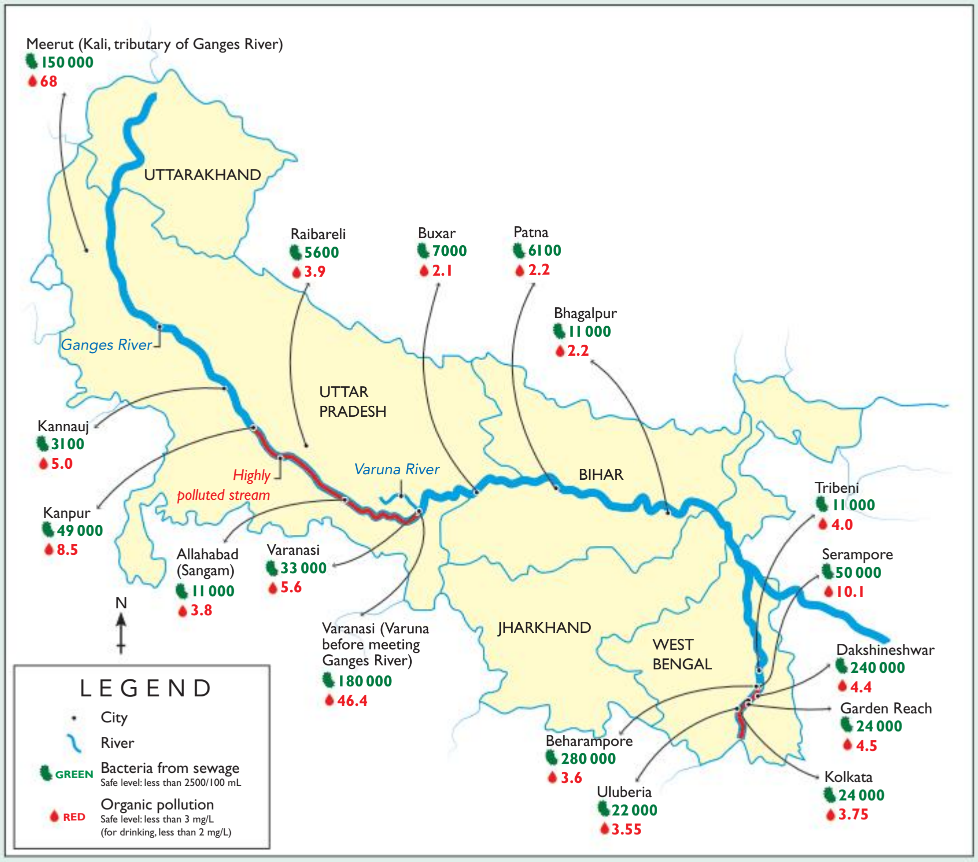
The Ganges River begins high in the Himalayan mountains, and travels across India before flowing east into Bangladesh and into the Bay of Bengal. In total, the river is 2525 kilometres long. The Ganges is worshipped by Hindus, who believe bathing and praying in the river purifies them. This sacred river is also used by millions of Indians who live along its banks and depend on it for their daily needs.

In the last 30 years, India's population has grown to more than 1.3 billion people; one-third of these people live along the banks of the Ganges. Huge increases in the size of cities, factories and agriculture have put enormous pressure on the river. Irrigation canals siphon off large amounts of water to grow food for the country's increasing population. Untreated wastewater is dumped into the river from cities and towns that lack proper sewage-treatment facilities. Around 25% of India's population works in manufacturing and industry. The wastewater and effluent from these industries often contain hazardous chemicals. The Ganges is now one of the most polluted rivers in the world.

Overuse and lack of management mean that India's most sacred river is gradually dying. In Varanasi, a city on the banks of the Ganges in north-eastern India, the bacterial count in the water is 3000 times higher than the safe levels established by the World Health Organization. Polluted water is the main cause of skin problems, disabilities and infant deaths, but many Hindus refuse to accept that the Ganges is the source of these problems.

Not a single one of the monitoring stations on the banks of the Ganges River from Uttar Pradesh to West Bengal found that the water quality is fit for drinking as per the standards set by India's Ministry of Environment.

GANGES RIVER: POLLUTION



Source 10

Source: Oxford University Press

Video
The spirituality of the Ganges

Source 11
An Indian father gives his son a holy dip in the polluted water of the River Ganges at Allahabad.

3.4 CHECK YOUR LEARNING

Review and understand

1 **Identify** three reasons why water is a difficult resource to manage.

2 **Describe** how people living in India use the Ganges River for spiritual purposes.

Apply and analyse

3 **Examine** the map in Source 10.

a What is causing harm to the Ganges River?

b Which BOLTSS feature of the map helped you find your answer to question 3a?

4 **Explain** why the pollution of the Ganges River is a much greater problem in Serampore than it is in Kannauj in northern India.

5 Can you think of three reasons why the pollution of the Ganges River is difficult to manage? **Explain** your answer using evidence from this topic.

6 a Brainstorm a list of factors that contribute to the pollution of the Ganges River.

b Take the factors from your list and **classify** them into each of these categories: social, economic or environmental.

Evaluate and create

7 There are two obvious solutions to the problem of pollution in the Ganges River: clean up the river or convince Hindus that it is too dangerous to bathe in it. **Evaluate** (consider the strengths and weaknesses of) how effective these strategies are. Discuss your answers as a class.

3.5 Land clearing and water

In this topic, you will:

- » explore contributing factors to water scarcity in Australia
- » examine Aboriginal methods of land use management.

water scarcity
the lack of availability of water, either due to physical shortage or lack of access to infrastructure in the area

land clearing
the process of removing trees, stumps, and other obstacles from an area in order to increase the size of new land

deforestation
the process of clearing a forest of trees from land which is then converted to non-forest use

One of the major contributing factors to **water scarcity** in some areas is **land clearing**. This process usually involves cutting down trees and other vegetation to make way for new land uses such as farming and urban development.

Eastern Australia is one of the world's **deforestation** hotspots and is the only one in a developed country. The main reasons why land is cleared include providing land for cattle, planting tree plantations, growing crops and mining. As you can see in Source 12, land clearing affects our access to water supplies in several ways.

1. Trees are an important part of the water cycle because they transfer water to the atmosphere from their leaves.
2. On cleared land salt can rise to the surface, making water unusable.
3. Trees absorb groundwater, which helps to trap salt deep underground.
4. Where natural vegetation has been cleared, heavy rain washes soil into rivers and waterways. This soil can travel hundreds of kilometres, causing problems in wetlands and even in coral reefs at sea.
5. Trees protect the soil from heavy rain and bind it together with their roots.

Source 12 The impacts of land clearing on water resources in rural areas

Weblink
Caring for Country

Caring for Country

In Australia, Aboriginal peoples have cared for Country for at least 65 000 years. As the traditional owners of Australia, Aboriginal peoples have developed many ways of managing its land and water resources. Caring for Country is an approach to sustainable land use management which considers the land as a whole, including its past and present, its natural and urban landscapes, its flora and fauna and its people. The term 'Country' has great cultural and spiritual meaning to

Aboriginal peoples, as explained by Yawuru professor, Michael Dodson AM, in a speech to the United Nations:

> When we say Country we might mean homeland, or tribal or clan area and in saying so we may mean something more than just a place; somewhere on the map. We are not necessarily referring to place in a geographical sense. But we are talking about the whole of the landscape, not just the places on it.

In recent years, the National Landcare Program has worked with Aboriginal peoples on an initiative called 'Caring for Our Country'. The goal of this initiative is 'to achieve an environment that is healthier, better protected, well managed, resilient, and provides essential ecosystem services in a changing climate'.

One of the places that has been cared for under this initiative is Fish River Station in the Northern Territory. Fish River Station is a former cattle farm located south of the Daly River. The land is owned in a partnership between the Australian Government, Aboriginal groups and conservation groups. Aboriginal rangers help make decisions about land management issues, including how to control weeds and feral animals.

One of the important management tools used at Fish River Station is the process of controlled burning. Working carefully, rangers set fire to areas of grassland to encourage the growth of native plants and to reduce the risk of large, destructive fires. Since adopting this approach, the number of large fires in the area has greatly decreased. The land managers hope this will inspire people in other areas of Australia to adopt traditional land management tools to protect them from risk of fire.

Most importantly, the purchase of the Fish River Station and the Caring for Our Country initiative has allowed the traditional owners to reconnect with Country.

Source 14 Fish River Station in the Northern Territory

3.5 CHECK YOUR LEARNING

Review and understand

1 **Identify** four reasons why land is cleared.
2 **Describe** the impact of land clearing in rural areas on water supplies.
3 **Outline** how the knowledge and work of Aboriginal rangers helps reduce the bushfire risk at Fish River Station.

Apply and analyse

4 Do you think water supplies will be used differently at Fish River Station now? **Explain** your answer.

Evaluate and create

5 Reflect on the connection Aboriginal peoples have with Country. Write a short paragraph explaining how you feel connected to land, and how it might be different to others.
6 Controlled burning is a hotly debated issue in many parts of Australia. **Research** this method and make a list of the arguments for and against this method.
7 **Research** to find one example of land clearing at a local and a national scale. Use a table with three columns to compare the land management practices at Fish River Station with those you found.

3A RICH TASK

Quizlet

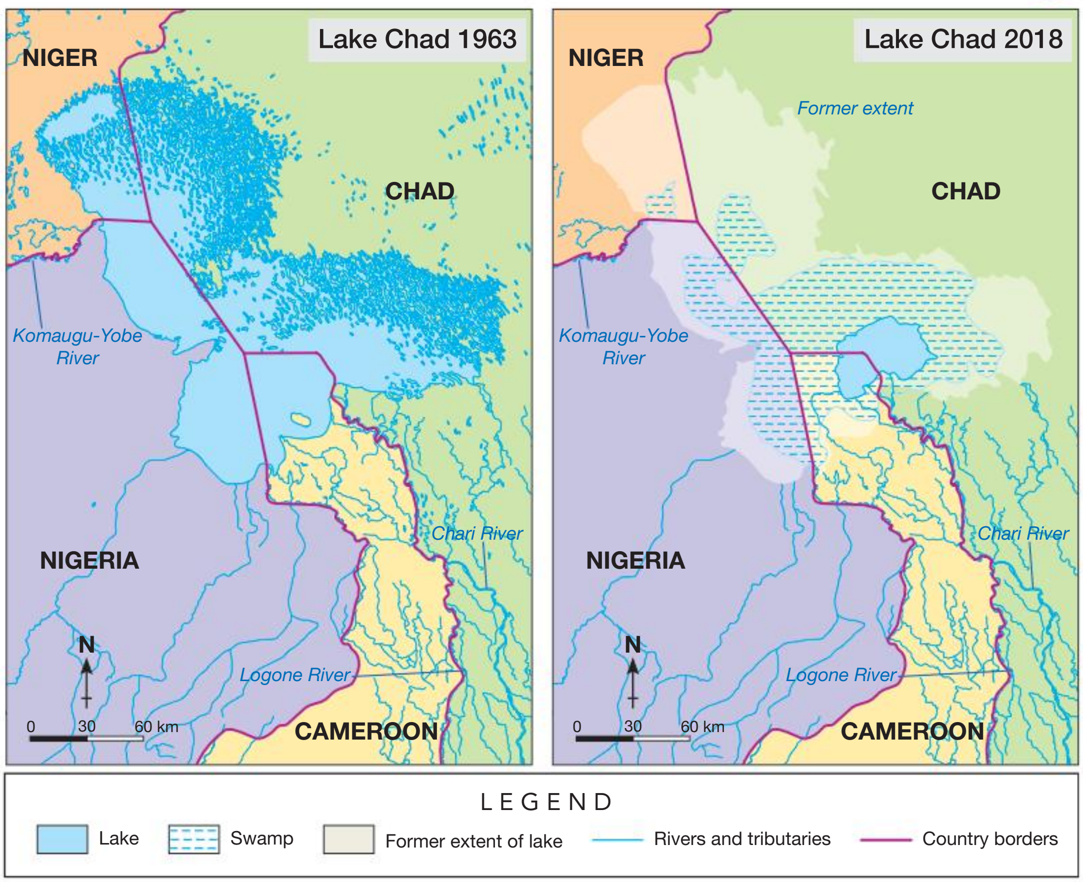
Revise the key terms you have learnt so far.

The disappearing lake

Lake Chad lies at the southern edge of the Saraha Desert in north Africa. It is a large, shallow lake that provides a supply of fresh water for the people, plants and animals in the region.

Once the world's sixth largest lake, Lake Chad has now shrunk by 95%. It is difficult to pinpoint one particular cause for this change. There are several factors that have contributed to the decline of Lake Chad, including a gradual reduction in rainfall, the changing climate, the shallowness of the lake and the different ways in which humans are now using the lake. Some scientists also believe that changes in the size of Lake Chad are part of the natural cycle of this area.

In 1960, 13 million people lived in the surrounding area and used the lake for fishing, cattle farming, watering crops, and domestic uses such as washing and drinking. Today, the estimated population is close to 40 million and the increased demand for water is outgrowing what Lake Chad can supply. Geographers have labelled this situation an 'ecological disaster'. To provide food and water for the growing population, more water is being taken from the rivers that feed the lake. To further complicate matters, communities in the area are often under threat from terrorist groups.



Source 15 The extent of Lake Chad in 1963 (left) and 2018 (right); the data for these maps was obtained from satellites.

KEY SKILL
Identifying patterns & relationships

Using maps to describe change

Maps can be used for many purposes. They can show the location of places and be used to navigate our way through places we have never been. Geographers use maps in many different ways. By using maps that have been drawn of the same place at different times we can see changes that have occurred over time.

A key part of this skill is to use the legend very carefully. The legend describes each of the symbols used on the map. These may be lines, shading or shapes such as stars and boxes. By reading the legend carefully we can find patterns of change and the impacts of these changes on people and places.

For more information on this key skill, refer to page 25 of 'The geography toolkit'.

Practise the skill

1 **Examine** (look closely at) Source 15.
  - a How is Lake Chad represented on this map?
  - b How many countries shared Lake Chad in 1963?
  - c How many countries shared Lake Chad in 2018?
  - d Which countries have been most affected by the decline of Lake Chad? Use evidence from the maps to support your answer.
  - e Which BOLTSS feature of the map helped you find your answers to questions a-d?

2
  - a **List** as many changes as you can between the 1963 map and the 2018 map.
  - b What type of scale has been used on this map?
  - c How can we use the scale to help describe the change that has occurred in Lake Chad?
  - d Using your answers from questions a–c, write a paragraph to **describe** change in Lake Chad over time. Be sure to make specific references to the maps.

Extend your understanding

3 In 1963, Lake Chad lay across multiple international borders. Why would this make the management of the lake difficult?

4 One proposed solution to the decline of Lake Chad is to dam the Ubangi River in the Central African Republic and to divert water from this river through a 2400 kilometre-long canal to the Chari River, which flows into Lake Chad.
  - a Use an atlas to locate these places.
  - b How would this affect places downstream from the Ubangi River?
  - c Why do you think this dam and canal have never been built?

Source 16 As water recedes from Lake Chad, sand dunes take over the dry lake bed.

3.6 What is water scarcity?

In this topic, you will:

- » understand different types of water scarcity, including physical and economic water scarcity
- » examine how water scarcity affects regions in Africa.

Water is most difficult to manage when there is not enough to go around. Water becomes scarce when the demand for clean water exceeds the available supply. As the world's population grows and rainfall patterns change, more people are at risk of suffering from water scarcity (the lack of available water, due to physical shortage or lack of access to local infrastructure).

It is estimated that 785 million people globally lack access to clean drinking water. Additionally, 2.4 billion people do not have access to adequate **sanitation**, such as a toilet that flushes. The United Nations recognises access to clean drinking water and sanitation as an essential human right. Lack of access to clean water and sanitation contributes to the death of many people, including around 800 children per day.

Water scarcity can be classified into two different areas: physical water scarcity and economic water scarcity.

Physical water scarcity

Physical water scarcity occurs when the demand for water outgrows the ability of the natural environment to provide the amount of water needed. This is most common in dry regions where there is low rainfall.

Growing populations are a major contributing factor to physical water scarcity. Our towns and cities are growing so large that they are outgrowing natural available water supplies, such as rivers and lakes. This can sometimes lead to an increased demand on other water resources in the region such as **aquifers**.

Economic water scarcity

Economic water scarcity occurs in places where the natural supply of water is adequate to supply the region, but the region does not have the **infrastructure** to supply this water to its people. For regions suffering from poverty, building the correct infrastructure – such as pipelines, dams, and water treatment plants – is very difficult because they are large, expensive projects.

In other places, economic water scarcity can occur when water supplies are diverted for specific purposes and are therefore not easily accessed by people.

sanitation
a term used to describe public health conditions relating to clean drinking water and safe treatment and disposal of sewage

aquifers
layers of rock or soil in the ground that hold water or that water can pass through

infrastructure
the physical and organisational structures and facilities needed for the operation of a society or enterprise (e.g. buildings, roads, power supplies)

CASE STUDY

Source 1 In this village in Uganda, children are drawing water from a well.

Water scarcity in Africa

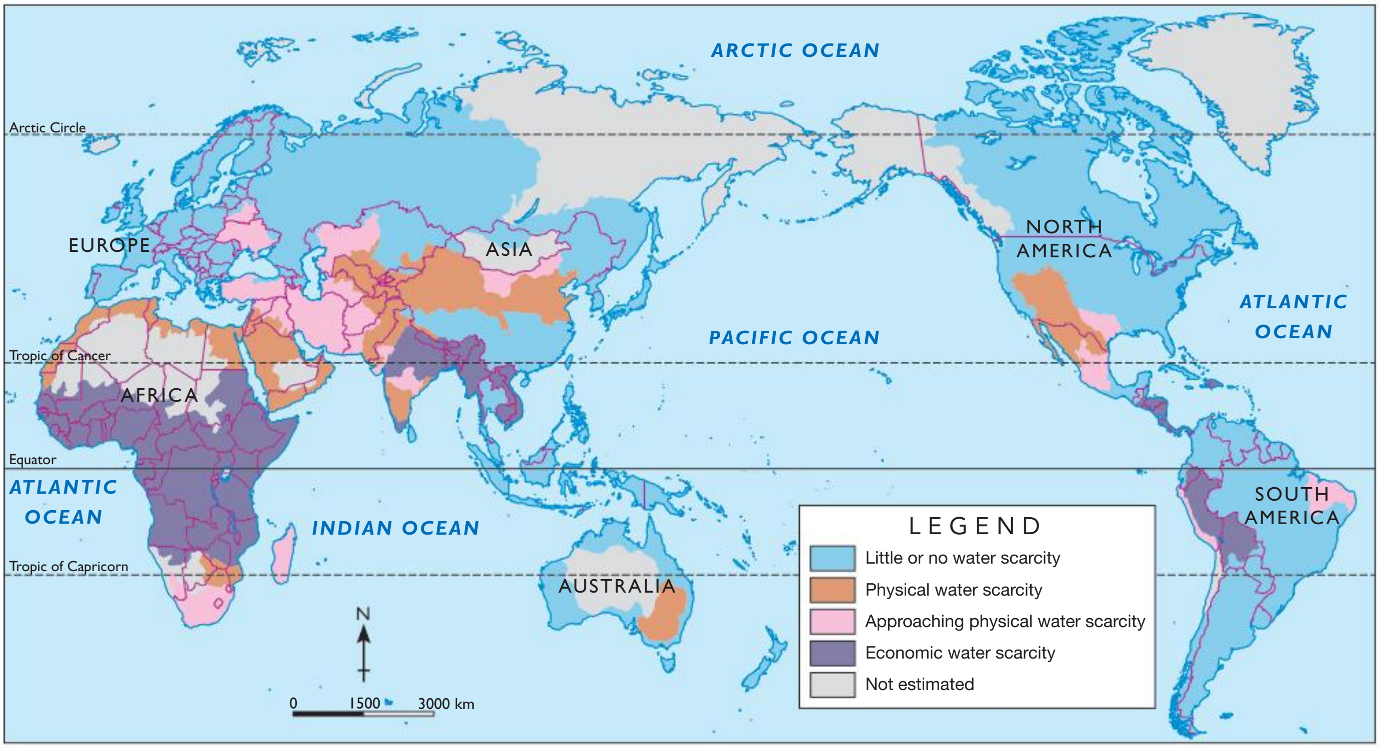
Of the 1.2 billion people who live in Africa, up to 300 million live in water-scarce areas. The main reasons for water scarcity in Africa are:

- a large and fast-growing population
- large areas with low rainfall
- poor water quality
- lack of water infrastructure.

The most common solution to water scarcity in African villages is digging a well. A water well is created by digging or boring into the ground to reach groundwater in underground aquifers. Clean water from a well stops people catching any water-borne diseases. Providing clean and drinkable water for communities across Africa is a high priority for many **developing countries** and international relief agencies, such as World Vision and AusAID.

developing countries
less economically developed countries that have some difficulties supporting their own people

WORLD: PHYSICAL AND ECONOMIC WATER SCARCITY



Source 2

Source: Oxford University Press

3.6 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'water scarcity.'

2 **Identify** four reasons contributing to water scarcity in Africa.

3 Record three statistics about the number of people affected by water scarcity.

Apply and analyse

4 **Distinguish between** physical water scarcity and economic water scarcity. Remember, to distinguish between two things you should talk about how they are different.

5 **Examine** Source 2.

a What type of map is this?

b **Describe** the area of Africa that suffers most from economic water scarcity.

c Australia is the driest inhabited continent on Earth. Does it have a water scarcity problem? **Justify** (give reasons for) your answer.

6 **Compare** Source 2 to Source 15 on page 57. Do communities with poor access to drinking water mainly live in areas with economic or physical water stress? Give reasons for your answer.

Evaluate and create

7 In Source 2 there are large areas described as 'approaching physical water scarcity.' **Propose** (put forward) one solution for one of these areas to avoid approaching physical water scarcity.

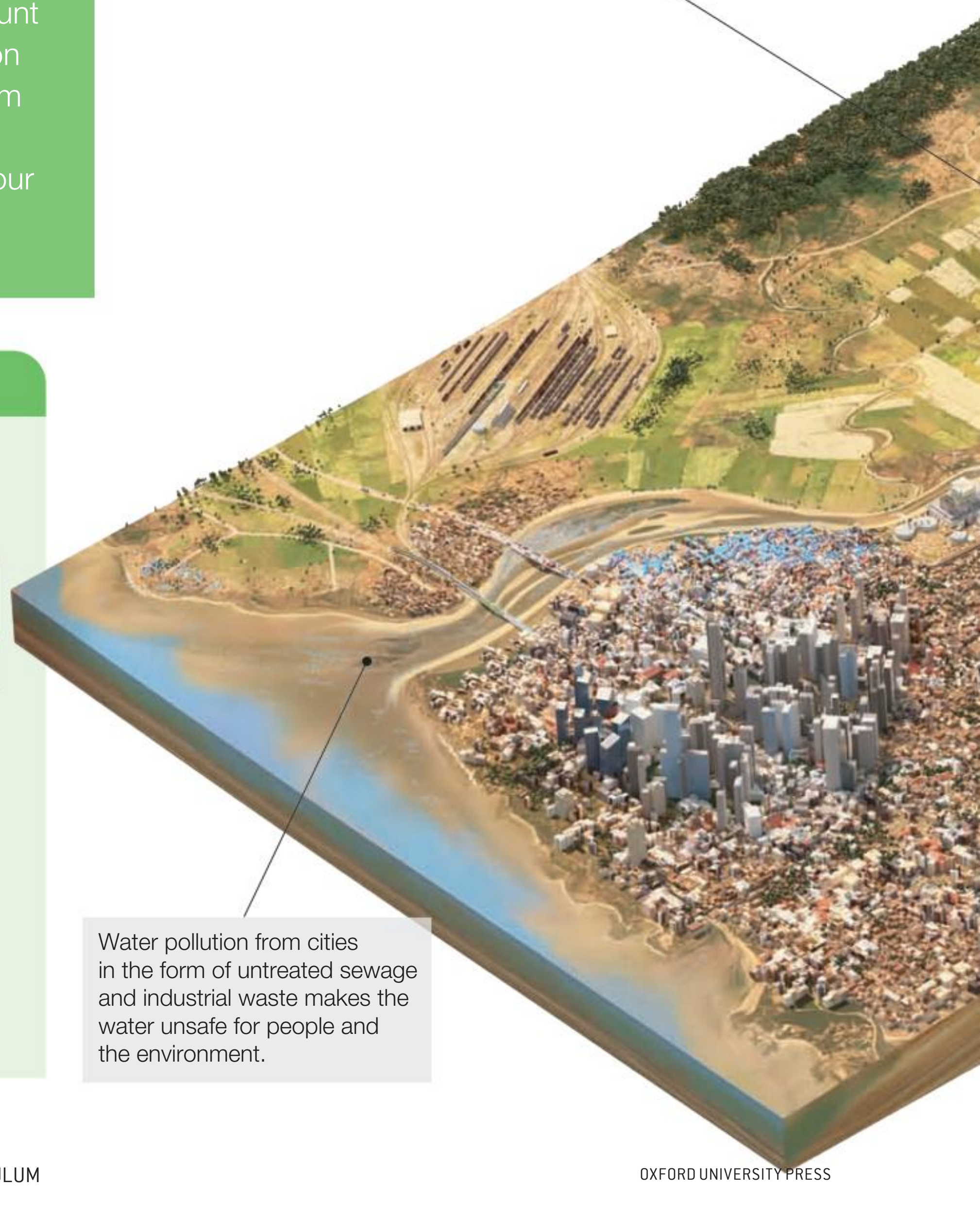
3.7 The causes of water scarcity

In this topic, you will:

» investigate the physical and economic causes of water scarcity.

The total amount of water in the world is constant. As a closed system, water cannot leave or arrive on planet Earth. And yet, water scarcity is an increasingly urgent problem for hundreds of millions of people. This is not due to the amount of water on Earth but to a combination of many other factors. These vary from place to place but all are the result of the way in which we use and abuse our precious water resources.

Source 3 An overview of the many types of environmental resources



3.7 CHECK YOUR LEARNING

Review and understand

1 Copy this table into your notebook. In each column, **list** three examples from Source 3.

Water pollution	Climate change	Population growth

Apply and analyse

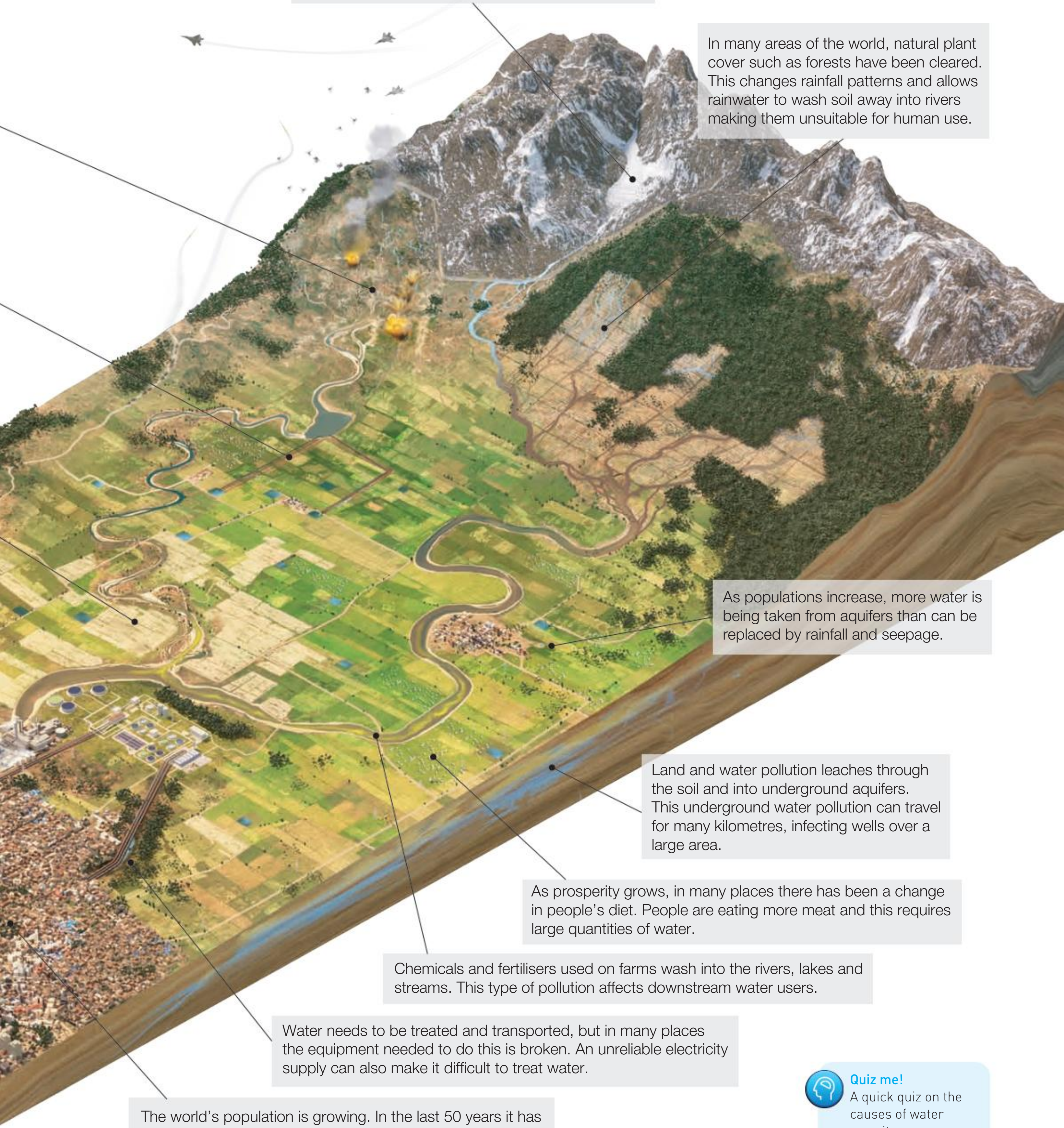
2 Use the labels in Source 3 to **explain** why water scarcity is usually the result of a combination of factors rather than just one factor.

3 Which of the factors shown in Source 3 do you believe contributes most to water scarcity? **Justify** (give reasons for) your answer.

3B How can we manage water scarcity?

As the climate warms there is less water stored in the world's water towers, mountain snows and glaciers. Downstream communities can no longer rely on this supply of water.

In many areas of the world, natural plant cover such as forests have been cleared. This changes rainfall patterns and allows rainwater to wash soil away into rivers making them unsuitable for human use.



As populations increase, more water is being taken from aquifers than can be replaced by rainfall and seepage.

Land and water pollution leaches through the soil and into underground aquifers. This underground water pollution can travel for many kilometres, infecting wells over a large area.

As prosperity grows, in many places there has been a change in people's diet. People are eating more meat and this requires large quantities of water.

Chemicals and fertilisers used on farms wash into the rivers, lakes and streams. This type of pollution affects downstream water users.

Water needs to be treated and transported, but in many places the equipment needed to do this is broken. An unreliable electricity supply can also make it difficult to treat water.

The world's population is growing. In the last 50 years it has more than doubled. This places greater pressure on water resources, particularly in developing countries.

Quiz me!
A quick quiz on the causes of water scarcity

3.8 Managing water scarcity in Melbourne

In this topic, you will:

» explore methods of reducing water scarcity, including increasing the supply of water and reducing the demand for water.

catchments
areas where water is collected by the natural landscape

Like all cities, Melbourne's water supply needs to be carefully managed. Melbourne is one of two cities in the world that collects most of its water from forested areas. These areas are known as **catchments**.

Most of the catchments that supply Melbourne with water are located in the Yarra Ranges. The soil in this area captures and naturally filters bacteria from rainwater. The water is then slowly released from the soil into the rivers that feed Melbourne's storage reservoirs, where it only requires a small amount of water treatment before being supplied to the public. This gives the city some of the purest water in the world.

The forests in the Yarra Ranges are well-protected, but nevertheless this process means that any threats to these forests can affect Melbourne's supply of water.

MELBOURNE REGION: WATER STORAGE

Source 4

Source: Oxford University Press

Challenges in supply

Key skill worksheet
Conducting fieldwork: Water usage at my house

Melbourne's population is growing quickly. Around 5 million people currently rely on Melbourne's water supply, and this number is predicted to grow to 8 million over the next 30 years.

Like much of south-eastern Australia, the Melbourne region is becoming warmer and drier. Victoria's average temperature has risen by 1°C in the last century and by 2050 it is predicted to rise even further. At the same time, rainfall is expected to decrease by 20%.

While this means that less water will flow into Melbourne's dams, an even bigger problem may come from an increase in bushfires. Victoria is predicted to have longer fire seasons and more dangerous fire weather in the future. This is a potential threat to water security in the area, because the rate of water **runoff** in a burnt forest is only half the amount of an unburnt forest. This is because new growth, which takes place in burnt areas, requires a lot of water. Additionally, soot and ash from fires can pollute water.

runoff
the flow of water on the ground when excess rainwater can no longer infiltrate in the soil.

Meeting the challenges

Melbourne Water, the government organisation responsible for managing Melbourne's water supply, uses a range of strategies to reduce threats to the city's water. Some of these strategies are listed below.

- The government has invested in additional infrastructure, so that Melburnians are not only reliant on rainwater. Examples of this include:
  - building a desalination plant that can supply water during droughts
  - building a pipeline from the Goulburn River across the Yarra Ranges to Melbourne.
- Melbourne Water can defend against fires in several ways, including:
  - employing teams of firefighters in summer
  - using fire spotters in towers to detect fires as soon as they start.
- Melbourne Water works hard to protect and conserve the catchment areas in the Yarra Ranges. Examples of this include:
  - restricting public access to water catchment areas
  - controlling feral pests such as deer and foxes in catchment areas
  - protecting forests by controlling logging.
- The government interacts with the public to make sure that water consumption does not begin to overtake the supply of water. They do this by:
  - encouraging Melburnians to use less water through advertising campaigns
  - restricting access if necessary when the dam levels are low.

Source 5 There are 74 fire lookout towers in Victoria that are manned for three months during summer.

Source 6 Melbourne residents are encouraged to use only 155 litres of water a day per person. Current usage rates are about 166 litres.

3.8 CHECK YOUR LEARNING

Review and understand

1. **Identify** where most of Melbourne's water comes from.
2. How do bushfires threaten Melbourne's water supply?

Apply and analyse

3. Copy this table into your notebook. **Classify** each of Melbourne Water's strategies into one of these categories:

Strategies to increase supply	Strategies to protect supply	Strategies to reduce demand

4. **Explain** Melbourne Water's 'Target 155' strategy. What is it and how does it help manage water scarcity?
5. **Examine** (look closely at) Source 4.
   a. Describe the location of Melbourne's water storage reservoirs.
   b. Why do you think they are located in these places?

Evaluate and create

6. What are some advantages and disadvantages of relying on water from forest areas?
7. Pick one of the strategies used by Melbourne Water to protect water supply. **Evaluate** (consider the strengths and weaknesses of) how effective this strategy is. How effective do you think it is overall?

3B RICH TASK

Quizlet
Revise the key terms you have learnt so far.

Source 7 Many Namibian rivers are only temporary, meaning they are dry for most of the year.

An unlikely source of water

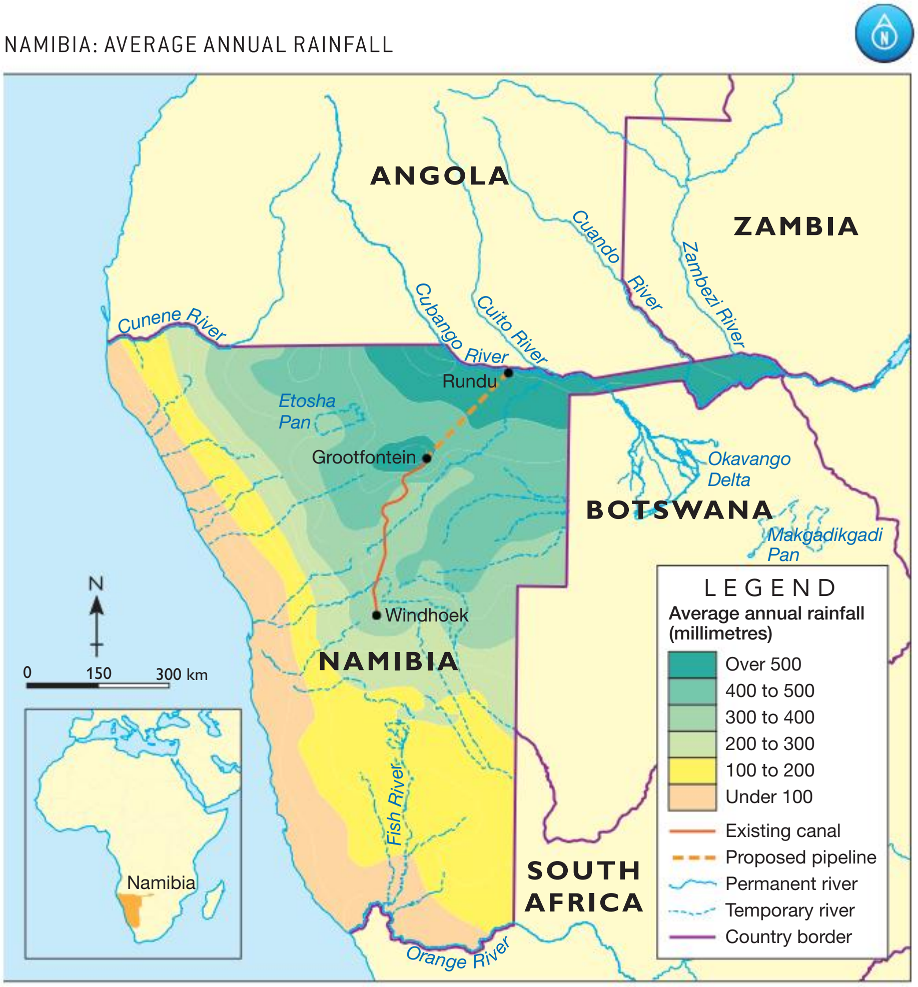
Namibia is the driest country in Africa, south of the Sahara Desert. Its capital, Windhoek, receives about 360 millimetres of rainfall a year and its 430 000 residents rely on three dams for most of their water. These dams, however, are built on rivers that do not always flow and are therefore unreliable for city water use.

In order to combat water scarcity in 1969, the government decided to mix water from traditional sources, such as dams and wells, with recycled water from the city's sewage-treatment plant to supplement Windhoek's fresh water.

This system provides good quality water to the residents of Windhoek. In 2002, a second sewage-treatment plant was opened.

Today, around 20% of Windhoek's drinking water comes from these wastewater treatment plants. The Windhoek wastewater treatment plant was the first of its kind, making the city a pioneer in sustainable water management.

NAMIBIA: AVERAGE ANNUAL RAINFALL



Source 8 Source: Oxford University Press

Source 9 Climate data: Windhoek, monthly averages

Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	76	74	79	41	8	0	0	0	3	10	23	48
Temperature (°C)	29	28	27	25	22	20	20	23	25	29	29	30

KEY SKILL
Collecting & representing data

Drawing climate graphs

Climate graphs combine column graphs and line graphs to help us interpret the climate in a specific location. In order to draw a climate graph, geographers gather climate data – the monthly average rainfall and temperature – for the location they are investigating. The purpose of a climate graph is to show the average monthly temperature and rainfall of a place over a year. Temperature is recorded as a line graph and rainfall as a column graph.

Step 1 Look carefully at the climate data to find the lowest and highest temperature figures that you will need to show on your graph. In this example, Windhoek's temperature varies from 20 to 30°C. Decide on a scale that shows this range of data, then place it on the left-hand axis of your climate graph.

Step 2 Using graph paper, plot the temperature data on your graph by placing a small, neat dot in the centre of each month at the correct height. Join the dots with a smooth red line and continue the line to the edges of the graph.

Source 10 In Windhoek's new settlements, residents fill jugs after putting coins into a meter.

Step 3 Look carefully at the climate data to find the lowest and highest rainfall figures that you will need to show on your graph. In this example, Windhoek's rainfall varies from 0 to 79 millimetres a month. Decide on a scale that shows this range of data, then place it on the right-hand axis of your climate graph.

Step 4 Plot the rainfall on your graph by drawing a blue column to the correct height for each month. You may like to shade the bars very lightly with a blue pencil.

Step 5 Complete your graph with a suitable title and a label for each of the three axes.

For more information on this key skill, refer to page 27 of 'The geography toolkit'.

Practise the skill

1 Using the steps shown above and the data in Source 9, **construct** a climate graph for Windhoek. Refer to page 29 of 'The geography toolkit' for examples of a climate graph.

Extend your understanding

1 **Examine** the map of Nambia in Source 8.

a **Identify** three water resources on this map.

b Which BOLTSS feature of the map helped you locate these resources?

2 **Describe** the distribution of rainfall in Windhoek in a 12-month period. Remember, 'distribution' refers to the space and placement of the rainfall rather than the times. For this reason, you should use the map, rather than the climate graph, to answer this question.

3 How does the annual rainfall pattern in Windhoek make dams and reservoirs unreliable water sources?

4 In your opinion, does Windhoek suffer more from physical water scarcity or economic water scarcity? Or do you think they suffer from them both equally? **Explain** your answer using examples.

3.9 Why tropical cyclones occur

In this topic, you will:

» outline the natural processes that cause tropical cyclones.

While water is a precious resource, we must acknowledge that it has the potential to be hazardous. Many of the **natural disasters** that occur on Earth involve water, such as floods, tsunamis and tropical cyclones.

natural disasters major hazardous events resulting from a natural process of the Earth (e.g. floods, volcanic eruptions, tsunamis)

Tropical cyclones, sometimes referred to as hurricanes or typhoons, are one of the world's most destructive natural disasters. They form over warm oceans, bringing heavy rainfall and strong winds to land. They are referred to as tropical cyclones because they originate over areas in the tropics, a region of Earth surrounding the Equator (see page 96 for more information). These huge storms leave a trail of destruction throughout the tropics every summer – from the Atlantic coast of North America to Asian countries, such as the Philippines and Bangladesh, to right here in northern Australia – meaning tropical cyclones are among our deadliest disasters.

How do tropical cyclones start?

Quiz me! A quick quiz on why tropical cyclones occur

Tropical cyclones form over warm areas of the Atlantic, Pacific and Indian oceans, typically during summer or autumn. They only form over areas where the water temperature is above 27°C. The warm water evaporates, creating warm moist air that begins to rise. Cooler winds from the side then rush in, and the rotation of the Earth causes this column of rising air to start spinning and moving forward.

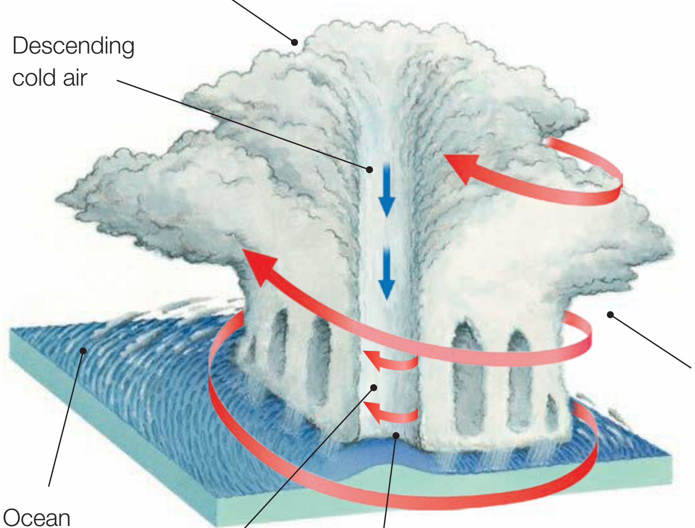
Source 1 An oblique aerial photograph of a community in Mozambique affected by Cyclone Idai in 2019

As the cyclone moves across the ocean, the warm moist air rises high into the atmosphere where it cools and turns into water droplets. The water droplets create clouds and rain, forming gigantic thunderstorms. As the cyclone turns faster and rain begins to fall, it becomes more hazardous. The winds within a cyclone can reach extraordinary speeds of up to 300 kilometres per hour. As the rising air reaches the centre of the cyclone it descends, creating a calm area known as the eye of the cyclone.

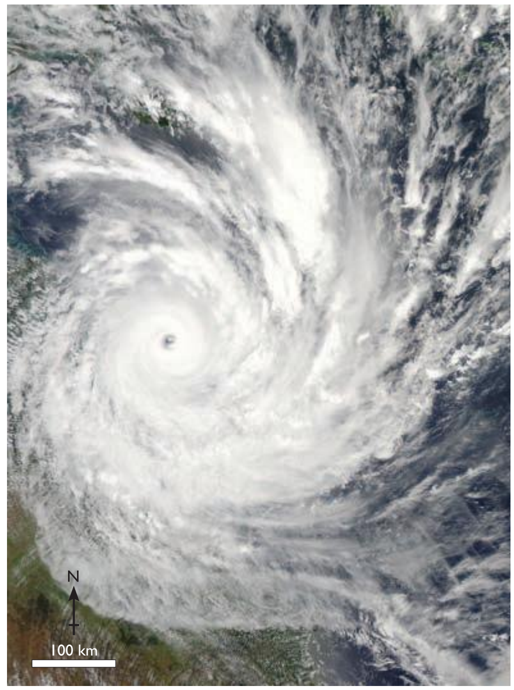
Now fully formed and growing in size and strength, the cyclone moves across the warm ocean towards land. As it crosses the coast its heavy rain and strong winds cause damage to natural environments, such as forests and coral reefs, as well as human environments, including homes and roads.

As it moves further inland and away from the energy of the warm ocean, the cyclone weakens. Winds slow, rain becomes less heavy and the cyclone eventually disappears. Cyclones can last for many days – the longest cyclone on record was Cyclone John in 1994, lasting 31 days. They can also be enormous in size, reaching a diameter of up to 1000 kilometres.

Cyclones are usually given names so that weather forecasters and the media can communicate about each one to the public. In Australia, cyclones are named with human names in alphabetical order from the first one of each season.



Source 2 A cross-section of a tropical cyclone



Source 3 A satellite image of tropical cyclone Yasi crossing the Australian coast in February 2011; Cyclone Yasi originated in Fiji, so the Fijian Meteorological Service named it.

3.9 CHECK YOUR LEARNING

Review and understand

1 What are the main conditions needed for a tropical cyclone to form?

2 Examine Source 1.

- a **Describe** the damage to the human-made environment caused by Cyclone Idai.
- b **Describe** the damage to the natural environment caused by Cyclone Idai.
- c This is a coastal community. Why is it more common for tropical cyclones to affect coastal communities than inland communities?

Apply and analyse

3 **Explain** why tropical cyclones only form in tropical regions of the world.

4 Use the scale and a ruler to **estimate** the diameter of Cyclone Yasi in Source 3.

Evaluate and create

5 Design a machine to **create** a cyclone using only the equipment in the science laboratory at your school. Sketch, label and annotate your cyclone machine, then write a short paragraph explaining how your machine works.

3.10 Where tropical cyclones occur

In this topic, you will:

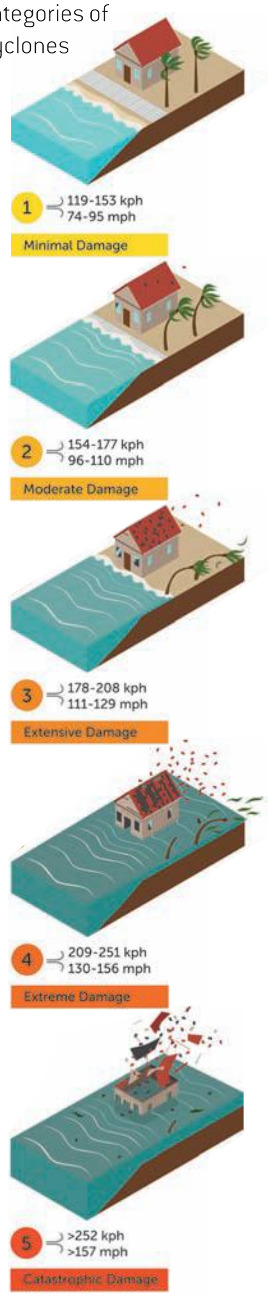
» investigate the distributions of cyclones at the global and national scales.

Each year about 45 tropical storms form over warm oceans and transform into powerful tropical cyclones. They are not evenly distributed across the globe. Some places experience many cyclones and can be considered ‘cyclone hotspots’, while many places on Earth receive no cyclones at all.

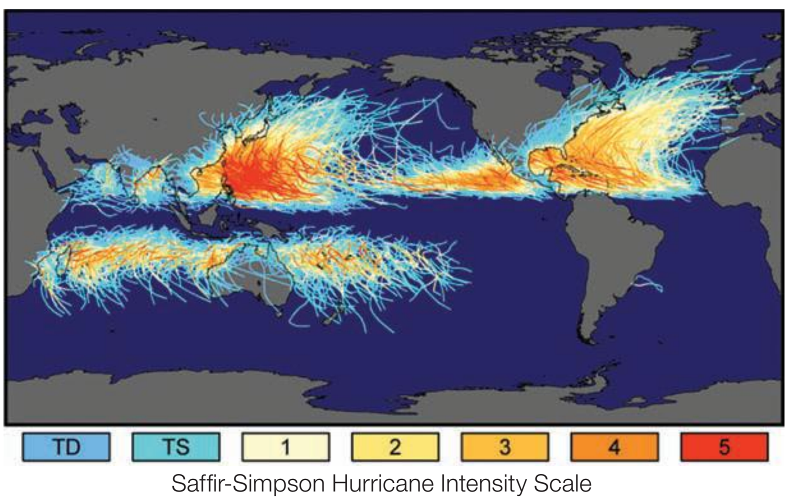
In Australia we use a classification system to determine the strength and intensity of each cyclone. The different categories, ranging from 1 to 5, are outlined in Sources 4 and 5 below. In a category 1 cyclone, winds reach 150 kilometres per hour while in a category 5 cyclone, they exceed 250 kilometres per hour (see source 4 for more details).

Source 5 shows the paths taken by tropical cyclones over the last 150 years. The different categories of cyclones are represented by colours on the map.

Source 4 An infographic depicting the five categories of cyclones



TRACKS AND INTENSITY OF ALL TROPICAL STORMS



Source 5 A map of the world showing cyclone tracks and intensity; tropical cyclones are referred to as ‘hurricanes’ in places such as North America, and ‘typhoons’ in many Asian countries. TD indicates tropical depressions, while TS indicates tropical storms.

Australian tropical cyclones

Much of northern Australia is surrounded by warm, tropical waters. This makes the region vulnerable to tropical cyclones. Our official cyclone season begins in early November and lasts until late April. In that time, an average of six cyclones cross the coast in tropical Australia, although this can vary greatly from year to year.

Because of this, it is difficult to predict when and where tropical cyclones will occur in Australia. The Bureau of Meteorology, Australia’s national weather, climate, and water agency, closely monitors the changing weather conditions in and around the country to make sure that the population is as prepared as possible.

In the southern hemisphere where Australia is located, winds spiral around the cyclone in a clockwise direction. By contrast, cyclones in the northern hemisphere rotate anti-clockwise. Interestingly, Australian cyclones tend to follow much more unpredictable paths than those in other places. Rather than moving in a straight line, they seem to move in any direction, and some have even been known to reverse direction.

Interpreting a flow map

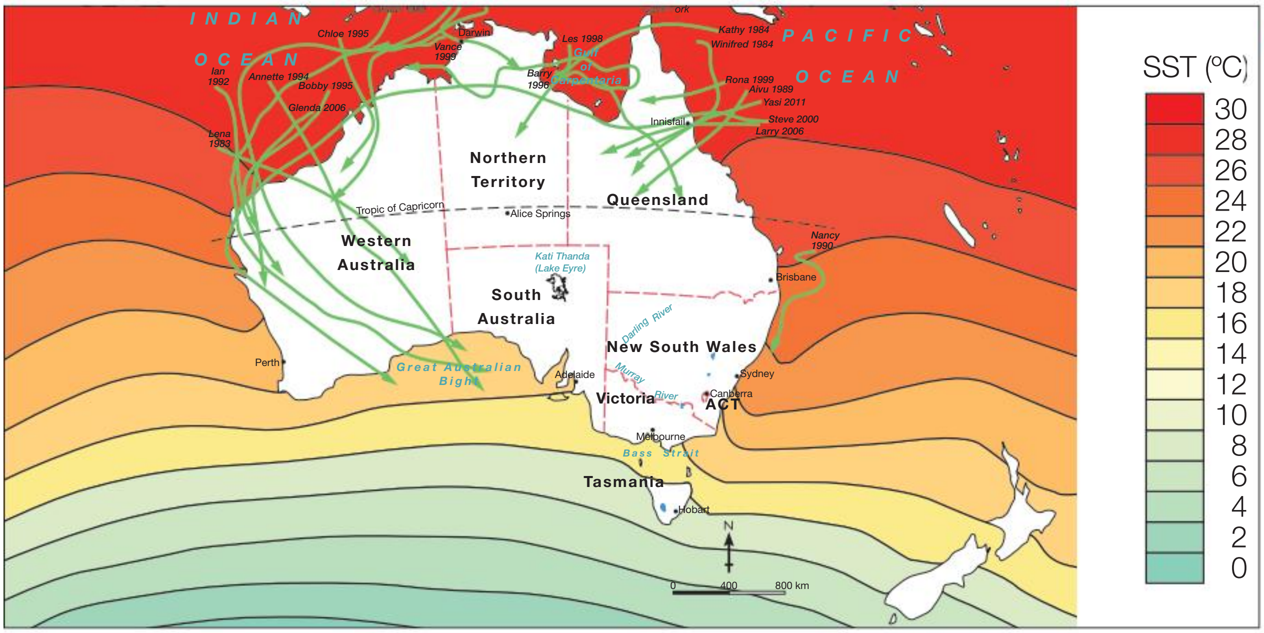
Flow maps, like the one in Source 6, show movement from one place to another. The green arrows in this map tell us the direction and reach of different cyclones that have affected Australia. Pay attention to the length and shape of each line – Cyclone Annette, for example, started in the Indian Ocean off the north-western coast of Australia in 1994. From reading the flow map, we can see that it travelled across Western Australia and all the way down to the Great Australian Bight.

Log onto your obook pro to complete the Key skill: Interpreting a flow map.

KEY SKILL
Identifying patterns & relationships

Key skill worksheet
Identifying patterns & relationships: Interpreting a flow map

AUSTRALIA: CYCLONES AND REGION SEA SURFACE TEMPERATURE (SST) AVERAGES



Source 6 Source: Oxford University Press

3.10 CHECK YOUR LEARNING

Review and understand

1 Using your atlas and Source 5, **identify** the world's cyclone hotspots. Use the names of oceans in your list, for example, western Pacific Ocean.

Apply and analyse

2 **Examine** (look closely at) Source 6.

- **a** **Identify** and **describe** the purpose of this type of map.
- **b** **Identify** the regions in Australia that have experienced more than 10 cyclones in the last 50 years.
- **c** **Describe** the interconnection between the number of cyclones and sea temperatures in summer.
- **d** **Describe** the movement of cyclones in Australia.

3 Hurricane season in North America is from June to November. When is Australia's cyclone season? Why might these two seasons take place in different parts of the year?

Evaluate and create

4 'Tropical cyclones are expected to become more intense because of climate change.'

Discuss this statement. To discuss, make sure you:

- read the question carefully
- outline how true this statement is, based on everything you have learned so far
- outline how untrue this statement is, based on everything you have learned so far
- give your own opinion on the topic.

3.11 The impacts of tropical cyclones

In this topic, you will:

- outline the economic, environmental and social impacts of tropical cyclones on people and places.

Tropical cyclones often leave devastating and widespread impacts on the places they travel through. From the moment a cyclone's enormous storm waves travel onto land and batter the coastline, it leaves a trail of destruction in its path. For example, a powerful cyclone's strong wind can destroy whole cities and farming areas, while heavy rain can flood low-lying areas.

CASE STUDY

Typhoon Haiyan

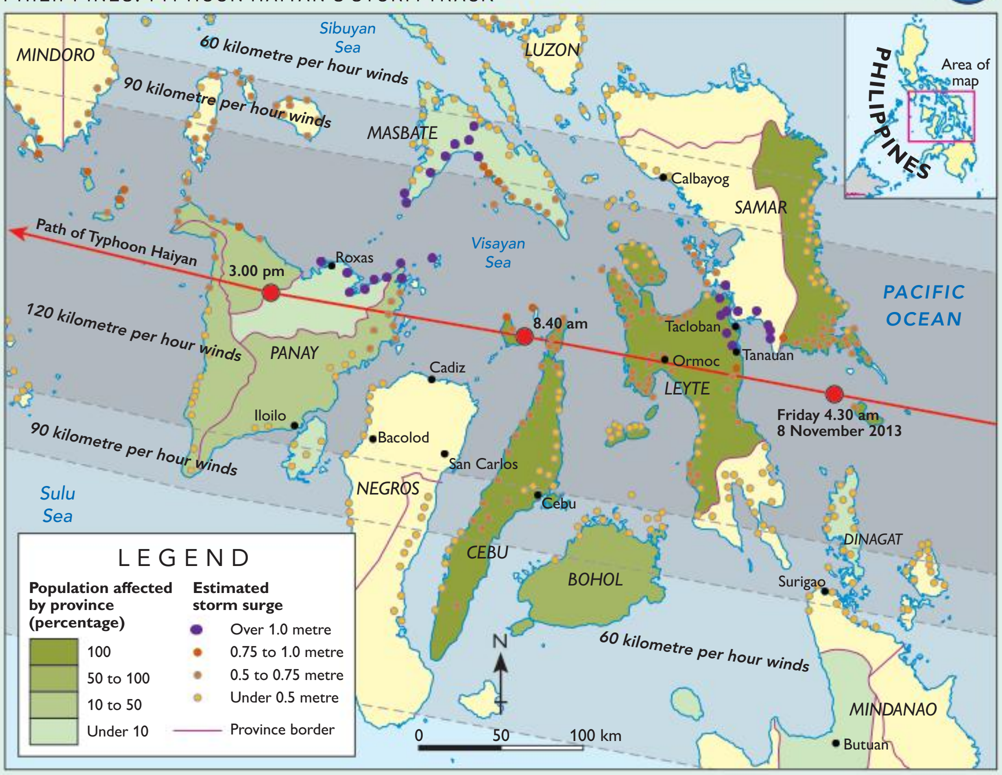
Typhoon Haiyan struck the Philippines in 2013. Haiyan originated in the warm waters of the northern Pacific Ocean on 2 November 2013 and began moving west towards the countries of Micronesia, Palau and the Philippines.

As it moved, Haiyan grew larger and more powerful until it was classified as a category 5 cyclone. Travelling westwards, it destroyed cities, villages and rural communities. More than 6000 people were killed, and over 6 million people were displaced from their homes.

There have been many tropical cyclones that have had a significant impact in the years since Haiyan. It is an important event to study because it helps us understand the three serious hazards caused by tropical cyclones. They are:

- gale force winds
- torrential rains
- storm surges.

PHILIPPINES: TYPHOON HAIYAN'S STORM TRACK



Source 7

Source: Oxford University Press

Hazard 1: Gale force winds

You may have heard the phrase 'it's blowing a gale!' used to describe windy weather conditions. A gale force wind is a strong wind that travels over the speed of 63 kilometres per hour. Gale force winds can cause significant damages to natural and human-made environments.

Tropical cyclones produce the world's strongest winds. By the time Haiyan crossed the coast of the Philippines on 7 November 2013, it had grown to become the most powerful storm to ever hit land, with wind speeds of 315 kilometres per hour. These strong winds caused significant damage – they destroyed roads and powerlines, uprooted trees and completely flattened entire villages. Fallen trees and power lines made it impossible to travel by road, which made it difficult for rescue teams to reach the victims of the disaster.

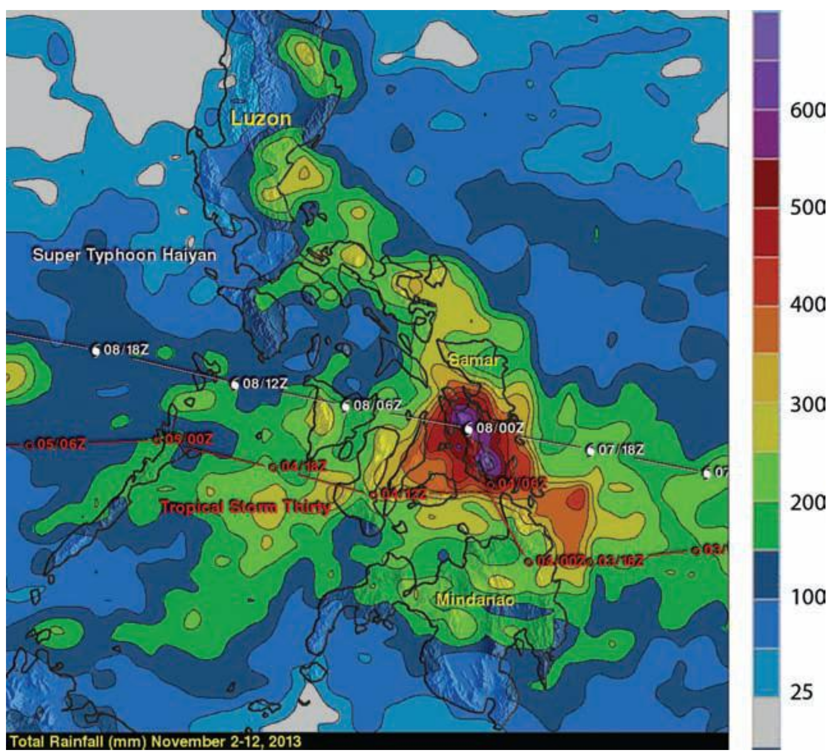
The damage caused by these gale force winds also had long-term impacts on the people of the Philippines. Up to 30 000 fishing boats were destroyed by the powerful winds, resulting in a loss of income for many fishermen. Many species of plants and animals lost their habitat after entire forests were flattened by the wind. In the coastal Iloilo Province, a major oil spill occurred when a ship loaded with 1.4 million litres of oil was blown ashore and leaked into the stormy seas. The oil polluted 10 kilometres of coastline, displacing people from their homes and causing significant damage to an area of mangroves.

Source 8 Powerful winds created by Haiyan destroyed whole towns and fishing fleets.

Hazard 2: Torrential rain and flooding

As you have learnt, water evaporates and travels upwards before cooling and falling again as rain. This process also takes place during a cyclone, but on a much larger and more dangerous scale. As a cyclone moves across the warm ocean, huge quantities of water evaporate from its surface and travel upwards. By the time a cyclone crosses onto land, this evaporated water falls as torrential rain.

'Torrential rain' is a term given to very heavy rainfall that falls rapidly. Torrential rain can cause widespread flooding, as low-lying areas like rivers and dry lakes rapidly flood with water that spreads quickly. The power of flooding is such that it can wash away buildings, roads and bridges. Even as a cyclone moves inland and weakens, the heavy rain can continue for many days.



Source 9 Philippines rainfall over 2–12 November 2013. Some areas received almost 300 millimetres in only 12 hours.

Floods caused by Typhoon Haiyan devastated large areas of farmland, destroying crops such as rice, corn and sugar. It was estimated that more than 70 000 hectares of farmland were destroyed by floods. This affected communities significantly, causing many farmers to lose personal income and food shortages in affected areas where crops had been destroyed.

Hazard 3: Storm surges

The air within a tropical cyclone rises so rapidly that it lifts the surface of the ocean below it. As the cyclone moves towards land, a large dome of higher sea levels travels with it. Driven onto the land by powerful winds, the water rushes onto the land in great waves. This is known as a storm surge. Storm surges can cause immense damage to natural and human-made environments.

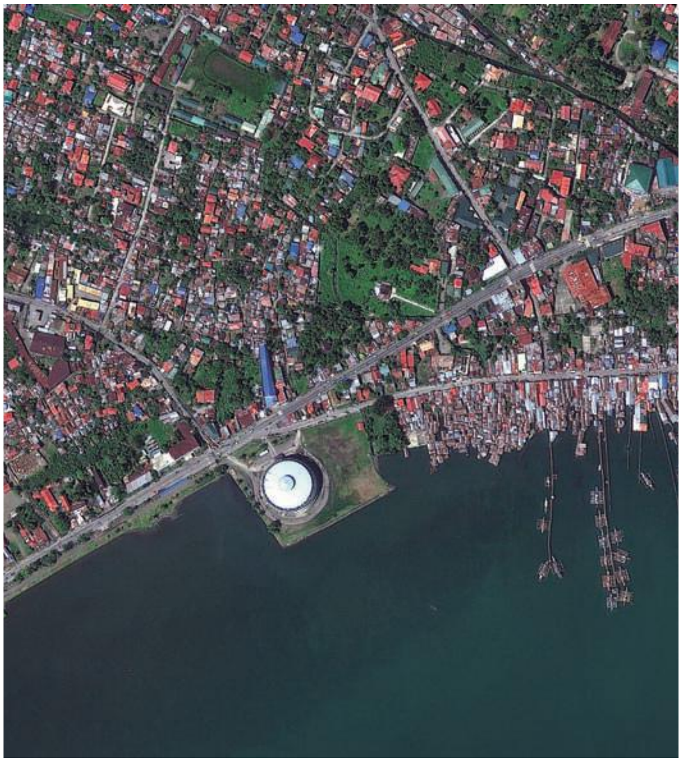
During Typhoon Haiyan, waves up to 5 metres high slammed into the Filipino coastline. The damage was worst in low-lying areas such as Tacloban City where the water rose to the height of the second storey of many of the town's buildings. Driven by huge waves, the rising water carried debris such as cars, boats and buildings. Important infrastructure in the city, including the airport, electricity and water infrastructure, was destroyed.

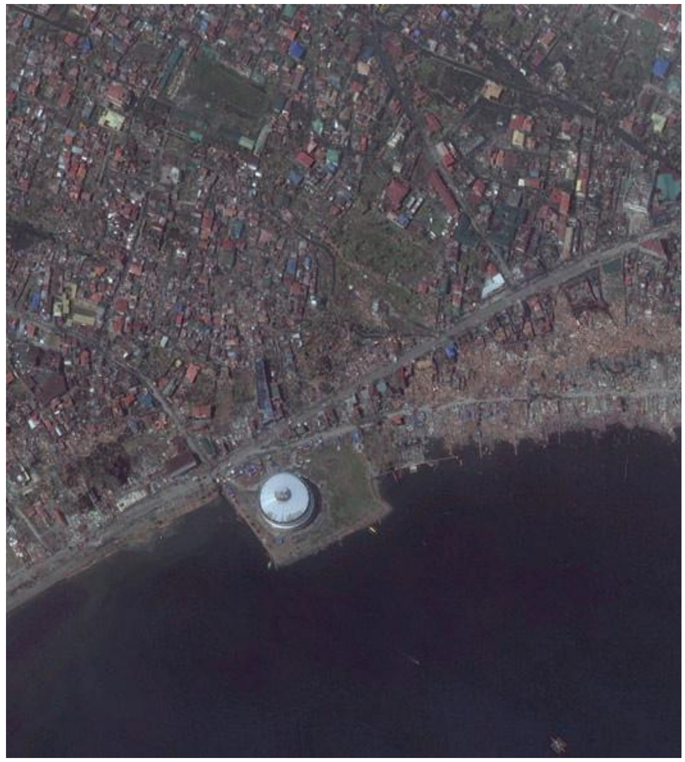
Many of the survivors fled the city and sought refuge with friends and relatives. In one case, an evacuation centre where people had taken shelter was flooded, and many died in the chaos. Thousands of people died from the storm surge.

The impacts of the disaster continued for many months. Over 6 million Filipinos had lost their sources of income. In Tacloban, desperate people stole food and other goods from shops as the police struggled to maintain control. The damage to water infrastructure meant that people could not access clean water, and diseases spread through poor sanitation and polluted water.

Key skill worksheet
Interpreting geographical images: Analysing change

Source 10 Flooded rice fields in Iloilo Province, central Philippines





Sources 11 and 12 Satellite images of downtown Tacloban City, 23 February 2012 (left) and 10 November 2013 (right)

3.11 CHECK YOUR LEARNING

Review and understand

1 **Identify** the three serious hazards caused by tropical cyclones.

2 **Describe** how food supplies can be disrupted by a tropical cyclone.

3 a What is a storm surge?

b Why are storm surges so devastating?

Apply and analyse

4 Using Sources 7 and 9, **explain** why the impacts of Typhoon Haiyan were greatest in the places closest to its path.

5 **Examine** (look closely at) Sources 11 and 12.

a **Identify** the geographical concept that these two satellite images reflect. Give reasons for your answer. Refer to page 11 of 'The geography toolkit' to help answer this question.

b **Identify** as many impacts to the natural environment as you can.

c **Identify** as many impacts to the human-made environment as you can.

6 Tsunamis are another natural disaster that have some similarities with storm surges. Using the internet, research tsunamis. In a short paragraph, **distinguish between** a storm surge and a tsunami. Remember, when you distinguish between two things you should talk about how they are different.

Evaluate and create

7 Locate Tacloban in Source 7. Why do you think this location is so vulnerable to storm surges?

8 **Create** a diagram with three circles inside each other, like a dartboard. Inside the first circle, list the immediate impacts of cyclones, in the second circle list the short-term impacts (those that last about a week). In the final circle, list the long-term impacts (those that last longer than a week).

3.12 Preparing for tropical cyclones

In this topic, you will:

» investigate how we can prepare for tropical cyclones in order to minimise their harmful effects.

Tropical cyclones are a part of the natural cycle of weather, which means it is impossible to prevent them. There are, however, many steps that we can take to lessen the impact of cyclones on people and places.

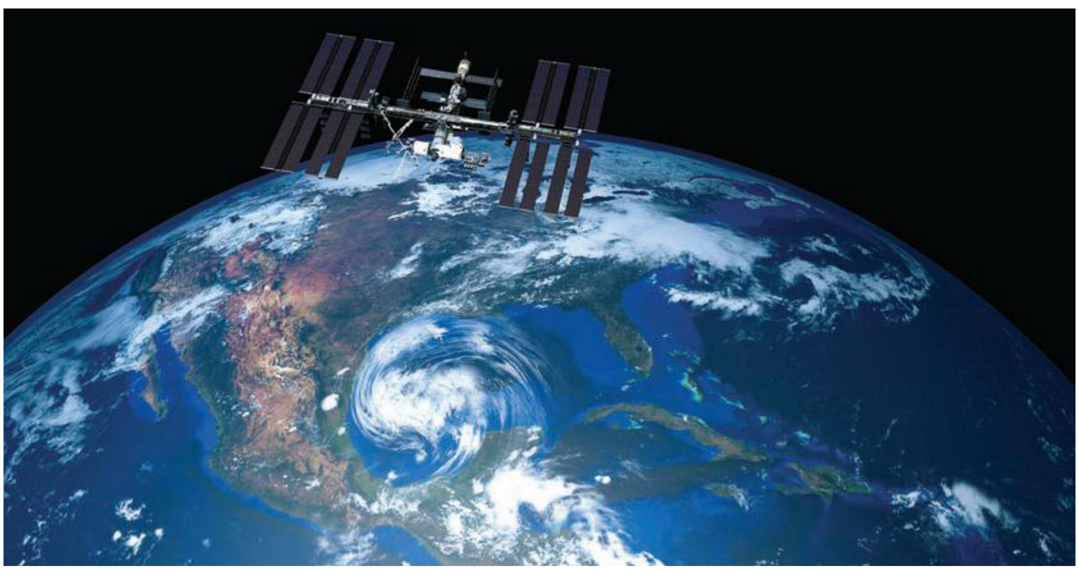
1 We can track the paths of cyclones and try to predict their future paths, so people have time to prepare.
2 We can ensure that people, homes and communities in cyclone-prone regions are properly prepared.
3 When a cyclone does strike, we can respond quickly and efficiently to save lives and make the affected area safe.

Predicting tropical cyclones

meteorologists
scientists who study the atmosphere to predict and understand the weather

To predict where and when a cyclone will strike, **meteorologists** use thousands of observations from radar, weather balloons, satellites and other sources. They use their observations to forecast the weather and inform the public about upcoming weather events. This includes issuing cyclone alerts and warnings.

See, think, wonder
Look at Source 13.
- What do you see?
- What do you think?
- What do you wonder?



Source 13 Meteorologists use information from many sources when predicting the weather.

Preparing for tropical cyclones

People who live in areas where cyclones occur can do several things to prepare for cyclone season. Most importantly, they should make sure that their home is strong enough to resist the force of the cyclone and that it is built in a place away from the storm surge zone. They should also have a plan in case they need to evacuate, including having a prepared evacuation kit in case they must leave their home and travel to a safer area.

Seawalls: help or hindrance?

Following Typhoon Haiyan, a 4-metre-high, 27-kilometre-long seawall was constructed to protect Tacloban and surrounding areas from storm surges. This large endeavour was expensive to build and has significantly altered the landscape. While it is a smart prevention strategy for sea surges, local residents are concerned about its impact.

Many homes were demolished to provide space for the wall, meaning that families with deep connections to that place had to be relocated. Many of these people are fisherfolk, who rely on access to the coast to catch fish and are likely to suffer financially as a result.

For more information on this key concept, refer to page 6 of 'The geography toolkit'.

KEY CONCEPT
Place

Source 14 An example of a seawall built to prevent damage to towns from storm surges.

Responding during tropical cyclones

Living through a tropical cyclone can be terrifying and dangerous, which means it is important to be prepared. The safest way to avoid being injured by a cyclone is to evacuate, but evacuation must be done early, before the cyclone arrives on land. As you have learnt, cyclones can cause serious damage to roads, which means it is very dangerous to drive during one.

Some steps that people should follow if they are at home during a cyclone are:

- staying indoors until the cyclone has passed
- keeping away from glass doors and windows
- closing all shutters, blinds and curtains
- taking refuge in a small interior room or a cupboard
- not being fooled if the winds suddenly drop, because the eye of the cyclone may be passing overhead
- having a battery-powered radio with you whenever possible.

Video
'Twisters' in the USA

3.12 CHECK YOUR LEARNING

Review and understand

1 How do satellites help communities prepare for a cyclone?

2 **Identify** the safest place in your home during a cyclone.

Apply and analyse

3 In a small group, decide what items need to be included in a cyclone evacuation kit. **Rank** these items in order of importance, and give reasons for your ranking.

4 Do you think seawalls are a good strategy to prepare for storm surges? **Explain** your answer.

Evaluate and create

5 Communities in developing countries are often affected more severely in disasters than those in developed countries. In small groups, **discuss** why this is the case. Come together as a class and share your answers.

6 Tourists can be affected by cyclones as well as locals. **Create** a poster to be displayed in hotel rooms in the Philippines explaining what to do during a cyclone. The messages need to be in pictures rather than words because tourists speak many different languages.

3C RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Weblink

Cyclone Yasi

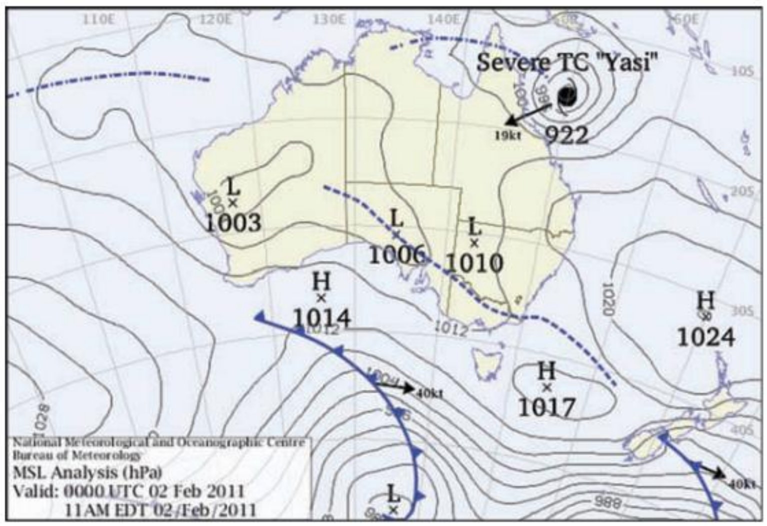
Cyclone Yasi

In early 2011 a severe tropical cyclone named Cyclone Yasi crossed onto land in northern Queensland. Cyclone Yasi was a category 5 cyclone, which is the highest ranking of intensity for cyclones.

In the early hours of 3 February, Yasi crossed the coast near Mission Beach, which is located between Townsville and Cairns. With it, Yasi brought huge gale force winds, estimated at 285 kilometres per hour.

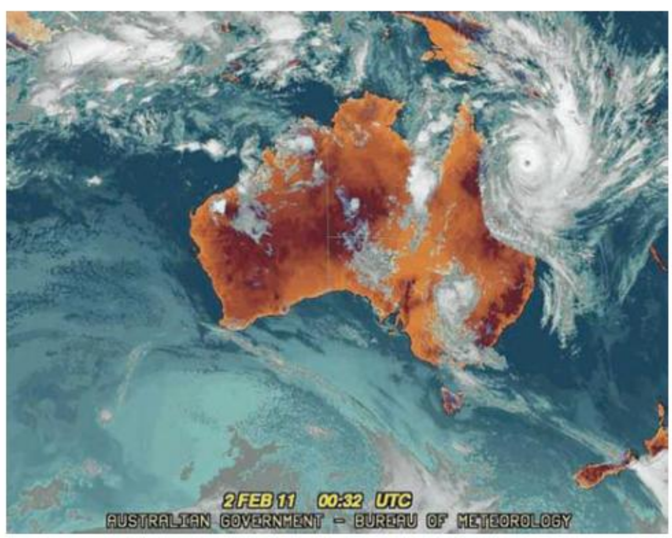
Flights out of Queensland filled up quickly as thousands of people evacuated the area. Despite being one of the most powerful cyclones to have ever affected Australia, only one death occurred. However, the landscape was severely damaged: trees and power lines were brought down, houses were destroyed and roads were damaged.

In Cardwell, a small coastal town, the storm surge reached just under 7 metres.



Source 15 Australia: Weather map of Australia, 2 February 2011

Source: Bureau of Meteorology



Source 16 Satellite image of Australia on 2 February 2011

Source: Bureau of Meteorology

KEY SKILL
Identifying patterns & relationships

Reading a weather map

Weather maps show what is happening to the air and in the atmosphere. They show air pressure (the movement of air rising, falling and spinning) as a series of lines. This helps meteorologists make predictions about temperature, wind and rainfall.

We can use symbols on weather maps to predict the weather. For example, in Source 15, there is a dotted line to the east of Adelaide. Source 17 tells us that this dotted line is known as a 'trough' that brings in rain. In the Southern Hemisphere, air moves slowly from west (left) to east (right). This means the trough has already passed through Adelaide, so it is likely they experienced rain in the days before this map was created.

To predict the weather using a weather map, consider how the conditions in the atmosphere are affecting a place, and follow these steps:

Step 1 Look at the map. Is this location in the northern or southern hemisphere? In which direction will troughs and cold fronts move?

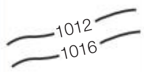
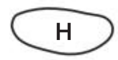
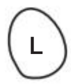
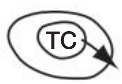
Step 2 Can you see any unusual patterns on the map, or are the symbols distributed evenly?

Step 3 Pick a section of the map to examine closely.

Step 4 Identify the shape and size of the isobars in this area. What does this tell you about the air pressure?

Step 5 Identify the shape and size of the high or low pressure areas. Are the conditions warm and dry, or cool and wet?

Step 6 Identify the different types of lines in this area. What does this tell you about rainfall?

Symbol	Name	Explanation
	Isobar	A line connecting places with the same air pressure; the closer together the isobars, the stronger the wind.
	High pressure cell	Air rotates anticlockwise around a sinking air mass; conditions are warm and dry.
	Low pressure cell	Air rotates clockwise around a rising air mass; conditions are cool and wet.
	Cold front	A line showing where cold air moves into an area and forces warm air to rise, cool and cause rain; cold fronts move in the direction of the arrowheads.
	Warm front	A line showing where warm air moves into an area, rises and cools; this often produces light rain and showers.
	Trough line	A long area of rising air often brings a line of rain and sometimes thunderstorms.
	Rainfall	On some weather maps, shading is used to indicate a region where rain is likely to fall.
	Tropical cyclone	Air rises rapidly and rotates clockwise with a calm centre; conditions are extremely windy and wet, and flooding is likely; cyclones move in the direction of the arrow.

Source 17 Weather map symbols

For more information on this key skill, refer to page 25 of 'The geography toolkit'.

Practise the skill

1 Using the steps above, **examine** the map in Source 15.

Extend your understanding

1 Using Source 15, **describe** the weather conditions in Melbourne on 2 February 2011. What was the weather likely to have been like a few days before this date?

2 Source 16 is a satellite image that shows Australia at the same time as the situation shown in the map in Source 15.

a **Explain** the relationship between trough lines and clouds.

b Use these images to write a reflection on how the weather can be so different in different parts of Australia at the same time.

3 CHAPTER REVIEW

Review questions

3A How do we manage and value water?

1 **List** three ways in which people value water. (3 marks)

2 **Describe** two reasons why water supplies are difficult to manage. (4 marks)

3 In some countries, such as those situated along the Mekong River, there is competition for access to water supplies. As a result, dams are constructed to help store water. **Explain** how dams affect the environment and the people in these areas. (3 marks)

(Total: 10 marks)

3B How can we manage water scarcity?

1 What do you believe are the two main causes of water scarcity in the world today? (2 marks)

2 **Outline** how catchments help to supply Melbourne with water. (2 marks)

3 **Explain** one way in which water scarcity is managed by a developed country, and one way in which water scarcity is managed by a developing country. (6 marks)

(Total: 10 marks)

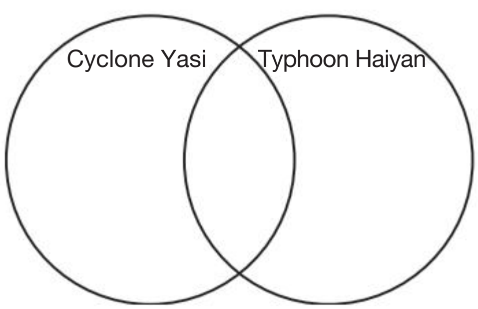
3C How can we manage tropical cyclones as a water hazard?

1 **Identify** the direction that winds spiral around a cyclone in the southern hemisphere. (1 mark)

2 **Explain** why tropical cyclones do not occur in Victoria. (3 marks)

3 Use this diagram to **compare** Cyclone Yasi and Typhoon Haiyan. In the left circle, write down two things about Yasi that do not apply to Haiyan. In the right circle, write down two things about Haiyan that do not apply to Yasi. In the centre where the circles overlap, write down two things that apply to both cyclones. Consider the causes and impacts of, and responses to, both cyclones. (6 marks)

(Total: 10 marks)



Source 18 A tool for comparing two features

Review activity

Read the text below and respond to the following questions.

The Aral Sea

The Aral Sea is located on the border of Kazakhstan and Uzbekistan. In the early 1960s, the two rivers that channelled water to the Aral Sea, the Amu River and the Syr River, were diverted to irrigate areas of the surrounding desert to grow rice, melons, cereals and cotton. From 1960 to 1998, the size of the Aral Sea shrank by 60%, and its volume was reduced by 80%. In 1960 the Aral Sea was the fourth-largest lake in the world. Today, it is the thirty-first largest. Over the same period of time, the lake has also become five times saltier.

Source 19 Fishing boats sit rusting in the desert. This area was once covered by the Aral Sea which supported a thriving fishing industry.

ARAL SEA BASIN: WATER RESOURCES

Source 20 Source: Oxford University Press

1 **Identify** the two rivers that channel water into the Aral Sea. (2 marks)

2 **Describe** two environmental features in this area that make it vulnerable to water scarcity. (2 marks)

3 **Suggest** two ways the river might be used by people. (2 marks)

4 How do these uses affect the natural environment? (4 marks)

5 'Even though it is unfortunate the Aral Sea has shrunk in size, it is a worthy sacrifice to make because water is being diverted to grow crops and feed people.' **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? In your answer, think about different perspectives as well as your own. (10 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 3

Key skill worksheet
Communicating & reflecting: Chapter 3

Quizlet
Play a game of Quizlet on Valuing and managing water.

Chapter review quiz
Chapter 3

CHAPTER 4

Living in Australia

Aboriginal peoples and early European settlers to Australia both made decisions about where to live based on the availability of resources they needed to survive, such as water, food and shelter. The factors that influence where people live today are more varied. As well as needing access to food, water and shelter, people also choose where to live based on access to services (such as hospitals and schools), environmental quality (such as access to clean air and parklands) and safety. Connections to family, friends and places also influence where we live. Where we choose to live can also change over time due to a range of factors, such as work and property prices. In retirement, many people opt for a sea change or tree change to enjoy a more relaxed lifestyle.

Source 1 Torquay, on Victoria's Surf Coast, is one of the state's fastest-growing towns.

4A
Where do Australians live and why?

4B
How do people connect to places?

4.1 Why we live where we do

In this topic, you will:

» define the concept of liveability
» explore what factors influence people to live where they do.

The **liveability** of any place is closely linked to how suitable and enjoyable you think that place is to live in. How liveable you find a place to be depends on your own wants and needs and whether they are met. What we like about places can depend on our age, income, cultural background, lifestyle, values and beliefs. The following questions will help you to determine the features of places that make them most liveable to you.

What do you like to do?

Access to services and facilities that allow us to do the things we enjoy influences what we think of the place we live. This, in turn, increases how highly we rate its liveability.

Sport and recreation play an important part in our lives. Team sports (such as netball, football and soccer) can be played in most places. Community facilities (such as sports stadiums and sporting parks) are provided in most communities. If your passion is surfing, you might consider a coastal town more liveable than an inland town. Mountain bikers might prefer to live in a rural area or on the edge of a city, close to open spaces where they can ride their bikes on suitable trails.

Source 1 New mountain bike trails are planned for Ararat in regional Victoria.

liveability
an assessment of what a place is like to live in, based on factors such as access to schools, safety and health care

Where do you like to go?

The places we like to go to, and how easy they are to get to, also affect the liveability of a place.

Where do you spend most of your time? Do you like to catch up with friends, go to the movies, or shop at the local shopping centre? How do you get there? Do you walk, ride a bike, or catch a bus, tram or train? Think about how easy it is for you to travel from your home to where you like to go. Is it difficult? This could make you feel negatively about where you live, decreasing its liveability. Is there another place you could live that might make it easier for you to travel to where you like to go? If so, this would increase the liveability of that place for you.

Source 2 Melbourne's tram network helps to move people through the busy city.

Quiz me!
A quick quiz on why we live where we do

Source 3 Rock art cultural heritage protection specialist Jake Goodes in the Grampians Mountains of western Victoria; known as Gariwerd, this area is of great significance to the traditional landowners, the Djab Wurrung and Jardwadjali peoples. This is because of its place in Dreaming stories, as well as the food, water and shelter it offers. The area contains 90% of all the rock art sites in Victoria.

What are your favourite places?

We all have places that are special to us. There are many different reasons for this. Some places appeal because of the way they look. This is known as the aesthetic appeal. Others appeal to us because they are familiar or are attached to memories of things we have done. This is known as sentimental appeal. We may even have a spiritual connection with a place. As the traditional custodians of Australia, Aboriginal and Torres Strait Islander peoples have very strong connections with places. Places are a dominant feature of their stories and lives. These spiritual connections can also increase the liveability of one place over another.

Every year about 5000 Australians are asked to take part in a survey about the factors that they believe make a place liveable. Their replies are often like the replies of people from all around the world when asked the same question. Most people agree that a liveable place:

- feels safe
- has high quality health services
- has affordable, decent housing
- has reliable and efficient public transport
- has good job prospects.

4.1 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'liveability'.

2 What characteristics of a place attract us? List these characteristics and write a short description of each one.

3 **Describe** some things that you like to do. Where would be a good place to live that enables you to do these things?

4 **Describe** some places you like to go. Where would be a good place to live that enables you to go to these places?

Apply and analyse

5 What are some important aspects of liveability that do not require a lot of money?

6 **Explain** how a person of your age and a much older person might have different ideas about the liveability of a place.

7 **Distinguish between** spiritual and sentimental values that influence how people view a place. Remember, when you distinguish between two things you should talk about how they are different.

Evaluate and create

8 **Discuss** the special places in your life with a partner. Why do you have a special connection to this place?

9 Look at the places shown in Sources 1 and 2. Explain how the liveability might differ between these two places.

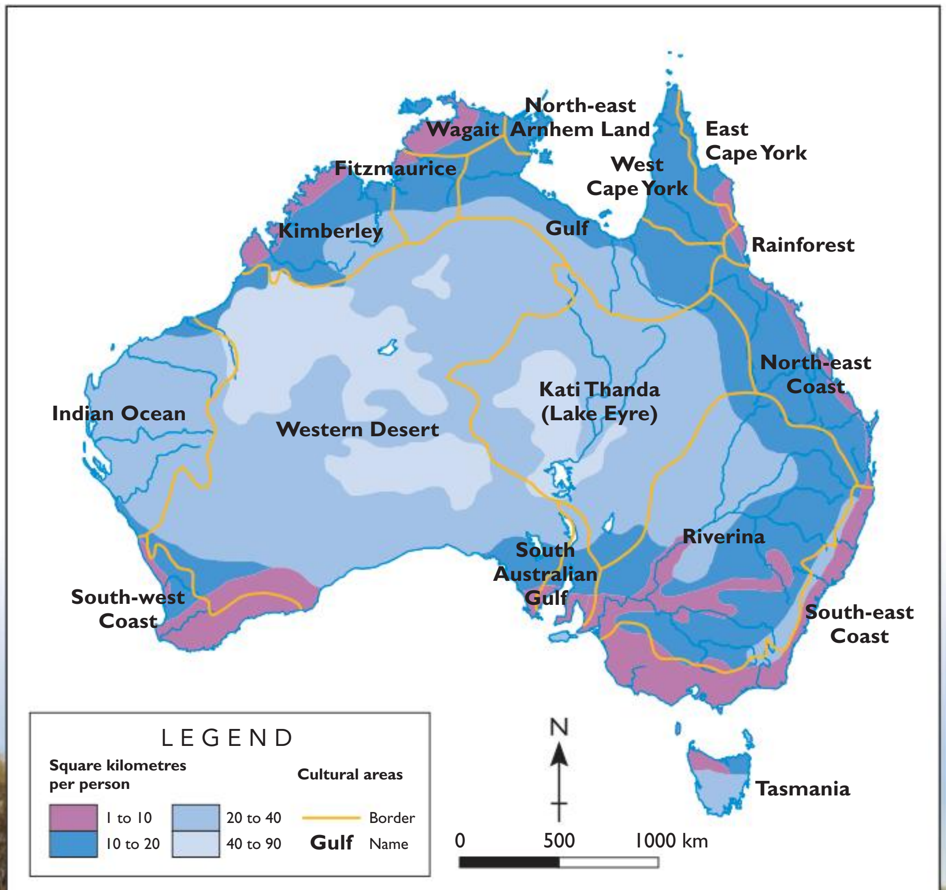
4.2 Where early Aboriginal peoples lived

In this topic, you will:

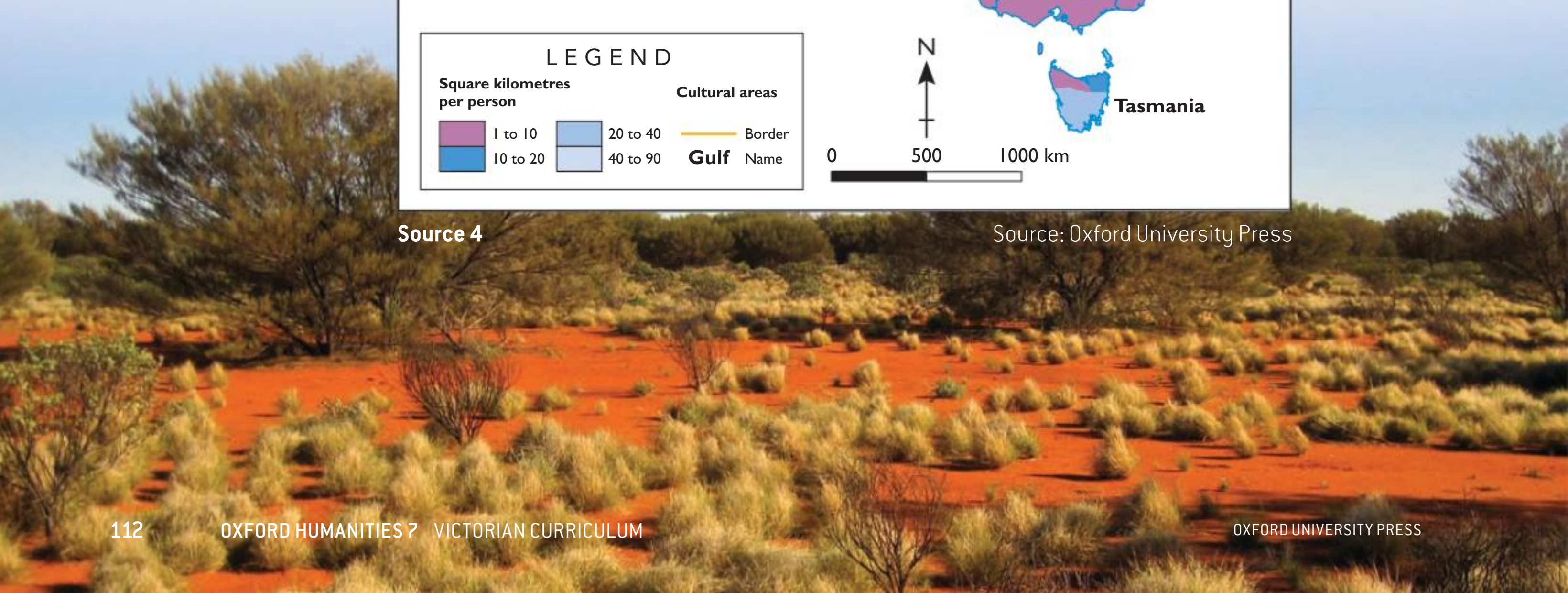
- » discover where early Aboriginal peoples lived and why
- » explore the concept of Country and why living on Country is important for Aboriginal peoples.

It is impossible to know precisely when the first people arrived in Australia, but many historians estimate it was at least 65 000 years ago. At that time, sea levels were lower than they are today. The islands of Indonesia were part of the Asian mainland, and over time people walked and undertook short sea voyages to reach what is now northern Australia. Over thousands of years, these people gradually moved south, eventually reaching the south-western and south-eastern corners of Australia. As sea levels rose, Australia became an island and the cultures and traditions of Aboriginal peoples developed independently from other parts of the world.

AUSTRALIA: LOCATION AND DISTRIBUTION OF ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES IN 1788



Source 4 Source: Oxford University Press



Factors that influenced where Aboriginal peoples lived

Upon reaching the Australian continent, early Aboriginal peoples looked for the most liveable places – those that supplied the resources needed to survive and prosper. Many settled along the northern, eastern and southern coasts as well as along what we now know as the Murray River. In these places, Aboriginal peoples found the resources needed to survive, particularly fresh water and abundant food.

Aboriginal peoples developed a way of life that took advantage of the natural resources available. Trees provided many important resources, including bark to make shelters, canoes and shields, and wood to make fires and spears.

Aboriginal peoples fished the rivers, in some places building elaborate stone traps to catch eels and fish, and hunted larger game such as kangaroo and wallaby. Birds and lizards living in the trees also supplied much of the food. Early Aboriginal peoples used virtually every part of the natural environment to support their way of life – shells, stones, plant fibres, coloured clay and bones all had their uses, but a reliable supply of fresh water, usually a river or stream, was perhaps the most important resource.

Further inland, resources were much scarcer. Aboriginal communities who lived there developed a different way of life suited to these limited resources. Throughout much of Australia, fresh water is hard to find and there are few large animals to supply food. In these **desert** regions, Aboriginal peoples had a more seasonal way of life than the coastal and river peoples. Liveable places changed according to the season, so many groups travelled to follow the natural cycle of monsoon rains, the movement of animals and the fruiting of plants.

Source 5 Aboriginal men in the Queensland rainforest demonstrating traditional hunting equipment

desert
an area that receives less than 250 mm of rain a year

Source 6 In the Tanami Desert in the Northern Territory, Warlpiri people burn spinifex to promote growth.

Aboriginal peoples became excellent hunters and were able to survive in some of the harshest environments on Earth, with very hot climates and not much access to fresh water. They found water in the most unlikely places, even in the roots of desert plants and the bodies of dormant (hibernating) frogs. Much of the food came from animals such as insects, grubs and reptiles, as well as from plants such as the bush tomato.

A spiritual connection to the land

Aboriginal peoples developed a deep connection with the land that supported them. While there were hundreds of different nations with different cultural practices and languages, the importance of the land was a common belief held by all Aboriginal peoples, and is still upheld today. Aboriginal peoples do not see themselves as separate from the natural environment but as part of it. Rather than owning land or living off the land, Aboriginal peoples believe that people live with the land and are responsible for looking after it. Their perception of liveability is based on the principle that the land is much more than just a resource to be used. Aboriginal people refer to their land, and their connection to it, as Country.

Caring for Country was and remains an important part of Aboriginal peoples' connection to the land. A common concept in Aboriginal cultures is that you should only take from the land what you can give back. This is shown in the way Aboriginal peoples looked after and preserved the environment that provided for the community.

Source 7 Many modern Aboriginal peoples connect with ancestors and beliefs through their traditional homelands.

Source 8 This illustration, by John Helder Wedge in 1835, shows women harvesting yam daisy tubers with digging sticks and turning the soil to help remaining tubers grow again the next year.

Part of the reason that Country is such an important concept to Aboriginal peoples is because their Dreaming stories, their way of life and their ancestors are all part of their homelands. When an Aboriginal person is in their Country, their spirits and ancestors keep living through them. Aboriginal people see Country as a living individual. Like other people might long to see a favourite relative or return to a family home, Aboriginal peoples get their sense of belonging from Country.

Quiz me!
A quick quiz on where early Aboriginal peoples lived

4.2 CHECK YOUR LEARNING

Review and understand

1 **Describe** how Aboriginal and Torres Strait Islander peoples first reached Australia.

2 Why did many Aboriginal peoples live along the coast or alongside rivers?

Apply and analyse

3 Look at Source 4.
   a What is the purpose of this map?
   b Using the PQE method, **describe** the location and distribution of Aboriginal and Torres Strait Islander peoples in Australia in 1788.

4 **Compare** the ways of life of Aboriginal peoples who lived in the inland desert and those who lived near rivers in south-eastern Australia. What were some of the similarities and some of the differences?

5 a **Examine** Source 5. What natural resources have been used to create these hunting tools?
   b How might these resources have been used in other ways to enhance the liveability of early Aboriginal peoples?

6 Are the factors that influenced the liveability of places for early Aboriginal peoples similar or different to those that influence your ideas on what makes a place liveable? Give reasons for your answer.

Evaluate and create

7 Brainstorm ways in which early Aboriginal peoples may have used each of these resources: shells, stones, plant fibres, coloured clay, fire and bones.

8 When British colonisers arrived in Australia, they brought with them very different views of land ownership and land use to those of Aboriginal peoples. In groups, **discuss** how these different views contributed to conflict between these two groups.

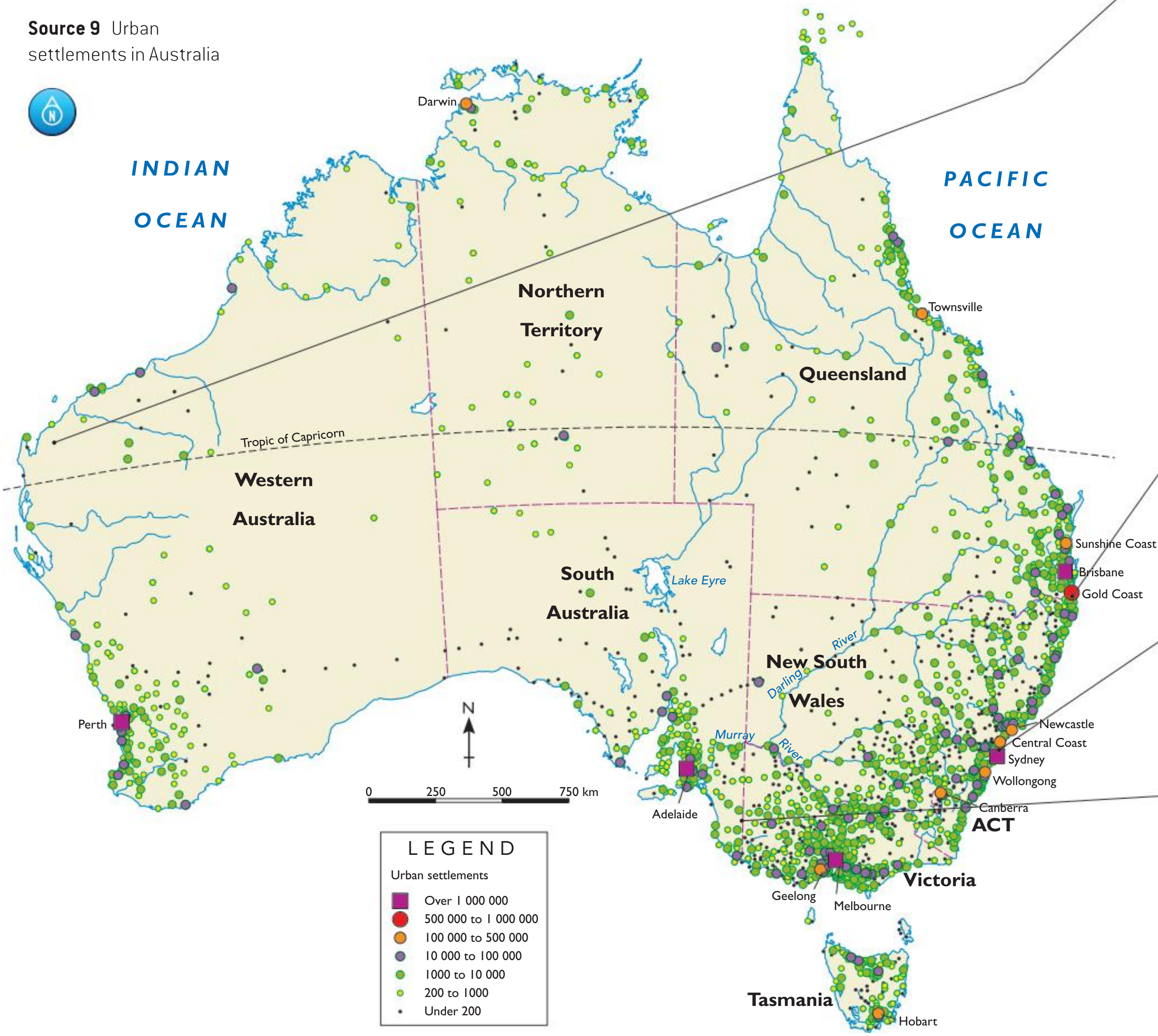
4.3 Where Australians live now

In this topic, you will:

» explore where people live in modern Australia.

In much the same way as the early Aboriginal and Torres Strait Islander peoples did, Australians today make choices about where they live based on how liveable they perceive a place to be. Today, however, many things have changed. In the past, people chose where to live based on whether the place gave them access to the basics necessary for survival, such as water and food. Today, modern technology and infrastructure make food and water available right across Australia, even in the driest and most remote parts of the desert that would have previously been very difficult to live in, if not uninhabitable. As a result, the factors that influence where Australians live have changed and have resulted in a distinct pattern of population distribution (see Source 9).

Source 9 Urban settlements in Australia



REMOTE AREAS

Few Australians live in remote areas, away from towns and cities. Those who do so often have to overcome challenges such as lack of infrastructure and poor access to services like health care, entertainment and shopping. Some remote communities have been built to service mines for minerals such as iron ore, gold and coal.

EAST COAST

Eight out of every 10 Australians live within 50 kilometres of the east and south-east coast, spreading all along the narrow strip that extends from Cairns to Adelaide. Coastal parts of Australia are considered liveable due to the climate and the environment. The average temperature in coastal areas tends to be lower than the drier, warmer interior of the country. Many people also like to holiday at the coast and increasingly, people who have lived in cities are retiring there.

LARGE CITIES

Two-thirds of all Australians live in large cities. This is one of the highest rates in the world. People choose to live in these places because there tends to be better access to services in cities, including health care, education, shopping, banking and professional services such as accountants and lawyers. There are usually more jobs and a wider variety of jobs in cities. Cities also attract a wider range of entertainment such as music venues, nightclubs, concerts, theatres and big sporting arenas.

SMALL TOWNS AND RURAL AREAS

One in 10 Australians live in small towns of less than 10 000 people. Some features of small towns and rural areas make them more liveable than large cities – for example, housing is cheaper, and the air quality is cleaner without pollution from cities. However, some services such as specialist health care and universities can be more difficult to access, as they tend to be located in cities. There are about 135 000 farms in rural Australia.

4.3 CHECK YOUR LEARNING

Review and understand

1 **Identify** the area in which most Australians live.

2 **Identify** the area where the least number of Australians live.

3 Pick one location:
- cities
- coastal areas
- regional areas
- rural areas.

Write a short paragraph **describing** why people choose to live there.

Apply and analyse

4 In which of the four locations in question 3 do you live?
- a **Describe** why you live there.
- b **List** some of the things you enjoy about living in this place.
- c Brainstorm three strategies that could be used to improve the liveability of your area.

5 Look closely at the map in Source 9.
- a **Identify** the type of map and explain its purpose. See page 21 of 'The geography toolkit' to help answer this question.
- b **Identify** how many Australian cities have more than one million people.
- c Using the PQE method, **describe** the distribution of population around Australia.

Evaluate and create

6
- a In which of the four locations would you least like to live and why?
- b Do you think the answer to this question would be the same for everyone? **Justify** (give reasons for) your answer.

Key skill worksheet
Communicating & reflecting: Justifying your response

4.4 Living in large cities

In this topic, you will:

» explore how access to shops, clean water, sanitation, education, health services and transport influence the liveability of large cities.

Most Australians choose to live in large capital cities. The greatest growth in capital cities usually takes place around the outer edges of **metropolitan** areas. New suburbs appear on what was once farmland in areas known as the **rural–urban fringe**. As new housing estates are built in this area, other services are attracted to these new suburbs to service the growing population. Schools, shopping centres, medical centres and sporting facilities are among the services that are bult in these areas to meet the needs of the residents. Industrial services, such as power or recycling stations, are often established in these areas because they offer more affordable land and rent compared to the inner-city suburbs.

metropolitan
a term used to describe a city and its surrounding suburbs

rural–urban fringe
the area on the edge of a city where the city ends and country or farming areas begin

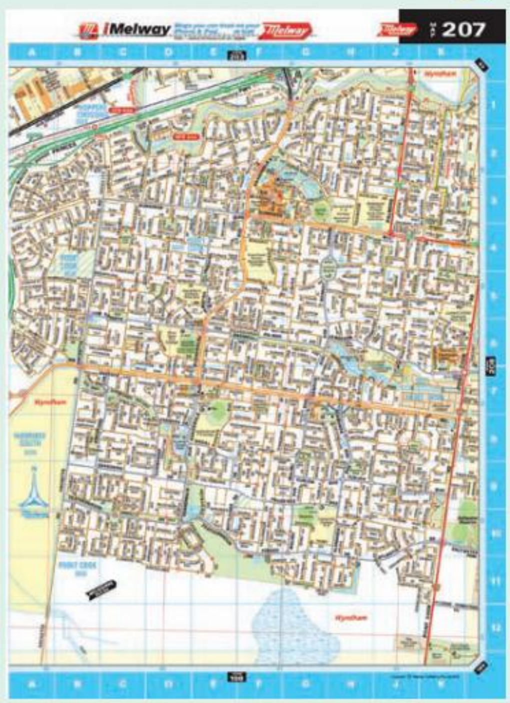
CASE STUDY

Wyndham, Victoria

The City of Wyndham is a local government area located on the fringe of the metropolitan area in western Melbourne, just under 35 kilometres from the Melbourne central business district (CBD). It is one of the fastest-growing areas in Australia.

At the 2001 census, the area had a population of around 84 000 but this has now grown to a population of over 270 000. Source 13 shows the change over time in the Wyndham suburb of Point Cook between 1999 and 2020.

Map
Street directory map of Point Cook 1999 and 2020



Source 10 A street directory map of Point Cook: 1999 (left) and 2020 (right). There are bigger versions of these images available on your obook pro, which you can zoom in and out of to locate features and places on the maps.

What features make Wyndham liveable?

Wyndham is linked to other parts of Melbourne and its CBD by a road and rail network. Wyndham is conveniently located by the Princes Freeway, which means that Melbourne is only a 30-minute drive away (in good traffic conditions).

Wyndham also attracts many new residents, particularly migrants. The largest migrant group in the city are those born in India. Many new migrants, particularly those with young families, are attracted by the more affordable housing in the area with house prices 15% lower than for Melbourne as a whole.

There are many reasons for the liveability of Wyndham. There are 43 schools in the area, as well as multiple libraries and a Victoria University campus, all of which make access to education easy for residents. Residents can enjoy swimming at one of the many public pools in the area, or shopping in large retail centres and strips along major roads. Public clubs and community groups, such as the Truganina Cricket Club in Source 16, offer residents a way to connect with each other and build a sense of community.

What features threaten the liveability of Wyndham?

Like any rapidly growing area, Wyndham struggles at times to meet the demands of all its residents. For example, Werribee Mercy Hospital in the suburb of Werribee has experienced a shortage of beds for patients, because of the numbers of patients from the area.

Many residents of Wyndham work in the Melbourne CBD and inner-city suburbs and drive to and from work. This puts hundreds of thousands of cars on the road at the same time each morning and afternoon during the week. The road system struggles to cope with this heavy demand, as the number of vehicles on the road cause traffic jams and long delays. More than one-quarter of Wyndham's residents spend more than two hours every day travelling to and from work.

continued on next page

Source 11 The Truganina Cricket Club; the suburb of Truganina in Wyndham is among the most culturally diverse in Australia. Ninety per cent of its residents have at least one parent born overseas.

Source 12 The morning commute from Wyndham to Melbourne is often very slow because of the traffic.

continued from previous page

The demand for public transport is increasing, with train station carparks filled by 7am.

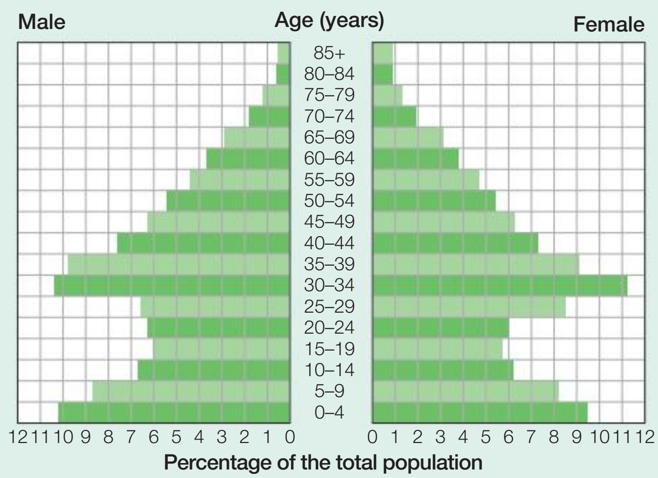
Maintaining Wyndham's liveability into the future

An average of 13 babies are born each day in Wyndham. This continuous population growth puts demands on services in the region now and will continue to do so in the future. Birthing centres and hospitals, pre-school, kindergarten, and primary and secondary schools all need to find spaces in the next few years to accommodate this growing population.

In addition to the high birth rate, Wyndham also attracts many new residents. Homebuyers from inner Melbourne are drawn to the area by the affordable housing, as are migrants. As the population grows, new **amenities** will need to be built to accommodate more people.

Without major improvements to infrastructure, such as building new roads or adding new bus routes, the traffic around Wyndham is likely to get worse. The local population is predicted to nearly double in the next 20 years.

amenities
features that make living in a place more attractive (e.g. public transport, good roads, a park)



Source 13 Population pyramid for Wyndham, 2016

KEY SKILL
Collecting & representing data

Creating a line graph

Graphs are used in geography to display data and make it easier to understand. Raw data often appears as a confusing table of numbers, so turning data into graphs makes it easier to recognise and analyse trends and patterns. A line graph is a commonly used graph in geography. Line graphs are used to show trends over time (for example, the growth of a city's population).

To draw a line graph, follow these steps:

Step 1 Examine the data carefully to decide on the axes and the scale you should use so that all the data fits. It is important that the scale on each axis is an even scale. For example, 1 centimetre equals one year.

Step 2 Construct your axes and your scale using a ruler.

Step 3 Plot the data carefully using a small, neat dot for each entry on your graph.

Step 4 Join the dots with a smooth, freehand line.

Step 5 Label each axis with a description of the data and give your completed graph a title.

Practise the skill

1 Using the data provided in Source 13, **create** a line graph showing the forecast population of Wyndham.

Extend your understanding

1 Use the data from your graph to **describe** the forecast changes in the population of Wyndham.

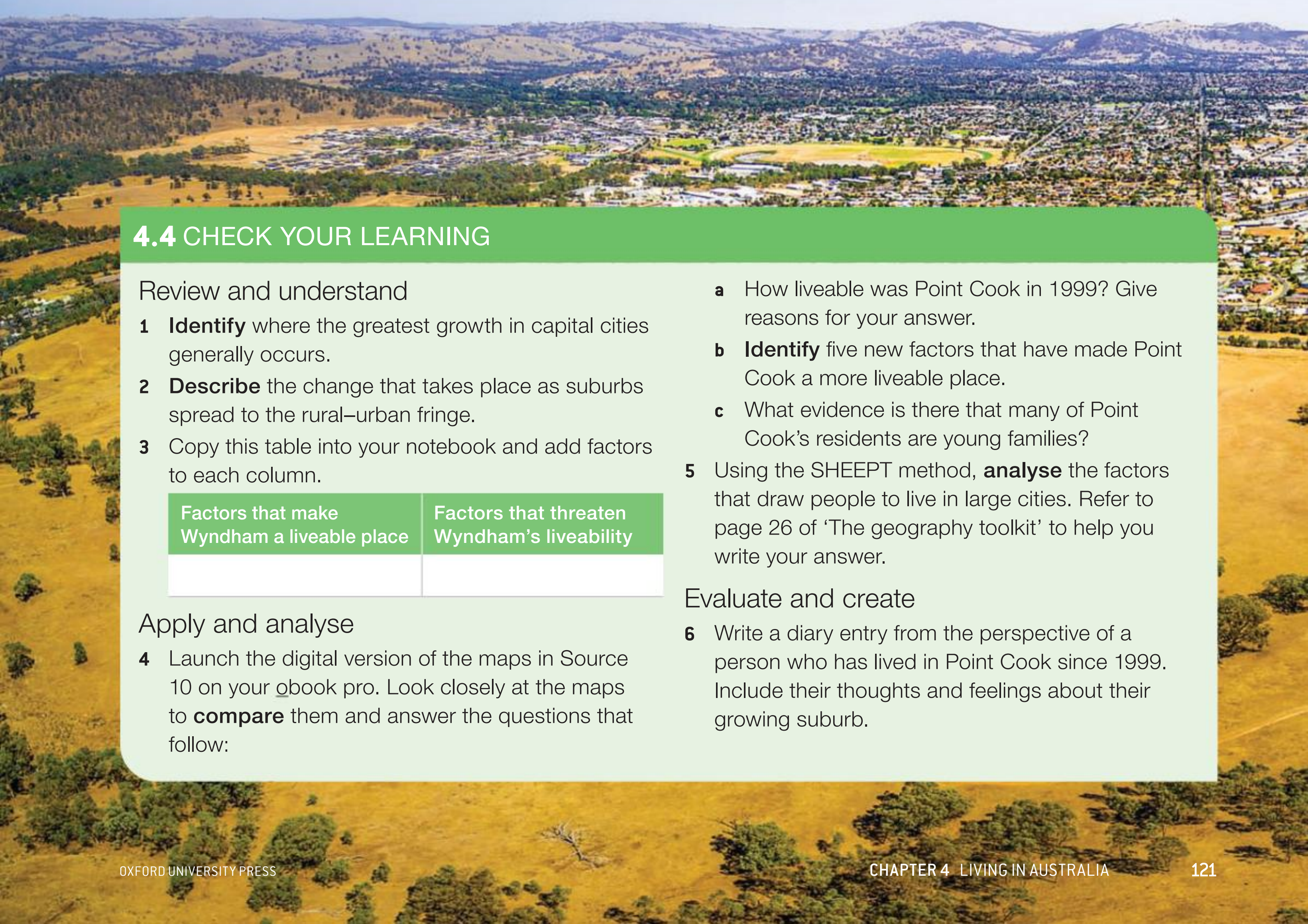
2 **Explain** why the population in Wyndham is expected to grow at the rate shown in your graph.

3 **Suggest** one strategy that could be used by the government to support Wyndham's population in 2040.

For more information on this key skill, see page 27 of 'The geography toolkit'.

Source 14 The predicted growth in Wyndham; data provided by idcommunity.

Forecast population in the City of Wyndham, Victoria					
Year	2020	2025	2030	2035	2040
Population forecast	288 200	352 770	406 900	459 621	505 820



4.4 CHECK YOUR LEARNING

Review and understand

1 **Identify** where the greatest growth in capital cities generally occurs.

2 **Describe** the change that takes place as suburbs spread to the rural–urban fringe.

3 Copy this table into your notebook and add factors to each column.

Factors that make Wyndham a liveable place	Factors that threaten Wyndham's liveability

Apply and analyse

4 Launch the digital version of the maps in Source 10 on your obook pro. Look closely at the maps to **compare** them and answer the questions that follow:

a How liveable was Point Cook in 1999? Give reasons for your answer.

b **Identify** five new factors that have made Point Cook a more liveable place.

c What evidence is there that many of Point Cook's residents are young families?

5 Using the SHEEPT method, **analyse** the factors that draw people to live in large cities. Refer to page 26 of 'The geography toolkit' to help you write your answer.

Evaluate and create

6 Write a diary entry from the perspective of a person who has lived in Point Cook since 1999. Include their thoughts and feelings about their growing suburb.

4.5 Living in rural areas

In this topic, you will:

» explore how access to shops, clean water, sanitation, education, health services and transport influence the liveability of rural areas.

Rural areas are those areas located outside major cities. In Australia, many rural areas are used as farms to raise animals and grow crops for food. Living in rural areas can be very different from living in a city. There are many advantages to living in rural areas, including a strong sense of community in small towns, and a more relaxed way of life compared with the hustle and bustle of big cities. Farms are often family-run businesses, which gives some farmers the opportunity to be their own boss. There is also less air pollution, noise and traffic in rural areas. In recent years, advances in information and communication technology have significantly increased the liveability of rural areas.

However, rural areas do not provide the same convenient access to amenities that large cities do. They are much less populated than large cities, and as a result have fewer amenities, including schools, shops and healthcare services.

CASE STUDY

Western District dairy region, Victoria

The largest industry in rural Victoria is dairy farming. There are more than one million dairy cows in the state, and they produce more than six billion litres of milk a year. There are three main dairy farming regions in Victoria – in the north near Echuca; south-east of Melbourne; and in the Western District around the city of Warrnambool.

Near the small town of Condah, in the Western District of Victoria, lies the dairy farm of Sam and Kristy Cheetham. Like many farms in Australia, this dairy farm is a family-run business. The farm has grown over the years as the family has bought more land. Several workers are employed to help milk the cows twice a day and carry out other farm jobs. These workers and their families also live on the Cheethams' farm.

What features threaten the liveability of this rural area?

The Cheethams' farm is located close to several small towns, but is some distance from larger towns and cities. The small towns of Condah and Branxholme have very few shops and the Cheethams only visit these places for basic items, such as bread.

To use amenities such as the bank and supermarket, the Cheethams must travel to the town of Heywood, which is 24 kilometres away. Heywood has a population of 1700, which is large enough to support a wider range of retail shops and other services than the smaller towns. These include a doctor, vet and several schools.

In order to access major services, such as the international airport or specialised health care, people in this region must travel to Melbourne. Similarly, people in rural areas must travel to the state's capital for large sport and entertainment events, which are not held in regional areas.

Source 15 The herd heads to the milking shed for the afternoon milking on the Cheethams' farm.

Interpreting a proportional circle map

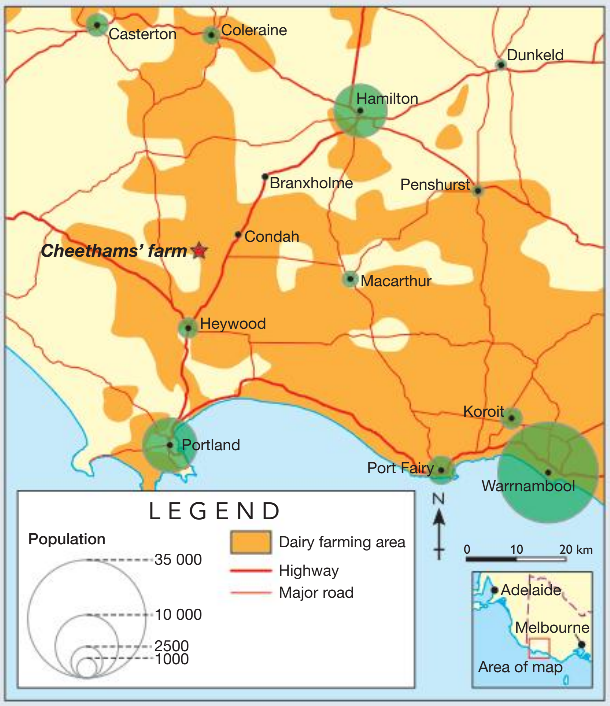
Source 16 is a map of the Western District dairy farming region. On the map, each town is shown in the centre of a circle. The size of each circle is determined by the number of people living in the town. The bigger the population, the bigger the circle. This makes it easy to see where the larger towns and cities are located and allows us to see a pattern in this distribution. These circles are called proportional circles, and when they are represented on a map like this, it is called a proportional circle map.

For more information on this key skill, see page 25 of 'The geography toolkit'.

KEY SKILL
Identifying patterns & relationships

Key skill worksheet
Identifying patterns & relationships: Interpreting a proportional circle map

VICTORIA: WESTERN DISTRICT DAIRY FARMING REGION



Source 16 Source: Oxford University Press

4.5 CHECK YOUR LEARNING

Review and understand

1 **Identify** Victoria's three main dairy farming regions.

2 **Identify** where the Cheetham family would go to buy or access each of the following:
   - a a loaf of bread
   - b a new car
   - c an AFL football match.

Apply and analyse

3 **Describe** how living in a rural area is different to living in a city.

4 Look carefully at Source 16.
   - a **Identify** the three largest towns in this region.
   - b **Determine** (decide) the approximate population of the largest town.
   - c **Explain** why you think there are many small towns and only a few large towns in this area.
   - d **Explain** why proportional circles are useful on a map.

Evaluate and create

5
   - a Rank the top three features of rural areas that make them more liveable than large cities.
   - b Rank the top three features of rural areas that make them less liveable than larger cities.
   - c **Justify** (give reasons for) your rankings and share them with the class.

4.6 Living in coastal areas

In this topic, you will:

» explore how access to shops, clean water, sanitation, education, health services and transport influence the liveability of coastal areas.

Eighty-five per cent of all Australians live within 50 kilometres of the coast. As a result, nine of our 10 largest cities sit on the coast. As well as large cities such as Sydney and Melbourne, there are hundreds of smaller communities dotted along our coastline. Outside the capital cities, these coastal communities tend to be the fastest growing regions in each state – in Queensland, for example, it is the Gold Coast and the Sunshine Coast, and in Victoria, it is the Surf Coast.

Due to a range of factors, coastal towns and cities are growing in size and population across Australia. Many people decide to move to the coast because they want a more relaxed lifestyle near natural features such as beaches, bays and other landforms. Geographers refer to this trend as a 'sea change'.

CASE STUDY

Ocean Grove, Victoria

Ocean Grove is located on Victoria's Surf Coast about 100 kilometres south-west of Melbourne. It has long been a popular holiday destination for Melburnians, particularly during summer.

The permanent population of Ocean Grove is around 14 000 people. This number can double on summer weekends as people travel from Melbourne to take advantage of the beaches and relaxed lifestyle in this coastal town.

The permanent population of residents in Ocean Grove is growing. By 2026, it is expected to be over 20 000.

What features make Ocean Grove a liveable place?

There are many features that contribute to the liveability of Ocean Grove. The environment in the area provides residents with several beaches and walking tracks to enjoy. In addition, there are several beachside cafes and wineries within a short drive of town. These amenities add to the liveability of Ocean Grove by offering residents ways to relax and enjoy themselves.

There are many primary schools and one secondary school, as well as an array of places for shopping, such as Aldi and Woolworths. These amenities serve sea changers and permanent residents by giving them access to important amenities without having to travel.

VICTORIA: BELLARINE PENINSULA

Source 17

Source: Oxford University Press

However, residents may need to travel to nearby Geelong for access to health care services or entertainment. Ocean Grove is located only 25 minutes from Geelong and 90 minutes from Melbourne's CBD. This provides the opportunity for residents to commute to work in these bigger cities by car or public transport. There is infrastructure in place to enable this, including the Princes Highway and the V/Line train, both of which run from Geelong to Melbourne.

Ocean Grove also attracts many retirees. In some cases, retired people move permanently into holiday homes they already own, and in other cases they build new homes to live in. As more Australians reach retirement age, it is expected that the demand for new homes and services such as health care, education and roads will increase dramatically in sea change towns, including Ocean Grove.

What features threaten the liveability of Ocean Grove?

As the population grows in Ocean Grove, the small seaside town will need to adapt to support its growing number of residents. While real estate agents and builders welcome the new residents, not everyone feels the same way. Some residents are concerned that Ocean Grove will become exactly the type of suburban development that seachangers are trying to escape.

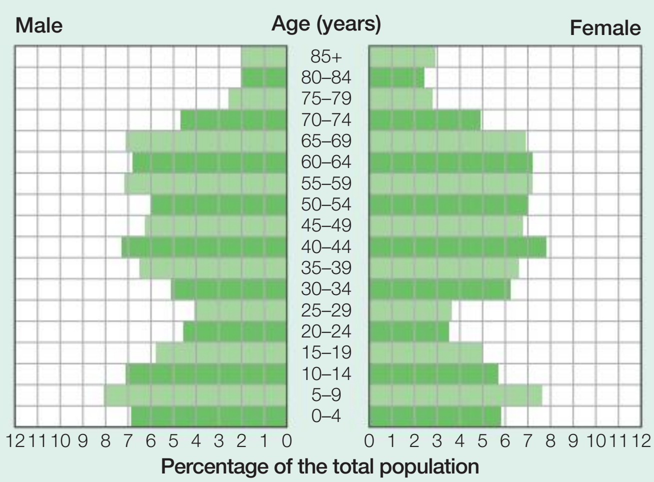
There are a number of retirement villages and housing estates being constructed in Ocean Grove to support its growing population. This construction has significantly altered the natural landscape in some places, including farmland and sand dunes. In some cases, caravan parks – which have been an important feature for summer visitors – have been redeveloped to make space for these new housing estates.

Locally run businesses with deep roots in the community are also under threat, as large hardware stores and food outlets such as McDonald's arrive in town. Additionally, there are several primary schools and kindergartens in Ocean Grove, but only one secondary school. This could create a problem in the future as the population grows and the demand for local access to secondary education increases.

Source 18 New housing areas can be seen on the fringes of Ocean Grove.

Explore it!
A virtual field trip to Ocean Grove

Source 19 Population pyramid for Ocean Grove, Victoria as at 2016; the data represented by this population pyramid tells us about the age and sex of residents in Ocean Grove.



*** Think, pair, share**

- Think about how living in Ocean Grove is different from living in a big city like Melbourne.
- Discuss your ideas with a partner.
- Share your thoughts with the class.

KEY SKILL Collecting & representing data

Reading population pyramids

Population pyramids are bar graphs that show the percentage of males and females of different age groups in a population. They help geographers compare different groups within a population and allow them to identify trends. Follow these step to read a population pyramid.

Step 1 Read the title of the population pyramid to find out which population is being studied. Also read the labels running along the bottom (percentage or total population) and through the middle of the pyramid (age groups).

Step 2 Read the graph to understand how it represents the data. Population pyramids are organised so that the younger age groups are at the bottom and the older age groups are at the top. Percentages (or numbers) of males are always shown on the left side and percentages (or numbers) of females are shown on the right side.

Step 3 To compare the percentage of males and females in the same age groups, read across the rows. The scale on the male side begins at zero and increases from right to left. The scale on the female side begins at zero and increases from left to right.

Step 4 To compare the percentage of only males or females, look up and down the columns.

Practise the skill

1 Using Source 19 on page 125, answer the following questions:
  a Are there more men or women aged over 85 in Ocean Grove? Use evidence to support your answer.
  b **Identify** the age group with the highest population in Ocean Grove.
  c There is a large group of Ocean Grove residents aged between 65 and 69. **Explain** why this is the case.

For more information on this key skill, see page 27 of 'The geography toolkit'.

4.6 CHECK YOUR LEARNING

Review and understand

1 **Describe** how living in a coastal area is different from living in a city.

2 **Identify** the features that have made it possible for residents in Ocean Grove to enjoy both a coastal and city life.

3 In your own words, **define** the term 'sea change'.

Apply and analyse

4 **Examine** Source 17.
  a Identify three towns on the Bellarine Peninsula.
  b Describe where you think people on the Bellarine Peninsula would go to shop at department stores or purchase expensive items such as cars.
  c How do main roads contribute to the liveability of small towns like Ocean Grove?

5 'Some people are concerned that Ocean Grove will become exactly the type of suburban development the sea changers are trying to escape.' **Explain** why some people feel this way.

Evaluate and create

6 Source 19 tells us that one of the largest population groups in Ocean Grove is males aged 5–9 and females aged 5–9.
  a How does access to education contribute to the liveability of Ocean Grove for these people?
  b **Predict** how this might change in the next five years, when this age group reaches high school.

7 **Discuss** the liveability of Ocean Grove with a partner. Is this somewhere you would like to live?

4.7 Living in remote areas

In this topic, you will:

- explore how access to shops, clean water, sanitation, education, health services and transport influence the liveability of remote areas.

Key skill worksheet
Asking questions & conducting research: Researching a location from afar

Much of the interior land in Australia is desert or semi-desert, with large distances between towns and settlements. Geographers refer to these areas as remote because they are far away from amenities such as shopping centres, public transport and cinemas. People who live in remote areas have access to clean air and wide, open spaces. Additionally, remote areas with small populations provide their residents with a strong sense of community.

However, these areas do not have the same reliable access to food or water, and often lack proper road infrastructure. In addition, communications technology, such as telephones and internet, tends to be much slower in remote areas.

In Australia, Aboriginal and Torres Strait Islander peoples represent 45% of all people living in very remote areas. As the traditional owners, Aboriginal peoples have a deep spiritual relationship to the land, which connects them to their identity and ancestors. For many Aboriginal peoples, living on and caring for the land is an extension of themselves. This is known as living on Country.

While lifestyle is a big factor that influences where many Australians want to live – for example, retirees moving to the cost for a more relaxed life – it is important to recognise that living on Country is much more than a lifestyle choice for Aboriginal peoples. Connecting to and caring for the land is an important feature that contributes to liveability of a place for Aboriginal peoples in Australia.

CASE STUDY

Yuendumu

Yuendumu is a remote community located about 300 kilometres north-west of Alice Springs in the Northern Territory. Located on the edge of the Tanami Desert, it is one of the most remote places in Australia and is only accessible by four-wheel drive or plane. Yuendumu is so remote that few locals have ever seen the sea. The population of Yuendumu is between 750 and 1000 people, 85% of whom are Aboriginal people. The community of Yuendumu is mostly made up of Warlpiri peoples, who have inhabited the area for more than 40 000 years and have a deep connection to the land. Yuendumu is also home to residents who work or study in the area.

Source 20 Football is one of the most popular activities in Yuendumu.

What features make Yuendumu a liveable place?

The area, while remote, is vibrant with several community-oriented amenities such as an arts centre, a women's centre and a summer football program. The Yuendumu Magpies football team, which plays in the Central Australian Football League, helps foster a sense of community for both players and spectators.

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The Yuendumu School offers access to pre-school, primary school and secondary school education. In addition, the Yuendumu Kurdu Kurdu Kurlangu Childcare Centre runs a playgroup and creche for the youngest members of the community.

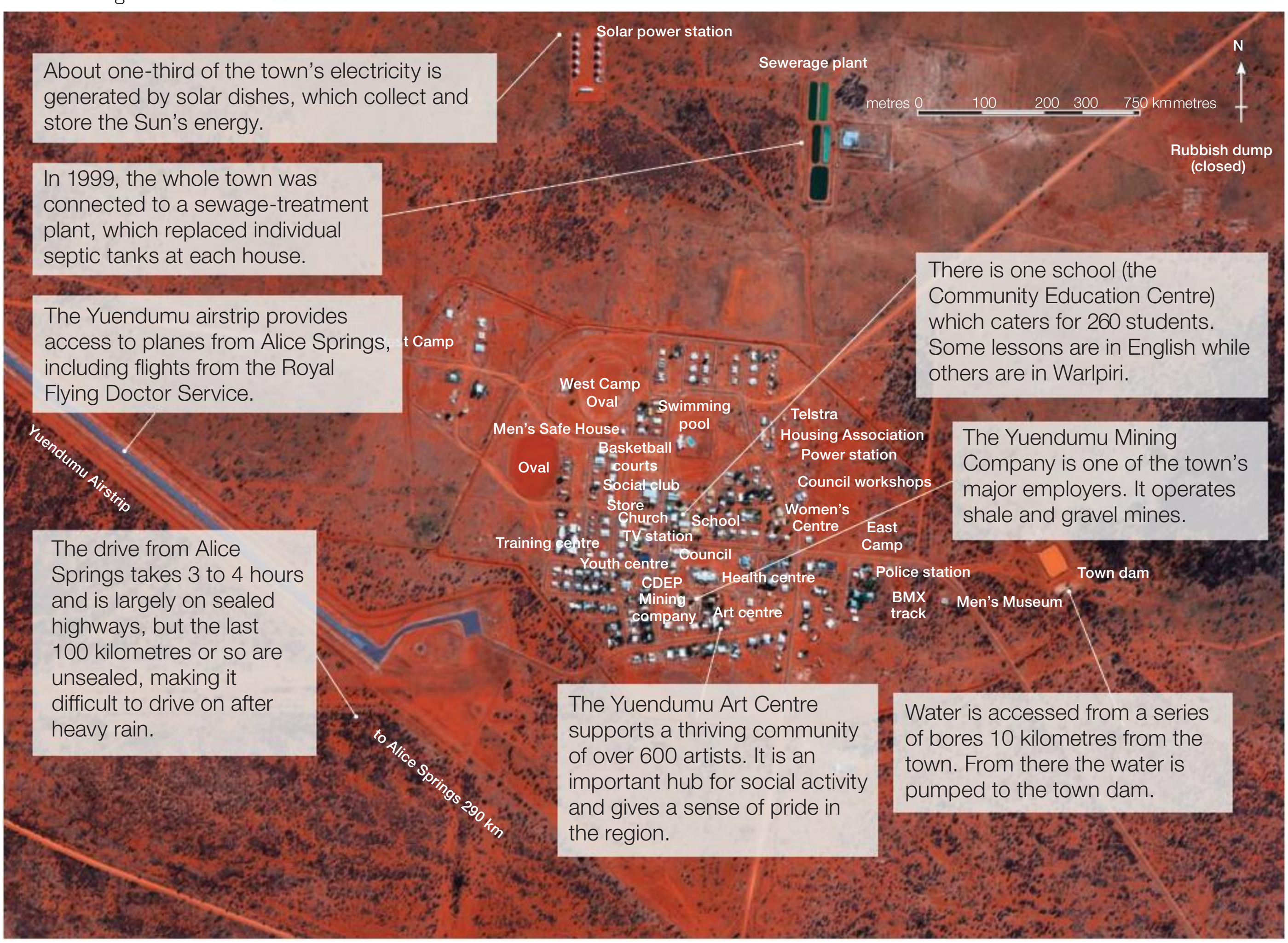
As with any community, Yuendumu's population has health problems. The Yuendumu Health Centre provides medical and public health services to people in the area, assisted by the Royal Flying Doctor Service in emergencies.

What features threaten the liveability of Yuendumu?

Water scarcity is a serious problem threatening Yuendumu. Due to its desert location, Yuendumu is an arid region with a hot climate and receives little rainfall. The community draws its water from an aquifer, and many bores have been drilled in the area to improve the water supply. However, frustrated residents have found that the government does not always communicate well with locals about looking for water. According to Warlpiri Elder Harry Jackamarra Nelson, the government 'didn't even bother come and ask us where we can look for water'.

This is one example of the impact of infrastructure on the land, which is a threat to liveability in Yuendumu. While it is important to continue to develop Yuendumu as a remote town, the government must do so by consulting the Warlpiri people who care for the land and rely on a connection to it to maintain a happy, healthy life.

Source 21 Yuendumu satellite image



4.7 CHECK YOUR LEARNING

Review and understand

1 **Identify** the services that are difficult to supply to remote areas.

2 **Outline** why the local Warlpiri people do not move to a different area with better access to services.

3 **Describe** some of the differences between living in your local area and living in Yuendumu.

Apply and analyse

4 Use the information provided in Source 21 to create a table of the services available in Yuendumu. List each of the services under the following headings: water and sanitation; transport; power; industry; education; and recreation.

5 Write a short paragraph **summarising** the factors that contribute to and threaten liveability in Yuendumu.

Evaluate and create

6 a **Identify** the main factor that contributes to water scarcity in Yuendumu.

b **Propose** (put forward) one strategy that could be implemented to help with water scarcity in Yuendumu.

7 Use Google Maps to answer the following questions:

a **Identify** the absolute location (latitude and longitude) of Yuendumu.

b **Measure** the straight line distance from Yuendumu to Alice Springs.

c 'The remoteness of the Yuendumu community is a threat to its liveability.' **To what extent** do you agree with this statement? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position.

Weblink
Google Maps

4A RICH TASK

Quizlet

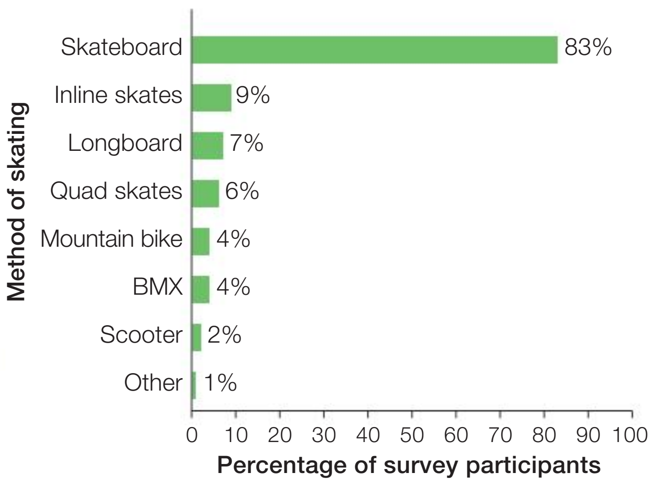
Revise the key terms you have learnt so far.

Melbourne's skating survey

In 2016 the City of Melbourne launched a community engagement program to help plan for skating infrastructure across town. As a part of their research, the Skate Melbourne Framework Engagement project conducted a survey in the City of Melbourne to help understand how the public views skate parks.

Like all communities, the City of Melbourne is made up of individuals, each with their own ideas about what makes a place liveable. For example, skaters and their circle of friends are likely to see a skate park as making a place more liveable. However, other people may see it as making it less liveable. The survey found that those people who opposed skating infrastructure tended to be older and their concerns related to pedestrian safety, damage to buildings and streets, and noise.

The survey contained 20 questions to help the City of Melbourne understand how to plan for skating infrastructure in the future. Of the 505 people surveyed, 389 of them were skaters. One of the aims of the survey was to understand who skates, where they skate, and what method of skating they use. Source 23 below shows some of the key findings from this survey, in relation to the different methods used by skaters.



Source 23 On a graph, results from the Skate Melbourne Framework Engagement survey show the breakdown of methods used by skaters in the City of Melbourne. Graphs are often easier to interpret than tables, because they represent data visually.

Source 22 Places, such as skate parks, are perceived differently by different people.

KEY SKILL
Conducting fieldwork

Key skill worksheet Conducting fieldwork: Survey form template

Key skill worksheet Conducting fieldwork: Survey results table

Conducting a survey and collating the results

In order to explore how people perceive the liveability of their local area, you have to ask them! The purpose of this survey is to explore how different students at your school perceive liveability in the local area. Follow these steps to conduct your survey:

Step 1 Begin with a big question or theory that your survey will aim to answer. For this survey, the theory is 'The more that students use a place, the more they perceive it as having a positive impact on liveability'.

Step 2 Create a list of 10 places in your local area that you believe each person in your survey group will know.

Step 3 Decide on the questions you are going to ask. You should ask closed questions with only a few possible responses, rather than open questions. For this survey, you have been provided two questions to ask in the table below.

Step 4 Construct a survey form to record your responses. An example form is provided in Source 24.

Step 5 Decide how many students you are going to survey and provide a survey form to each of them.

Step 6 Collate your results. Gather the complete survey forms and document the results in a table. An example has been provided on your obook pro.

For more information on this key skill, see page 14 of 'The geography toolkit'.

Ask survey participants to record their answers in the survey form.

List of local places	How often do you visit this place each month?				How would you describe the impact of this place on the liveability of the local area?				
	More than 10 times	5–10 times	1–4 times	Never	Strong positive impact	Positive impact	No impact	Negative impact	Strong negative impact
Library	3	2	1	0	5	4	3	2	1

Write your questions in your survey form so you can easily collect results and interpret them later.

Source 24 An example of a survey form

Practise the skill

1 Following the steps above, conduct a survey in your class or school about the liveability of the local area.

2 **Examine** the results of your survey by completing the following tasks.

a **Rank** the places in your local area from the most visited to the least visited.

b **Rank** the places in your local area from the most positive to most negative.

3 Think about the theory from the beginning of the survey: 'The more that students use a place, the more they perceive it to have a positive impact on liveability'. Did you prove this theory to be correct or incorrect? Write a short paragraph **explaining** your answer, using examples.

Extend your understanding

1 Using the results of your survey, **create** a graph showing the average liveability score of each local place.

2 **Describe** the data displayed in your graph.

4.8 Living in communities

In this topic, you will:

» examine the concept of community identity and connectedness, and how they contribute to the liveability of a place.

A community is a group of people who share something in common. It may be the place in which they live, their religion, their interests or hobbies, their **ethnicity**, their school or their language. Every person on Earth is a member of one or more communities, some by choice and some just by being who they are. To make sense of all the world's communities, geographers consider the features that all members of a community share. One way to classify these features uses the five Ps shown in Source 2.

While some people feel strongly connected to communities, others feel isolated and poorly connected, which can affect their perception of liveability in their area. About 10% of Australians feel socially isolated. Researchers believe that this has an impact on their mental and physical health.

The Manager of Mental Wellbeing at VicHealth, Irene Verins, believes that, 'The most effective way to reduce loneliness is to make people feel connected to their community. Those communities may not be geographic – for example, they may be online for LGBTI youth or rural young people – but what's important is they share common interests and develop meaningful connections.'

Source 1 More than 1 million Australians play basketball. This team sport often helps them build a strong sense of community.

ethnicity
the background, nationality or culture of a person, or group of people

Types of communities

Past
Communities of past are made up of people who share similar histories, such as family, language and ethnic groups. War veterans are a community of past as are the separate ethnic groups that make up the population of Australia, for example Greek Australians or Vietnamese Australians.

Place
Communities of place are made up of people who live in the same area, such as a neighbourhood, region, town or country. Aboriginal peoples are members of a community of place, as are the residents of individual towns, such as Broken Hill and Broome.

Perspective
Communities of perspective are made up of people who share similar beliefs and values, such as members of religious communities or political parties. The Australian Greens and Roman Catholics are both communities of perspective.

Purpose
Communities of purpose are made up of people who share similar goals and visions, such as being members of a particular volunteer organisation, such as Surf Life Saving Australia or volunteer fire brigades. Communities of purpose are often involved in improving the lives of people other than themselves.

Practice
Communities of practice are made up of people who have activities in common, such as the work they do, or the hobbies they enjoy. Health workers such as nurses and doctors belong to a community of practice, as do members of a book club or sporting group.

Source 2 The five Ps that define a community are 'Past, Place, Perspective, Purpose and Practice'.

Drawing a concept map

A concept map is a visual tool used to show the links between different ideas or pieces of information. Each piece of information is usually represented in a circle or box and the relationship between two ideas is shown by a line or arrow connecting them. Words on the line or arrow explain the relationship between the two ideas. Concept maps can be hand-drawn or prepared using computer software.

To draw a concept map, follow these steps:

Step 1 Draw and name the focus, central idea or main problem you are trying to explore. In the example in Source 3, this is 'My communities'.

Step 2 Build the concept map by adding ideas related to the central idea.

Step 3 Add a title to help the reader quickly understand your concept map.

Practise the skill

1 **Create** your own concept map to show the communities you are connected to. Place your name in the centre box. Add the types of communities to the connecting lines. Choose from the five types of communities shown in Source 2, such as place.

Source 3 An example of a concept map

For more information on this key skill, see page 27 of 'The geography toolkit'.

KEY SKILL
Collecting & representing data

Quiz me!
A quick quiz on living in communities

*

I used to think, now I think

Reflect on your learning about different types of communities and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

4.8 CHECK YOUR LEARNING

Review and understand

1 **Define** the term 'community' in your own words.

2 **Identify** the five Ps that geographers use when describing communities.

Apply and analyse

3 a Do you feel strongly connected to your local community?

b **Explain** why the answer to this question might be different for different people.

4 **Classify** each of these groups under one of the five types of communities:

a the Australian Labor Party

b employees at a supermarket

c residents of Ocean Grove in Victoria

d a Scout group

e your family.

5 Members of a basketball team are members of a community of purpose. **Describe** why it is likely that they are also members of a community of place.

6 **Explain** how a person's connection to their community might affect their perception of liveability.

Evaluate and create

7 Using an example, **explain** how the communities a person belongs to are interconnected.

8 Collect images of communities from newspapers and magazines. Display these on your classroom wall using the five Ps of community to place them in groups.

4.9 Aboriginal and Torres Strait Islander communities

In this topic, you will:

» explore how an Aboriginal community (or communities) has a strong community identity.

In Australia today, Aboriginal and Torres Strait Islander peoples make up just under 3% of the total population. Aboriginal and Torres Strait Islander peoples live all over the country, in different places as parts of many different communities.

Aboriginal communities are an example of a community of past. This is because members of the Aboriginal community share an ethnic background, have strong family ties and millennia of shared history and beliefs. The spiritual ties that Aboriginal peoples have with the land also make them members of a community of place.

KEY CONCEPT
Place

No matter how the country changes, Aboriginal peoples' strong connection to Country remains. Queensland-based Aboriginal scholar Bronwyn Fredricks writes about this, explaining that:

> Aboriginal peoples still have Indigenous belonging and Indigenous ownership of place [in cities]. This exists regardless of whether multi-storey buildings, freeways, sports grounds, houses and places of worship have been built within that geographic locality.

There are two recognised groups of First Nations peoples in Australia. The largest group is Aboriginal peoples from mainland Australia and Tasmania. The second group is from the Torres Strait Islands, the islands between Australia and Papua New Guinea. The border between Australia and Papua New Guinea means that Thursday Island (along with many other islands in the Torres Strait) is considered part of Queensland, not part of Papua New Guinea.

For more information on this key concept, see page 6 of 'The geography toolkit'.

Source 4 Children on Thursday Island play on the beach.

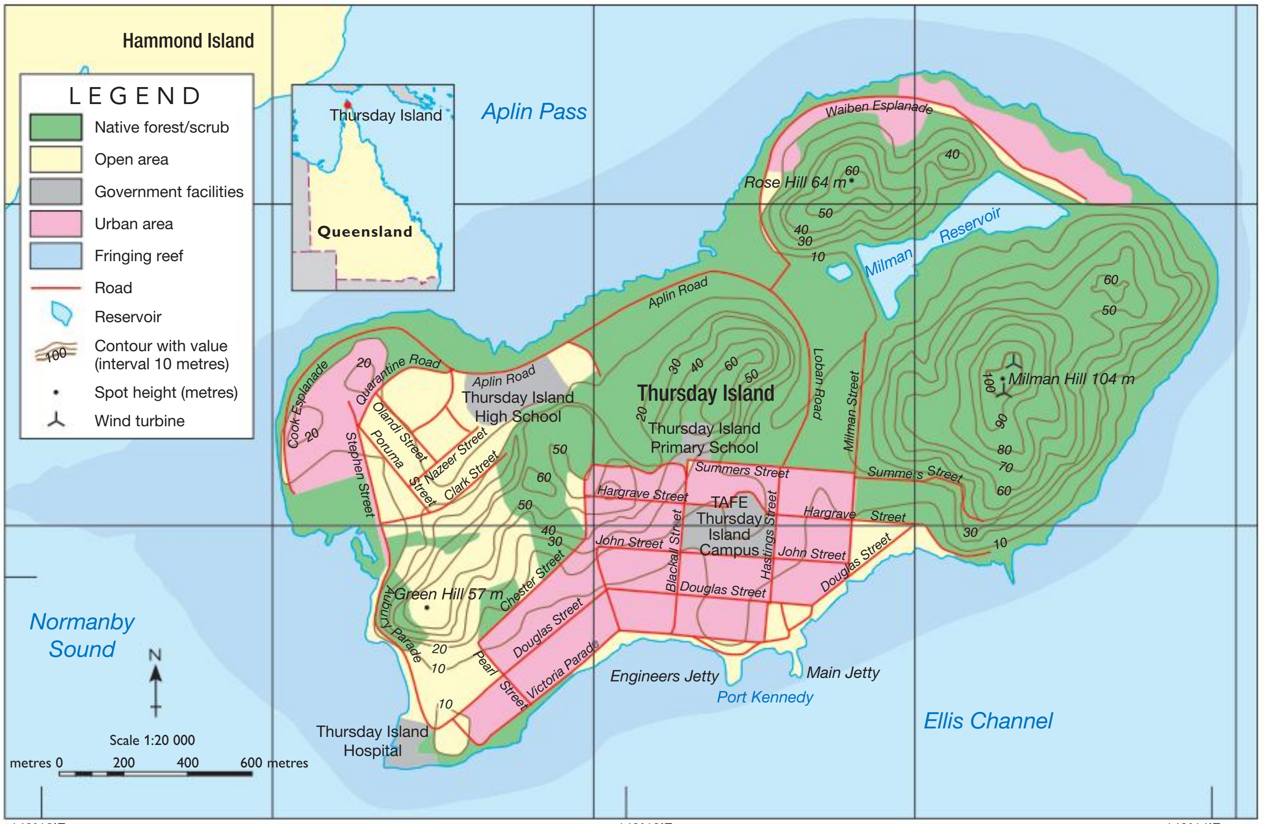
CASE STUDY

Thursday Island communities

Thursday Island lies in a cluster of islands in the Torres Strait just off Cape York, the northernmost tip of Australia. It has the largest population of all the Torres Strait Islands and is where most of the local government functions for the islands are located. As the administrative centre, Thursday Island's 2500 people have access to excellent facilities, including several schools, a TAFE college, hospital, childcare centre, library, sports stadium with a swimming pool, parks and gardens. There is little fresh water on the island, so a pipeline brings water from nearby Horn Island. Daily flights from Cairns to Horn Island and then a short ferry ride to Thursday Island reduce the isolation of life on the island. With year-round warm temperatures and easy access to tropical reefs, the beach is the main focus of most leisure activities for children on Thursday Island. The islanders are keen fisherpeople and the warm waters support a great variety of marine life. Many islanders are also passionate about sports, with NRL player Dane Gagai and basketballer Patrick Mills, both of Torres Strait Islander descent, being particular favourites.

Explore it!
A virtual field trip to Thursday Island

THURSDAY ISLAND: TOPOGRAPHIC MAP



Source 5

Source: Oxford University Press

4.9 CHECK YOUR LEARNING

Review and understand

1 Where is Thursday Island located?

2 **Identify** three community services that are located on Thursday Island.

Apply and analyse

3 **Explain** why Aboriginal and Torres Strait Islander peoples' spiritual connection to place remains strong, no matter what part of Australia they are in.

4 Source 5 is a topographic map. Examine the map and answer the following questions, using page 23 of 'The geography toolkit' to help you.

a **Describe** the purpose of a topographic map.

b **Identify** the spot height of Rose Hill.

c What are the advantages and disadvantages of living on Thursday Island?

d How do you think the geographical features of Thursday Island have influenced where the urban centre was built?

Evaluate and create

5 Would you consider Thursday Island to be a highly liveable place? Write a short paragraph in response to this question and give reasons for your answer.

Source 6 An oblique aerial photograph of Thursday Island with Hammond Island in the background

4.10 Liveability in communities

In this topic, you will:

» explore how communities connect us and make us feel included.

The word 'community' can be used to describe groups such as neighbourhoods, towns, workplaces, schools, sports clubs, church groups, or very large groups such as members of the same religion, or citizens of the same country. A community of place refers to a group of people with a common interest or goal. This common interest may be linked to where they live, work or spend a large part of their time. People connect with places where they feel included and safe. In this topic, we will use the south-east Melbourne suburb of Cranbourne and its surrounding areas to explore how people feel connected through community services, job opportunities, and entertainment and recreation facilities.

COMMUNITY SERVICES

Governments and local councils supply a range of services to different communities, such as schools, hospitals, libraries, transport, parks and rubbish removal.

Different communities require different services. For example, a community with a younger population might require more schools and public facilities such as skate parks or cinemas. In comparison, a community with an older population might require greater access to health care and retirement villages.

Source 7 Casey Grammar School opened in 1995 and is now attended by more than 800 students.

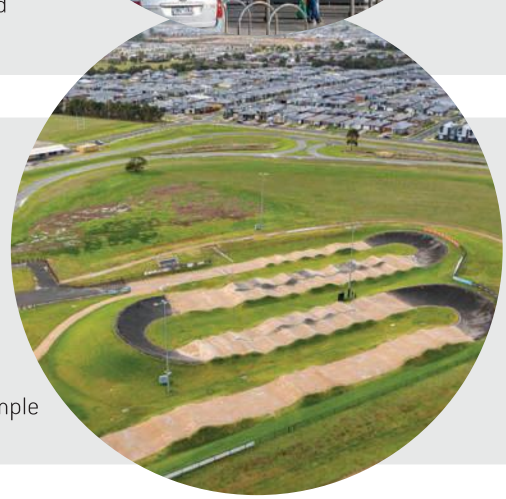
JOB OPPORTUNITIES

Local communities provide people with access to places of work, training and education. As well as jobs, businesses provide services to the community. Some examples of businesses found in many local communities include shops, hairdressers, plumbers, banks and solicitors. Shopping centres are often an important source of jobs within a local community. An industry may be a one-person operation or a large manufacturing business that employs hundreds of people. Industrial areas are usually grouped together in areas with flat land and access to power and transport links.

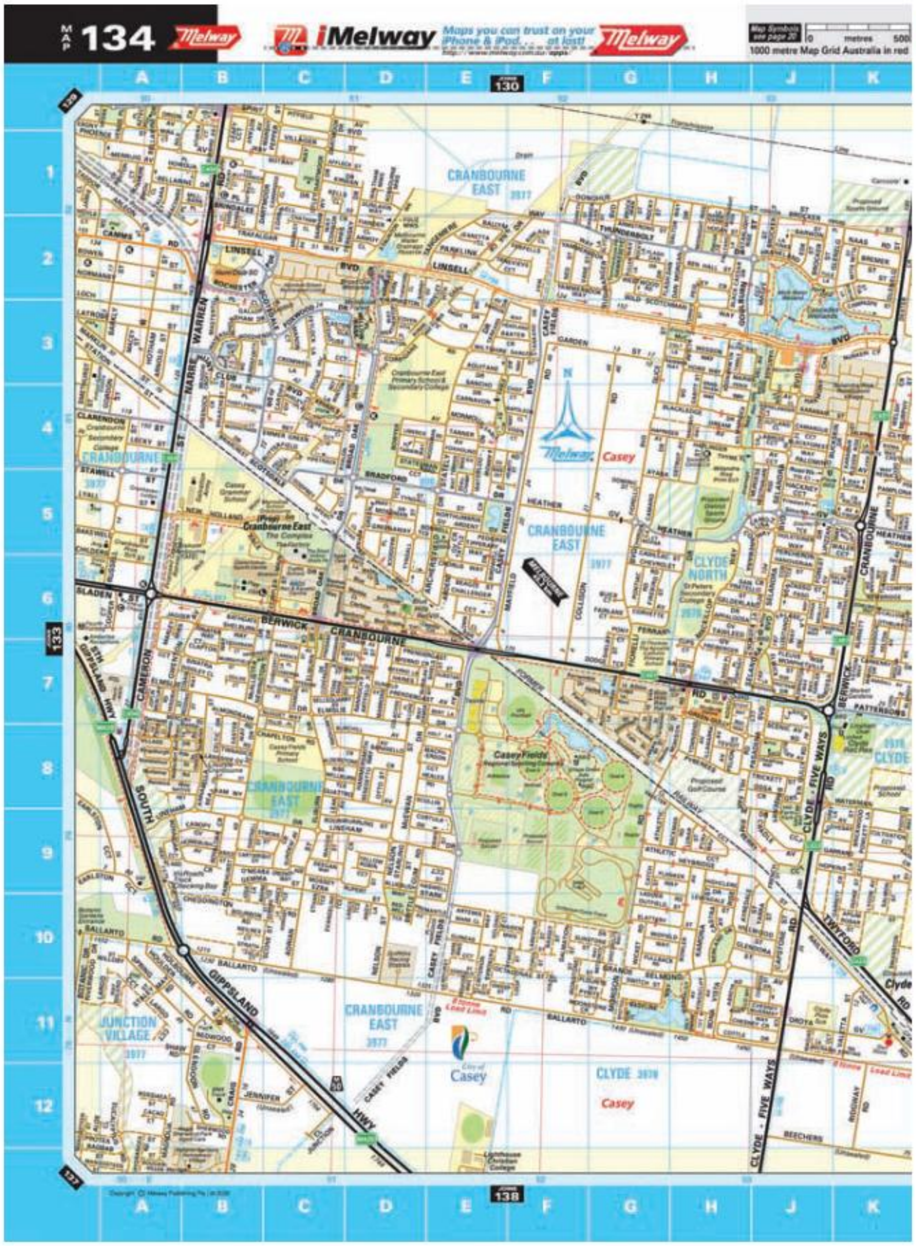
Source 8 Shopping on Clyde shopping centre opened in 2015 in response to a growing population.

ENTERTAINMENT AND RECREATION

Leisure facilities such as basketball courts and skate parks are provided and maintained by local councils. Special areas are also set aside for recreation, such as parklands and sporting fields. These areas allow residents to socialise and exercise outdoors. In addition to these recreation areas, special conservation zones are set up by councils to ensure that native plants and wildlife are protected.



Source 9 Casey BMX track at Casey Fields is an example of a recreational area in the community.



Source 10 Street directory map of Cranbourne East and surrounding areas; there is a bigger version of this image available on your obook pro, which you can zoom in and out of to locate features and places on the maps.

Map
Street directory map of Cranbourne East and surrounding areas

4.10 CHECK YOUR LEARNING

Review and understand

1 What is a community of place?

2 **List** some of the ways in which individuals connect to their local community.

Apply and analyse

3 Launch the digital version of the map in Source 10 on your obook pro. Look closely at the map to locate a grid reference for:

  a a recreation facility

  b a community facility

  c a source of employment

  d an education facility.

4 Cranbourne East is largely populated by families. **Describe** evidence from this topic that suggests the local community is made up of many families.

Evaluate and create

5 Communities are important when determining the liveability of a place. **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph **explaining** your position.

4.11 Building safe communities

In this topic, you will:

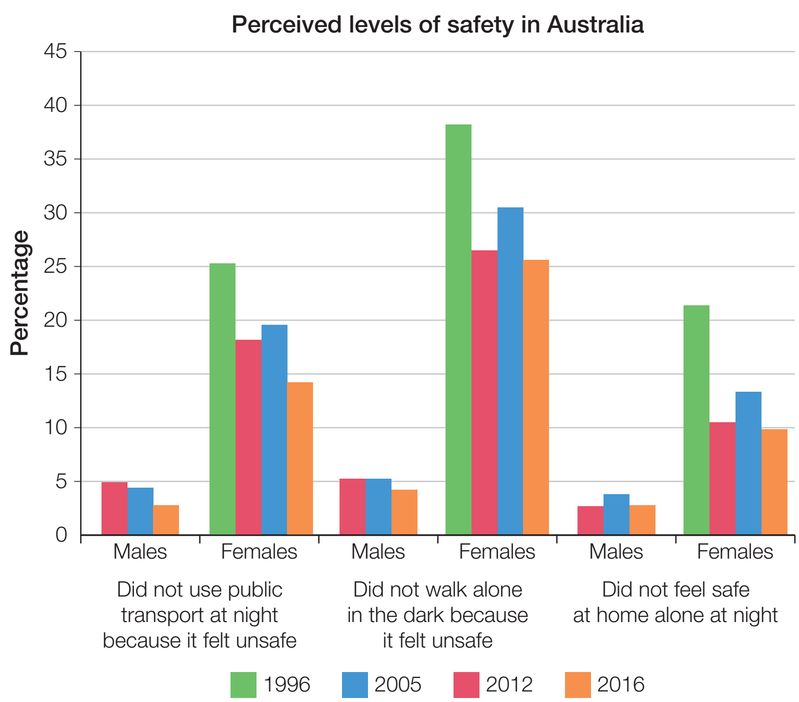
» describe the elements that help keep communities safe.

Key skill worksheet
Asking questions & conducting research: Investigating who makes policy in Australia

The most liveable cities are those where people feel safe – not only for themselves, but also for their families and their property. Fear of crime can affect quality of life, reducing social interaction between people and forcing people to avoid certain places.

Safety in the community is not just about crime rates, but also about how safe people feel in their community. Surveys of local areas help authorities identify the key issues and map problem areas. With this information, they can then work to find solutions to these problems. One of the most reliable sources of information comes from surveys conducted by Australia's Bureau of Statistics (see Source 11).

Governments and local councils are always trying to improve the design of local environments to create safer places and encourage community-based activities. This helps to make places more liveable and encourages people to be active members of their communities.



Source 11 This graph has been created from data collected over several years by the Australian Bureau of Statistics about how safe people feel.

Source 12 Improved street lighting is an important step to helping people feel safer at night.

Safer community design

A key step towards improving local safety has been making public areas more visible. This is achieved through different methods such as designing buildings to face public space, removing bushes to give a clear line of sight, improving lighting and introducing surveillance cameras. These strategies help reduce the numbers of crimes by making places, and therefore any criminal activity, easier to see.

Community-based policing

In recent decades, the police have developed community programs to create stronger ties with the general community. The goal is to involve members of the community in keeping their own streets safe. One of the most successful of these programs has been Neighbourhood Watch. The police work with local communities to educate people on safety and security issues and to encourage them to look out for, and report, any suspicious behaviour. The program also encourages community members to get to know each other, share safety concerns and support each other to stay safe.

Helping at risk groups

Many government and not-for-profit groups work within local communities to provide outreach services for the most vulnerable members of the community. These services include things such as:

- temporary and permanent housing
- food trucks for the homeless and poor
- support services for victims of domestic violence
- rehabilitation programs for those with substance abuse issues
- drop-in centres for disadvantaged youths
- home services, such as Meals on Wheels for the elderly.

These services help to protect and care for those in our communities who need it most.

Source 13 There are two Protective Service Officers (PSOs) at every Melbourne train station after dark. A study found that this has increased the levels of safety that people feel on Melbourne trains.

Source 14 One Voice is a not-for-profit organisation that offers a safe place for people who are homeless to shower, shave and clean their teeth. They operate in all of Australia's capital cities.

4.11 CHECK YOUR LEARNING

Review and understand

1 Why is safety one of the most important liveability factors for communities in Australia?

2 **Identify** an example of how police work with the community to reduce crime and increase feelings of safety.

3 What are some strategies used to help increase visibility in public places to prevent crime?

Apply and analyse

4 Look closely at Source 11.

- a Do you think this data is reliable? **Explain** your answer.
- b **Identify** three trends that you notice from the data in this graph.
- c Give an explanation for one of these trends.

Evaluate and create

5 Are there times and places when you feel unsafe in your local area?

- a **Discuss** this with a partner and then with the class.
- b **Identify** any common times and places that members of your class feel unsafe.
- c What do you think could be done to improve feelings of safety in your community?

6 Design and complete a survey that asks five people about whether or not they feel safe in their local community. Use the steps in the rich task on pages 130–131 to help you.

4B
RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Living in an isolated community

Australia has three scientific research stations in Antarctica. The oldest of these stations is Mawson Station. The isolated community of scientists at Mawson Station faces many challenges in one of the least liveable locations on Earth. Electricity comes from a diesel generator and two wind turbines. Much of the electricity generated is used to provide heating, mainly to melt ice for water and to heat the water and buildings.

Vegetables are grown in a special heated hydroponics room in which they can grow without soil. The station has a small operating theatre and a dentist's suite to treat most medical conditions. There are various ways for people in the Mawson Station community

ANTARCTICA: MAWSON STATION

Source 15 Source: Oxford University Press

to communicate with friends, family and colleagues in other places. Orbiting satellites provide a reliable connection for internet, radio and telephone.

The community lives in the Domestic Building (also known as the 'Red Shed'). When blizzard days stop fieldwork, the Red Shed provides many opportunities for expeditioners to pass the time. It has a home theatre, a library, and a spa and sauna. There is also a small gym, an indoor climbing wall and sports equipment for volleyball, badminton and cross-country skiing.

KEY SKILL
Analysing maps

Analysing a map

Understanding the information provided by maps is a key skill for every geographer. Here are some basic steps to follow each time you begin to analyse a new map:

Step 1 Read the title carefully as this will tell you exactly what the map is showing.

Step 2 Look carefully at the legend and map labels to identify individual features on the map.

Step 3 Use the orientation arrow to work out in which direction the map is facing. Once you have established where north is, you will be able to work out the remaining cardinal points.

Step 4 Look carefully at the map scale. This will help you estimate how far distances shown on the map are on the ground. You can then use this scale to estimate distances between places on the map.

Step 5 If the map you are using shows a small area (i.e. a large-scale map), it may be helpful to look at another map showing a larger area (i.e. a small-scale map). This will help you locate the area shown.

For more information on this key skill, see page 16 of 'The geography toolkit'.

Practise the skill

1 Follow the steps above to analyse the map of Mawson Station in Source 15, and answer the following questions.
   a **Identify** the contour interval of the map.
   b **Describe** the distribution of buildings at Mawson Station. Why do you think they are clustered this way?
   c Two buildings are located away from the other buildings:
   - explosives hut
   - hangar (used to store aircraft).

   For each of these, use the map's scale to determine the distance to the next nearest building. **Explain** why you think each of these buildings have been isolated from the others.

Extend your understanding

1 Use the internet to **research** information about the climate at Mawson Station. Select the best description of the climate at Mawson Station when referring to its liveability: acceptable, tolerable, uncomfortable, undesirable, intolerable. Justify (give reasons for) your response.

2 Mawson Station is a scientific community. **Explain** why you think plumbers, electricians, builders and diesel mechanics are also needed.

3 Rank the following factors in order of what makes Mawson Station most liveable: safety, easy to get around, good health care, good work and education opportunities, affordability, diversity, sustainability, attractiveness. **Justify** (give reasons for) your response.

4 List some challenges faced by people who live at Mawson Station. **Classify** each of these as social, environmental or technological factors and explain how these challenges are overcome.

5 How liveable would Mawson Station be for you? **Discuss** your answer with a classmate.

4 CHAPTER REVIEW

Review questions

4A Where do Australians live and why?

1 **Identify** three key features of large Australian cities that make them liveable places. (3 marks)

2 **Explain** the way in which population is distributed in Australia. Where do people live and why do they live there? (3 marks)

3 In many areas of Australia, the number of people is growing rapidly.

  a **Identify** a specific place in Australia that you have studied in this unit so far.

  b How do you think population growth will affect the liveability of this place? **Explain** your answer.

  c **Suggest** one strategy that governments and local councils could use to help with growing populations. (4 marks)

(Total: 10 marks)

4B How do people connect to places?

1 **Identify** the five Ps that geographers use to describe the types of community to which people belong. (1 mark)

2 Which type of community helps people best connect with each other? **Explain** what benefits people gain from being a part of this community. (3 marks)

3 In your opinion, what is the main threat to liveability?

  a Use specific answers to support your opinion.

  b **Propose** (put forward) one strategy that could be implemented in order to maintain liveability against this threat. (6 marks)

(Total: 10 marks)

Source 17 Walngal outstation, Cape York, Queensland: an example of a very remote community

Review activity

Use Source 18 to answer the following questions.

Australia's Aboriginal and Torres Strait Islander population

Australia is home to the world's oldest continuous cultures. Aboriginal peoples have lived on and cared for this continent for tens of thousands of years.

The source below displays data relating to the population distribution of Aboriginal and Torres Strait Islander peoples in Australia today.

1 **Identify** where the three largest communities of Aboriginal and Torres Strait Islander peoples are located and how big these populations are. (3 marks)

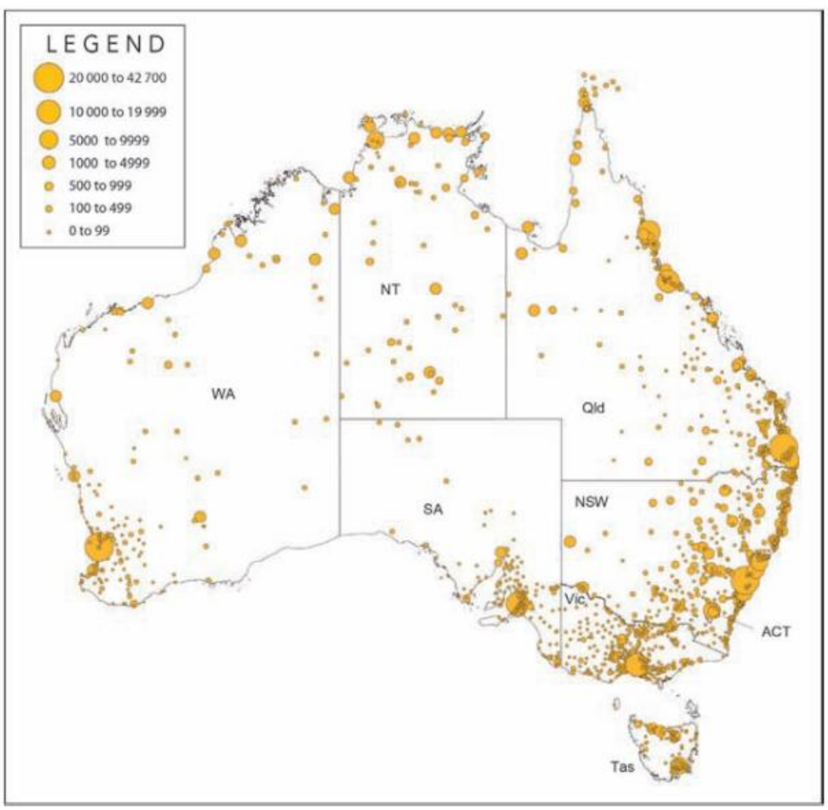
a Many Aboriginal communities are located in remote areas, further inland within Australia. **Summarise** two advantages and two disadvantages of this. (4 marks)

b Using the PQE method, **describe** the distribution of Aboriginal peoples in Western Australia. (3 marks)

3 Many non-Indigenous Australians share the belief that most Aboriginal peoples live in remote areas of Australia rather than in cities. Use evidence from Source 2 to decide **to what extent** (how much) this belief is true. Write a paragraph that explains your answer. (10 marks)

(Total: 20 marks)

DISTRIBUTION OF ABORIGINAL AND TORRES STRAIT ISLANDER POPULATION



Source 18 Source: AIHW analysis of ABS 2011 Census (using TableBuilder)

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 4

Key skill worksheet
Communicating & reflecting: Chapter 4

Quizlet
Play a game of Quizlet on Living in Australia.

Chapter review quiz
Chapter 4

CHAPTER 5

Liveable cities

As we have learnt, there are a range of factors that make places more or less liveable. Liveability is generally measured by factors that provide quality of life, such as access to fresh water, food, housing, transport, health care, education and a safe and stable environment.

Each year, the results of a number of surveys are released, rating cities all over the world in order of liveability.

In 2020, the capital city of Syria, Damascus, was rated as the world's least liveable city. It scored poorly on stability, health care and infrastructure. By contrast, the capital city of Vienna, Austria, was rated the world's most liveable city for the second year in a row. Melbourne was rated as the world's second most liveable city.

Source 1 A boy cycles in the street in the war-torn city of Damascus, the capital of Syria. A violent civil war in Syria has threatened the liveability of the city.

5A
What makes a city liveable?

5B
Where are the world's most and least liveable cities?

5C
How can we make cities more liveable?

5.1 How we measure liveability

In this topic, you will:

- » identify the factors that influence liveability
- » distinguish between the objective and subjective factors that influence liveability.

Cities are interesting places for geographers to study because they are always changing. Cities are also home to more than half the world's population (about 4 billion people). Some of the world's cities provide a supportive environment for their residents while others struggle to provide the most basic services, such as clean water and electricity.

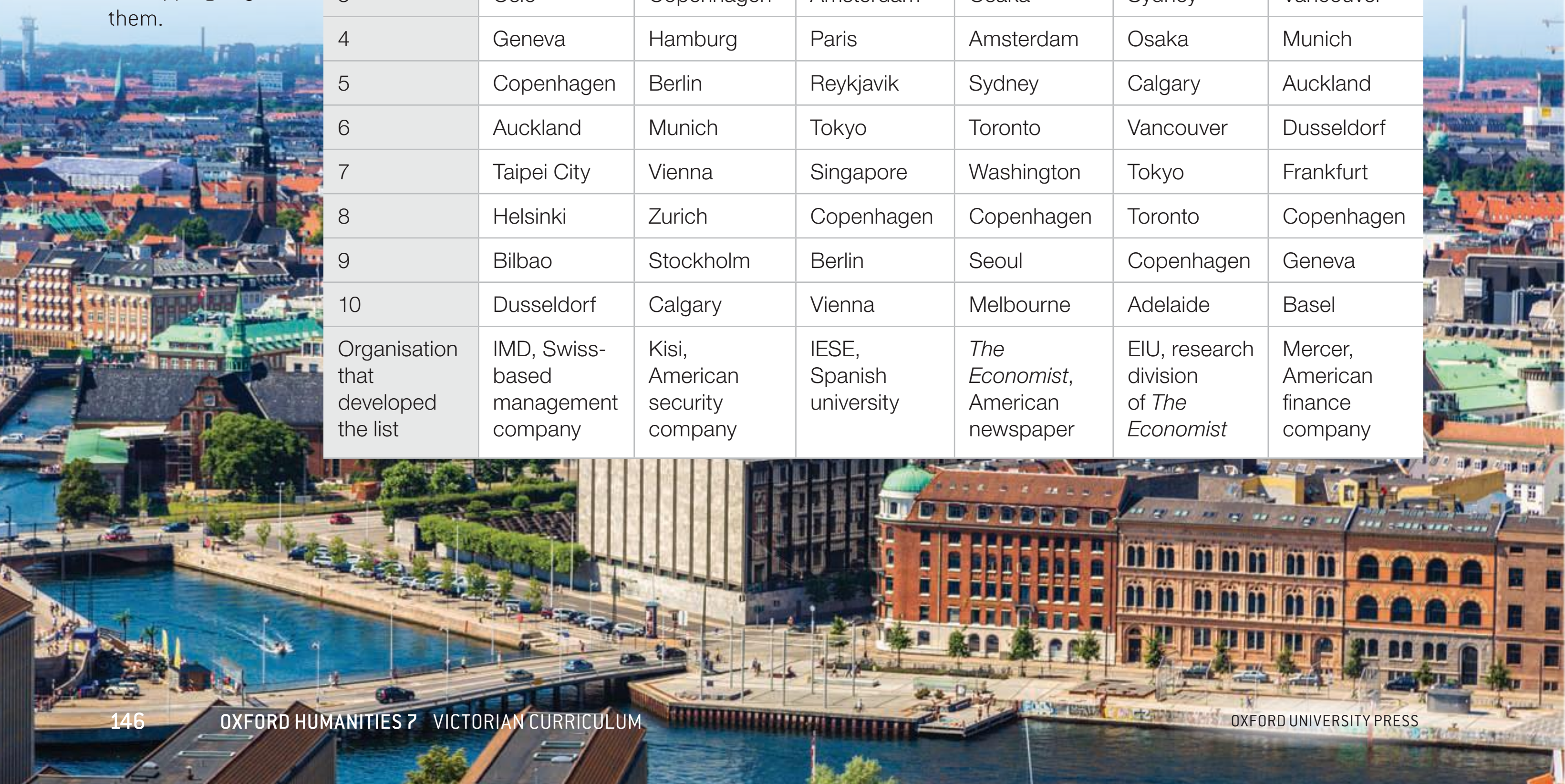
The world's 'best' cities

Each year, different companies review the liveability of cities around the world. For the residents of the cities near the top of the list, seeing their city on top often brings them pride and satisfaction. For residents of cities that appear lower on the list, this can make them feel like there is something wrong with their city. But it is important that we stop and ask the following questions: who comes up with these lists, what are they measuring, and what does liveability mean anyway?

As with any ranking, it all depends on what is being measured. In Source 1, there are six lists of the world's top 10 cities. However, each list is different! This is because each list was put together by a different organisation, so each one measures something different.

Source 1 Lists of the world's top 10 cities, put together by six different organisations; they are all measuring different things, such as sustainability, liveability or safety.

	Smart cities	Best work–life balance	Sustainable cities	Safe cities	Liveable cities	Quality of living
1	Singapore	Oslo	London	Tokyo	Vienna	Vienna
2	Zurich	Helsinki	New York	Singapore	Melbourne	Zurich
3	Oslo	Copenhagen	Amsterdam	Osaka	Sydney	Vancouver
4	Geneva	Hamburg	Paris	Amsterdam	Osaka	Munich
5	Copenhagen	Berlin	Reykjavik	Sydney	Calgary	Auckland
6	Auckland	Munich	Tokyo	Toronto	Vancouver	Dusseldorf
7	Taipei City	Vienna	Singapore	Washington	Tokyo	Frankfurt
8	Helsinki	Zurich	Copenhagen	Copenhagen	Toronto	Copenhagen
9	Bilbao	Stockholm	Berlin	Seoul	Copenhagen	Geneva
10	Dusseldorf	Calgary	Vienna	Melbourne	Adelaide	Basel
Organisation that developed the list	IMD, Swiss-based management company	Kisi, American security company	IESE, Spanish university	*The Economist*, American newspaper	EIU, research division of *The Economist*	Mercer, American finance company



Source 2 Is Copenhagen the 'best' city in the world? It is the only one on all of the lists of the world's top 10 in Source 1, despite not topping any of them.

Measuring liveability

The list from Source 1 that most people know and care about is the one that measures liveability. People's opinions about what makes a place liveable vary greatly. There are many factors that influence a person's views on liveability, including their age, income, cultural background, lifestyle choices, values and beliefs. These factors are measured in two ways: as **objective factors** and **subjective factors**.

Liveability lists such as those created by the Economist Intelligence Unit (EIU) and Mercer rank cities based on objective factors. Other organisations, such as the Organisation for Economic Co-operation and Development (OECD), also produce regular reports. Unlike the EIU, the OECD incorporates more subjective factors, such as life satisfaction, into their surveys.

objective factors
factors contributing to liveability that can be measured in numbers, such as the climate, cost of housing, number of schools or hospitals, level of crime and availability of public transport

subjective factors
factors contributing to liveability that cannot be measured in numbers, such as personal likes and dislikes, connection to family and friends, and feelings of spirituality and belonging

Objective factors

There are many different objective factors that affect liveability. The most important are introduced briefly below, then covered in more detail later in this chapter.

Clean water and sanitation

People's access to a clean, reliable source of water varies greatly around the world. Access to proper sewage disposal also varies greatly depending on where a person lives. The liveability of a place may be affected by poor access to water, because the time taken to access water can limit people's ability to attend work or school. It can also negatively affect levels of health in a community and contribute to a higher death rate.

Environmental quality

The environment is another key factor that determines how liveable a place is. Environmental quality can refer to several characteristics relating to the natural or built environment, such as clean water and clean air. It can also be a measure of other things such as the level of pollution, rubbish or noise in an environment.

Landscape

The natural environment also contributes to how liveable a place is. It includes factors such as the natural resources, soils and slope of the land. Places with natural resources such as minerals, fertile soils and large areas of flat land tend to be more liveable. In mountainous areas, it can be difficult for people to easily access important services such as emergency health care. It may also be difficult to connect mountain communities to road, water and electricity networks.

LIVEABILITY

- Objective factors (measurable factors)
  - Clean water and sanitation
  - Environmental quality
  - Landscape
  - Infrastructure
  - Safety and stability
  - Access to health care and education
- Subjective factors (personal and emotional factors)
  - Personal likes and dislikes
  - Feelings of connection to friends and family
  - Traditions and spiritual connections

Source 3 Liveability can be measured by objective and subjective factors.

Source 4 Dhaka in Bangladesh has some of the most congested traffic in the world. This lowers liveability as it reduces access to important services that people need.

Infrastructure

The availability of services and facilities (such as roads, public transport, emergency services, post offices, water, sewage treatment plants, airports, housing, sporting and entertainment facilities, electricity and communications) helps make a place more or less liveable. Together these services and facilities are referred to as infrastructure.

Safety and stability

Safety and stability are two of the most important factors linked to the liveability of a place. More than most other things, people value feeling safe and stable in their homes. Australian cities are regarded as some of the most liveable places in the world for this reason. Safety and stability are measured by considering crime statistics and other information collected by the government. Many of the world's least liveable cities are found in war-torn countries such as Iraq, Syria and Afghanistan, where crime rates are very high and there are fewer police to enforce the law. Many refugees flee to countries such as Australia in search of safety and stability.

Access to health care and education

In general, people living in the world's most liveable cities have access to good health-care services, including doctors, public and private hospitals, specialist clinics and over-the-counter medication. They also have access to a range of schools and other education facilities, such as training centres and universities. In many of these cities, including those in Australia, a school education is not only compulsory, but also free. Cities in Canada, the United States, Australia and western Europe generally rank highly in both health care and education. Cities in some African countries are the lowest ranked in the world in terms of these services.

Source 5 Australia has one of the best health systems in the world. Unlike many countries, access to this care is universal, meaning that anyone can use it, regardless of wealth. This is one of the reasons why Australian cities tend to score highly in liveability surveys.

Subjective factors

Unlike objective factors, subjective factors cannot be easily measured and compared. They are linked to personal likes and dislikes, and feelings of connection to family, friends and cultural groups. They are also linked to beliefs, traditions and spiritual connections to places. Organisations such as the OECD are now conducting life-satisfaction surveys to take some of these subjective factors into account when rating the liveability of different places. These surveys try to consider how happy or sad people feel and look for the factors in their lives and environments that cause these feelings. This information is then considered alongside more objective factors in order to give a more complete picture of liveability.

Quiz me!
A quick quiz on how we measure liveability

Fishermans Bend

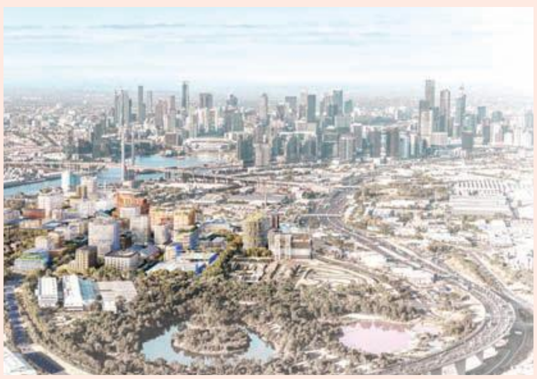
In Melbourne, just a few kilometres from the CBD, lies the industrial area of Fishermans Bend. Since the 1850s, Fishermans Bend has been a key industrial area where goods are moved in and out of Melbourne.

The Victorian government has announced that 480 hectares in Fishermans Bend will be the site of the largest urban renewal project in Australia. Urban renewal is the process of redeveloping areas within a large city so that they can be used for a different purpose. In the case of Fishermans Bend, the government will keep the essential industrial area and focus their new developments on areas that could be used better to support Melbourne's growing population.

By 2050, Fishermans Bend will be home to 80 000 people, with a further 80 000 people working in the area. The urban development plan includes building schools, houses and parks. Both retail and office buildings will be opened to encourage people to visit. The tram line will be extended and new routes built to keep residents well-connected to the rest of Melbourne.

For more information on this key concept, see page 10 of 'The geography toolkit'.

KEY CONCEPT
Change



Source 6 Side-by-side photographs of Fishermans bend in Melbourne. On the left, an artist's impression of the development. On the right, an aerial image from today. There has already been significant change in this area, and the government has plans to make it even more liveable.

5.1 CHECK YOUR LEARNING

Review and understand

1 What are the objective measures of liveability for countries?

2 What are subjective measures of liveability? **Outline** how they are measured.

Apply and analyse

3 What is the key difference in the way that the Economist Intelligence Unit and the Organisation for Economic Co-operation and Development measure liveability?

4 Safety is a key objective factor that we use to measure liveability in all communities.

- **a** Brainstorm a list of the safety issues that people living in large cities in Australia might face.
- **b** Brainstorm a list of the safety issues that people living in Damascus might face (see Source 1 on page 144).
- **c** **Compare** the safety issues that people living in Australian cities and Damascus might experience. Which safety issues are similar? Which are different?

Evaluate and create

5 One of the common criticisms of the lists of world's top cities is that European cities dominate, with no cities from the Middle East, South America or Africa.

- **a** Do the lists in Source 1 support this criticism?
- **b** Do you think this is a fair criticism? Why or why not?

6 If you had to create a survey to measure liveability in your local area, which three objective measures would you use and which three subjective measures? **Justify** (give reasons for) your answer.

5.2 Clean water and sanitation

In this topic, you will:

- explain how access to clean water and sanitation contributes to the liveability of a place.

Access to clean water for cooking, drinking and cleaning is essential for a healthy life. The same can be said for access to proper **sanitation**, such as a flushing, private toilet and a sink to wash hands in.

Almost all Australians have access to these basic services, but this is not always the case in other countries. Around the world, approximately one in five of all **city dwellers** do not have access to a basic toilet. Over 700 million people worldwide are forced to use a crowded and dirty pit toilet or a bucket or the open air as their toilet.

sanitation
measures designed to ensure good health in a community by preventing human contact with health hazards (such as sewage)

city dwellers
residents or inhabitants of a city

Impact on liveability

Poor sanitation affects people's lives in many ways. It is responsible for hundreds of millions of deaths a year, as it helps to spread serious diseases. Untreated water contains germs, bacteria and viruses that cause people to get very sick.

Poor sanitation has the most impact on liveability for women and children around the world. With better sanitation, the deaths of around 300 000 children under 5 could be prevented each year. Sadly, waiting in the dark to access a toilet can also make women and children vulnerable to attack.

Diarrhoea is the one of the deadliest impacts of poor sanitation. It causes childhood hunger and stunted mental and physical growth. Sick children are less likely to attend school and sick adults less likely to go to work. Poor sanitation is a common problem in many **developing countries**. Proper sanitation for their citizens must be provided for them to prosper.

Source 7 India has the world's worst sanitation with more than 150 million people in India's cities lacking access to a basic toilet.

developing countries
less economically developed countries that have some difficulties supporting their own people

CASE STUDY

Orangi Slum, Karachi, Pakistan

Orangi is Asia's largest **slum**, with approximately 2.4 million residents. As is the case in many large cities, it is the slum areas that have the poorest sanitation and fresh water supply. Slums are built by their residents from temporary, makeshift materials without help or support from the local authorities. This means that the residents do not have the resources to supply proper pipes, sewers and toilets, and instead rely on pits and open sewers as toilets.

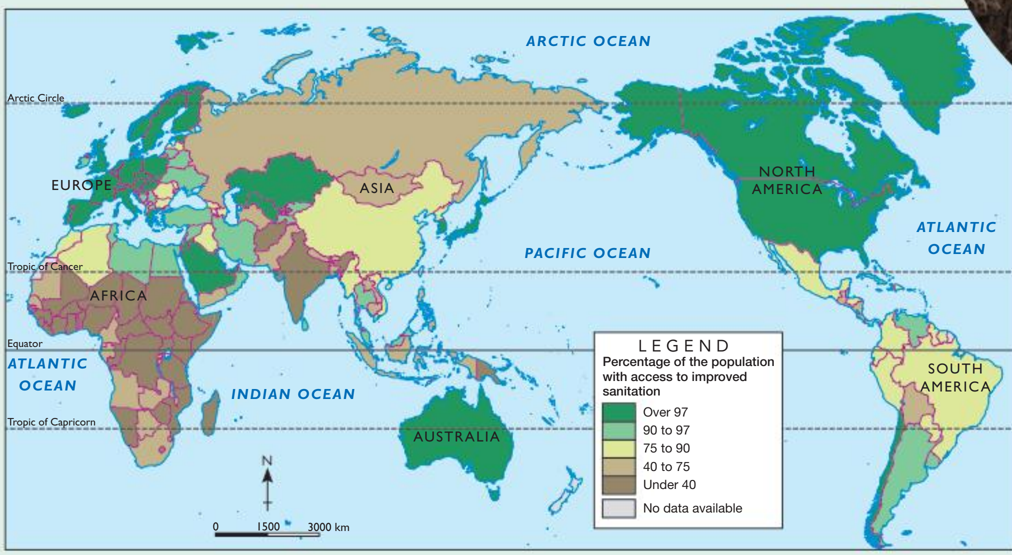
After many requests to the local and national governments, the slum dwellers of Orangi decided to take matters into their own hands. The residents of each street contributed a little money to buy pipes and toilets. Instead of waiting for the authorities

slum
a settlement within a city where the inhabitants have inadequate housing and poor access to basic services

to install them, they did it themselves! Four hundred kilometres of sewer pipes have been installed in trenches dug by hand and covered over. Streets and laneways are no longer open sewers and are safe for people to use. Around 72 000 toilets have been installed and it is estimated that almost all the slum's residents can now access a safe, reliable toilet.

Despite the improvements in this Karachi community, the city is ranked as the fifth-least liveable in the world. It scored particularly poorly for safety and stability.

WORLD: PERCENTAGE OF THE POPULATION WITH PROPER SANITATION



Source 8 Source: Oxford University Press

Source 9 In Orangi, Pakistan, sewer pipes are installed by the residents themselves.

Video
Living in a slum

5.2 CHECK YOUR LEARNING

Review and understand

1 **Identify** two ways in which poor sanitation affects the liveability of a place.

2 Why is sanitation generally poor in slum areas?

Apply and analyse

3 Read the case study of the Orangi slum.
   - a **Identify** how many people live in the slum.
   - b **Identify** how many toilets have been installed.
   - c **Calculate** the number of people who use each toilet.
   - d **Compare** the toilet access in your home to that of a person living in the Orangi slum. Remember that when you compare two things, you should talk about how they are similar and different.
   - e Do you think the installation of toilets in the slum is a sustainable solution? **Explain** your answer.

4 Examine Source 8.
   - a **Identify** and describe the purpose of the type of map shown in this source.
   - b Using the world map at the back of your book to help, locate Pakistan in this source. **Identify** the percentage of its population who can use proper sanitation.
   - c **Explain** how this compares to two neighbouring countries.

5 Using the PQE method and Source 8, **describe** the distribution of access to adequate sanitation around the world. Remember to use correct sentence starters! See page 25 of 'The geography toolkit' for a refresher.

5.3 Environmental quality

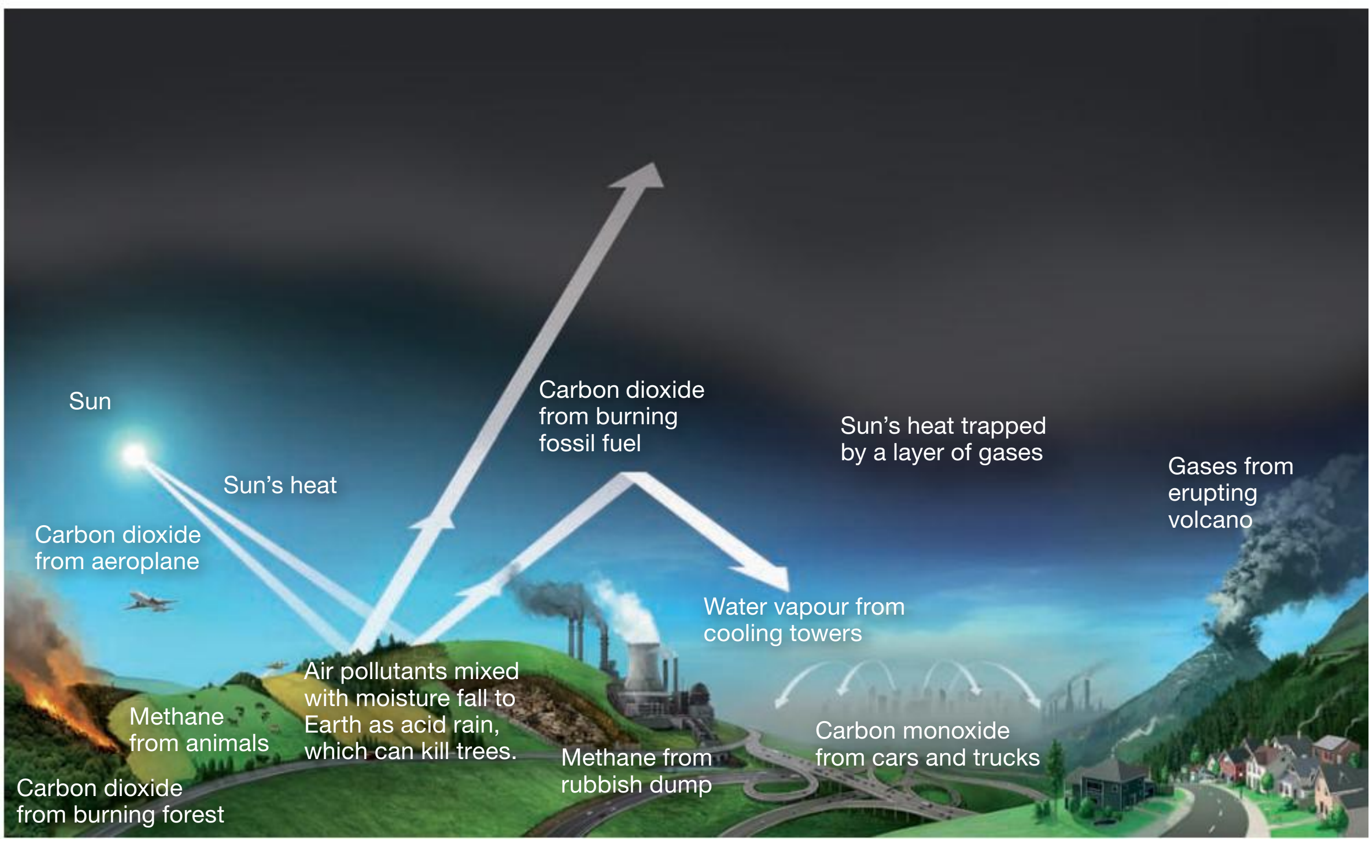
In this topic, you will:

» investigate how the environmental quality of a place contributes to its liveability.

The quality of air, water and parklands in cities are important parts of liveability for both health and aesthetic reasons. Air quality, in particular, can have a big impact on health.

Air pollution tends to be worse in large cities where factories, power stations and motor vehicles spew harmful gases into the air. The polluted air can sometimes be trapped close to the Earth's surface or thrown high into the atmosphere where it may contribute to a layer of gases that contribute to climate change. The United Nations estimates that each year, nine out of every 10 people breathe air that is unsafe. People who live in the cities in developing countries are most at risk.

Increasing numbers of people and cars on our roads means we need to take action to improve the quality of the air we breathe. Air quality in Australian cities is good by world standards, but can vary. In Sydney, Melbourne and Brisbane, the number of days per year where pollution exceeds the National Environment Protection Measures standard is generally fewer than 10. Some years it can be much higher, however, particularly when air quality is negatively affected by other events such as bushfires.



Source 10 Sources of air pollution

CASE STUDY

Delhi, India

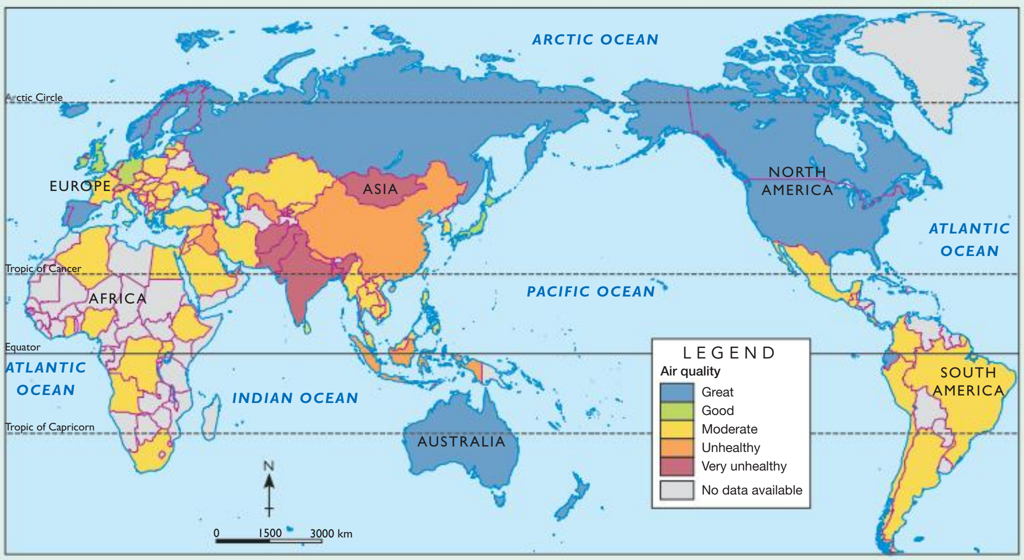
The Indian city of Delhi has the worst air quality of any city in the world. A huge, sprawling city of over 20 million people, Delhi is growing rapidly. Air pollution in Delhi comes from many sources. The main contributors to air pollution are car exhausts, wood-burning fires, coal-fired power stations and factories. The air quality is so poor the Supreme Court of India described it as 'worse than hell'.

This affects the liveability of the city as well as the health of its inhabitants. Millions of children have lung damage, and asthma rates are double those in other parts of India. The government has taken measures to improve air quality, such as banning fireworks and restricting car use, but this has had little impact. Improving the air quality in Delhi is a top priority for the government, but achieving this will not be easy.

It is also important to recognise that air quality cannot be improved overnight. It will be a few years before we are able to see the impacts of the measures that have been taken to improve the air quality.

Source 12 Children are most at risk of health problems due to poor air quality.

WORLD: AIR POLLUTION LEVELS



Source 11 Source: Oxford University Press

Map it! World: Air pollution levels

5.3 CHECK YOUR LEARNING

Review and understand

1 Air pollution is a factor that impacts on liveability.

- **a** Using the information in this topic, **list** as many causes of air pollution that you can.
- **b** Does air pollution mainly come from natural or human sources?

2 Using Source 11 and the world map at the back of this book, **identify** the continent that has the highest levels of air pollution.

Apply and analyse

3 Using the PQE method, **describe** the distribution of the world's least polluted countries.

4 **Explain** why air quality is an important factor that contributes to liveability.

Evaluate and create

5 Do you think reducing the use of cars will improve air quality? **Discuss** with a partner.

5.4 Natural landscape

In this topic, you will:

» explore the geographical features of Wellington, New Zealand, to determine how they affect its liveability.

The natural environment of a place is one of the objective factors that affects its liveability. Many of the world's cities have been developed in places with favourable natural landscapes, including large areas of flat land and rich soil that is good for growing crops.

The locations of many of New Zealand's largest cities have been developed in these types of areas. However, some elements of the natural landscape, such as the natural disasters that occur, can make these cities less liveable.

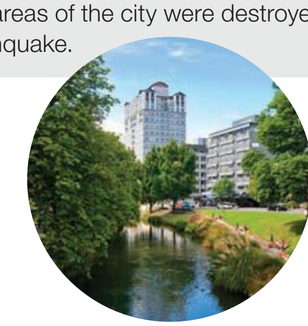
Source 13 The location of six of New Zealand's largest cities

1 Almost one-third of all New Zealanders live in Auckland. The city lies on a large natural harbour and has a milder, warmer climate than much of the country. Auckland is built on a volcanic field of 53 volcanoes. These provide the area with rich soils. The most recent eruption was about 700 years ago. Auckland was ranked as the world's twelfth most liveable city in 2019 and often features in the top 10.

2 Hamilton lies at the centre of a large, productive farming area. Fertile soils laid down by the country's largest river, flat land, reliable rainfall and mild temperatures make the Hamilton region ideal for agriculture.

3 Wellington (see Case study)

4 Christchurch is located on the Canterbury Plains, a large, flat and very fertile region. Many rivers cross the plains from the Southern Alps to the sea. In 2011 large areas of the city were destroyed by a powerful earthquake.



5 Dunedin is the second-largest city in the South Island and the seventh-largest city in New Zealand. In the 1860s gold was discovered in the hills surrounding the city, and the gold rush that followed made Dunedin the country's largest and fastest growing city. As the gold ran out in the 1900s, the population began to decline.

6 Palmerston North is located on a large area of flat, fertile land beside a large river. This river has cut a narrow gorge through the mountains that run the length of the North Island. A train line and highway follow this gorge, linking the east and west. However, heavy rain and unstable slopes caused a large landslide in 2017. This destroyed the road, which is now permanently closed.

CASE STUDY

Wellington, New Zealand

Wellington's natural features are dominated by hills, earthquakes and wind. It sits on several fault lines, which means that earthquakes are common. These fault lines are also responsible for Wellington's hilly terrain.

Wellington was chosen as the country's capital because of its central location at the southern tip of New Zealand's North Island. It also plays an important role in linking the country together. At the busy ferry terminal, passengers, goods, cars and trains depart from Wellington for the South Island.

Wellington usually ranks high in liveability rankings, consistently ranking in the top 20 of the world's most liveable cities. In 2018, a top German bank rated Wellington as the city with the highest quality of life in the world, and second-highest in 2019. The factors that contributed to this ranking included Wellington's low levels of pollution, short commuting distances, and affordability of housing.

Source 14 Wellington's CBD and port sit on the only flat land available in the city.

fault lines
cracks in the Earth's crust; movement along these cracks causes earthquakes

Explore it!
A virtual field trip to Wellington, New Zealand

5.4 CHECK YOUR LEARNING

Review and understand

1 **Identify** the natural landscape features of Wellington that make it liveable.

2 Why was Wellington chosen as New Zealand's capital city?

Apply and analyse

3 Complete the following table using information from Source 13:

Landscape features that make a city more liveable	Landscape features that make a city less liveable

4 There are several natural hazards mentioned in Source 13. **Explain** how natural hazards might change people's perception of liveability.

Evaluate and create

5 **Create** a travel brochure for one city in New Zealand. Your brochure should show off the liveability of this city.

6 a **Research** the Christchurch earthquake of 2011. From your research, find out:
- what caused the earthquake
- the extent of the damage to Christchurch
- how Christchurch has recovered from the damage
- what strategies have been put in place to prepare for future earthquakes.

b Use your research to write a short report (around 150 words) on the Christchurch earthquake.

5.5 Infrastructure

In this topic, you will:

- » examine access to transport, services and facilities in Singapore and Dhaka
- » explain how access to infrastructure contributes to its liveability.

Services and facilities (such as roads, public transport, emergency services, post offices, water, sewerage, airports, housing, electricity and communications) are known as **infrastructure**. Good infrastructure helps make a place more liveable. By contrast, poor infrastructure can make a place less liveable.

infrastructure
the facilities and services necessary for any community, city or country to function (e.g. buildings, electricity, roads, airports and water supply)

The world's best infrastructure: Singapore

Singapore is considered to have some of the best infrastructure in the world. It has been recognised for its excellent roads, and for developing one of the world's busiest and most efficient ports. A first-class airport acts as a central Asian hub for tens of millions of travellers every year. Most Singaporeans live in high-rise apartment blocks in a form of public housing available to most of the population. These buildings are clean, modern and well serviced.

With its reliable electricity supply, Singapore has developed as a centre for advancement in technology and now boasts one of the best communication networks in the world, with fast mobile and wireless internet and communication services available everywhere.

Singapore also has a ready supply of fresh drinking water, a good sewerage system and, thanks to the Restroom Association of Singapore, the cleanest public toilets. Singapore can be particularly proud of its public transport with buses, taxis and two train networks covering the whole country. The use of public transport is encouraged – over 50% of workers in Singapore travel to work on public transport.

Source 15 Singapore's wastewater is treated so that it is more pure than drinking water. It is then used by factories making computers.

Source 16 Singapore's public transport system is considered one of the best in the world. It is clean, safe and efficient.

The world's worst infrastructure: Dhaka

The capital of Bangladesh, Dhaka, is considered to have some of the worst infrastructure in the world. It rates poorly in the quality of its telecommunications, water and housing, but even worse in terms of transport. Both its road network and public transport are considered to be intolerable. This is due to several factors. Dhaka is a city of over 20 million people and is growing at a rate of 4.2% every year. This adds almost one million people a year to the city. Poor rural migrants flood into the city, placing the existing infrastructure under great strain. For many of the rural poor who move to Dhaka, pulling a rickshaw is their first job.

Source 17 Cleaning Dhaka's sewers has been called the 'worst job in the world'.

Only about one-quarter of Dhaka's population is connected to the sewerage system. The rest use open toilets in the street or slums where they live. Only two-thirds are connected to a reliable water supply. Dhaka has the highest population density of any of the world's megacities with about 44 000 people crammed into every square kilometre of land. This leaves little room for roads, rail lines, car parks, bus terminals and other elements of an effective transport system. There are very few forms of public transport and these are largely inefficient and poorly organised. People moving around Dhaka rely on a limited bus service and bicycle rickshaws. There is no train service within Dhaka, only trains between Dhaka and other centres in Bangladesh (see Source 18).

Source 18 Dhaka's public transport system is considered one of the worst in the world. It is old, overcrowded and dangerous.

5.5 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'infrastructure'.

2 **Outline** how efficient and reliable infrastructure contributes to a city's liveability. Give some examples to support your response.

Apply and analyse

3 **Compare** the photographs of the rail systems in Singapore and Dhaka (Sources 16 and 18). What are some of the differences and some of the similarities?

4 **Explain** two of the factors that have led to such poor infrastructure in Dhaka.

5 Why do you think the infrastructure in Singapore is so reliable? **Explain** your answer.

Evaluate and create

6 Make a list of all the forms of infrastructure mentioned in this spread. Rank these forms of infrastructure from the one you consider to be the most important to the one you consider to be the least important. Give reasons for your response.

7 'It is possible to live in a city and not rely on or use any of its infrastructure.' **To what extent** do you agree with this statement? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position. Use examples to support your point of view.

5.6 Safety and stability

In this topic, you will:

- explain how the safety and stability of a place contributes to its liveability.

Safety and stability are two of the most important factors that influence the liveability of a place. Cities where people feel safe and supported by their leaders tend to rank higher on liveability lists.

Safety

While we may be tempted to think of safety just in terms of our own personal safety, there are other important types of safety. Infrastructure safety, for example, considers how likely it is that networks such as roads, water and electricity will break down. Health safety refers to access to health care and clean water and air. Increasingly, cybersecurity is also an important part of safety at the national, local and personal scale.

The safest cities in the world (see Source 21) are those with a strong and reliable infrastructure. This includes dependable emergency networks, such as police, ambulance and fire response services. In safe cities the people are kept informed about potential threats and are willing to work with emergency services to reduce these threats. Australian cities are among the safest in the world, with Sydney ranked as the fifth-safest.

In unsafe cities there tends to be high levels of corruption within the government and emergency services. Murder rates are high, as are the rates for other crimes such as assault and theft. There also tends to be high rates of poverty and a large gap between the very wealthy and the very poor. Cities experiencing war are also among the world's least safe.

Source 19 Tokyo in Japan is the safest city in the world.

Stability

Stability refers to the strength of a country and its ability to look after its citizens. In stable countries such as Australia, human rights are generally respected and protected. Our government and emergency services are also trusted by the people. On the other hand, unstable countries (sometimes referred to as 'fragile states') often experience human rights violations. The governments in these countries also struggle to look after their people properly. Some fragile states are in the grips of civil war, where different groups are trying to seize control from the government. This has a significant effect on the

Source 20 Yemen is the most unstable country in the world. It has been in a state of war since 2012, which has caused widespread famine across the country.

liveability of these places because war has a negative impact on the objective and subjective factors of liveability.

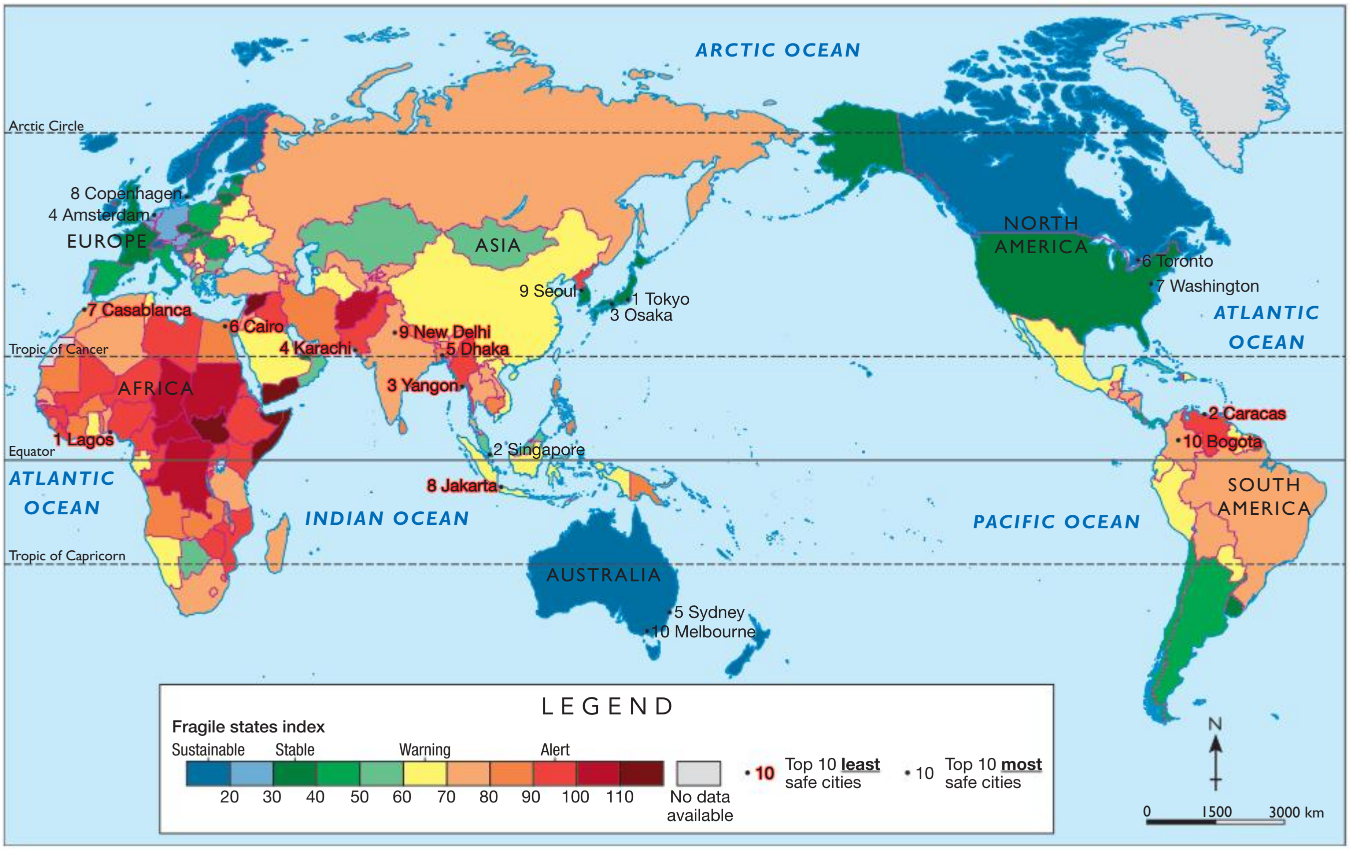
Each year, the US-based research group, Fund for Peace, releases its Fragile States Index that measures the stability of each country. The map in Source 21 shows the results for 2020.

See, think, wonder

Look at Source 20.

- What do you see?
- What do you think?
- What do you wonder?

WORLD: SAFEST AND MOST DANGEROUS CITIES (INCLUDES COUNTRY STABILITY)



Source 21

Source: Oxford University Press

5.6 CHECK YOUR LEARNING

Review and understand

1 **Identify** four different types of safety.

2 **Identify** three threats to liveability in Source 20.

Apply and analyse

3 a **Distinguish between** a stable and an unstable country. Remember, when you distinguish between two things you must talk about how they are different rather than how they are the same.

b **Explain** how stability affects the liveability of a place.

4 Using the PQE method, **describe** the distribution of the world's least safe cities as they appear in Source 21. Do not forget to use the correct sentence starters! Check page 25 for a refresher.

Evaluate and create

5 'People who live in dangerous cities or unstable countries should just leave.' **To what extent** do you agree with this statement? A lot (strongly), a little bit (somewhat) or not at all? Explain your position in a short paragraph.

6 a **Propose** (put forward) one strategy that could be put in place to improve the stability of a country.

b Think carefully about the challenges of putting your strategy in place in a stable country compared to an unstable state. How might some of these challenges be different in each place?

5.7 Access to health care and education

In this topic, you will:

» explain how access to health care and education affect the liveability of a place.

Map it!
World: Best and worst health care

In general, people living in liveable cities have access to good health-care services. This includes doctors, public and private hospitals, specialist clinics and over-the-counter medication.

Liveable cities also offer access to a range of schools and other education facilities like training centres and universities. In many of these cities, including those in Australia, a school education is not only compulsory but is also free.

Cities in Canada, the United Kingdom, Australia and western Europe generally rank highly in both health care and education. By contrast, many cities in Africa are among the lowest ranked for these services.

CASE STUDY

life expectancy
the average number of years a person can expect to live

London, United Kingdom

Education in London

In London, education is free and compulsory up to the age of 18. Students begin school at the age of five and most attend schools in their local area. By the time students reach university age, there are more than 40 universities in London for them to attend. There are also many more higher education colleges that offer an alternative for those who do not want a traditional university education.

This access to education has helped London to have the world's most highly educated workforce. Almost 60% of adult Londoners have a university degree and 99% can read and write.

Health care in London

Throughout the United Kingdom, health care is free. It is also universal, meaning that everyone has access to it. Most treatments, from a doctor's appointment to emergency surgery, are free for all patients. However, there are often long lists of people waiting for hospital treatment, which means that many people also pay for some services through their health insurance. This is similar to the health-care system in Australia. In the United Kingdom, life expectancy is 81 years. This high life expectancy can be linked to the availability of health care.

Source 22 A modern operating theatre in a London hospital

CASE STUDY

Niamey, Niger

Niamey is the capital city of Niger in north Africa. The city's population is 1.3 million, but this is increasing rapidly because Niger's population is one of the fastest growing in the world. Niamey is struggling to meet the demands of this rapid growth.

Education in Niamey

School is compulsory between the ages of seven and 15, however many children do not attend school regularly. Over half of Niger's children are not in school and less than 40% attend secondary school. This has resulted in very low rates of literacy. Only 19% of adult Nigeriens can read or write. There is one university in Niamey and another four throughout the country.

Health care in Niamey

In Niamey, the health care system is poorly funded. As a result, more than half of the people of Niger do not have access to a health care provider. As the government does not fund health care, this also means that people must pay high fees when they need to visit a doctor or hospital. The average life expectancy in Niamey is 59, which is one of the world's lowest.

literacy
the ability to read and write

Source 23 Nigerien classrooms tend to be crowded and poorly resourced.

5.7 CHECK YOUR LEARNING

Review and understand

1. Briefly **outline** how access to health care affects liveability.
2. Briefly **outline** how access to education affects liveability.
3. Many Londoners claim that their city has the best education in the world. **Identify** the factors that contribute to this.

Apply and analyse

4. a Create a table to help you **compare** access to health care in Niamey and London.
   b **Explain** why there is such a difference in access to health care between these two cities.
5. Look closely at Source 23. **Compare** this classroom to your own. How is it the same and how is it different?
6. **Explain** the interconnection between education and job opportunities.

Evaluate and create

7. a Using Google Maps, **identify** the absolute location (latitude and longitude) of London.
   b **Identify** the straight line distance (relative location) from London to Sheffield.
   c Which geographical concept is most relevant when looking at absolute and relative locations, and why?
8. 'Education outcomes tend to be lower for girls in Niger than for boys.' **Research** this statement by using the internet and library to find out what you can about education for girls and boys in Niger. When you have finished researching, write a short paragraph (around 150 words) explaining whether you agree with the statement and why.

5A
RICH TASK

Liveability with disability

Quizlet

Revise the key terms you have learnt so far.

Source 24 Trams in Acland Street, St Kilda

Melbourne has the world's largest tram network. It has 250 kilometres of tram tracks that cater for more than 200 million trips by Melburnians and visitors every year. It is one of the features that make Melbourne among the world's most liveable cities.

Source 25 An example of a level-access stop with a low-floor tram

However, for people who use a wheelchair, the tram network often makes the city less liveable, rather than more liveable. Wheelchair users require a low-floor tram and a level access stop to be able to access the tram without assistance. Most of Melbourne's trams are not low-floor and most of its tram stops do not allow level access. There are some exceptions, mostly in the CBD.

KEY SKILL
Collecting & representing data

Interpreting graphs

Graphs are a useful tool for displaying different types of data visually. Graphs help us understand complex sets of numbers in an easy-to-read way. This, in turn, allows us to see patterns more clearly than a list of numbers.

To interpret a graph, follow the steps below.

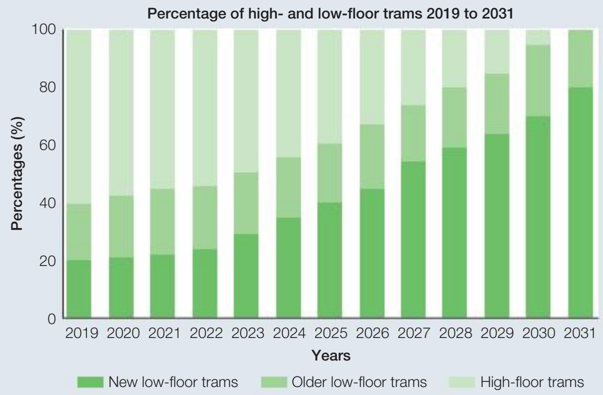
Step 1 Read the title carefully so that you understand exactly what is being shown in the graph.

Step 2 Read each axis carefully. The axis will include a title. In Source 26, years are shown on the horizontal (*x*) axis and percentages on the vertical (*y*) axis.

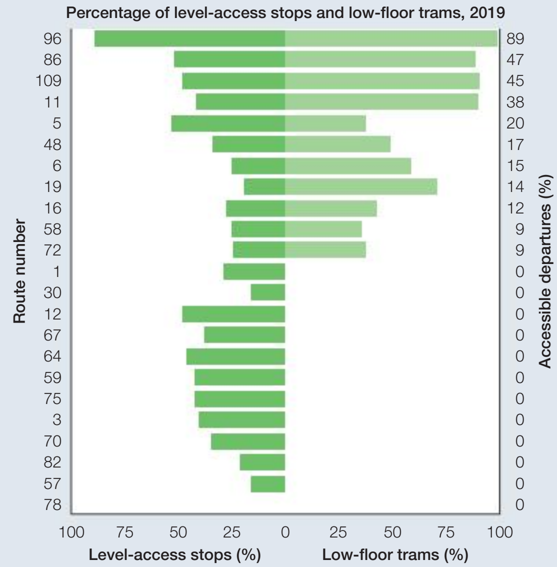
Step 3 Some graphs have a legend. If so, read it carefully. This shows the colours and symbols used on the graph. For example, in Source 26, the percentage of high-floor trams on the network is shaded pale green.

Step 4 All graphs have a source. This tells us where the information displayed in the graph has come from. Make sure you always check the source, as it helps us know how reliable and up to date the information is.

For more information on this key skill, see page 27 of 'The geography toolkit'.



Source 26 Change in composition of the state tram fleet, Melbourne 2019–2031. This is a compound column graph. You can learn more about it on page 30 of 'The geography toolkit'.



Source 27 The percentage of level-access stops and low-floor trams on Melbourne's tram routes in 2019

Practise the skill

Look closely at Source 26 to answer the following questions.

1 a **Identify** the type of graph shown in Source 26.
  b **Describe** the purpose of this type of graph.

2 **Identify** the percentage of Melbourne's tram network that was high-floor in 2019.

3 **Identify** the year in which wheelchair users can expect half of Melbourne's trams to be 'new low-floor.'

4 **Describe** the change that is currently underway on Melbourne's tram network. Use figures from Source 26 to support your response.

Look closely at Source 27 to answer the following questions.

5 **Identify** how many tram routes have both level-access stops and low-floor trams.

6 **Identify** how many tram routes have level-access stops but no low-level trams.

7 **Identify** the number of tram routes that have neither of these.

8 **Identify** the number of tram routes that have more than half of all departures accessible to wheelchair users.

Extend your understanding

1 Does the data in these graphs show us an objective measure or subjective measure of liveability? **Justify** (give reasons for) your answer.

2 **Explain** how poor access to public transport can have an impact on a wheelchair user's perception of liveability.

3 Other Melburnians with disabilities also have challenges with some aspects of the tram network. What are some of the challenges that a person with vision impairment might have accessing public transport?

4 The following table shows data taken from a survey by Public Transport Victoria in 2018. It shows the main purposes of people using public transport in Victoria on a weekday.

Purpose of trip	Weekday (Jan–Mar 2018)
To get to/from work	38%
To get to/from leisure activities	51%
To get to/from place of study	18%
To run errands	44%

Source 28 Main purposes of trips on weekdays

  a **Create** a bar graph from this data set.
  b **Describe** the pattern you see in your chart.

5.8 The world's most liveable cities

In this topic, you will:

» identify the factors that make a city liveable using the example of Calgary, Canada.

Key skill worksheet
Collecting & representing data: Reading a scatterplot

It is difficult to compare one city to another because people tend to favour their own city. This can make it difficult for others who are considering moving to a new location to find out what it is really like to live there. In response to this problem, a number of companies research the world's biggest cities and rank them from the most liveable to the least liveable.

These liveability rankings are useful for geographers as they give us the opportunity to compare places and to consider what makes one place more liveable than another. Importantly, it also allows us to make better decisions about improving the liveability of cities around the world.

Every year, the Economist Intelligence Unit (EIU) conducts a liveability survey of 140 of the world's cities. After analysing the data collected in this survey, it gives each city a score based the following objective factors:

- stability (such as crime and terrorism threats)
- health care
- culture and environment (such as climate, shopping and religious freedom)
- education
- infrastructure (such as roads, public transport and water).

The EIU chose not to release results of its 2020 study due to the impacts of the COVID-19 pandemic.

In 2019, the EIU ranked the top 10 cities as follows:

Source 1 In 2019, Vienna was ranked the most liveable city by the EIU. This photo shows an amusement park near the centre of the city.

Source 2 Top ten liveable cities, 2019

Ranking	City
1	Vienna, Austria
2	Melbourne, Australia
3	Sydney, Australia
4	Osaka, Japan
5	Calgary, Canada
6	Vancouver, Canada
7 (tied)	Tokyo, Japan
7 (tied)	Toronto, Canada
9	Copenhagen, Denmark
10	Adelaide, Australia

CASE STUDY

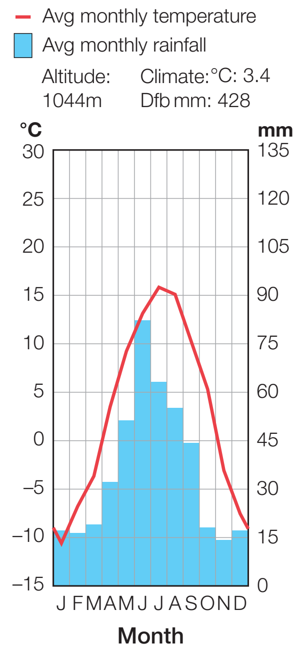
Calgary, Canada

Calgary in Canada is North America's most liveable city. It held a ranking in the top five cities worldwide for the 10 years up to and including 2019. Geographers have noticed that Calgary shares many features with virtually all the top cities. They are all mid-size cities of between one million and five million people and are all in developed countries. Many of them have a mild climate.

Calgary scored perfect scores in four of the categories on which the EIU judges liveability. The only category that the city fell short in was 'culture and environment'. This is largely due to Calgary's climate, which is very cold (Source 4). Even in the summer months, Calgary's average daily temperature does not reach much above 15°C.

Calgary's economy is supported by the major oil and gas fields located nearby. The money generated by these resources has allowed the city to develop top infrastructure including a tram network, a busy international airport, five major hospitals and several universities.

Source 3 Trams pass beneath a covered pedestrian walkway in the Calgary CBD. Calgary has 18 kilometres of covered walkways, making it the world's largest skywalk system.



Source 4 Climate graph, Calgary

5.8 CHECK YOUR LEARNING

Review and understand

1 Brainstorm three features that most of the world's liveable cities share.

2 How does the EIU calculate liveability rankings?

3 **Describe** two reasons why liveability rankings are an important tool for geographers.

Apply and analyse

4 Calgary is North America's most liveable city.

a **Describe** the trend of the temperature in Calgary.

b **Explain** how this influences the liveability of Calgary.

c Imagine you are planning a holiday to visit Calgary. When do you think would be the best time of year to visit and why?

5 How do you think Calgary's skywalk network improves the liveability of the city?

Evaluate and create

6 Think about the five categories used by the EIU to judge how liveable a place is. **Determine** (decide) how the COVID-19 pandemic would have affected the liveability of cities. Draw a mindmap to show your findings.

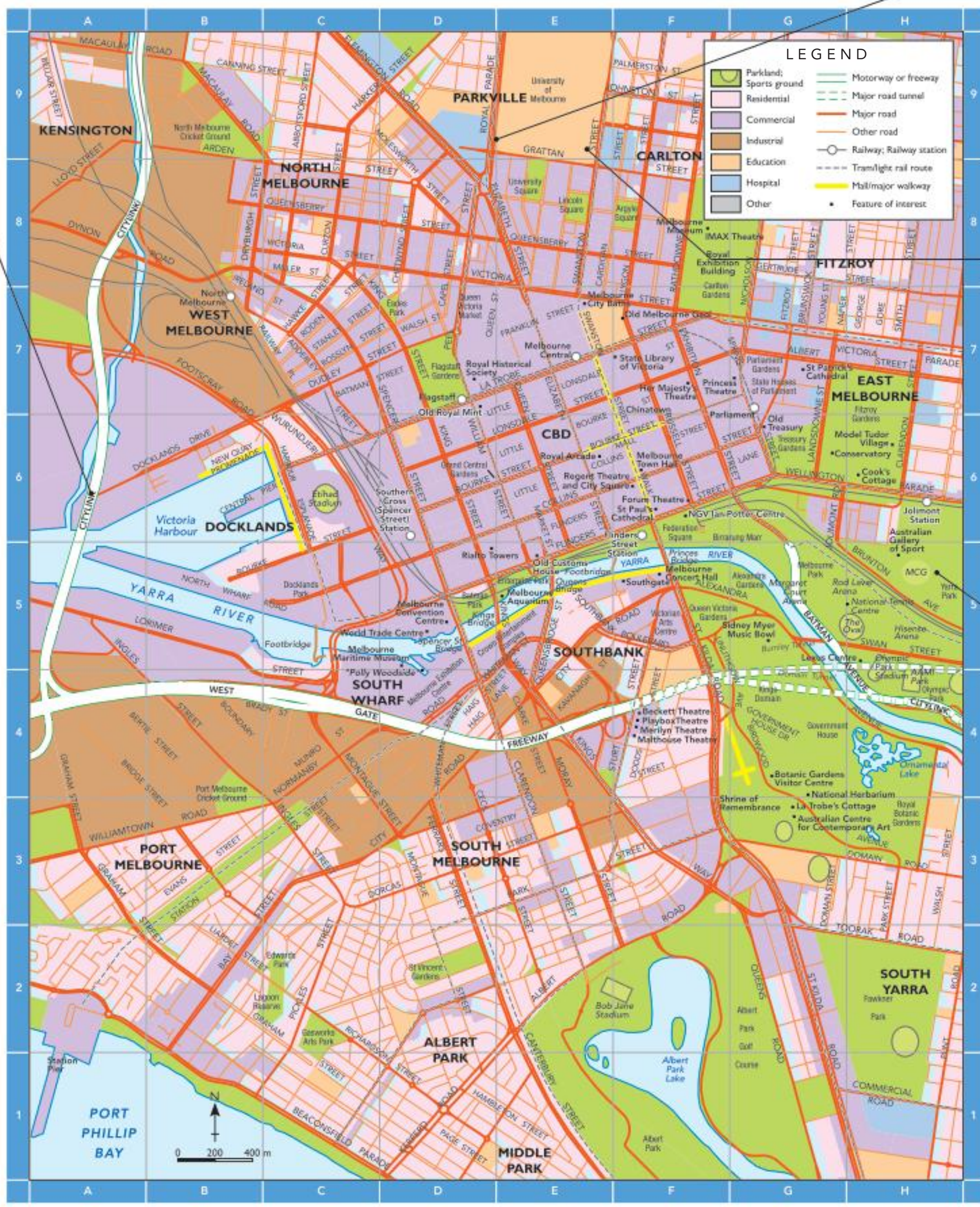
5.9 A liveable city: Melbourne

In this topic, you will:

» explore what makes the city of Melbourne liveable.

Melbourne tends to score highly in most rankings of the world's most liveable cities. Since the EIU began its global ranking of the world's cities in 2002, Melbourne has frequently been ranked in the top three. Source 5 shows Melbourne's scores in the five categories included in the EIU survey for 2019.

Source 5 Melbourne consistently ranks in the top three of the world's most liveable cities.



INFRASTRUCTURE (100/100)

Melbourne has scored highly for its infrastructure since liveability surveys began. It has large and reliable road and public transport networks as well as strong links to cities in other places. Melbourne has Australia's busiest container port and the second busiest airport. The EIU also gave Melbourne's energy, communications and water networks a perfect score. There is also a wide range of housing types available, although Melburnians are finding cheaper homes harder to buy.

STABILITY (95/100)

The three Australian cities in the 10 most liveable cities all scored 95/100 for stability. While the threats of violent crime and war are very low, the EIU noted the ongoing threat of a terror attack and the number of smaller crimes in the city.

HEALTH CARE (100/100)

There are more than 200 private and public hospitals in Melbourne. These range from specialist hospitals, such as the Royal Children's Hospital, to large general facilities. Melbourne's scientists are world renowned for important medical developments, including the bionic ear and stem cell research.

EDUCATION (100/100)

Melbourne prides itself on the quality of its education system. Throughout Australia, education is free, universal and compulsory for all children aged between 5 and 15. Melbourne has seven universities, two of which, Monash University and the University of Melbourne, are ranked in the top 100 universities in the world. Over 200 000 students from other countries study in Melbourne, making education one of the city's most important businesses.

CULTURE AND ENVIRONMENT (98.6/100)

This is the highest score for this category in the world's top five cities and reflects Melbourne's mild climate. Melbourne also has very low levels of corruption and access to a wide range of sporting and cultural facilities including the Melbourne Cricket Ground, Melbourne Park, and the Southbank Arts Precinct.

5.9 CHECK YOUR LEARNING

Review and understand

1 **Identify** the categories in which Melbourne scored 100/100 for liveability in 2019.

2 Why did stability receive the lowest score in Melbourne's liveability ranking?

Apply and analyse

3 Are the ways liveability has been measured by the EIU objective or subjective factors? Give reasons for your answer.

4 **Examine** the map in Source 5.
   a Identify five examples of infrastructure. Use grid references in your answer. For example, West Gate Freeway E4.
   b Using the same system, identify five examples of cultural facilities.

5 Many of Melbourne's sporting facilities are clustered together. What are some of the strengths and weaknesses of this?

Evaluate and create

6 Melbourne's population has grown rapidly in the last 20 years and is now over 5 million people. **Explain** how this rapid growth may have had an impact on Melbourne's liveability.

7 Using the map and legend in Source 5 as a base, **create** a brochure for Melbourne for tourists. In it, include:
   - five must-see features around the city
   - how to get around between each of these sites using Melbourne's tram network
   - a short description of why tourists should see these sites.

5.10 The world's least liveable cities

In this topic, you will:

- » identify the factors that contribute to a city being considered less 'liveable'
- » examine the factors that make Caracas the least liveable city in the Americas.

While cities in Europe, Canada and Australia dominate the top ranks of the world's most liveable cities, Asian, Middle Eastern and African cities tend to be ranked among the lowest. However, it is important for us to remember that most liveability surveys are paid for and conducted by companies in wealthy, developed countries. These lists tend to measure aspects of each city that these companies think will be of most interest and relevance to their workers rather than the experiences of the people who live there all the time.

In 2019 the EIU published its annual list of 140 cities ranked from most liveable to least liveable. Source 6 shows the 10 least liveable cities. These cities rate poorly in terms of health care, infrastructure and access to education. They also rate poorly in terms of safety and stability, a category that measures crime, terror and conflict. Although many of these cities have been ranked low for many years, there was a new entry in 2013: the Syrian capital city of Damascus. Due to a violent **civil war** that has been raging in Syria since 2011, Damascus has been listed as the least liveable city for the last seven years.

civil war
a war between citizens of the same country

Source 6 The 2019 ranking of world's least liveable cities from the EIU

Country	City	Rank	Overall Rating (100=ideal)	Stability	Healthcare	Culture & Environment	Education	Infrastructure
Venezuela	Caracas	131	46.9	35	33.3	56.3	66.7	53.6
Algeria	Algiers	132	44.1	50	45.8	45.4	50	30.4
Cameroon	Douala	133	44	60	25	48.4	33.3	42.9
Zimbabwe	Harare	134	42.6	40	20.8	58.6	66.7	35.7
PNG	Port Moresby	135	41	30	37.5	47	50	46.4
Pakistan	Karachi	136	40.9	20	45.8	38.7	66.7	51.8
Libya	Tripoli	137	40.4	35	41.7	40.3	50	41.1
Bangladesh	Dhaka	138	39.2	55	29.2	40.5	41.7	26.8
Nigeria	Lagos	139	38.5	20	37.5	53.5	33.3	46.4
Syria	Damascus	140	30.7	20	29.2	40.5	33.3	32.1

Source 7 Lagos in Nigeria is the most dangerous city in the world. There are regular protests against police brutality.

CASE STUDY

Caracas, Venezuela

In 2019 the EIU liveability survey ranked 32 cities from the Americas (North and South America). Of these, Caracas in Venezuela was ranked last. It came in at number 131 of 140 cities worldwide. Of all 140 cities in the survey, it was the one that had fallen most since the previous year. In 2018, it was ranked at 126.

Caracas is a city in crisis. It is currently experiencing political instability and a corrupt government. These factors have created an increasingly unliveable environment. Sometimes called the 'murder capital of the world', Caracas has one of the world's highest murder rates. Sadly, almost all of these murders have gone unsolved.

Life in Caracas is difficult. Power blackouts are common, as are failures in the water network. Many people are going hungry, as supermarket shelves lie empty. The hospital and medical systems have collapsed in many parts of the city. This means that people are struggling to find medicine and access health care.

The economy of Venezuela is in danger of collapse. The economy is experiencing inflation, as prices skyrocket and money becomes virtually worthless.

Perhaps the most obvious sign of the problems in Caracas is the number of people who have chosen to leave. Over four million Venezuelans have left the country as refugees.

inflation
increase in the general level of prices paid for goods and services over a certain period

refugees
people who move to another country because of a natural disaster, to avoid war or persecution

Source 8 People collect water from an open pipe above the Guaire River in Caracas during an electricity blackout. These blackouts are common in the city and affect the water pumps in people's homes, offices and shops.

5.10 CHECK YOUR LEARNING

Review and understand

1 **List** some of the common features of world's least liveable cities.

2 **Identify** three reasons why people are leaving Caracas.

3 **Outline** why Damascus has been ranked one of the least liveable cities since 2013.

Apply and analyse

4 **Examine** Source 6.

a Cities move up or down this list over time. **Explain** why this is the case.

b **Identify** the three least stable cities (look at the 'Stability' column).

c What would cause these cities to score a low 'stability' rating?

d Caracas is the tenth-least liveable city. In what areas does it score higher than the cities ranked below it?

5 Refer to Source 6. Locate each of the 10 least liveable cities in an atlas. **Identify** the cities that are not in Asia or Africa.

Evaluate and create

6 Using labelled boxes and arrows, **create** a flow chart to show how one problem has led to other problems in Caracas. There is a template available on your obook pro to help you get started.

Quiz me!
A quick quiz on the world's least liveable cities

Template
Flow chart

5.11 Damascus: the least liveable city

In this topic, you will:

- explore the city of Damascus and the factors that contribute to it being considered less 'liveable'
- discuss strategies that could be used in Damascus to make it more 'liveable'.

Key skill worksheet
Interpreting geographical images: Comparing different types of geographical images

Liveability before 2011

Damascus is the capital of Syria. One of the world's oldest cities, Damascus has been continually inhabited for thousands of years. In that time, it has developed a vibrant and lively culture.

Historically, Damascus was an important trading link between Africa, Asia and Europe. The city was particularly famous for its textile, lace and sword industries. The whole of the inner city, known as the 'Ancient City', is a World Heritage Site. The population of the city boomed between 1950 and 2011 as Syrians from poorer parts of the country poured into the capital in search of work and a better life.

As the country's capital, Damascus is home to important national services. This includes 10 universities, hospitals and a large international airport. Public transport services are limited to fleets of minibuses. The narrow, winding streets of the city leave little room for regular-sized buses, trams or trains. The roads are often congested as more and more people own cars. Water is supplied from a nearby river, but this is under strain from the rapidly growing population.

Liveability since 2011

The events in Damascus demonstrate to us how liveability can be seriously affected by conflict. In 2011 a violent civil war broke out in Syria as various groups within the country fought for control. Some of the fiercest fighting has taken place in Damascus, particularly on the edges of the city. Up to half a million Syrians have been killed in the war and more than six million displaced from their homes. Damascus, once called the 'pearl of the East', is now the world's least liveable city.

Source 9 Some of the worst fighting has taken place in Eastern Ghouta on the outskirts of Damascus. This was once a hospital but was destroyed in a bombing raid.

More than half of the city's health services have been destroyed. Many health workers have fled the country as refugees. This means that it has become increasingly difficult to access a doctor, dentist or other health-care professional. The population of the city has doubled since the war began, because people have moved further into the centre of the city to flee fighting in the outer areas. This has placed enormous strain on infrastructure, particularly water supplies, electricity and education. Throughout the country, more than two million children are out of school and one in three children have missed out on important life-saving vaccinations. More than one-third of Syria's population no longer have access to safe drinking water. Police forces have collapsed in many places, leading to a wave of violent crimes such as murder and kidnapping.

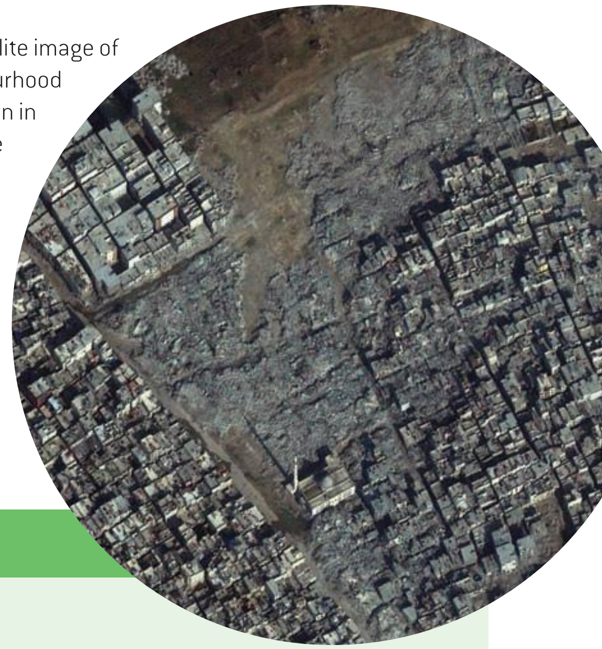
Source 10 Two girls visit their destroyed school in Eastern Ghouta.

Strategies to improve liveability

Geographers have difficulty proposing solutions for conflict. There is no 'easy' way to solve this problem. There are, however, some strategies that have been proposed to increase the liveability of Damascus for its residents. These include:

- securing funding and aid from the United Nations. To help around 13 million people in Syria, the UN has called for $3.5 billion dollars in aid from other countries. Among other things, this money will go towards medical support for seriously ill people in Damascus.
- increasing access to water by transferring it from another place by building a pipeline. There have been talks of an investment from Switzerland and Japan to help Syria achieve this, but no plans have been locked in.

Source 11 A satellite image of the Yalda neighbourhood of Damascus, taken in 2013, showing the destruction of the area as a result of civil unrest



5.11 CHECK YOUR LEARNING

Review and understand

1 **Identify** the national services that Damascus is home to.

2 **Outline** why the population of Damascus increased between 1950 and 2011.

3 **Describe** the public transport and quality of water supplies in Damascus before the civil war.

Apply and analyse

4 a Complete the following table using information from this topic.

Liveability factor	Impacts of civil war
Safety and stability	
Health care	
Education	
Infrastructure	

b Using the information you completed in 4a, write a paragraph **summarising** how civil war has affected the liveability of Damascus.

5 In a civil war, attacking forces often target hospitals and schools. Why do you think this is the case?

Evaluate and create

6 How do you think war-torn countries like Syria are affected by global emergencies such as the COVID-19 pandemic?

7 Satellite images, like the one in Source 11, have become useful tools for assessing damage caused by war. Why do you think this is the case?

8 In groups, **discuss** the strategies to improve liveability on this page. Do you think they are strong strategies? Why or why not? Share your discussion with the class.

5.12 Australia's liveable cities

In this topic, you will:

» explore strategies used to enhance liveability in Australia.

In the 2019 Global Liveability Survey, Melbourne was rated as the world's second-most liveable city. Sydney (third), Adelaide (tenth), and Perth (fourteenth) were also ranked in the top 15. Australian cities usually score well in liveability studies because they generally have open spaces for recreation, relatively low crime rates, low population densities and good education and health care.

Large cities in a wealthy country like Australia tend to have a wide range of goods and services available to the people who live there. The infrastructure in large Australian cities includes schools and universities; efficient transport networks; clean water delivered to homes and businesses through a vast network of dams, treatment plants and pipes; and electricity supplied through a system of overhead and underground wires and cables.

Australian cities also score well in terms of their safety and stability because corruption and crime rates are low. The country also has a stable government and no ongoing wars or other conflicts within its borders.

Individual state and local governments are responsible for improving liveability on a local scale.

KEY CONCEPT
Sustainability

More sustainable = more liveable

For seven years, Melbourne enjoyed the top spot as the world's most liveable city. In 2018 Victorians lost the bragging rights to that title to Vienna, the capital city of Austria. According to *The Conversation*, a news website run from Melbourne, there are seven steps that Melbourne should take to improve liveability and reclaim its top spot. Four of these seven steps are specifically geared towards improving Melbourne's sustainability.

Source 12 Expanding Melbourne's network of bicycle tracks will improve its liveability

These include:

- reducing traffic and moving towards public and active transport by increasing the cycling network and making the CBD car-free
- aiming for zero carbon emissions from traffic by making all buses, trucks, cars and motorbikes electric and using solar power systems on roof tops around the city and suburbs
- increasing the number of green spaces by adding trees to every vacant lot and to roofs and walls of buildings
- controlling pollution emissions from other sources, such as industry, rubbish and the port.

These steps will not only improve the environment in Melbourne in the short term, but also work towards ensuring that the city will be preserved for future generations.

For more information on this key concept, see page 8 of 'The geography toolkit'.

CASE STUDY

Melbourne's 20-minute neighbourhoods

In 2017 the Victorian Government announced its plan for the 20-minute neighbourhood. The aim of this strategy is to have every person living in Melbourne able to meet most of their daily needs within a 20-minute walk of their home. The strategy is designed to make Melbourne a healthier city where cycling and public transport is used more often.

While the state government has developed this plan, each local government will be largely responsible for applying it in their council area. A few have started by looking carefully at their local shopping centres and streets, and thinking about changes that could be made to make their local area more liveable.

Source 13 Features of a 20-minute neighbourhood

Think, pair, share

- Think about the 20-minute neighborhood. What do you think of this idea? Is it missing anything?
- Discuss your ideas with a partner.
- Share your thoughts with the class.

Weblink
'Living locally' project

5.12 CHECK YOUR LEARNING

Review and understand

1 Why do Australian cities tend to score well in liveability surveys?

2 What is the purpose of a 20-minute neighbourhood?

Apply and analyse

3 **Classify** the features in Source 13 into three groups: objective measures of liveability, subjective measures of liveability, and any you are unsure of. For those you are unsure of, explain why.

4 One of the features of a 20-minute neighbourhood is 'walkability'. How walkable is your local area? Could this be improved? If so, **explain** how.

Evaluate and create

5 'Making my neighbourhood more sustainable is more important to me than being able to access everything within 20 minutes.' **To what extent** do you agree with this statement? A lot (strongly), a little bit (somewhat) or not at all? Write a 150-word paragraph explaining your position.

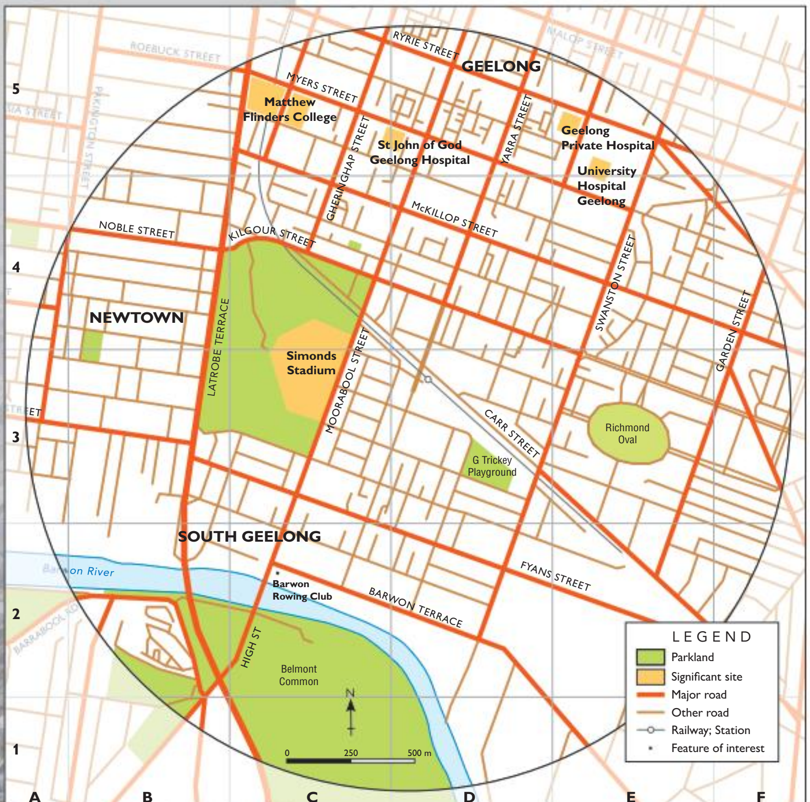
5B RICH TASK

Quizlet
Revise the key terms you have learnt so far.

Local area liveability

Liveability also applies to local areas. Some are more liveable than others because of infrastructure or culture and environment.

GEELONG: INNER SUBURBS



Source 14 Source: Oxford University Press

KEY SKILL
Conducting fieldwork

Completing a map survey

There are several pieces of information that you can collect to assess the liveability of your local area. The first of these is a map survey.

To complete a map survey of your local area, follow these steps:

Step 1 Locate a map of your local area. This could be from a street directory or from a website, such as Google Maps. Decide on the limits of your local area. This could be a suburb if you live in a large city or the whole town if you live in a smaller rural town. In this example, the student lives in South Geelong and has chosen an area 1.5 kilometres from where she lives.

Step 2 Mark the limit of your local area on your map.

Step 3 Examine this area closely and count each of the following pieces of infrastructure within it:

- police stations
- hospitals
- chemists
- doctors
- churches
- sporting grounds
- parks
- post offices
- schools.

Practise the skill

1 Using the steps outlined above, complete a map survey of your local area.

2 **Describe** the infrastructure of this area in a carefully worded paragraph.

Source 15 South Geelong is an inner-city suburb of Geelong. It contains a mix of residential and commercial land uses.

KEY SKILL
Conducting fieldwork

Completing a street survey

Another useful way to collect information about the liveability of your local area is to undertake a street survey as part of some fieldwork. Fieldwork is any geographical study that takes place outside the classroom. It is an essential part of Geography, because it allows you to collect primary data. For example, you can draw sketches, conduct tests or construct questionnaires. In this activity, you are conducting a street survey to assess the quality of the housing and other features of a street or several streets.

To complete a street survey in your local area, follow these steps:

Step 1 Choose a street with at least 30 properties and a length of at least 100 metres.

Step 2 Use a street survey form like the one shown in Source 16 to score your chosen street on a scale of 0 to 3 in a range of categories.

Practise the skill

1 Using the steps outlined above, complete a street survey in your local area.

2 In what parts of the survey did the street score well? In what areas did it score poorly?

3 What could be done to improve this street?

Extend your understanding

1 **Identify** the health-care facilities that are available to residents of South Geelong.

2 **Identify** the education facilities that are available to residents of South Geelong.

3 'As an inner-city area, South Geelong is well served with public transport.' **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position. Use evidence from Source 14 to support your answer.

Street name: ____________ Suburb: ____________

		SCALE				
Traffic	Free or parked vehicles Low volume of traffic Safe for children	3	2	1	0	Cluttered with parked vehicles High volume of traffic Dangerous for children
Gardens	Variety of plants Neatly Maintained					No plants Overgrown
Houses	Well maintained Variety of housing styles Variety of building styles					Run down All houses the same style All houses built from the same material
Vegetation	Tree shade near road					No trees
Street Furniture (signs, electricity poles, seats, etc)	Inconspicuous Improve the area					Conspicuous Detract from the area
Street lighting	Well lit					Poorly lit
Litter, vandalism and graffiti	No litter, vandalism or graffiti					Much litter, vandalism or graffiti
Access to facilities	Shops within walking distance Parks within walking distance Primary school within walking distance					Shops not within walking distance Parks not within walking distance Primary school not within walking distance
Footpaths, roads and kerbing	Clearly defined Good condition Maintained nature strips					Undefined Poor condition No nature strips
Other land uses	No offensive land uses					Offensive land uses
Column score						
Total score						

Source 16 Street survey template

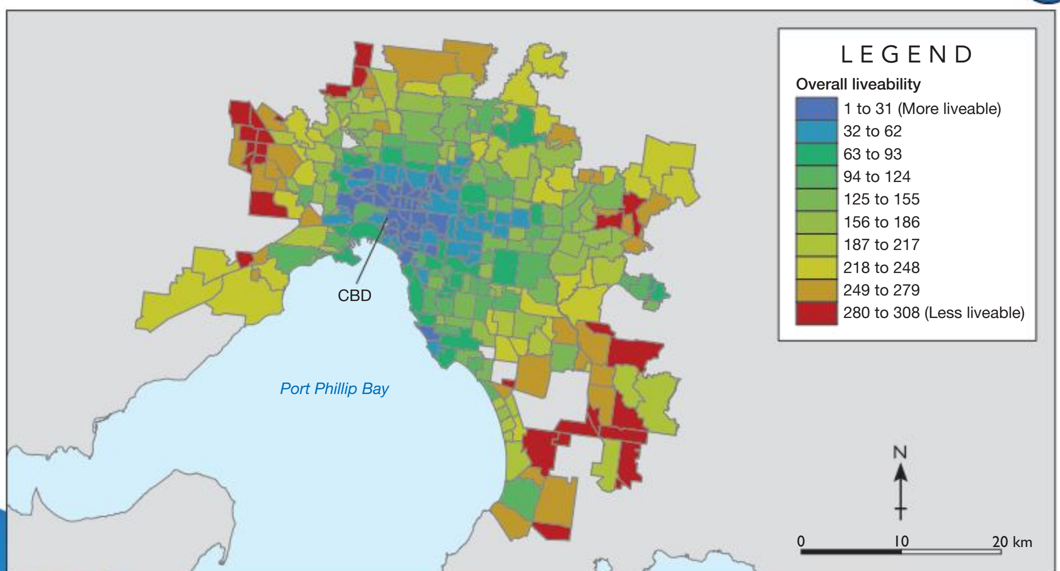
5.13 Threats to liveability

In this topic, you will:

- identify threats to liveability, including urban sprawl, traffic congestion, environmental issues and social inequalities
- explore ways of combating these threats to ensure places stay liveable.

Cities are constantly changing. In most countries, cities are growing both in size and population. Many cities in the developing world are growing at an alarming rate. Delhi, for example, has doubled in population in the last 20 years and grows by 2000 people a day!

In developed countries such as Australia, this kind of growth is not as rapid but is still significant. As cities grow, they may become less liveable. Some of the factors that threaten liveability of growing cities include urban sprawl, traffic congestion, environmental issues and social inequalities.



Source 1 The liveability of Melbourne's suburbs, 2019

Source 2 Lyndhurst in Melbourne's south-east is Melbourne's least liveable suburb. It rates particularly poorly for access to public transport, especially buses. This is the carpark at the local train station, which fills every workday as residents commute to the city.

Urban sprawl

Urban sprawl is the quick, outward expansion of cities and towns. This expansion is often done by building residential housing estates on the edge of the city. Land is cheaper on the edges of cities, so new arrivals and young families tend to build and buy their homes on the city's outskirts. These new homes replace the existing land, which had previously been used for farming.

City authorities struggle to meet the demands of the people in these new housing areas. Infrastructure such as schools, hospitals, shops and places to work can take years to develop so the residents often must travel inwards to more established suburbs for these services. Source 1 is a map showing the liveability for each of Melbourne's 307 suburbs. There is a clear pattern that inner-city suburbs rate highly for liveability, but this rating gradually declines closer to the city's edges. The least liveable suburbs are on the city's fringe, particularly in the north-west and south-east. These are also the fastest growing parts of Melbourne.

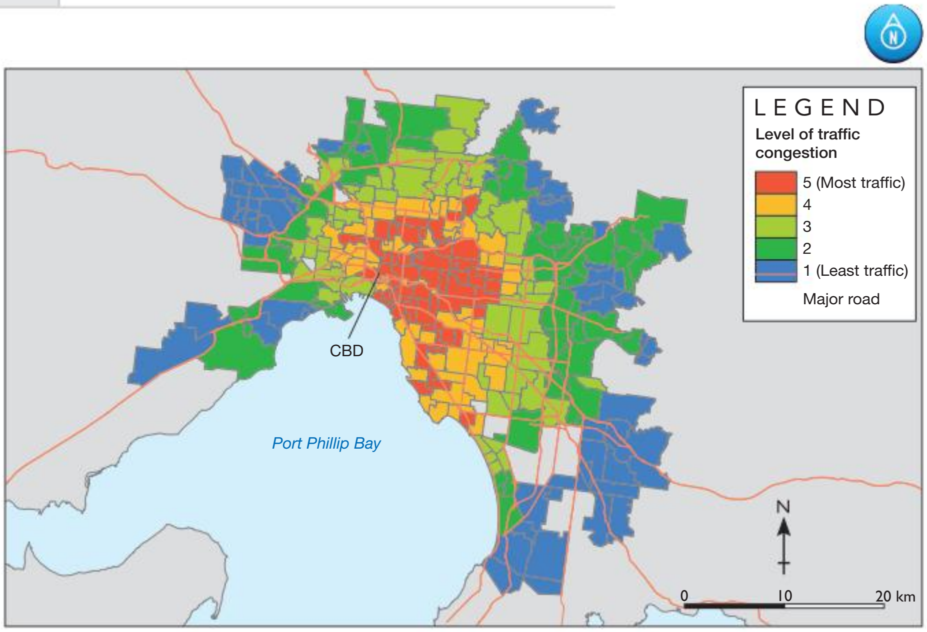
Urban sprawl threatens the liveability of a place by:	We can protect against this threat to liveability by:
• reducing the amounts of productive farmland near cities • threatening the habitats of native plant and animal species • creating greater dependency on cars, which in turn increases levels of air pollution and traffic congestion • suffering from a lack of community services and infrastructure, which negatively affects its residents.	• increasing the density of housing in established suburbs closer to the CBD with more multi-storey dwellings • protecting native habitats with bushland corridors and by planting more native trees in urban areas • ensuring public transport services are provided to all new developments • establishing satellite business centres outside the CBD to encourage local employment and services for those living on city fringes.

Source 3 The threats to liveability caused by urban sprawl, and the strategies that could be put in place to combat them

Traffic congestion

People who settle on the edge of the city need to travel further to access amenities in the city, such as work, school and public events. In Melbourne, 83.9% of all households own at least one car. High rates of car ownership mean that there are many cars on the road network, which struggles to cope with this huge amount of traffic. Rather than drive, some people can catch public transport. However, access to public transport options like trains and trams tends to be uneven in a city. Older suburbs near the city centre usually have much better access to these travel options than those in the newer, outer suburbs. As mentioned above, it can take a while for the infrastructure in a new suburb to be fully complete.

The result of this is bad traffic congestion on the road. Traffic congestion affects liveability in several ways, some of which are outlined below in Source 5.



Source 4 Traffic congestion in Melbourne, 2019

Source 5 The threats to liveability caused by traffic congestion, and the strategies that could be put in place to combat them

Traffic congestion threatens the liveability of a place by:	We can protect against this threat to liveability by:
• increasing the level of air and noise pollution • increasing the amount of time that people spend in their car, and decreasing the amount of time people spend at home • increasing the levels of stress and frustration for drivers, which may lead to increased incidents of road rage.	• building new roads that take road-users around rather than through the city • increasing public transport options to encourage people to leave their cars at home • encouraging alternative modes of transport, for example, building more bike paths for cyclists.

Source 6 Traffic congestion is a significant problem for many people in Australian cities.

Environmental issues

As cities grow, they have a greater impact on the environment. Water resources are used at a higher rate, pollution increases, and more energy is required to service the growing population.

Environmental issues include air pollution from increased energy and transport usage, land contamination from landfill, water shortages and damaged waterways. The increased demand for electricity and energy for transport creates harmful gases like carbon dioxide. These collect in the atmosphere and are responsible for changing the Earth's climate. It is estimated that cities are responsible for three-quarters of all carbon dioxide emissions.

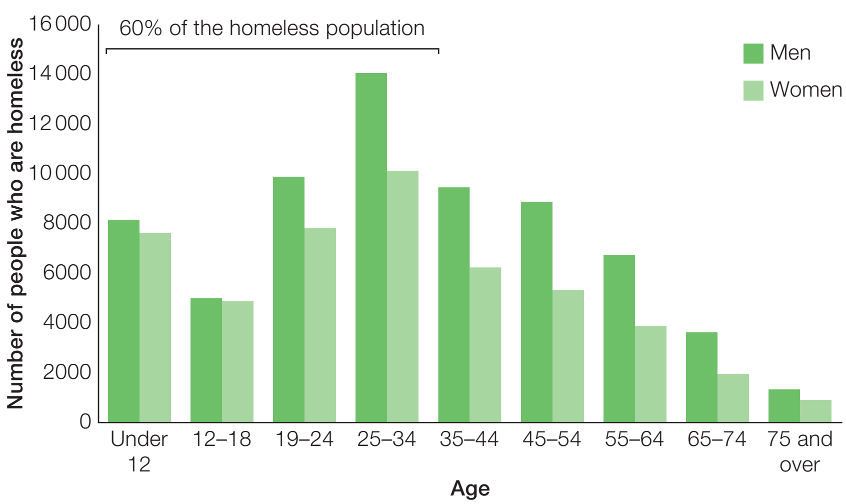
Source 7 The threats to liveability caused by environmental issues, and the strategies that could be put in place to combat them

Environmental issues threaten the liveability of a place by:	We can protect against this threat to liveability by:
• increasing air pollution from increased energy usage • increasing land contamination from landfill, water shortages and damaged waterways.	• recycling rubbish materials • restricting water use • developing buildings and cars to be more energy efficient • using renewable energy sources.

Increased social inequality

As cities grow, the social and economic divide between different groups gets wider. A study by the University of Melbourne tells us that groups including those with disability, those living outside major urban areas and those living alone all experience disadvantage. People experience disadvantage in different ways, but some of the main ones include the inability to find a job as well as access services like schools, childcare and health care, and housing.

Melbourne has a large homeless population. Each night, around 400 people sleep rough in the CBD and inner suburbs. The COVID-19 pandemic in 2020 has widened the gap between those experiencing disadvantage and the rest of society.



Source 8 There are more than 100 000 homeless people in Australia. Young people are more likely to be homeless than older people.

Source 9 The threats to liveability caused by social inequities, and the strategies that could be put in place to combat them

Increased social inequality threatens the liveability of a place by:	We can protect against this threat to liveability by:
• leaving some members of society behind, leading to homelessness, unemployment and poverty • giving some people a sense of alienation from the community • negatively affecting young people who struggle to find their place in society.	• ensuring access to opportunities through good education facilities and public transport • assessing needs and providing support through community services • providing facilities for young people where they can get together and receive the help they need.

Source 10 In Melbourne, many homeless people sleep rough with makeshift beds that they set up under cover near buildings in the CBD.

5.13 CHECK YOUR LEARNING

Review and understand

1 **Define** the term 'urban sprawl'.

2 How can growing cities be harmful to the environment?

Apply and analyse

3 **Explain** how increased social inequalities threaten the liveability of a place.

4 Examine Source 4.

a Is traffic congestion worse in the inner city or outer city?

b Follow one of the major roads from the outer city to the inner city. How does traffic congestion change as this road approaches the inner city? Why do you think this is?

c **Explain** some of the causes of traffic congestion.

d Now look at Source 1. Can you identify any spatial association between the liveability of Melbourne's suburbs and traffic congestion? Remember, spatial association is the degree to which things are arranged in space *similarly*.

Evaluate and create

5 **Create** a flow chart using labelled boxes and arrows to show how population growth can lead to a range of issues. There is a template available on your obook pro to help get you started.

6 Which of the issues discussed do you think is the most difficult to solve? **Justify** (give reasons for) your answer, and be sure to use some evidence from this topic to support it.

7 a **Research** one organisation that provides support to Melbourne's homeless population. Some ideas include:

- HoMie
- Melbourne City Mission
- 300 Blankets
- OrangeSky.

b **Create** a PowerPoint that shows how the organisation helps address increased social inequality. Share with the rest of the class.

Template
Flow chart

5.14 Strategies to improve liveability: Sustainability

In this topic, you will:

» discuss strategies that have been used to enhance the sustainability and liveability of Copenhagen.

In many cities around the world, residents and planners are working hard to reduce the impact of their city on the environment. Many are focusing on reducing their carbon dioxide output to help slow climate change, because people have noticed that reducing carbon dioxide brings other benefits as well.

CASE STUDY

Copenhagen, Denmark

Copenhagen, the capital of Denmark, is one of the world's most liveable cities (see Source 1 on page 146). It has also claimed the title as the world's greenest city and Europe's Green Capital in the past few years. This does not refer to the colour of its buildings, but to the efforts that have been taken to reduce the city's impact on the environment.

Copenhagen aims to be the world's first carbon neutral city by 2025. To achieve this, there are many changes being made to the way that energy is generated and used in the city.

Changing energy generation

Copenhagen is moving away from burning coal, oil and gas for energy because these fuels produce carbon dioxide, which contributes to climate change. Instead, the Danish have looked towards other ways of generating energy. One key example of this is the use of wind turbines, which produce a large amount of renewable energy. In Denmark around 47% of their total electricity is produced by wind turbines. Many homes and buildings also have solar panels on their rooftops, which use energy from the sun to generate electricity. This is known as solar power.

A remarkable new power plant has also been built on the edge of Copenhagen (pictured in Source 11). It receives most of the city's waste and automatically sorts it by removing plastics and dangerous chemicals. The rest, known as **biomass**, is burnt in special incinerators that produce very little carbon dioxide. The heat generated from this process is then used to heat around 160 000 homes. It also generates enough electricity to power 60 000 homes.

biomass
organic matter used for fuel; sources of biomass include rubbish, crops, wood and animal waste

Source 11 Copenhagen's new power plant is not only one of the world's cleanest, it is also a tourist attraction. It includes an 85-metre-high climbing wall, a roof-top restaurant and bar, and a 450-metre ski slope.

Reducing energy use

As we know, cars and buses produce a large amount of pollution. By 2050 the city of Copenhagen aims for at least three-quarters of all trips taken to be done without using cars or buses. This means they must be done on foot, on public transport or by bike.

While this might seem a very ambitious target, the city is already regarded as one of the most bike-friendly in the world. More than 60% of all trips to university and work are already undertaken by bike. This figure has already increased since 2012 when it sat at just 36%. The increase is due to the new bike paths that have been built throughout the city. Cycle lanes have been built on existing roads, as well as brand new paths that link the suburbs to the CBD. These cycle paths are known as superbike trails and cover a total of 850 kilometres within the city. Many workplaces include bike storage and showering facilities in their design to encourage their employees to cycle to work. Many trains also have space for bikes in each carriage.

In the public transport sector, diesel-powered buses are being replaced by electric and hydrogen-powered buses. New buildings are required to be highly energy efficient and older buildings to be improved by adding insulation and other measures to reduce energy use, particularly for heating.

Source 13 Copenhagen's superbike trails

Source 12 Copenhagen's superbike paths include bike repair stations and pumps.

Explore it! A virtual field trip to Copenhagen

5.14 CHECK YOUR LEARNING

Review and understand

1 **Describe** how Copenhagen is a bike-friendly city.

2 What is biomass? What happens to Copenhagen's biomass?

3 **Identify** three features of Copenhagen's new power plant that make it unique.

Apply and analyse

4 Look closely at Source 13.

- a **Identify** the type of scale that has been used.
- b Use the scale and a ruler to **estimate** the length of the longest existing bike trail.
- c Use the scale and a ruler to **estimate** the length of the shortest existing bike trail.
- d **Describe** the pattern of all the superbike trails in Copenhagen.

5 **Explain** why it is important to focus on both how energy is generated and how it is used.

6 Have the strategies used by Copenhagen been effective? In your answer, draw on some of the statistics provided in this topic.

Evaluate and create

7 Copenhagen has shown that it is possible to be both liveable and environmentally friendly. **Suggest** two reasons why other cities have not made the same changes as Copenhagen.

5.15 Strategies to improve liveability for young people

In this topic, you will:

- identify the strategies that can be used to enhance liveability for young people
- discuss strategies that have been used to increase liveability for young people in Geelong.

Key skill worksheet
Communicating & reflecting: Proposing a strategy

When trying to improve the liveability of a town or city, planners need to consider the needs of people of different ages. The needs of children and young people are obviously very different from the needs of older, retired people. Each of these groups benefit from having special attention paid to their needs. Here, we will look specifically at strategies for improving the liveability of places for children and young people.

Public transport

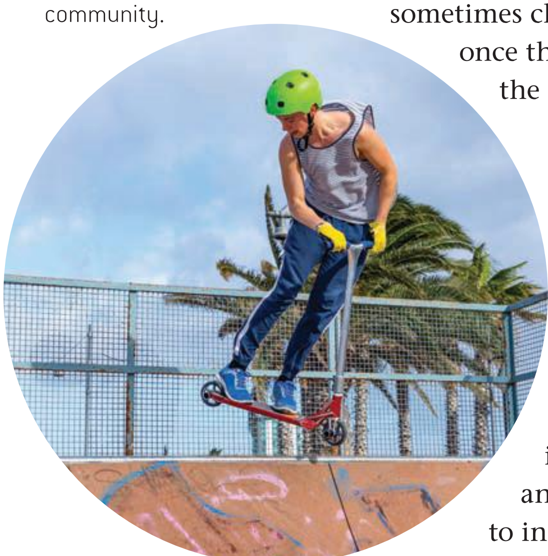
As most young people do not have a driving licence, they are the community group most likely to depend on public transport. Public transport needs to be safe and reliable to encourage young people to use it. Public transport routes also need to be designed to meet the needs of young people, with services regularly going past local schools, shops, and entertainment and sports facilities. In Victoria, around 35% of secondary school students travel to and from school using public transport every day.

Green spaces

With housing density increasing, the need for green spaces is also increasing. Access to public parks and playgrounds provides healthy natural environments for children who are living in housing without gardens. These playgrounds also provide opportunities for children to develop their coordination and physical strength while enabling them to make friends and socialise.

During Victoria's lockdowns to combat the spread of COVID-19, playgrounds were sometimes closed. Parents and children across the state eagerly returned to play once they had been reopened, showing how important playgrounds were for the physical and mental health of their children.

Source 14 Venues designed for young people can increase youth participation in the community.



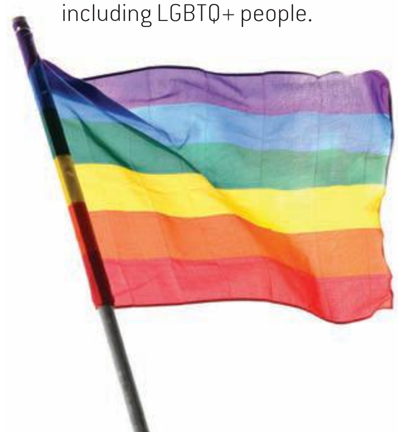
A wide range of recreational environments

One of the keys to improving liveability for young people is providing good public spaces. Public spaces should be designed to cater for their specific needs and interests. These include sportsgrounds and facilities such as skate parks and skating rinks where young people can exercise and socialise. Entertainment facilities, including cafes, cinemas and music venues, are also important to make sure that young people have places to gather and have fun. Community festivals and events can also be organised to include activities specifically designed to interest young people. For example, each year the Melbourne Youthfest takes place, a festival created by young people for young people. On the day of the festival, young people gather to enjoy a wide range of live entertainment, battle of the bands competition, food trucks and market stalls.

Services for young people at risk

As with all vulnerable people in our community, vulnerable young people need support. Young people who are at risk from homelessness, substance abuse or dangerous circumstances need support from the community to make sure that they are not disadvantaged and can reach their potential. Community services can provide support through counselling and mentoring, or by arranging alternative accommodation.

In Victoria there are many services available to young people. Melbourne Youth Services is a program funded by the City of Melbourne, which supports young people aged 12–25. They particularly focus on young Aboriginal and Torres Strait Islander people, culturally diverse young people, LGBTQ+ young people and young people experiencing homelessness.



Source 15 Melbourne Youth Services provides support for young people aged 12–25, including LGBTQ+ people.

Geelong Youth Activity Area

CASE STUDY

Geelong's waterfront area has been redeveloped in recent years. Part of this redevelopment is the Geelong Youth Activities Area (GYAA). Built as a series of cascading terraces, it includes performance stages, basketball hoops, interactive screens, a bouldering wall, free wireless internet and LED strip lighting. Its main function is as a skate, BMX and scooter park. It attracts keen riders from around Australia.

The location of this site was chosen for several reasons. It is close to Deakin University and is walking distance from the main bus interchange and Geelong Railway Station. The area was already popular with families, but there was little for teenagers to do at the waterfront. The local council involved young people in the design process and in meeting with the designers and builders.

Source 16 Geelong Youth Activities Area

5.15 CHECK YOUR LEARNING

Review and understand

1 **Identify** three factors that make a place more liveable for young people.

2 **Outline** the importance of playgrounds in the community.

Apply and analyse

3 **Explain** how the GYAA has improved the liveability of Geelong for young people.

4 **Explain** how access to public transport contributes to liveability for young people.

5 Some of the residents close to the GYAA were concerned that this development would reduce the liveability of this area. Why do you think this is the case?.

Evaluate and create

6 Design, label and annotate a diagram of a place that could be built in your local community that would improve the liveability of the area for you.

7 **Rank** the strategies outlined in this topic in order of most important to least important. Give reasons for your answer. Discuss your rankings as a class.

5C RICH TASK

Quizlet
Revise the key terms you have learnt so far.

Improving liveability in your local area

Lysterfield Lake Park is located in the outer south-eastern suburbs of Melbourne, at the foothills of the Dandenong Ranges. Centred on a large lake that was once a Melbourne Water reservoir, the park is a popular destination for Melburnians. Each weekend, locals and those from all over Melbourne travel to Lysterfield Lake Park to sail, kayak or canoe on the lake. Others enjoy hiking along the large network of bush tracks around the lake.

In 2006 the park hosted the Commonwealth Games mountain bike event. There are a range of bike trails, including easy green trails and more difficult black trails for experienced riders.

Source 17 An annotated geographical photograph

Source 18 Lysterfield Lake, Melbourne

The park includes several picnic and barbecue areas. Visitors can spot wildlife, such as kangaroos and wallabies as they enjoy the park.

A key step to improving your local area is to identify the issues that threaten liveability. A good place to practise identifying issues is at a local leisure facility, such as the picnic area at Lysterfield Lake Park.

The photograph in Source 17 shows one of these areas. It has been annotated to show some of the features that make this location a desirable place to visit, as well as some features that threaten this desirability.

KEY SKILL
Conducting fieldwork

Capturing and annotating a geographical photo

Geographical photos are an example of primary evidence. When they conduct fieldwork, geographers collect primary evidence. Other examples of primary geographical evidence include water sampling, field sketching and conducting a survey.

Primary evidence is collected firsthand and is the most helpful evidence for geographers to understand the environment they are studying. A geographical photograph is an important piece of primary evidence, as it captures the environment in detail for you to study. It is not enough to simply take the photograph, you must label and annotate what you see. This will help you form your conclusions and make recommendations.

Follow the steps below to capture and annotate a geographical photograph.

Step 1 Select a location that you know well, preferably in your local area. Choose an area that you know has a range of desirable and undesirable features.

Step 2 Take a photograph of the area you have selected to study. As geographers focus on identifying and solving issues, geographical photographs are different to the types of photographs that you would usually take. Take your photo from a viewpoint that allows you to show both desirable and undesirable features of your study area.

Step 3 Use labels and lines to annotate the features of the area you wish to highlight. For each feature, describe what it is (for example, 'native trees') and its significance (for example, 'provide shade and habitat').

Step 4 Create a legend to show which labelled features reduce the desirability of the area and which increase desirability.

Step 5 Add a title, including the date and a legend.

For more information on this key skill, see page 14 of 'The geography toolkit'.

Practise the skill

1 Select a local area that has both desirable and undesirable features. Follow the steps above to photograph it. Label and annotate the photograph. This could be part of your school grounds.

Extend your understanding

1 **Propose** (put forward) two strategies that could be used to increase the desirability of the picnic area in Source 17.

2 The number of visitors to this park increased significantly during the lockdown period in response to the COVID-19 pandemic in 2020. During this time, people in Melbourne could not move more than 5 kilometres from their home.

- **a** Why do you think visitor numbers increased during this time?
- **b** How would this increase in visitors change the desirability of the park?

5 CHAPTER REVIEW

Review questions

5A What makes a city liveable?

1 **Identify** three of the world's most liveable cities. (3 marks)

2 Focusing on one of the world's least liveable cities, **explain** how a growing population affects the liveability of a city. Be sure to use evidence from this chapter to support your answer. (3 marks)

3 **Compare** liveability in two cities. Remember, when you compare two things you should talk about how they are similar and how they are different. (4 marks)

(Total: 10 marks)

5B Where are the world's most and least liveable cities?

1 **Identify** one Australian city. **Describe** what makes this city one of the world's most liveable cities. (3 marks)

2 **Explain** how conflict can affect the liveability of a place. (3 marks)

3 In a carefully worded paragraph, **compare** the liveability of Damascus and Melbourne. Remember, when you compare two things you should talk about how they are similar as well as how they are different. (4 marks)

(Total: 10 marks)

5C How can we make cities more liveable?

1 **Identify** two threats to liveability. (2 marks)

2 Outline two ways that public transport makes Melbourne a liveable city. (2 marks)

3 In many Australian cities, the number of older people is increasing more quickly than the number of young people. **Propose** (put forward) one strategy that cities could use to become more liveable for older Australians. Be sure to explain how your strategy improves liveability for older Australians. (6 marks)

(Total: 10 marks)

Review activity

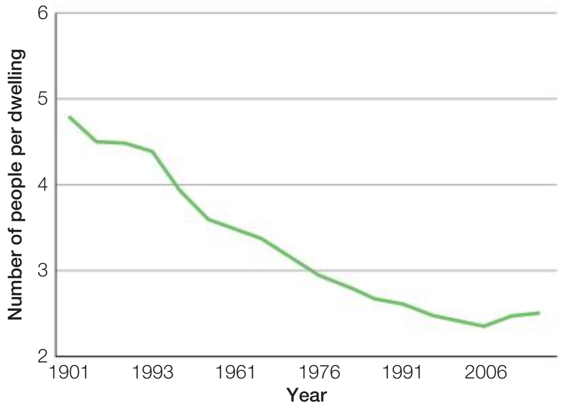
Examine the sources and answer the questions that follow.

Interpreting and creating graphs

Geographers use data and statistics to examine trends and changes that are occurring. This is often presented as graphs that allow us to easily see the trends and changes. There are different types of graphs, all of which can be used for different things. For example:

- line graphs and column graphs are usually used when showing change over time
- bar graphs are best for comparing data from different places.

Sources 19 and 20 show us data relating to the changes that have occurred to Australian houses over time.



Source 19 The number of people per dwelling (i.e. the number of people who live in a house)

Source 20 Census results for separate houses (on their own block of land) and row or terrace houses/townhouses in Victoria

Type of dwelling	2001 census results	2006 census results	2011 census results	2016 census results
Separate house	78%	76.4%	76.9%	73.2%
Row or terrace house/townhouse	8.3%	9.2%	9.6%	14.2%

1 **Identify** the type of graph being used to display the data in Source 19. (1 mark)

2 **Describe** the changes over time in the average number of people living in each house in Australia since 1901. (2 marks)

3 **Suggest** two reasons why the number of people per dwelling has changed since 1901. (2 marks)

4 Using the data provided in Source 20, **create** a graph. (5 marks)

5 Now that you have created your graph, answer the following questions by interpreting the data.
   a **Explain** what type of graph you have used to represent this data and why.
   b **Describe** the pattern of living in row or terrace/townhouses over time.
   c Has the number of people living in separate houses changed dramatically since 2001? **Justify** (give reasons for) your answer. (10 marks)

(Total: 20 marks)

Source 21 The number of people in separate houses is gradually reducing, according to census results.

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 5

Key skill worksheet
Communicating & reflecting: Chapter 5

Quizlet
Play a game of Quizlet on Liveable cities.

Chapter review quiz
Chapter 5

PART 2

History

Concepts and skills

Chapter 6 The history toolkit 190

Aboriginal and Torres Strait Islander peoples and cultures

pro **Chapter 7** Introduction to Aboriginal and Torres Strait Islander peoples and cultures (available on obook pro) 222

Chapter 8 Aboriginal and Torres Strait Islander peoples and cultures in ancient Australia 224

The European and Mediterranean world

pro **Chapter 9** Introduction to the European and Mediterranean world (available on obook pro) 254

Chapter 10 Ancient Egypt 256

Chapter 11 Ancient Greece 298

Chapter 12 Ancient Rome 342

The Asia-Pacific world

pro **Chapter 13** Introduction to the Asia-Pacific world (available on obook pro) 390

pro **Chapter 14** Ancient India (available on obook pro) 392

Chapter 15 Ancient China 394

CHAPTER 6

The history toolkit

History is the study of the past. Historians are interested in all aspects of the past and seek to piece together accurate pictures of what life was like in days gone by.

A historian uses a range of tools to discover the past. These tools are the historical concepts and skills you will learn about in your study of history.

Historians are curious. They investigate artefacts and want to know more about them. Despite these investigations, certain facts about many ancient artefacts still remain a mystery. Uncovering the secrets of the past is not always easy and historians do not always agree. These mysteries drive historians to continue their important work.

Source 1 Many facts about the Great Sphinx at Giza in Egypt remain a mystery.

6A
What are the historical concepts?

6B
What are the historical skills?

6C
What is history?

6.1 Historical concepts

Historians use five concepts to help them investigate and understand the past. As you learn to apply each concept, you will begin to think like a historian. The five key concepts in history are:

- chronology
- cause and effect
- continuity and change
- evidence
- significance.

Chronology

Chronology refers to the arrangement of events in the order that they happened. It seems like a simple concept, but chronology is one of the most important things that you will study in history. When studying a period of time, historians put key events from that time in the exact order they occurred. This is known as chronological order. Chronology helps historians understand when, how and why events unfolded the way they did.

Cause and effect

The concept of cause and effect is used by historians to identify chains of events and developments, both in the short term and in the long term. Cause and effect aims to identify, examine and analyse the reasons why events have occurred and the resulting consequences or outcomes. It helps to think of cause and effect as the 'why' and 'what' of history.

Source 1 The Great Wall of China was built to protect China from invading hordes of Mongols (cause). Today, thousands of years after its construction, the Great Wall is so popular with tourists that sections of it are in danger of being damaged by overuse (effect).

Continuity and change

Historians recognise that over time some things stay the same, while others change. This concept is referred to as continuity and change.

Historians refer to aspects of the past that have remained the same over time as continuities. Aspects of the past that do not stay the same are referred to as changes. Change can occur within a certain civilisation or specific time period, but also across different civilisations and time periods.

Source 2 A copy of the Greek statue *Discobolus*

Source 2 (at left) and Source 3 (above) The sport of discus is a historical continuity. Discus originated in ancient Greece, and is now a part of every modern track-and-field competition. Source 2 is a copy of a famous Greek statue, Myron's *Discobolus*, created around 460–450 BCE. It shows a discus thrower about to release his throw. Source 3 is Australian athlete Dani Samuels competing in the discus event at the 2016 Rio Olympic Games.

Evidence

Evidence is the information gathered from historical sources. Evidence can come from many different sources; for example, interviews from people who lived at the time, letters, diaries, films, maps, newspapers, artefacts and objects, buildings, paintings, song lyrics, clothing and even cartoons.

Evidence can be gathered from two types of sources:

- primary sources – things that existed or were made during the time being investigated, for example during an event or very soon after. Examples of primary sources include human remains; artefacts; buildings or ruins; paintings; and official documents, such as laws and treaties, and personal documents. These original, firsthand accounts are analysed by historians to answer questions about the past.
- secondary sources – accounts about the past that were created after the time being investigated and which often use or refer to primary sources and present a particular interpretation. Examples of secondary sources include writings of historians, encyclopedia entries, documentaries and websites.

Historians do not always agree on evidence, even when it is gathered from the same source. This is why historians are constantly searching for new sources of evidence. They need to use a range of different sources to help them gain a more complete picture of the past.

Source 4 This spearhead is a primary source that provides evidence about Aboriginal peoples who lived in the past.

Significance

Significance relates to the importance assigned to aspects of the past, such as events, developments, discoveries, movements, people and historical sites. History is full of events, significant people and interesting places. We need to make a judgment about which of these to study. In order to determine if an event, development, discovery, movement, person or site is historically significant, historians may ask:

- How important was this to people who lived at that time?
- How did this affect people's lives?
- How many people's lives were affected?
- How widespread and long-lasting were the effects?
- Can the effects still be felt today?

Depending on your age, gender, ethnicity, religious beliefs and nationality, different events and people from the past will be more or less significant.

Source 5 Architecture is a significant legacy of the ancient Romans; they invented concrete and building techniques such as domed roofs. Domed roofs – like the one shown here at Flinders Street Station in Melbourne – would not be possible had it not been for the ancient Romans.

Check your learning
Log onto your obook pro to complete the questions for topic 6.1.

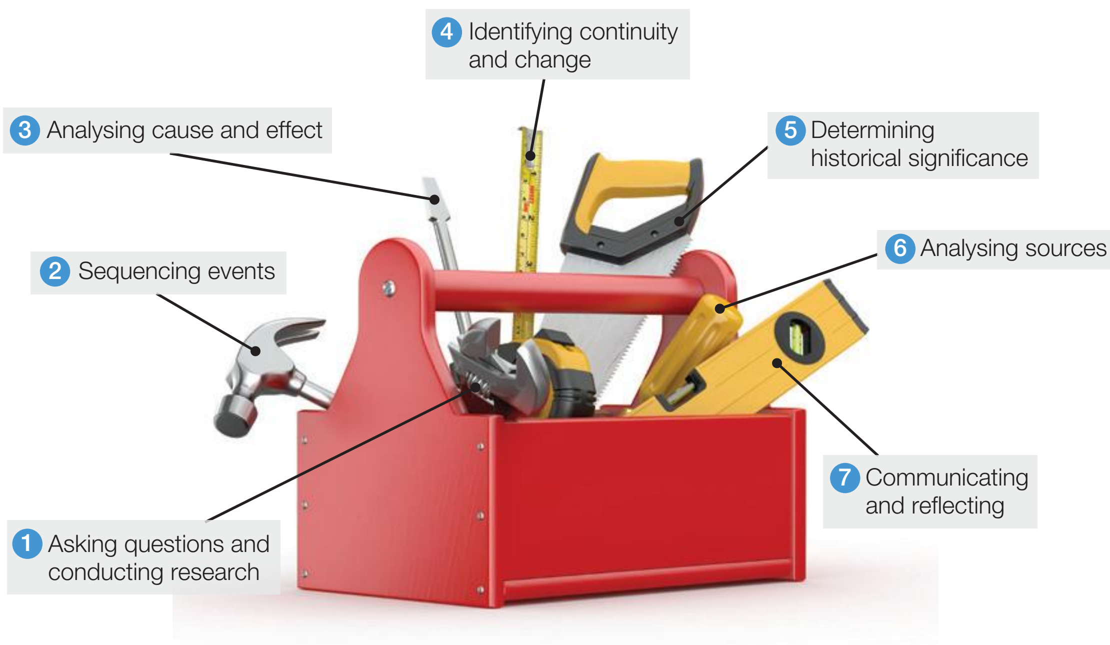
6.2 Historical skills

Historians examine the past and try to explain what they find. There are a number of key skills that historians use to successfully investigate the past. They are:

1. Asking questions and conducting research
2. Sequencing events
3. Analysing cause and effect
4. Identifying continuity and change
5. Determining historical significance
6. Analysing sources
7. Communicating and reflecting

In studying history you will gradually master each of these skills. You will understand some of them quickly, others may take a little longer. As you develop each new skill you will have gained another important tool for understanding and explaining the events and people that have shaped our world.

Each of the skills you will learn over the course of this year is explained on the following pages. It might help you to think of each of these skills as individual tools in your toolkit.



Source 1 Historians use several different skills. Each of these skills is like a tool in a toolkit.

6.3 Asking questions and conducting research

Asking a range of questions about the past

hypothesis
a considered theory or statement, based on research and evidence, about something that has not been proven (hypotheses is the plural form)

One way to understand the past is to undertake a historical inquiry. A historical inquiry is a process of asking questions, finding and analysing sources, and using evidence from sources to develop an informed explanation about the past. Historians begin any historical inquiry by asking big questions. From these big questions, historians develop a **hypothesis** (a theory) about who, what, where and why certain events took place.

KEY SKILL
Asking questions & conducting research

Generating questions

Look closely at Source 2. This visitor to the Great Sphinx at Giza in Egypt is asking some important questions. You can learn to do this too by starting your questions with the words 'what', 'where', 'how', 'when' and 'why', for example:

- What is the Great Sphinx?
- Who built it?
- When was it built?

The best questions open up an exciting area for you to explore. For example, the visitor might ask a simple question, such as 'What does the Sphinx look like?' This is a question with a relatively simple answer. A better question for the visitor to ask might be 'What is the Sphinx meant to represent?' This question opens up a whole new area for exploration.

Practise the skill

1 Generate four big questions of your own that will help guide your research into the Great Sphinx.
2 Once you have generated your questions, **identify** the information you will need to answer these questions and where you might be able to locate it.
3 The mystery of the Great Sphinx has puzzled historians for many years. Are there any questions for which you have not been able to find reliable evidence or answers? What reasons might there be for this?

Source 2 Developing historical questions is important.

Source 3 Research is an important part of history. Your teacher or librarian can help you develop your research skills, both for the library and online.

Finding relevant sources

Sources provide information for historians. They can take many different forms, from historical artefacts to written records in books or online. Some examples of sources include human remains, coins, cave paintings, textbooks, journals, online databases, newspapers, letters, cartoons and diaries.

Locating a range of relevant sources is a valuable skill, usually involving a number of different research methods, such as:

- checking catalogues at your school and local library
- using online search engines, such as Google
- visiting museum and government websites
- looking at newspaper and magazine archives
- contacting local historical societies
- interviewing older family members about the past and examining family antiques and keepsakes.

Locating relevant sources online

While books and newspapers are valuable sources of information, most research today is conducted online. Your teacher or librarian can help with guidance on developing good research skills. In addition, to make sure that sources gathered online are accurate, reliable and relevant, follow the guidelines below:

- When using search engines, use keywords and be as specific as you can.
- Use reputable websites to find reliable information. The domain name in the URL (internet address) is a quick way to tell if the website is reliable or not. Some common domain names are listed in Source 4. Avoid blogs or social media posts created by unknown authors. If you do find information relevant to your investigation on a blog or social media site, be sure to verify it by using a more reliable source.
- Never cut and paste information you find online straight into your own work. Taking someone else's work, ideas or words and using them as if they were your own is called plagiarism and can result in very serious consequences.

Source 4 Common domain names

Domain name	Description
.edu	The site is linked to an educational institution such as a university or school. These sites are generally very reliable.
.gov	The site is linked to a government institution. These sites are generally very reliable.
.net	This site is linked to a commercial organisation or network provider. Anyone is able to purchase this domain name. As a result, these sites may be unreliable.
.org	This site is linked to an organisation. Generally, these organisations are not for profit (e.g. Greenpeace, World Vision International, British Museum). If the organisation is reputable, it generally means that the information provided has been checked by that organisation. You need to be aware of any special interests that the organisation may represent (e.g. particular religious, commercial or political interests) as this may influence what they have to say on a particular issue.
.com	This site is linked to a commercially based operation and is likely to be promoting certain products or services. These domain names can be purchased by anyone, so the content should be carefully checked and verified using another, more reliable source.

Recording relevant sources

As you identify and locate relevant sources, it is essential that you record details to include in your list of references or bibliography.

When citing (mentioning) a book in a bibliography, include the following, if available, in this order:

1. author surname(s) and initial(s)
2. year of publication
3. title of book (in italics)
4. edition (if relevant)
5. publisher
6. place of publication
7. page number(s).

Example:

author surname(s) and initial(s) | year of publication | title of book (in italics)

Easton, M., Saldais, M., Dumovic, V., Carrodus, G., Davey, K., Machar, C., 2021, *Oxford Big Ideas Humanities 7 Victorian Curriculum*, 2nd Edition, Oxford University Press, Melbourne, pp. 18–19.

edition | publisher | place of publication | page numbers

Source 5

When citing an online source in a bibliography include the following information, if available, in this order:

1. author surname(s) and initial(s) or organisation name
2. year of publication or date of web page (last update)
3. title of document (article) enclosed in quotation marks
4. date of posting
5. organisation name (if different from above)
6. date you accessed the site
7. URL or web address enclosed in angle brackets <…>.

Example:

author surname(s) and initial(s) | year of publication | title of article enclosed in quotation | date of posting

Gershon, L., 2020, 'Well-preserved remains of two Vesuvius victims found in Pompeii', 23 November 2020, The Smithsonian Magazine, accessed 12 January 2021, <https://www.smithsonianmag.com/smart-news/remains-two-men-one-rich-and-one-enslaved-found-pompeii-180976383/>.

organisation name | URL enclosed in angle brackets <> | date you accessed the site

Source 6

Check your learning
Log onto your obook pro to complete the questions for topic 6.3.

6.4 Sequencing events

Ordering significant events

chronology
a record of events in the order they took place

One of the most helpful things historians can do to get a better understanding of the past is to organise events in the order that they happened. This is known as **chronology**. Chronology can help us organise things that happened over a small period of time, such as a day or week, or huge periods of time, such as hundreds of thousands of years. We can also use chronology to look at events that happened in one place or society, or compare events across many different places and societies.

Sequencing time

Examples of how historians sequence time are shown in Sources 7 and 8. Each table shows how 2100 years have been divided into smaller periods of 100 years. These periods are known as centuries.

Because there is no zero used in the Common Era (CE) calendar, we have to begin from the year 1. This means that the years from 2001 to 2100 are actually part of the twenty-first century. These tables will help you as you work through Year 7 history. Refer to them as often as you need to.

Source 7 More than 2000 years of history Before the Common Era (BCE) divided into centuries; when ordering time BCE, remember to count backwards to 1.

Century BCE	Time period	Century BCE	Time period	Century BCE	Time period
21st century BCE	2100 to 2001	14th century BCE	1400 to 1301	7th century BCE	700 to 601
20th century BCE	2000 to 1901	13th century BCE	1300 to 1201	6th century BCE	600 to 501
19th century BCE	1900 to 1801	12th century BCE	1200 to 1101	5th century BCE	500 to 401
18th century BCE	1800 to 1701	11th century BCE	1100 to 1001	4th century BCE	400 to 301
17th century BCE	1700 to 1601	10th century BCE	1000 to 901	3rd century BCE	300 to 201
16th century BCE	1600 to 1501	9th century BCE	900 to 801	2nd century BCE	200 to 101
15th century BCE	1500 to 1401	8th century BCE	800 to 701	1st century BCE	100 to 1

Source 8 More than 2000 years of history in the Common Era (CE) divided into centuries; when ordering time CE, remember to count forwards from 1.

Century CE	Time period	Century CE	Time period	Century CE	Time period
1st century CE	1 to 100	8th century CE	701 to 800	15th century CE	1401 to 1500
2nd century CE	101 to 200	9th century CE	801 to 900	16th century CE	1501 to 1600
3rd century CE	201 to 300	10th century CE	901 to 1000	17th century CE	1601 to 1700
4th century CE	301 to 400	11th century CE	1001 to 1100	18th century CE	1701 to 1800
5th century CE	401 to 500	12th century CE	1101 to 1200	19th century CE	1801 to 1900
6th century CE	501 to 600	13th century CE	1201 to 1300	20th century CE	1901 to 2000
7th century CE	601 to 700	14th century CE	1301 to 1400	21st century CE	2001 to 2100

Creating a timeline

Timelines are used by historians to sequence time and order important events chronologically. They help divide large sections of time into smaller periods so that events (such as the births and deaths of important people, wars and discoveries) can be arranged in the correct order.

Timelines can look quite different, but they all work in the same way. There are some basic steps you need to follow when constructing timelines. Source 9 provides a simple example for ancient Egypt. Follow the basic steps in Source 9 when creating a timeline.

Practise the skill

1 **Create** your own timeline based around one of the following topics:

- important events that have taken place in your life so far
- events in the life of someone important in your life (e.g. a family member, close friend or someone you admire).

Your timeline should have at least five entries and feature at least one image (with a caption). You will need to conduct some **research** online to complete this task.

KEY SKILL
Sequencing events

timelines
sequences of related historical events shown in chronological order

Check your learning
Log onto your obook pro to complete the questions for topic 6.4.

Step 1
Work out the length of time you want to represent on your timeline, such as from 3000 BCE to 1000 BCE. Then divide the timeline evenly into suitable blocks of time – in this case 500-year blocks. A timeline showing what you did yesterday might be divided into hours; one showing key events in the 20th century might be divided into decades.

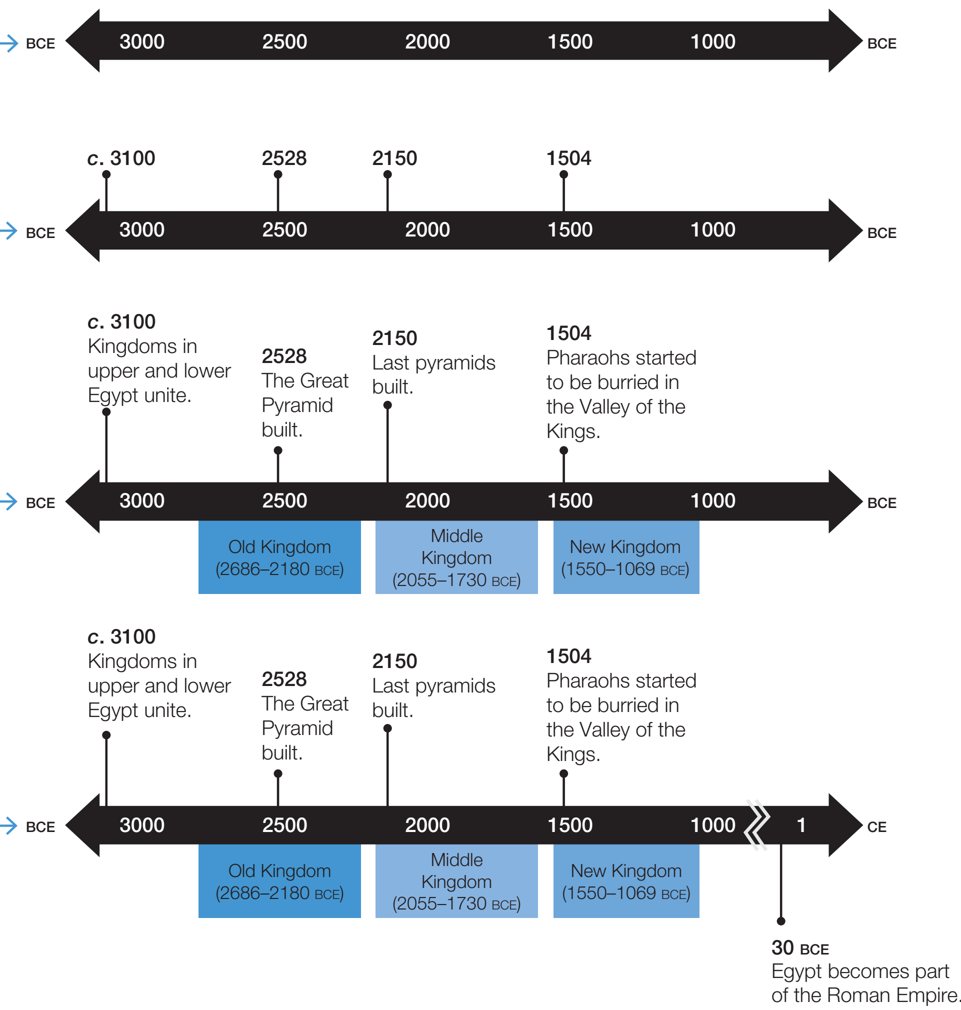
Step 2
Mark specific dates onto the timeline. These dates need to be accurately plotted so that they appear in chronological order. If an exact date is not known, the abbreviation *c.* (from the Latin word *circa*, meaning 'around') is placed in front of it (e.g. *c.* 3100).

Step 3
Provide a brief description of the dates plotted on the timeline, describing the events that took place.

Step 4
Sometimes, sections on a timeline are shaded in different colours and labelled to indicate a period or block of time, such as the different kingdoms in ancient Egypt.

Step 5
To represent a huge span of time, you may need to break your timeline into sections using a jagged line. This break shows that a section of time has been left out and will ensure that your timeline will fit on the page! Just make sure no important events fall in the time you are leaving out.

Now that your timeline is complete, you can also add images and captions for some of the entries.



Source 9 A step-by-step guide to creating a timeline

6.5 Analysing cause and effect

Understanding cause and effect

cause and effect
the link between what causes an action and the outcome of that action; understanding that events that take place are linked and can have impacts on people and places for many years to come

Cause and effect is used by historians to identify the reasons for an event, or changes in history, and the results of those events or developments. Sometimes the link between cause and effect is clear. For example, heavy rain over many weeks (cause) leads to flooding and the destruction of crops (effect). Effects can be short-term or long-term. For example, one of the short-term effects of flooding can be damage to property and loss of life. A long-term effect of flooding might be that although the floods cause damage, they also leave behind deposits of fresh and fertile soil that result in better crops.

However, when analysing cause and effect in the past, sometimes the link between cause and effect is less obvious. Generally, there are many causes that lead to an event. There can also be many effects. Some effects may not be observed until long after the event.

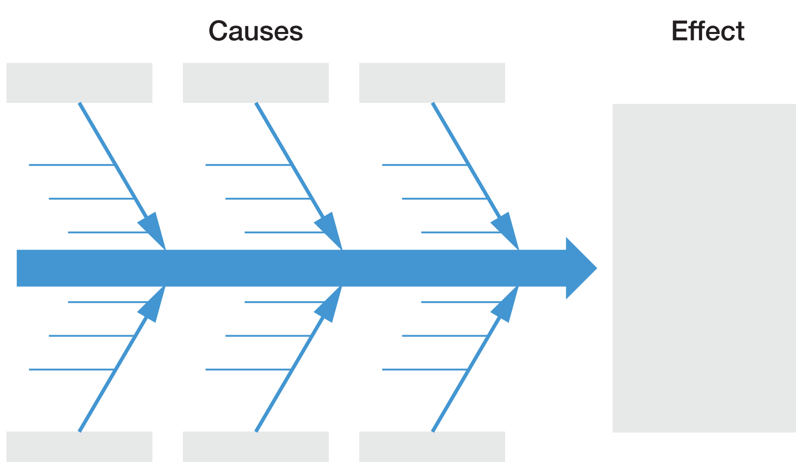
How to analyse cause and effect

The first step in analysing cause and effect is to identify the cause. Different types of causes might be social, economic or political, or a cause might be sudden, and act as a catalyst (a trigger) for change. Once the cause has been identified, consider the effects. Explain how each effect is linked to the cause that you have identified.

When analysing cause and effect, it can be helpful to organise the information in a way that helps you to see the links between the cause and the effects. Fishbone diagrams and cause and effect trees are two examples of graphic organisers that can be used when analysing cause and effect.

Timelines can also be used to organise events, people and movements in a way that helps you identify links between cause and effect.

Source 10 A cause and effect tree



Source 11 A fishbone diagram

Analysing the cause and effect of the construction of the Great Wall of China

One of the strongest defensive structures in the world is the Great Wall of China. The Great Wall began as a set of separate mudbrick structures that were joined together and extended under the rule of China's first emperor, Qin Shi Huang. This work was carried out in order to prevent northern invaders (known as Mongols) from entering and conquering China (cause). The wall was successful in preventing a Mongol invasion (effect); however, over 100 000 Chinese labourers died during the construction of the wall (effect). Today, the Great Wall is China's most popular tourist attraction, drawing around 10 million people each year (effect).

Practise the skill

1. **Identify** the cause for the construction of the Great Wall of China.
2. Do you think there might have been more than one cause for the construction of the Great Wall of China? Why do you think Qin Shi Huang wanted to extend the Great Wall?
3. **Outline** one short-term effect of the construction of the Great Wall of China.
4. **Explain** one long-term effect of the construction of the Great Wall of China by describing what happened, and why.
5. Choose a graphic organiser to use. Record the cause and effects of the construction of the Great Wall of China. Can you think of any more possible short-term or long-term effects?

Source 12 The Great Wall of China is one of the strongest defensive structures in the world.

KEY SKILL
Analysing cause & effect

Check your learning
Log onto your obook pro to complete the questions for topic 6.5.

6.6 Identifying continuity and change

Understanding continuity and change

Over time, some things change, while others stay the same. This applies not just to the physical world, but also to the way people think. This is known as **continuity and change**. Examples of continuity and change can be seen across every civilisation and any given period of time. This can be seen in aspects of everyday life that have continued across centuries, or in changes in government, technology or religious beliefs that have affected an entire society's culture.

continuity and change the historical concept that explains that while some aspects of a society stay the same over time (continuity), others will develop and transform (change)

As you study different civilisations across different time periods, you will have the chance to identify things and thinking that stayed the same over time, and those that changed.

How to identify continuity and change

To identify continuity and change, you need to understand the sequence (order) of events and the significance of these events or people, groups, or ideas.

Timelines can be used to sequence events in chronological order. Ordering events (or people, groups, or ideas) on a timeline will help to make it clear when things changed. Timelines can also be used to understand how long things continued without changing. Once you have identified when a change in a society or civilisation occurred, you can identify what the change was and understand its significance.

Changes that occurred in a society or civilisation can be listed and ranked in order of significance. To understand the significance of an event, refer to the key concept of significance (see page 193) and to the key skill of determining historical significance (see page 204).

When ranking changes in order of significance, you should use evidence to justify how significant (or not) these changes were to the society or civilisation. It is important to look at several different examples of continuity or change within a society or civilisation to be able to see any patterns of continuity and change.

When discussing examples of a change in a society or civilisation, remember to describe the speed or rate of change. For example, was the rate of change gradual (occurring slowly over time), or did it occur quickly?

Source 13 The remains of a stadium used in the Olympic Games in the ancient Greek town of Epidaurus. The Olympics are an example of continuity and change.

Identifying examples of continuity and change in the Olympic Games

The first ancient Olympic Games were held in 776 BCE. They were held in the city-state of Olympia in Greece. Sporting events took place alongside ritual sacrifices to honour the god Zeus.

The Olympic Games began with the sacrifice of an animal. Athletes trained hard and competed for a wreath of olive leaves. In later Games, Olympic champions also enjoyed fame all across Greece.

Participating in the Olympic Games was seen as a duty. Even involvement in wars was halted to allow participation in the Games. The five-day Olympic Games were held every four years until 394 BCE, when they were stopped by the Christian Roman emperor Theodosius I. The first modern Olympics Games were held in 1896 CE in Athens, Greece and continue to this day.

Practise the skill

1 In your own words, **define** the term 'continuity'.

2 Draw a timeline that shows:
   - when the ancient Olympic Games started
   - when the ancient Olympic Games stopped
   - when the modern Olympic Games started.

   These events should be sequenced in chronological order (by date).

3 **Identify** the characteristics of the ancient Olympic Games (for example, ritual animal sacrifice). For each characteristic, identify if this is still present in the modern Olympic Games.
   - If it is not present, then this characteristic is an example of change.
   - If it is still present, then this characteristic is an example of continuity.

   For example, ritual animal sacrifice is no longer a part of the modern Olympic Games. This is an example of change.

4 **Identify** any political, social or economic changes that occurred between the end of the ancient Olympic Games and the start of the modern Olympic Games. How might these changes have affected the Olympic Games?

5 Choose one characteristic that has changed, and **explain** why it has changed. For example, ritual sacrifice no longer occurs in the Olympic Games because the Olympic Games are now secular (not religious). You may need to conduct **research** to explain these changes.

KEY SKILL
Identifying continuity & change

Check your learning
Log onto your obook pro to complete the questions for topic 6.6.

Source 14 This stamp was printed in Greece, circa 1960, for the Olympic Games held in Rome (in 1960). It shows ancient athletes sprinting. While track and field events are still part of the Olympics (an example of a continuity), today athletes wear high-performance sports uniforms (an example of a change).

6.7 Determining historical significance

Understanding significance

significance
the importance given to a particular historical event, person, development or issue

The concept of **significance** relates to the importance assigned to aspects of the past. This includes people, events, developments, discoveries, movements and historical sites.

How to analyse significance

The 5Rs of historical significance can be used as a checklist to analyse the significance of something. It can also be used to help you structure your response. Source 15 outlines each of the 5Rs of historical significance. Source 16 is a sample response that has been provided to show you how to turn the 5Rs into a paragraph.

5Rs of significance	Questions to ask when analysing significance
R Remarkable	What was the most notable thing about the event/individual/group of people?
R Resulted in change	What happened as an immediate result of the event/individual/group of people? (think about short-term impacts)
R Revealing	What does the event/individual/group of people tell us about the time period?
R Resonates	How does the event/individual/group of people have an effect on future generations? (think about long-term impacts)
R Remembered	How is the event/individual/group of people remembered today? (think about evidence that still exists)

Source 15 The 5Rs of historical significance

REMARKABLE

RESULTED IN CHANGE

REVEALING

RESONATES

REMEMBERED

Socrates (470–399 BCE) was a remarkable Greek philosopher who was admired for his honesty and public-speaking skills. Socrates taught his many followers how to think with logic rather than emotion. He also encouraged them to question the morals and order of society, which resulted in change. This reveals that the ancient Greeks valued knowledge and their rights in society, such freedom of speech and democracy.

His teachings have resonated over time in many ways. For example, our legal system is based on fact, fairness and reason. To this day, he is remembered as the founding father of Western philosophy.

Source 16 A sample analysis of the significance of Socrates from ancient Greece. The 5Rs have been used to analyse his significance.

Check your learning
Log onto your obook pro to complete the questions for topic 6.7.

6.8 Analysing sources

primary sources
sources that existed or were made in the time period being studied

secondary sources
sources created after the time being studied

bias
a pre-set view about someone or something that is not altered by the presentation of facts and opinions to the contrary

You have already learnt that historians use two types of sources to gather evidence about the past:

- **primary sources** – objects created or written at the time being investigated; for example, during an event or very soon after
- **secondary sources** – accounts about the past that were created after the time being investigated and which often use or refer to primary sources and present a particular interpretation.

Understanding the origin and purpose of primary and secondary sources

Both primary and secondary sources are useful, but it is important to understand where they came from (origin) and why they were created (purpose) because they will almost always reflect the perspective of the person who made them, as well as the attitudes and beliefs of that time. All sources are affected by the author's own point of view, and in some cases the author may have been paid or forced to write in a particular way or ignore certain facts. This is referred to as **bias** and is often aimed at persuading the reader to agree with the author's point of view. This is why historians must carefully analyse and evaluate sources.

Analysing sources by asking questions

Analysing sources by asking 'who', 'what', 'when' and 'why' questions will help you identify the origin and purpose of the sources. For example:

Source 17 Questions to help analyse the origin and purpose of sources

Who	Who wrote, produced or made the source?	• Is the creator's personal perspective obvious in the source? • Is the creator a member of a particular group, religion or organisation?
What	What type of source is it?	• Was the source created at the time of the event or afterwards?
When	When was the source written, produced or made?	• How old is the source? • Is it an eyewitness account or is it written by someone at a later date? • Is the source complete?
Why	Why was it written or produced?	• Was it designed to entertain, persuade or argue a point of view? • Does the creator have anything to gain personally from the source? • What other events may have been happening at the time and might have influenced the author or source?

Collecting, comparing and selecting information

While researching, you will have located and collected a variety of different sources and types of information. Now it is time to compare and select the most relevant information that you will use as evidence.

Using graphic organisers to help you collect, compare and select information

Organisation charts are very useful tools for collecting, comparing and selecting suitable resources that you have located. A source evaluation chart like the one shown in Source 18 can help you do this.

Source 18 A source evaluation chart showing an example of how you might compare and select sources

Research topic: *Tutankhamun – how did he die?* **Hypothesis:** *Tutankhamun died as a result of a fall from a hunting chariot.*			
Source 1: *'King Tut died from broken leg, not murder, scientists conclude'* *National Geographic website*	Pros: • *Article is current and based on scientific evidence* • *Written by a reputable organisation – National Geographic* • *Very detailed medical evidence* Cons: • *The scientist refuses to listen to any counter-arguments by other experts.* • *Article uses words like 'probably' and 'most likely' and 'maybe', so they could be wrong.*	Category of source: • *Secondary source* • *Scientific article*	Reference information: *http://news.nationalgeographic.com/news/2006/12/061201-king-tut_2.html* *(Accessed 23/08/12)*
Source 2:	Pros: Cons:	Category of source:	Reference information:
Source 3:	Pros: Cons:	Category of source:	Reference information:
Source 4:	Pros: Cons:	Category of source:	Reference information:
Source 5:	Pros: Cons:	Category of source:	Reference information:
Recommended sources in order of relevance/usefulness: 1 2 3 4 5			

Source 19 The origins and purposes of these primary (A) and secondary (B) sources are very different even though they are both linked to ancient Egypt. What are the pros and cons of each of them as a source in studying history?

Drawing conclusions about the usefulness of sources

A useful source, whether primary or secondary, is one that will add to your understanding of history. The source needs to be relevant to the topic or question asked and must also be reliable. The following are good questions to ask in order to determine the usefulness of a source:

- Is it a reliable source?
- Is there enough information and sufficient detail to help me answer the research question?
- Does the information support and reinforce evidence from other sources?
- Is it balanced or does it present one point of view (bias)?
- Is it based on fact or opinion?
- Is the information current?

Separating fact from opinion

The conclusions you draw about the sources you have found will determine their usefulness. In many cases, this means separating fact from opinion. A fact is something that can be proved: when an event took place, what happened and who was involved. An opinion is based on what a person, or persons, may believe to be true. A simple way to detect whether a statement is fact or opinion is to look closely at the language used. The use of words like 'might', 'could' and 'think' all indicate that an opinion is being expressed. For example:

- fact: Tutankhamun was a pharaoh who died.
- opinion: Tutankhamun might have been murdered.

Understanding contestability

The term 'contestability' refers to explanations or interpretations of past events that are open to debate. Historians around the world often have access to very different sources. Artefacts, such as cave paintings or artworks, may have been damaged or are incomplete. Written records may contain errors or have been changed or falsified after they were written. Some artefacts may even have been destroyed forever. This can lead historians to different conclusions about what they are seeing. Even historians studying the same sources can sometimes come to different conclusions about what the evidence is telling them. This is one of the exciting things about history – it is open to debate. There is often no right answer, and historians are always seeking a more complete understanding of the past.

For example, the discovery of Tutankhamun's tomb in 1922 sparked fierce debate among historians because they interpreted the evidence from the discovery differently. Some believed he was murdered, others believed his death was an accident.

As technology advances, evidence can come to light that continues debates like these. For example, tests conducted in 2010 showed that Tutankhamun had malaria in his system when he died. Some historians believe this contributed to his death. Other historians believe that Tutankahmun died as a result of an infection from a broken leg. Therefore, we would call this issue a 'contested' one.

Source 20 Egyptian archaeologists supervise the removal of Tutankhamun's mummy from the stone sarcophagus in his tomb. The exact cause of Tutankhamun's death has been contested by historians since the discovery of his tomb in 1922.

Understanding different perspectives, attitudes and values

Using empathy

Empathy helps us to understand the impact of past events on a particular individual or group, including an appreciation of the circumstances they faced and the motivations, values and attitudes behind their actions. Put another way, empathy is the ability to 'walk in someone else's shoes' – to be aware of, and sensitive to, their feelings, thoughts and experiences.

Empathising brings history to life. It connects us as human beings regardless of how much time has passed.

Source 21 The ancient Chinese practice of foot binding was carried out for around 1000 years. Foot binding was the painful practice of breaking the bones in a young girl's feet and tightly binding them until she was fully grown. Tiny feet were considered beautiful and improved a woman's social status, helping to ensure a 'good' marriage. Using empathy helps us to understand the pain these women went through, and what motivated their families to do this.

Understanding perspectives

Perspective is a point of view – the position from which people see and understand events going on in the world around them. People will have had different points of view (or perspectives) about a particular event, person, civilisation or artefact depending on their age, gender, social position and their beliefs and **values**.

Just like everyone else, historians have perspectives, which can influence their interpretation of the past and the way in which they write about it. Despite their own perspectives, historians must try to understand the different values and beliefs that shaped and affected the lives of people who lived in the past.

values
qualities of character that a society or community regards highly; for example, a traditional Japanese value is honour

Source 22 This Roman floor mosaic shows young slaves carrying food for a banquet. It dates back to around the second century CE. Many people today would share the belief that slavery is wrong, however from the perspectives of the slaves themselves and society in general, it was an accepted part of life in ancient Rome.

Analysing different perspectives, attitudes and values

Historians analyse perspectives (often found in primary sources) to find out how people experienced life in the past. Both primary and secondary sources can show many different points of view, attitudes and values. These may include personal, social, political, economic or religious points of view.

For example, the Greek historian Herodotus visited Egypt in 450 BCE and wrote an account of how the Great Pyramid of Giza was constructed (see Source 23). For many years, this account was believed to be true, along with Herodotus' claim that over 100 000 slaves had been forced to build the pyramid.

However, historians now know that Herodotus' account is incorrect – at the time of his visit, the pyramid had been standing for over 2000 years. Modern historians have excavated skeletons and believe that the pyramid was built by Egyptian labourers, not slaves, who worked on it during flood time when they were unable to work on farms. They lived in specially constructed villages near the worksite. Graffiti etched into stonework indicates that at least some of the workers took pride in their labours, calling themselves 'Friends of Khufu'.

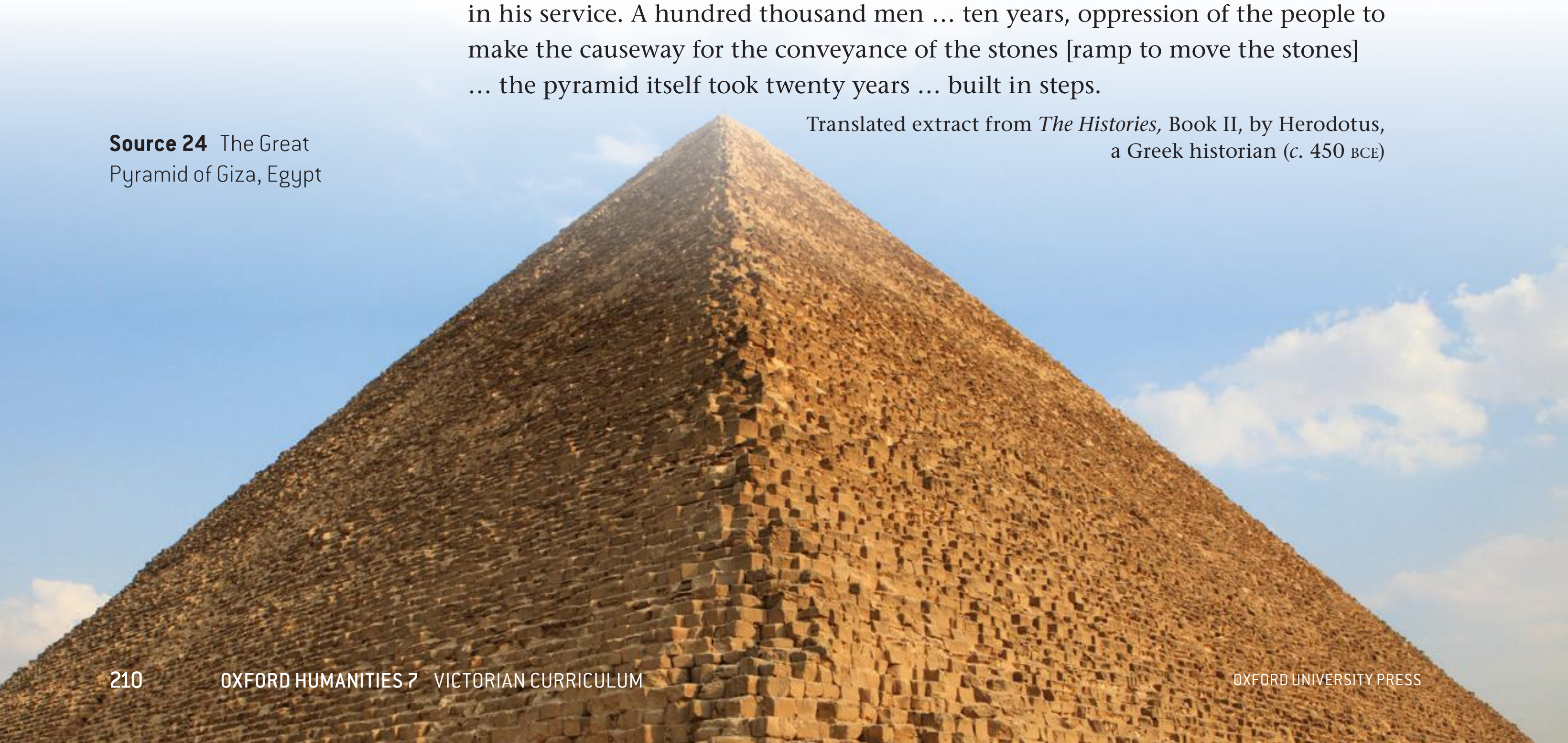
When analysing Herodotus' perspective, you should ask yourself these kinds of questions:

- What could have motivated Herodotus to deliberately write this false account?
- Did Herodotus' experience as a citizen of Athens mean his view of the world was different to that of the Egyptians?
- Was Herodotus trying to make his account more interesting and exciting for readers?
- Did Herodotus dislike the pharaoh and his rule over ancient Egypt?

Source 23

> [Then] Cheops [the pharaoh] succeeded to the throne … he closed the temples and forbade the Egyptians to offer sacrifice, compelling them instead to labour in his service. A hundred thousand men … ten years, oppression of the people to make the causeway for the conveyance of the stones [ramp to move the stones] … the pyramid itself took twenty years … built in steps.

Translated extract from *The Histories,* Book II, by Herodotus, a Greek historian (*c.* 450 BCE)



Source 24 The Great Pyramid of Giza, Egypt

Analysing sources using DAMMIT

The term 'source analysis' is used a lot in the study of history. There are different ways to analyse sources, or different 'things' that you might look for and discuss in any given source. These include the date, author, material, motive, intended audience and tone (DAMMIT) of a source.

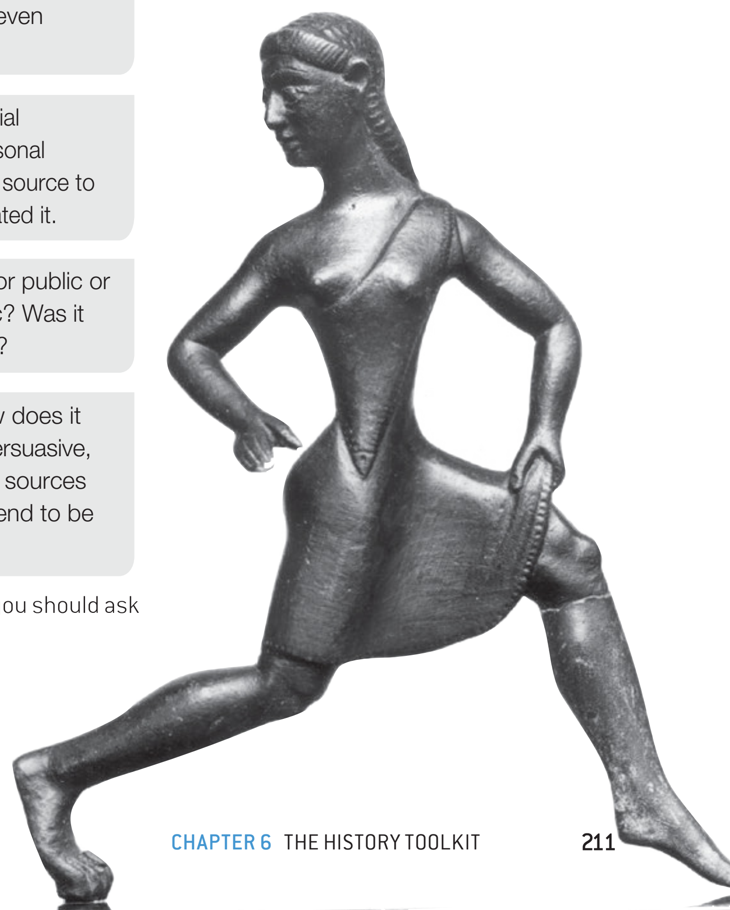
Imagine that you have been asked to analyse the statue in Source 26. Between the source itself and the information contained in the caption, there is a lot for you to interpret and analyse, but it can be difficult to know how to start.

Using an acronym (such as 'DAMMIT') can make it easier to know what you should be looking for, and what questions you should be asking. Read the steps in Source 25 closely to see what each word means and how it can help you begin analysing the source.

Letters of the acronym		Questions to ask when looking at sources
D	Date	When was the source created? If it was created during the time you are studying, it is a primary source, but if it was created after that then it is a secondary source. A primary source may show attitudes or describe an experience whereas a secondary source is often a factual interpretation.
A	Author	Who is the author of the source? Think about the gender, age, social status and profession. For example, they could be a historian, a leader, an aristocrat, a soldier or a prisoner.
M	Material	Is the source written, oral or visual? It could be a newspaper, letter, diary, photograph, textbook, blog or tweet, or even statistics in the form of a graph or map.
M	Motive	Why did the author produce this source? Was it for official government use, a religious affiliation, the media, or personal reasons? A historian tries to establish the context of the source to help understand the perspective of the person who created it.
I	Intended audience	Who was the source produced for? Was the source for public or private use, was it for academics or the general public? Was it intended to be viewed, or was it intended to be private?
T	Tone	How is the information in the source expressed? How does it make you feel? Words to describe tone can include persuasive, critical, questioning, funny or reflective. Often primary sources are more emotional than secondary sources, which tend to be factual as they are written in hindsight.

Source 25 The DAMMIT acronym is helpful way to remember the questions you should ask yourself when approaching any source.

Source 26 This bronze statue, which was found in Prizren in Kosovo, depicts a running girl. It is believed to be from Sparta, where girls were schooled and took part in physical education. They also took part in the Heraia, an Olympic Games held for women in honour of the goddess Hera.



Turning your questions into a written response

Now that you have looked at Source 26 and asked a range of questions, it is time to put your source analysis into a paragraph. When writing your response, the 'DAM' (date, author, material) can be summarised in one to three sentences, whereas the 'MIT' (motive, intended audience, tone) will require a bit more detail. You should provide examples from the source to support your analysis in the 'MIT' section.

For a written source, use a short quote from the source and explain its meaning. For a visual source, such as Source 26, refer to a feature or symbol in the source and explain why it is relevant. In general, a historical source analysis should form a paragraph of eight to ten sentences.

Source 27 is an example of a source analysis in response to the bronze statue in Source 26. Annotations have been provided to show you exactly how you can turn your questions into a written response.

MATERIAL | DATE | AUTHOR | MOTIVE | INTENDED AUDIENCE | TONE

This bronze figurine of the girl running was created between 520 and 500 BCE. Based on the style, it is believed to have been made by a Spartan person. The motive of this source is to show that women in ancient Greece were athletic. This is conveyed through the short tunic she is wearing and holding up with one hand, and the wide stance of her legs in a running pose. The intended audience for the statue may have been the winner of a female running race, as a type of trophy. The back foot suggests it was once attached to something else, possibly as a decorative statue. The tone of the source portrays her as strong and tough. This is seen through her muscular shape, and running stance of her body. Her face is neutral but looking back perhaps to see how close her opponents are in the race.

Source 27 A sample response that has been written using the DAMMIT approach

Source 28 Part of the Parthenon, a temple built in ancient Greece to honour the goddess Athena

Check your learning
Log onto your obook pro to complete the questions for topic 6.8.

6.9 Communicating and reflecting

Using historical terms

Just like scientists, historians share a common language to communiate. They use historical terms and concepts to clarify what they are talking about and share their findings. Source 29 lists and defines some commonly used historical terms.

Quizlet
Become familiar with historical terms by reviewing them on Quizlet.

Source 29 Some useful historical terms

Term	Definition
AD	An abbreviation of the Latin *Anno Domini* – 'in the year of our Lord'; a term used for any time after the birth of Christ (i.e. any time after 1 CE); this term has now largely been replaced by CE (see entry below).
age	A period of history with specific characteristics that make it stand out from other periods (e.g. the Stone Age, the Bronze Age)
BC	An abbreviation of Before Christ, a term used for the period of history before the birth of Christ (i.e. any time before 1 CE); this term has largely been replaced by BCE (see entry below).
BCE	An abbreviation of Before the Common Era, a term used for the period of history before the birth of Christ (i.e. any time before 1 CE); this term has largely replaced BC, because it is culturally neutral.
CE	An abbreviation of Common Era, a term used for any time after the birth of Christ (i.e. any time after 1 CE); this term has largely replaced AD, because it is culturally neutral.
century	A period of 100 years
chronology	A record of events in the order they took place
circa	A Latin word meaning 'around' or 'approximately' (abbreviated as *c.*)
decade	A period of 10 years
era	A period of time marked by distinctive characteristics, events or circumstances (e.g. the Roman era, the Victorian era)
millennium	A period of 1000 years
prehistory	The period of history before written records
time period	A block of time in history
timeline	A sequence of related historical events shown in chronological order; a timeline is generally scaled with years marked at equal distances.
year	A period of 365 days

Historical writing

Historical writing requires you to describe and explain using evidence from a range of sources. You will often be required to outline the significance of a past event while providing reasons for the event and referring to relevant evidence.

How to write a description

The purpose of descriptions is to give clear information about people, places or objects at particular moments in time. They focus on the main characteristics of particular people or things.

Descriptions must always follow a set structure, and events must be organised in **chronological order**.

chronological order the order in which events have taken place

Source 30

Structure of a description	
Introduction	• Introduces the subject. • States the name of the person or event. • Outlines why the topic is important.
Body	• Provides details about the person or event (including dates and important facts). • Information must be organised in paragraphs, with a new paragraph for each detail. • Quotations and descriptive words should be used where relevant.
Conclusion (optional)	• Revisits the most important details and provides a concluding statement.

How to write an explanation

The purpose of explanations is to tell how or why something happened. They provide the reader with a greater understanding of the causes and effects of past events. Explanations must be clear and factual. They should not contain opinions or emotional language. There must be supporting evidence from a variety of sources, which are acknowledged in a bibliography using the correct referencing format (see page 197).

Source 31

Structure of an explanation	
Introduction	• Clearly states the main idea or aim. • Briefly outlines the reason/s why an event occurred and its effect/s.
Body	• Each idea must be supported by evidence. The evidence should be analysed to explain its significance or importance. • Information must be organised in paragraphs, with a new paragraph for each detail. • Language should be precise and not contain emotional words. • Personal opinions should be avoided.
Conclusion (optional)	• Provides a short and clear overview of the main ideas presented in the body. • States a conclusion drawn from the evidence.

How to write a paragraph using TEEL

When writing a paragraph – either by itself or as a part of an essay – it is important to structure your thoughts logically. The acronym TEEL is a helpful way of remembering how to do this. Read Source 32 carefully to familiarise yourself with each of the steps of TEEL. Then read Source 33 to see an example of a paragraph that has been written using TEEL.

Source 32 The steps of TEEL

T	Topic	Introduce your main idea in the first sentence.
E	Explain	Provide some background knowledge on your main idea.
E	Examples	Be sure to use two or three examples in a paragraph. Examples are important in a history essay, as they act as your evidence. Examples include facts and figures, dates, names, places, events, statistics and sources.
L	Link	Sum up your paragraph by providing some analysis or evaluation on the topic. Do this by providing your opinion on the matter. Some ideas for a good link include: • How useful is the evidence you have used? • Did any changes take place because of the example you have used? • Do you need any more evidence to make a proper judgement on the topic? • In your link, use linking phrases such as 'overall' or 'ultimately' to help make your final statement.

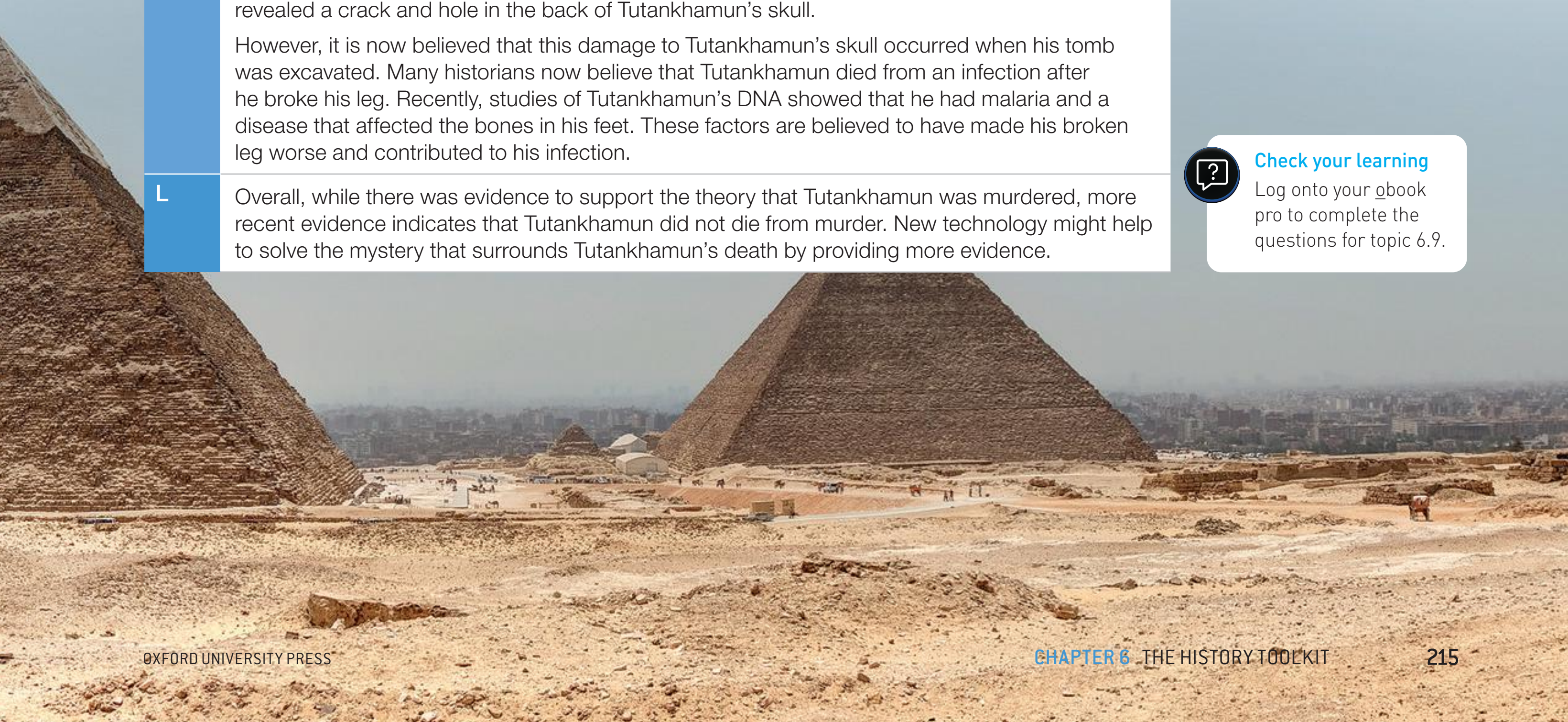
Prompt: 'How did Tutankhamun die?' Source 33 below is a response to this prompt that follows the TEEL structure.

Source 33 Written response example using TEEL

T	Originally, historians believed that Tutankhamun's death was the result of a murder plot.
E	The popular theory was that Ay, adviser to the pharaoh, killed Tutankhamun. Ay's reason for murder may have been political, because Tutankhamun reversed the religious reforms that his father Pharaoh Akhenaten put in place. To Ay, this decision may have been felt like a betrayal to Akhenaten's legacy. As a result, Ay may have murdered Tutankhamun to take the throne for himself.
E	Evidence to support this theory has been discovered using scientific techniques. CT scans have revealed a crack and hole in the back of Tutankhamun's skull. However, it is now believed that this damage to Tutankhamun's skull occurred when his tomb was excavated. Many historians now believe that Tutankhamun died from an infection after he broke his leg. Recently, studies of Tutankhamun's DNA showed that he had malaria and a disease that affected the bones in his feet. These factors are believed to have made his broken leg worse and contributed to his infection.
L	Overall, while there was evidence to support the theory that Tutankhamun was murdered, more recent evidence indicates that Tutankhamun did not die from murder. New technology might help to solve the mystery that surrounds Tutankhamun's death by providing more evidence.

Check your learning

Log onto your obook pro to complete the questions for topic 6.9.



6.10 Archaeological digs

geneticists
scientists who specialise in the study of genetics

palaeontologists
scientists who study life in the geological past by examining the fossils of plants and animals

archaeologists
people who uncover and interpret sources from the past, such as the remains of people, buildings and artefacts

archaeological digs
sites known (or thought) to contain items of interest from the past; these sites are roped off and carefully dug up by archaeologists

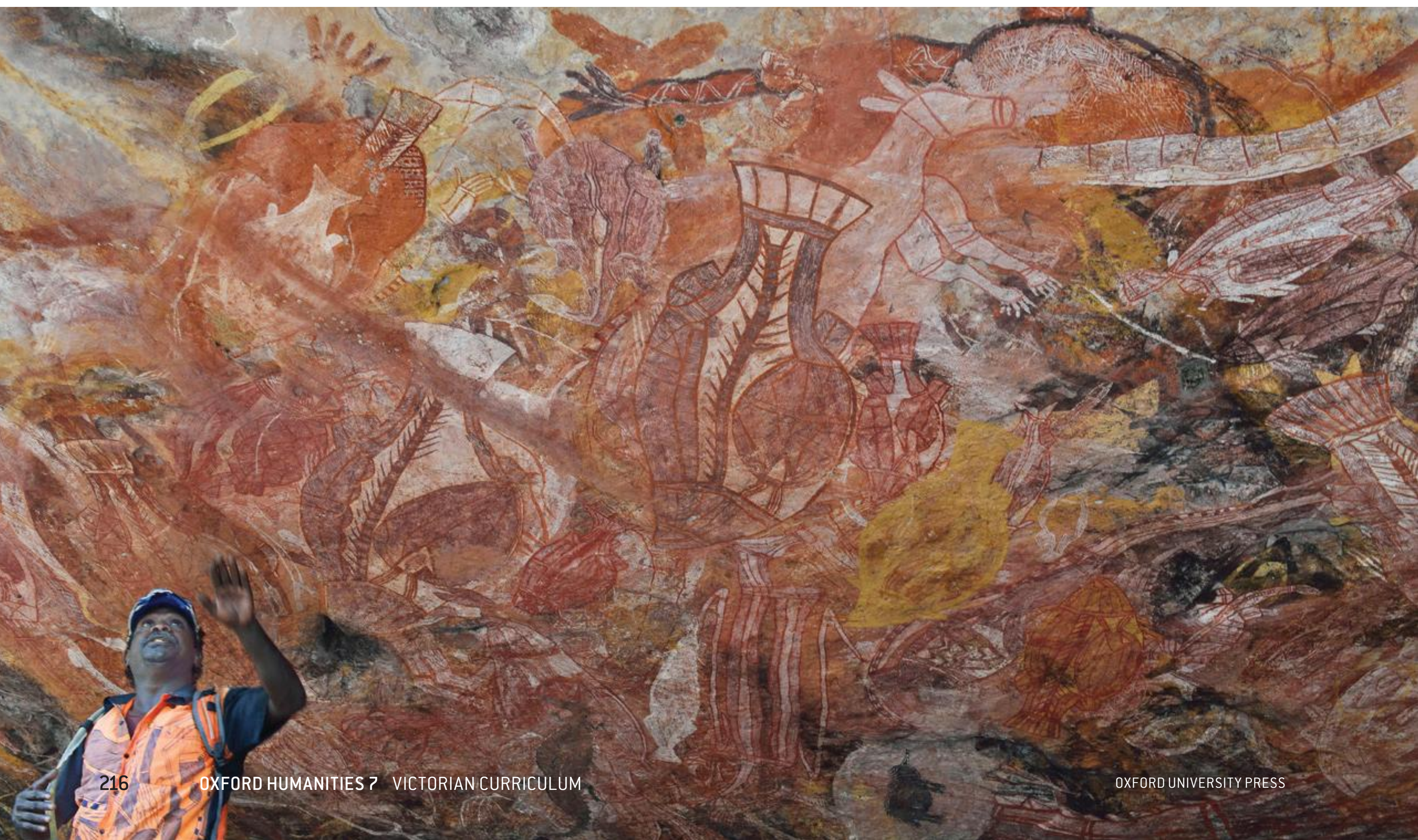
Historians try to understand and explain the past by examining sources, which include fossils, bones, books and ruins. Historians cannot just rely on one source of evidence for an investigation; they need to act like detectives, constantly searching for clues about the past to gather as much evidence as possible.

When conducting investigations into the ancient past, historians rely on the work of many other experts, including biologists, **geneticists**, **palaeontologists** and **archaeologists**. Many of these experts work together at **archaeological digs**, which are an important source of evidence of the ancient past.

Archaeologists uncover sources of evidence of past peoples. This includes not only skeletons but also the places where they lived and travelled, such as the ruins of towns, temples and tombs; artefacts they made, such as pottery, weapons, tools and coins; inscriptions and stone reliefs they carved; even rubbish dumps (middens) and fire sites. Some sources are so old that they have turned into fossils or remain only as a 'shadow' or crust in the soil. Some archaeologists work underwater, looking for sources on or beneath the sea bed, such as old shipwrecks.

Most sources found on land are buried. They might be covered by the silt of past floods, sand blown by the wind, or forests that have grown over them. Some, like the ancient Aztec capital of Tenochtitlan, lie beneath more recent cities or settlements that have been built over the top of them.

Source 1 Aboriginal art at Injalak Hill, Northern Territory; this is evidence of Australia's ancient Aboriginal peoples. A historian might investigate the age of these paintings, who painted them and why.



Once a site is discovered, archaeologists rope off or otherwise protect the site, called the 'dig'. It is then marked off into segments, in a grid. This allows the precise location of any items that are found to be recorded. After surveying the site, archaeologists remove overlying rocks and dirt. Ancient objects can be extremely delicate, so archaeologists need to take great care uncovering them.

Once a source has been fully exposed or excavated, the archaeologist photographs and numbers it, and records details of its size, appearance and exact location.

Check your learning
Log onto your obook pro to complete the questions for topic 6.10.

Sources of evidence

- Archival material (e.g. letters, reports, documents, voice recordings, newspapers, official documents) found in libraries, archives, and on specialised internet sites
- Textbooks and journals by experts relating to the subject matter under investigation
- Portable artefacts (e.g. tools) and other sources (e.g. a skull) in places such as museums, libraries and art galleries
- Cemeteries, caves, beach middens, historic sites (e.g. with ruins)

Source 2 Examples of historical sources; some can be found at archaeological digs. Others can be used to make sense of objects found at digs.

Source 3 Some archaeological excavations can be quite deep because the sources being excavated may be covered by many layers of sand, dirt, rock or debris. This image shows the mudbrick walls of the 3400-year-old city of Aten, which was discovered in Egypt in 2020.

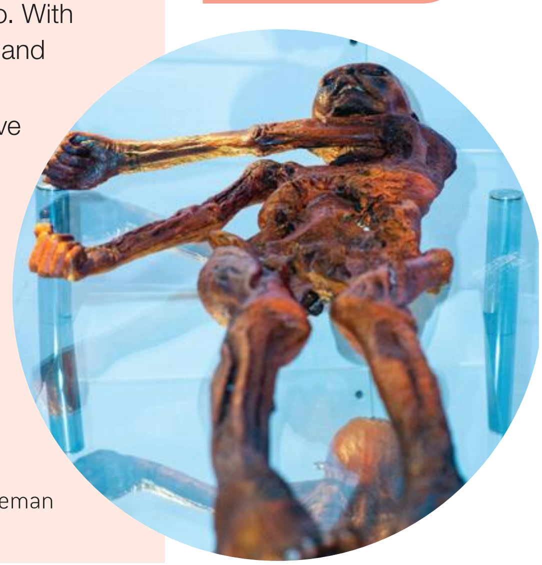
Ötzi the Iceman

In 1991 the preserved corpse of a man who had lived 5300 years ago was found accidentally by tourists in the Ötzal Alps, in northern Italy. Ötzi the Iceman is the oldest natural mummy in Europe. At first, the people who found him did not realise the significance of their find. A jackhammer was used to chisel the corpse out, damaging part of the body. Later, the body was treated with much more care. The mummy provided many different types of evidence that showed what life was like when Ötzi was alive. For example, his lungs were blackened, probably from breathing in campfire smoke, and his stomach contained remnants of what he had been eating.

Scientists could tell what kind of environment he had lived in from pollen found in his intestine, and they could see what sort of lifestyle he had led from his bones. He also had a tattoo. With the corpse were clothes, tools and equipment, which presented further clues to his life. Ötzi gave historians new insights into the lives of ancient Europeans.

For more information on this key concept, refer to page 193.

KEY CONCEPT
Significance



Source 4 The remains of Ötzi the Iceman

6.11 Scientific techniques

When archaeologists and historians find objects from the past, they often seek help from scientists who use the latest techniques and machinery to gather more information. Many of these techniques – known as scientific techniques – are used to assess the likely ages of sources. They can tell us, for example, the ages of the skulls in Source 6. Scientific techniques like the ones described below need to be used in combination with other historical techniques and evidence to provide a complete explanation of the past.

Some scientific techniques used to analyse historical sources

- Stratigraphy (analysis of soil or rock layers)
- Fluorine dating (analysis of the age of bones)
- Radiocarbon dating
- Dendrochronology (analysis of tree rings)
- DNA analysis
- Ice-core sampling
- Palynology (analysis of microscopic organic compounds)

Source 5 Some scientific techniques used to investigate the past

Scientific dating techniques

Many scientific dating techniques are used to investigate the past. Some are absolute dating techniques, which allow the age of an object to be stated as precisely as possible (in years). Others are relative dating techniques, which can only determine whether an object is of an earlier or more recent date relative to (compared with) another object.

Stratigraphy

Stratigraphy involves analysing sources found in the different strata of earth. Strata are layers marking different geological time periods. Since the layers of rocks are generally youngest on top and oldest on the bottom, items found in the lowest strata will usually be the oldest (see Source 7). In an archaeological dig, scientists may know that a particular stratum (the singular form of strata) is 1000 years old. This means that the items excavated from that stratum will probably be of a similar age.

Natural disasters and geological events can change the way strata are arranged, so it is not an exact science. Stratigraphy is a relative dating technique.

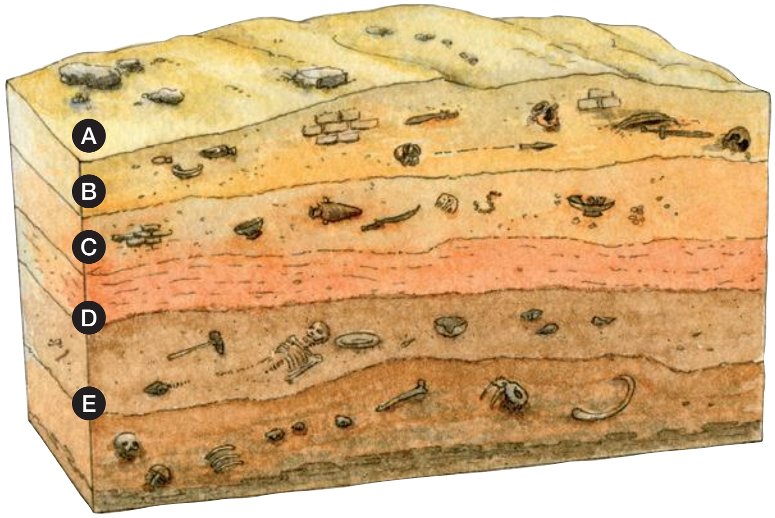
stratigraphy
a method used to determine the approximate (or likely) age of remains from the past based on the strata (or layer) of earth or rock in which they were found

Fluorine dating

Bones can be dated using **fluorine dating**. Bones absorb the chemical element fluorine from the soil in which they are immersed. The longer they are there, the more fluorine they absorb. Like stratigraphy, this is a relative dating technique.

fluorine dating
a scientific method used to estimate the age of objects by measuring the amount of fluorine they contain

Source 6 Three skulls – front: *Homo habilis* (Kenya, 1.88 million years old); centre: *Homo erectus* (Kow Swamp, Victoria, 13 000 years old); back: *Homo sapiens* (Keilor, Victoria, 13 000 years old)



Source 7 Different artefacts are found in different strata (or layers). These are generally positioned according to their age. Artefacts found in stratum A will be more recent than those found in stratum E.

Radiocarbon dating

Radiocarbon dating is a complex technology that is more accurate than stratigraphy and fluorine dating. It is an absolute dating technique. All living things contain a particular type of carbon called C14, which is why we are called carbon-based life forms. This carbon is continuously renewed while an organism is alive. Living things stop absorbing C14 when they die. C14 is radioactive, which means that it gradually breaks down at a known rate into a different type of carbon. Scientists use special equipment to work out how much C14 is still present in once-living organisms. Using that information, they can work out how long ago the organism died, and therefore how old it is.

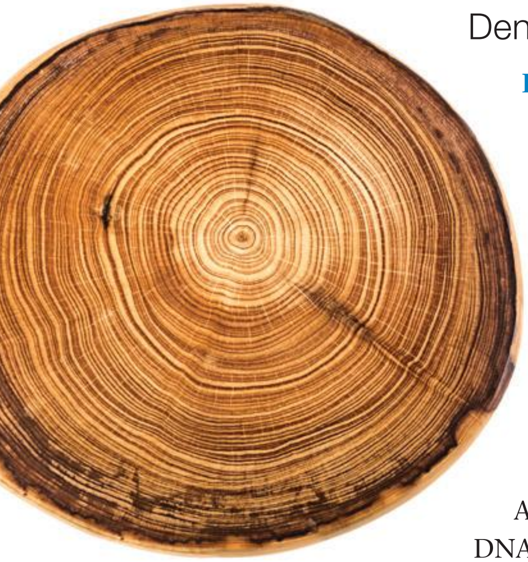
radiocarbon dating
a method used to estimate the age of something that was once alive; the amount of radioactive carbon in the remains of the object is tested and gives a good indication of age because carbon breaks down over time at a known rate

Source 8 Radiocarbon dating would determine the likely age of mummified human remains such as these. This corpse was found in central Asia.

Dendrochronology

Dendrochronology refers to tree-ring dating. Scientists can date a tree by studying the growth rings in a cross-section of its trunk (see Source 9). Each year in a tree's life, a new ring forms. It varies in shape and width according to the conditions that year. It has two parts: a light part (spring growth) and a dark part (summer/autumn growth). Scientists can study these rings and can compare rings between trees to determine their age.

Sometimes experts can calculate the relative age of wooden artefacts, such as bowls or floorboards. This is possible if they can match the ring patterns in the wood with those of local trees of the same species.



Source 9 Trees grow a new ring every year.

dendrochronology
a method used to estimate the age of trees by counting the rings in the cross-section of a tree trunk

palynology
the study of microscopic organic matter in soil

DNA analysis

All living organisms (except some viruses) contain deoxyribonucleic acid, or DNA. It holds the genetic code that determines how a living thing develops and operates. It is comparable to the ones and zeros that make up computer code and tell your software what to do. DNA is sometimes preserved in the remains of once-living organisms. Scientists can learn a lot from studying DNA. They can tell what type of organism it is, and how closely related it is to other species and to other individuals of the same species. For example, they can study the DNA of ancient remains and determine how closely related they are to modern humans.

Palynology

Palynology is the study of microscopic organic compounds (such as pollen) that are found in soil. Taking soil cores enables scientists to analyse fossilised pollen and find out how plant life in an area has changed over thousands of years (see Source 10).

Source 10 Analysis of the fossilised pollen in this soil core allows researchers to find out how plant life in a particular area changed over thousands of years.

Check your learning
Log onto your obook pro to complete the questions for topic 6.11.

6.12 Conserving and protecting sources

Historical sources can be very fragile. Once exposed to the open air, weather, pollution and humidity, many items will quickly deteriorate. In addition, sources may be stolen or broken by careless handling.

Tourist numbers are growing rapidly in places such as Pompeii and the Aboriginal art caves in the Kimberley. Too much trekking over the same ground, too much touching and too much breathing in a confined space can damage sources, especially if they are very old and fragile. In addition, such actions may cause offence or show disrespect to others' beliefs.

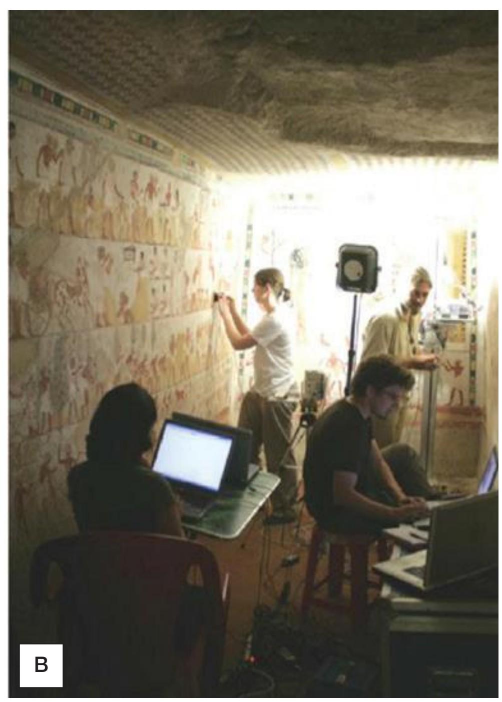
Conservators are now taking a range of measures to protect certain objects and places from overexposure. For example, Aboriginal art found in caves is often fenced off. Such an action respects the spirituality of Aboriginal peoples but also protects this ancient art from damage. Another example is the inclusion of certain old buildings in Australia and around the world on heritage lists, which ensures their protection and conservation.

Many sources are stored in libraries, archives, art galleries and public museums where they can be cared for and preserved. Valuable, fragile or very important sources can usually be viewed but not borrowed, touched or removed.

Venues such as museums and galleries provide security and proper storage facilities. Their design also sets the right environmental conditions. Some items, for example, must have muted light or low humidity. In addition, these institutions have staff who know how to restore and repair damaged items. They also know which artefacts are the most important to conserve, because conservation can be expensive.

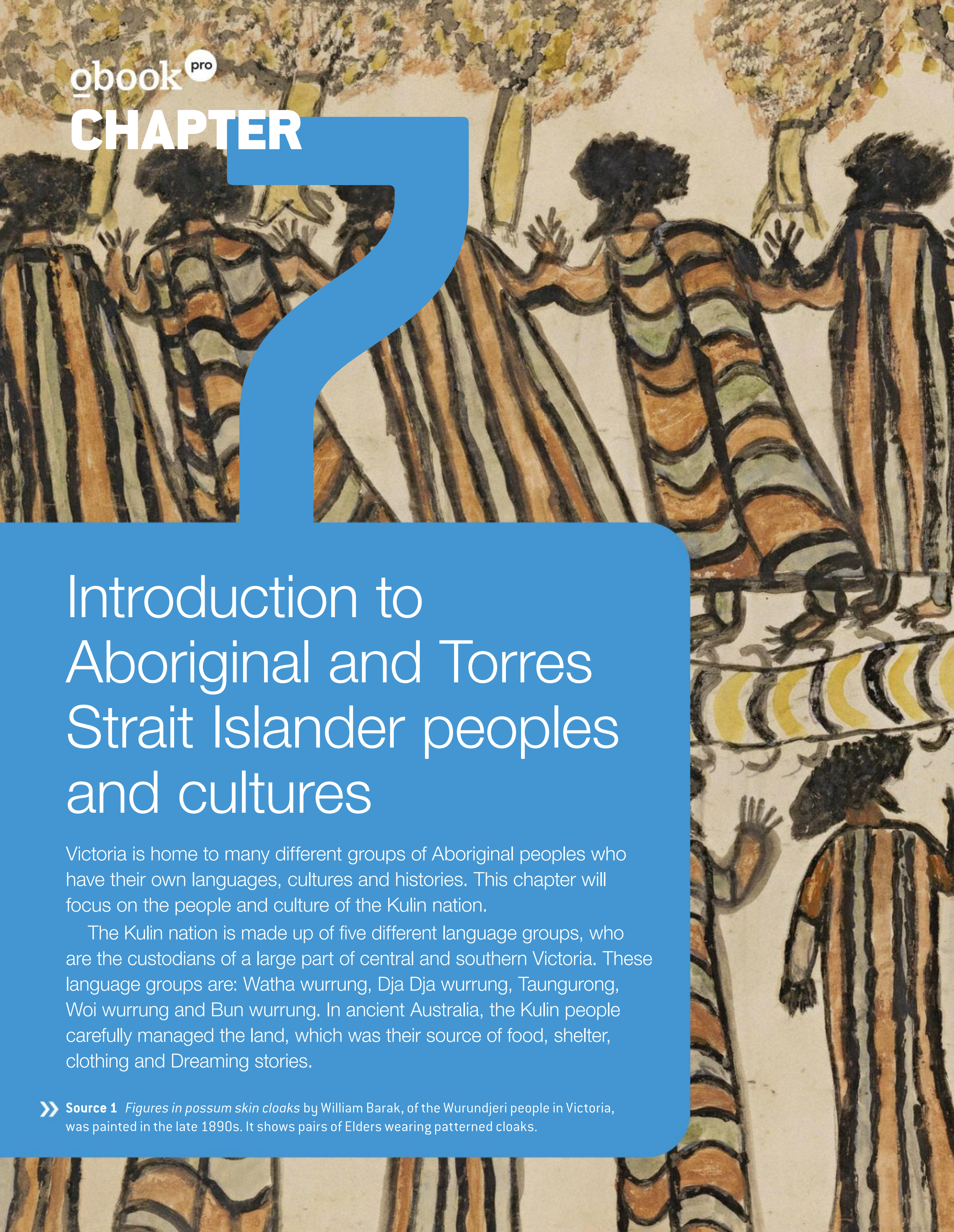
Source 11 Restoration began in the Tomb of Menna in Egypt in 2006. Photo A shows a painting on the wall of the tomb. Photo B shows a team of experienced scientists, historians and archaeologists working together to restore the tomb.

A



B

Check your learning
Log onto your obook pro to complete the questions for topic 6.12.



CHAPTER 7

Introduction to Aboriginal and Torres Strait Islander peoples and cultures

Victoria is home to many different groups of Aboriginal peoples who have their own languages, cultures and histories. This chapter will focus on the people and culture of the Kulin nation.

The Kulin nation is made up of five different language groups, who are the custodians of a large part of central and southern Victoria. These language groups are: Watha wurrung, Dja Dja wurrung, Taungurong, Woi wurrung and Bun wurrung. In ancient Australia, the Kulin people carefully managed the land, which was their source of food, shelter, clothing and Dreaming stories.

Source 1 *Figures in possum skin cloaks* by William Barak, of the Wurundjeri people in Victoria, was painted in the late 1890s. It shows pairs of Elders wearing patterned cloaks.

7A
How did physical features influence life in the Kulin nation?

7B
What was life like for the people of the Kulin nation?

Please note
Aboriginal and Torres Strait Islander readers are advised that this chapter (and the resources that support it) may contain the names, images, stories and voices of people who have died.

Non-Indigenous readers should be aware that showing the names and photographs of people who have died can cause distress for Aboriginal and Torres Strait Islander peoples who believe it disturbs the spirits of those who have died.

7.1 Aboriginal Australia

In this topic, you will:

» gain an overview of the language, social or nation groups of Aboriginal Australia.

See, think, wonder

Look closely at Source 2.

- What do you see?
- What do you think?
- What do you wonder?

Many Aboriginal cultures developed on the Australian continent over thousands of years. Different Aboriginal groups that shared similar languages and cultures would sometimes form nations. Nations can cover large geographical areas. For example, the Kulin nation in Victoria is made up of people from five different language groups: the Wathaurong, Dja Dja wurrung, Taungurong, Woi wurrung and Bun wurrung. Source 2 shows the location of Aboriginal nations and language groups across Australia.

Source 1 A reference guide to key terms in this area of study

Reference guide	
Nation	A term for a group of Aboriginal peoples. A nation can be made up of a single culture or language group, or many cultures and language groups.
Language group	A term for a group of Aboriginal peoples who share the same language. This can include smaller groups or clans who do not live together but speak the same language.
Woi wurrung	A language, or the name of the language group, in central to eastern Victoria. The Woi wurrung are part of the Kulin nation.
Wurundjeri	The group of peoples that speak Woi wurrung. They are made up of smaller groups or clans who mostly lived separately but who shared many customs and socialised together.

AIATSIS MAP OF INDIGENOUS AUSTRALIA

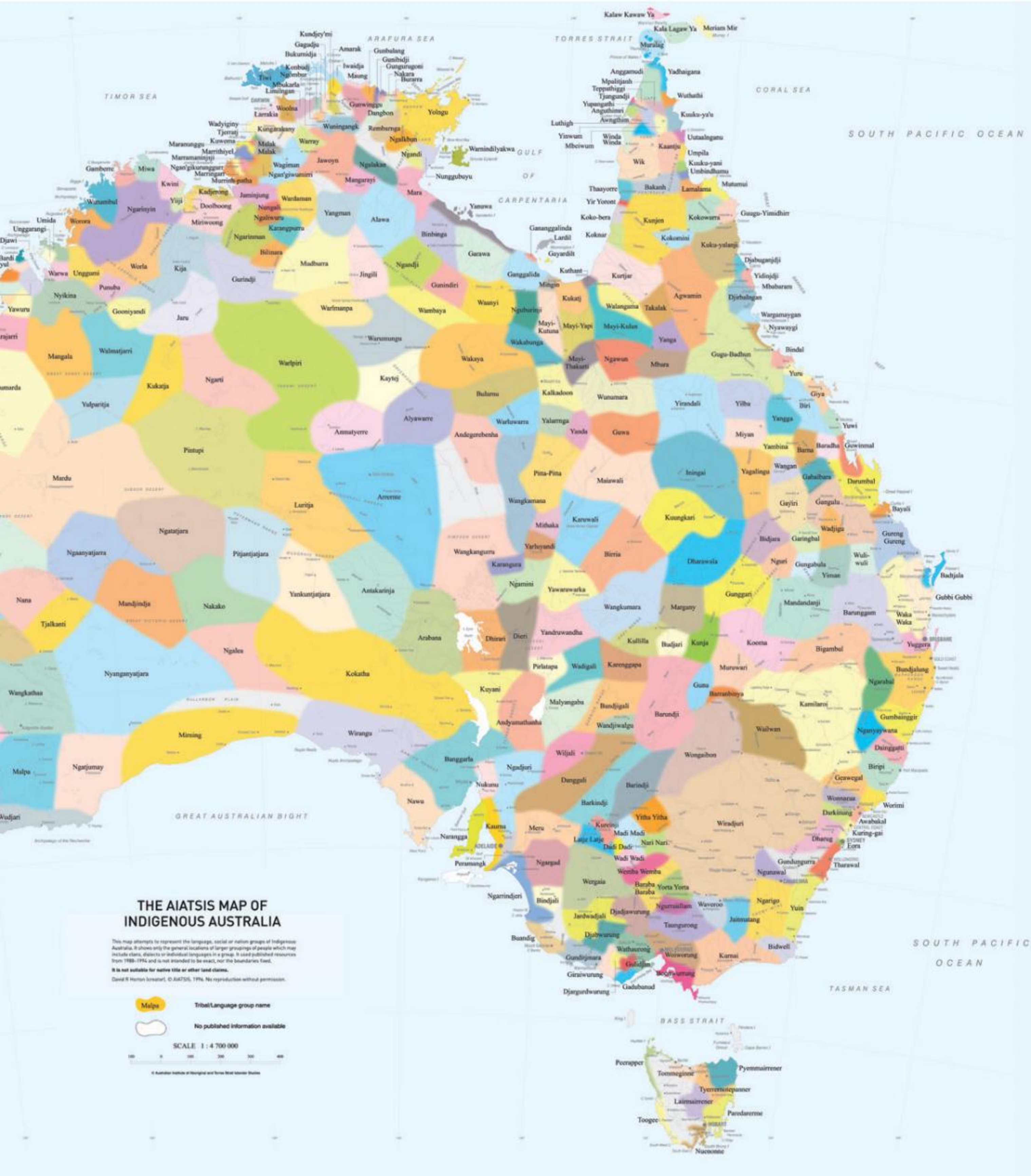
Source 2

Note: This map attempts to represent the language, social or nation groups of Aboriginal Australia. It shows only the general locations of larger groupings of people which may include clans, dialects or individual languages in a group. It used published resources from the eighteenth century-1994 and is not intended to be exact, nor the boundaries fixed. It is not suitable for native title or other land claims. David R Horton (creator), © AIATSIS, 1996. No reproduction without permission. To purchase a print version visit: https://shop.aiatsis.gov.au/

7.1 CHECK YOUR LEARNING

Evaluate and create

1 Examine Source 2. Find the area where you live and identify the name of the Aboriginal nation or language group who were the first custodians of the land.
Using the internet or library, conduct **research** on the group. In pairs, discuss the following questions:
 a How do you say hello in the local language?
 b What types of food were traditionally eaten in the area?


THE AIATSIS MAP OF
INDIGENOUS AUSTRALIA
Malpa
Tribal/Language group name
No published information available
SCALE 1 : 4 700 000
ARAFURA SEA
TIMOR SEA
TORRES STRAIT
CORAL SEA
SOUTH PACIFIC OCEAN
GULF OF CARPENTARIA
GREAT AUSTRALIAN BIGHT
BASS STRAIT
TASMAN SEA

7.2 Creation stories of the Kulin nation

In this topic, you will:

» learn about Creation stories of the Kulin nation

» learn how physical features described in Creation stories were changed.

The people of the Kulin nation have been living in Victoria for at least 40 000 years. They believe the land was created as part of **the Dreaming**. The Creation stories that Aboriginal peoples pass from generation to generation are part of the Dreaming, and describe how their spiritual Ancestors created the landscape and all its living creatures. One of the spiritual Ancestors of the Kulin people is Bunjil the eagle. It is said that Bunjil created the land, the sea, the rivers, the mountains, the animals and the trees.

the Dreaming
the belief system central to all Aboriginal cultures; the Dreaming also provides a moral code and guidance on interacting with Country; the Dreaming is not fixed in time – it is in the past, present and future

Source 4 To the people of the Kulin nation, Bunjil the eagle is the creator of all living things.

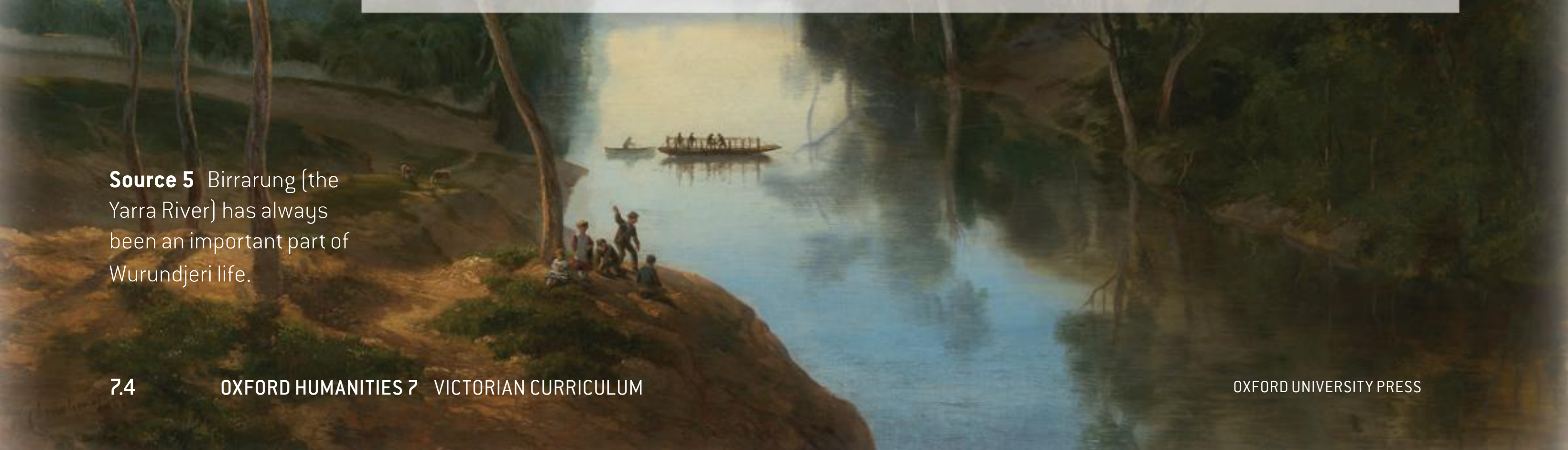
The story of Bunjil the eagle

Source 3

> Bunjil the great creative spirit, having formed the Earth and carved its features, decided to bring humanity into existence. Bunjil gathered up a quantity of clay from a river bed, divided it into two and placed both portions on large sheets of bark cut from a gum tree. He worked the clay into the shape of two men and took stringy bark from the trees to use as hair.
>
> Bunjil was pleased with his work and danced around the figures he had made. He blew air into their mouths, nostrils and navels and filled them with life.
>
> Creation story told by William Barak, Wurundjeri-willam Elder, to William Howitt, a British government official, who recorded Wurundjeri-willam history at the time

The story of Birrarung (the Yarra River)

The Yarra River is known as Birrarung to the Wurundjeri (a group within the Woi wurrung people) and Bun wurrung peoples. Birrarung means 'river of mists'. In 1835, European settler and surveyor John Helder Wedge named the river 'Yarra Yarra', because he thought it was the Wurundjeri word for the river. In truth, 'yarra' means waterfall or flowing, and Wedge had made a mistake.



Source 5 Birrarung (the Yarra River) has always been an important part of Wurundjeri life.

Source 6

Once the water of the Yarra was locked in the mountains. This great expanse of water was called Moorool, or Great Water. It was so large that the Woiwurrung had little hunting ground. This was in contrast with the Wothowurung and the Bunurong, whose hunting ground was the lovely flat which is now Port Phillip Bay..the headman of the [Woiwurrung] tribe was Bar-wool… Bar-wool resolved to free the land. He cut a channel up the valley with his stone axe… Between the Darebin and the Merri Creeks…cut a narrow, twisting track, looking for softer ground. At last they reached Port Phillip. The waters of Moorool and Morang rushed out. The country of the Woiwurrung was freed from water but Port Phillip was inundated.

1968 record of a Wurundjeri Creation story about the Yarra river, recorded by a non-Indigenous historian

Source 7 This large sculpture of Bunjil the eagle, by Bruce Armstrong, was unveiled in Melbourne in 2002. It looks out over the Docklands and Wurundjeri Way.

Source 8

It's nice to tell people about the Yarra, how it was blue running, that it was an eel breeding ground, that it had dolphins and sharks and stingrays. And then we use the early settlers' records to show some of the historical changes to the river. The most important part … is understanding the impacts of change on the river, and the impact on the Aboriginal community, particularly on the Wurundjeri. This [the Yarra River] was their main food source. The community would have roo running past, they go down to get flake out from where the aquarium is now. When [the first Europeans] came up the Yarra, it was green, very verdant, but then sheep and cattle decimated our traditional bush tucker sources. When the waterfall was removed and the salt water inundated the fresh running river, the eel breeding stopped, the dolphins and sharks stopped coming. My ancestors would have started starving.

Stephen Tregonning, a Gunai/Kurnai man, describing how the Birrarung (the Yarra River) has changed

7.2 CHECK YOUR LEARNING

Review and understand

1 **Outline** why Bunjil is important to the Kulin nation.

Apply and analyse

2 In your own words, **explain** how the Yarra River was formed, according to the Wurundjuri Creation story recorded in Source 6.

3 Using Source 8, **summarise** how the Yarra River has changed since European colonisation.

4 The Yarra River is called 'yarra' because a European settler did not understand the local Aboriginal language. What might this suggest about relying on information from non-Indigenous settlers about Aboriginal peoples and cultures?

Evaluate and create

5 **Research** one other Creation story from another Aboriginal language group or nation. In pairs, discuss the differences and similarities in comparison to the Creation story of Bunjil the eagle.

7.3 Physical features and climate of the Kulin nation

In this topic, you will:

» outline how the physical features and climate of Victoria affected the lives of local Aboriginal peoples.

The Kulin nation covers a large part of central and southern Victoria. Many of us will be familiar with the mountains, rivers, beaches, grasslands and forests on the lands of the Kulin nation.

The Aboriginal people who lived around Melbourne were the Wurundjeri people from the Woi wurrung language group. The Wurundjeri people's diet, shelter, clothing and customs developed as a result of their understanding of the land and the climate of the area.

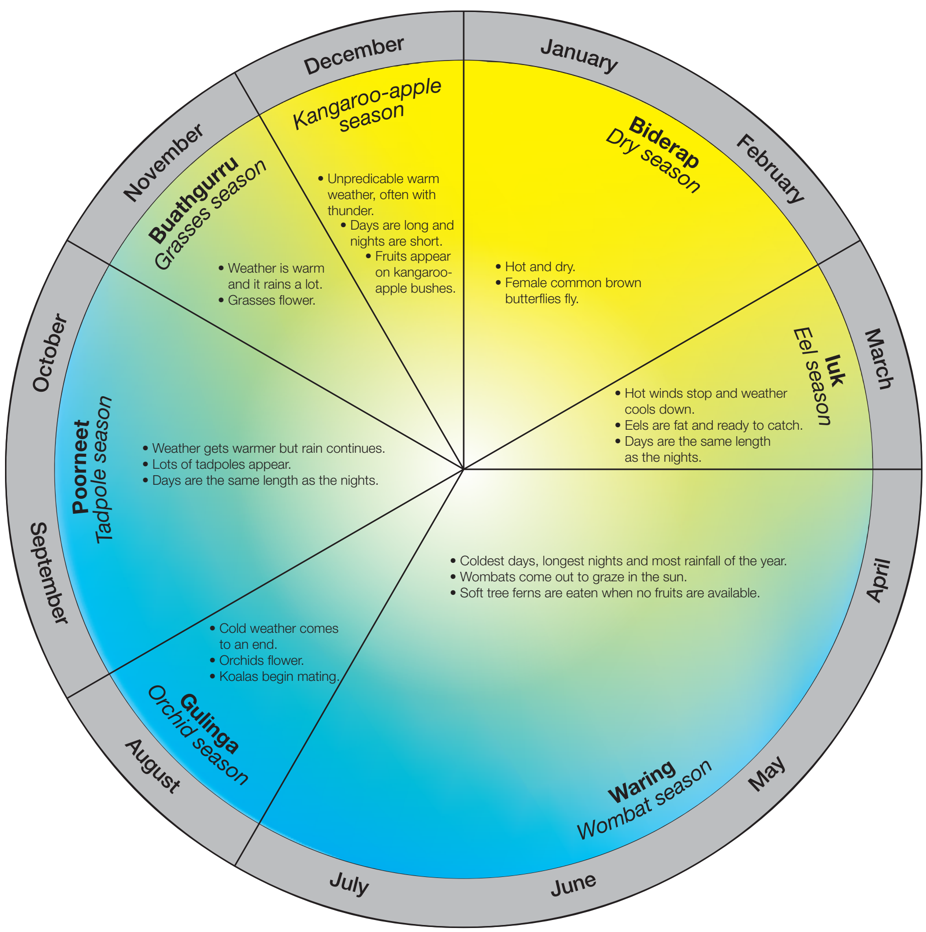
Up to 20000 years ago, Port Phillip Bay was above sea level. The Yarra River flowed across this space. The flat, fertile river plain was filled with animals and plants. Rising sea levels around 6000 to 10000 years ago caused the plain to flood and become Port Phillip Bay. This changed the lifestyle of the Woi wurrung and Bun wurrung groups who lived in this area.

Think, pair, share

- Think about the seven seasons outlined in Source 9. How closely do these descriptions of weather match the weather you are currently experiencing?
- Discuss your ideas with a partner.
- Share your thoughts with the class.

Seasons of the Wurundjeri people

The Wurundjeri people identified up to seven seasons in their territory. These seasons were marked by changes in the weather, life cycles of plants and animals, and the position of stars in the night sky.



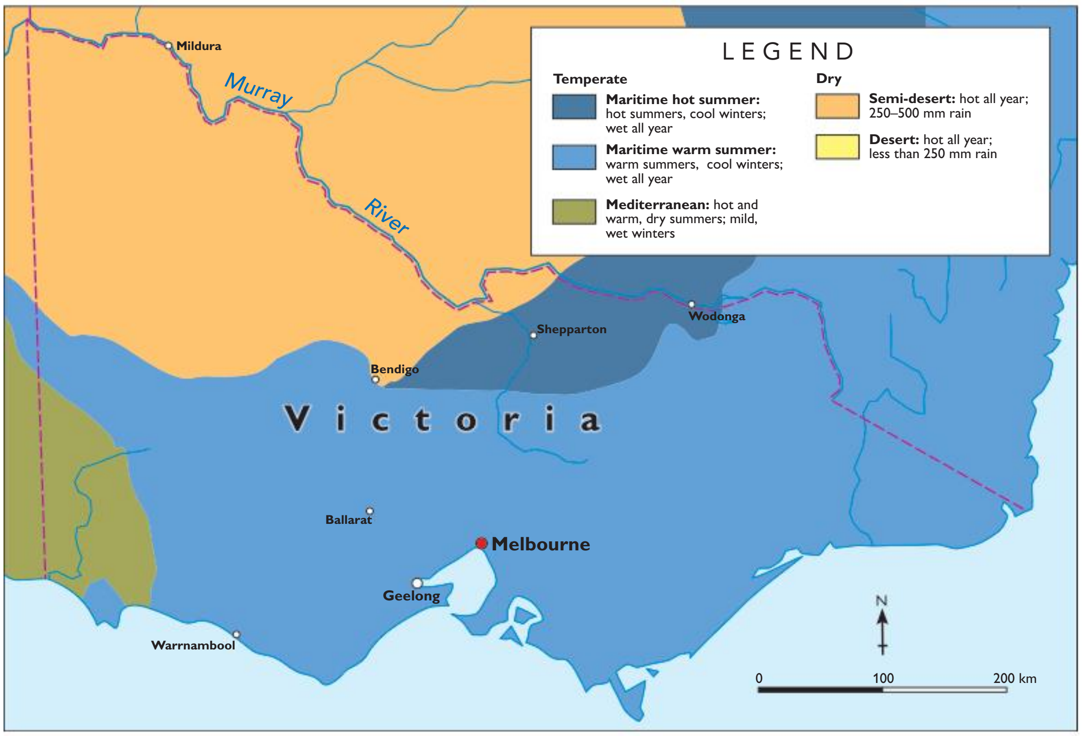
Source 9 The seven seasons identified by the Wurundjeri people

The Wurundjeri people had to survive dry heat and hot north winds in summer, and cold frosts and occasional floods in winter. Because the weather could reach such extremes, the Wurundjeri people lived in different areas throughout the year. Some people would spend the coldest months in areas such as the Dandenong Ranges, where they sheltered in caves and kept warm with rugs or cloaks made of possum skins. In the hottest months, the Wurundjeri people could camp on the coast, taking advantage of abundant supplies of fish and other seafood.

The types of foods the Wurundjeri people ate would depend on the season. Nectar-rich banksia flowers, starchy root plants and mistletoe berries were all foods that became available after the first rains following the hot, dry season. As the land warmed after the coldest months, there were plenty of animals to hunt, plenty of root vegetables to dig up, and many different types of berries and seeds to collect.

Quiz me!
A quick quiz on the physical features and climate of the Kulin nation

VICTORIA: CLIMATE ZONES



Source 10 Source: Oxford University Press

7.3 CHECK YOUR LEARNING

Review and understand

1 **Outline** two ways in which the lives of the Kulin people were affected by the climate and geography of the region.

Apply and analyse

2 **Explain** what impact the seasonal nature of food supplies would have had on the diet of the Wurundjeri people.

Evaluate and create

3 Think about the area where you live. **Create** a seasonal chart that you believe better reflects climatic and environmental changes than the four seasons.

7.4 Daily life

In this topic, you will:

» learn about daily life for people of the Kulin nation.

People of the Kulin nation relied on **Country** for everyday life. To get the best out of the environment, the Kulin people knew all the changes of the seasons and the features of the land. People of the Kulin nation worked with the cycles of nature, rather than against them, to develop a way of living that was in harmony with Country.

Food

The Kulin people harvested their food from the environment around them. Men hunted large animals, including kangaroos and emus. Women also hunted, but mostly smaller animals. The women also collected plants, eggs, seeds and fruits. In coastal areas and near rivers and lakes, people could fish for eels, harvest shellfish and trap fish.

The manna gum was particularly important to the Wurundjeri people, and it is where their name comes from. *Wurun* is the name for the manna gum and *djeri* is the name of a grub found on the tree. The Wurundjeri people used wattle trees to create boomerangs and spear throwers for hunting. Wattle branches were often bent at the perfect angle for a boomerang. Wurundjeri people also used the sap from the wattle as a drink, and wattle seeds were ground into flour by the women using grinding stones to make damper (a kind of bread).

Another important food was the yam daisy, or *murnong* in Woi wurrung. Women would gather the tubers (the fleshy stems growing underground) of these plants using digging sticks. Tubers could be eaten raw, but they were much sweeter when roasted in the coals of a fire. The Wurundjeri would also find ant eggs on the red stringybark. These could be mixed with the powdered bark of the stringybark to be eaten as a sweet treat that tasted like butter and sugar.

Source 1 Grinding stones have many uses, including turning seeds into flour for baking. Fragments of grinding stones dating over 30 000 years have been found in archaeological sites in NSW.

Source 2 Examples of bush tucker in the Kulin nation

Plant	 Manna gum	 Yam daisy (*murnong*)	 Wattle	 Honey pots	 Common apple berry	 Prickly currant bush
Uses	• The sap is good for drinking. • *Djeri* (grubs) can be found in the bark.	• Their tubers are good for eating.	• Branches can be made into boomerangs. • The sap is good for drinking. • The seeds can be ground into flour for damper.	• Nectar can be sucked from the flowers.	• The fruit can be eaten after it is dropped by the plant.	• The fruit, which tastes like currants, can be eaten in summer.

Hunting

The Kulin people developed many techniques for hunting and trapping animals and fish. For example, people of the Kulin nation would use controlled burning to flush out animals such as kangaroos. The animals could then be hunted using spears and boomerangs.

Spears in the Woi wurrung region were often made from tea-tree branches and were about 3 metres long. A straight stem would be chosen and crafted with a stone scraper. The spear tip could have a sharpened point or a stone flake attached to it. These spears could be thrown with amazing accuracy when used with a throwing stick.

It is likely that the Kulin people would have also hunted **megafauna** when they existed thousands of years ago. Megafauna in Australia were giant animals that have mostly become extinct. In particular, giant marsupials called *Diprotodon* were believed to have lived in Victoria around 50 000 years ago (see Source 3).

Source 3 *Diprotodon* lived in Victoria around 50 000 years ago.

Country
a term used by Aboriginal people to refer to all living things present on the land that they belong to. Country includes animals, plants and people as well as creeks, waterholes and hills. Creation spirits and seasons are also included in the term Country.

megafauna
a number of large animal species that lived in Australia during ancient times

Aquaculture

Wurundjeri people living along the Birrarung (Yarra River) fished with spears and used woven traps to catch eels. They would also set traps along the coast to catch fish and eels. This was a common practice for many groups who lived near rivers or the coast.

In 2019, the Budj Bim eel trap site in south-western Victoria was added to the UNESCO World Heritage List. This was because the site is one of the world's oldest aquaculture (farming of seafood) systems. Ancient lava flow from volcanoes in the area created lava canals and wetlands. Thousands of years ago, the Gunditjmara people of this area used these features to develop a system of channels and dams to trap and harvest eel. These eel traps were thousands of metres long. Trapped eels could be stored in pools of fresh water until they were ready to be eaten.

Weblink
World Heritage Site: Budj Bim Cultural Landscape

Source 4 Aerial view of part of the Budj Bim eel trap site, showing a holding pond for eels

Source 5 Examples of bush medicine from the Kulin nation

Medicine	Uses
River red gum 	The sap is used to seal burns. Mixed with water, it can treat diarrhoea.
River mint 	Leaves are crushed and inhaled to treat coughs or colds.
Woolly tea-tree 	Leaves can treat breathing problems.
Manna gum 	The smoke of older leaves can reduce fever.
Grubs 	These are crushed and applied to the skin to soothe irritation or burns.
Kangaroo apple 	The fruit is pulped and crushed to make a paste to treat joint pain.

Medicine

The Kulin people also relied on the land for bush medicine if they were sick or hurt. Bush medicine was based on knowledge handed down through generations. This knowledge taught people of the Kulin nation how to treat sickness or injury. For example, crushed grubs could be applied to skin irritations and burns. The kangaroo apple was used as a treatment for joint pain. The fruit was also eaten as a delicacy, but people had to be sure that it was ripe, because the unripe fruit is poisonous.

Traditional crafts and tools

The Wurundjeri had sophisticated techniques for creating tools and other items needed for everyday activities. For example, Wurundjeri people wove baskets, bags, mats and nets from reeds, root fibres or bark. They also used human hair and animal fur, twisting these materials into string. These items were sometimes decorated with things such as echidna spines and kangaroo teeth, which were also used to make necklaces or to adorn (decorate) clothing.

Women used the dried leaves of mat rush (sometimes called 'basket grass'), and a small sharpened stick or bone to weave strong baskets. These strong baskets would have been useful for harvesting food. Some baskets could be woven so tightly they could carry water in them.

The Wurundjeri people would sometimes use the inner bark of the red stringybark to make string. Women would roll the strips of bark on their thighs. They would then tie these lengths of string together to make a strong rope.

Shelter

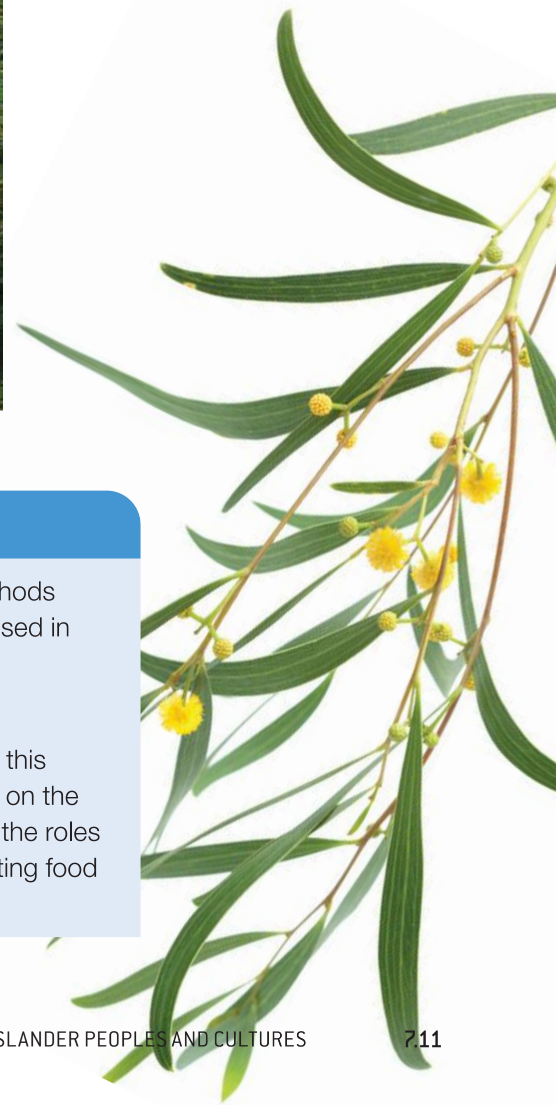
The kind of shelter a group would build depended on the environment they lived in. Aboriginal peoples often moved around, occupying different areas of Country throughout the year. But this was not always the case.

Some groups within the Kulin nation built strong shelters of timber and bark, and stayed for a long time if there was enough food to collect and hunt. Some groups also used the caves and rock formations of the region to shelter. Other groups who moved around more frequently built shelters out of tree branches and bark. They would build a sturdy frame from wattle tree branches and cover it with thick slabs of bark. Piles of bracken ferns covered in soft possum-skin rugs would serve as mattresses.

More permanent shelters were built in the Lake Condah region in western Victoria. There is evidence that the local Gunditjmara people lived in villages there around 8000 years ago. Their society was based on farming eels. The shelters consisted of circular stone foundations on which dome-shaped huts were built. It is believed this settlement was home to thousands of people.

Quiz me!
A quick quiz on daily life for the people of the Kulin nation

Source 6 Remains of a stone shelter at Lake Condah



Source 7 The branches of wattle trees had many uses in ancient Australia.

7.4 CHECK YOUR LEARNING

Review and understand

1 **Identify** three examples of bush medicine used by the Kulin people.

2 **Outline** why the Kulin people would build different types of shelter.

Apply and analyse

3 **Explain** why the manna gum was so important to the Wurundjeri people.

4 **Summarise** the different methods for harvesting food, as discussed in this topic.

Evaluate and create

5 Using what you have learnt in this topic, **create** a Venn diagram on the similarities and differences of the roles of men and women in harvesting food for the community.

7.5 Contact and conflict between Aboriginal groups

In this topic, you will:

» investigate why conflicts occurred and how they could be resolved.

For thousands of years, Aboriginal peoples in Australia largely lived in harmony with each other. Most of the time, Aboriginal groups travelled and hunted within their own traditional lands and maintained separate cultures, but Aboriginal peoples also had contact with other groups in their region. There were many different reasons for contact between groups – sometimes it was social and sometimes it was for trade. There is also some evidence of conflict between groups.

Social contacts

corroboree
a ceremonial gathering practised by Aboriginal peoples

Social contacts were common and an important part of daily life. Aboriginal peoples met on special occasions such as initiation rituals and marriage ceremonies. The most widely practised ceremonial gathering for the Kulin peoples was the **corroboree**. Several groups would gather for a corroboree, so they could involve hundreds of people and go on for several days.

Ceremonial dancing, storytelling and music were important parts of corroborees, with different groups often competing to outperform each other. Preparing for a corroboree involved body painting and special ceremonial clothing (see Source 10). People traded goods and shared food at corroborees. They were also a good opportunity for the Elders from different groups to get together and settle disputes or decide on punishments for people who had broken laws.

Source 8 *Aboriginal dancing scene* by William Barak of the Wurundjeri people in Victoria shows Aboriginal men performing a dance. The bottom half of the drawing shows a group of people in elaborately decorated possum-skin cloaks sitting and clapping.

Trading contacts

Long before Europeans arrived in Australia, Aboriginal peoples had developed a complex network of overland pathways (trading routes). These pathways criss-crossed the country and extended to the islands of the Torres Strait.

In order to travel between different territories, travellers and traders needed to receive permission from the traditional custodians. Visitors seeking permissions usually brought gifts for the people whose land they were passing though. In return, a special ceremony was held to welcome the visitors – known as 'Welcome to Country'.

For Aboriginal peoples, trade was not just limited to physical objects, such as tools and clothing; it also included stories, songs, dances, art, rituals and ceremonies. Aboriginal people would trade or barter

Tanderrum – the Kulin 'Welcome to Country'

Among peoples of the Kulin nation, the 'Welcome to Country' ceremony was known as a *tanderrum*.

When visitors wanted to enter Kulin lands, the Kulin people would form a large circle, with men on one side and women on the other. Visiting Elders were invited into the circle. Leaves from the manna gum were burnt and the visitors would pass through the smoke to cleanse themselves and show their respect for the culture and laws of the Kulin nation. The smoking ceremony was often accompanied by song and dance. Visitors were asked to look after and protect the land. They were handed gum leaves to protect them while they were visiting Country and to give them permission to share the local resources.

The *tanderrum* ceremony is still performed today, and many school functions, sporting events and public festivals around Victoria often begin with this traditional welcome.

For more information on this key concept, refer to page 193 of 'The history toolkit'.

KEY CONCEPT
Significance

Source 9 A *tanderrum* was held at Federation Square in Melbourne for the 2015 Melbourne Festival. This ceremony brought together Elders and members from the Wurundjeri, Bun wurrung, Taungurong, Dja Dja wurrung and the Watha wurrung groups. Federation Square is on land that is a historic Kulin nation site.

(exchange) goods. For example, one highly crafted possum-skin cloak would be exchanged for three axes.

People could swap items they had easy access to for items they did not have in their own lands. For example, ancient tools made from shells and fish bones have been discovered in central Australia, hundreds of kilometres from the sea.

The cultural groups of the Kulin nation had well-established trading networks. In the north of Woi wurrung country near Will-im-ee Mooring (Mount William), the Wurundjeri established a quarry. The green stone found in this area was ideal for making axe heads (known as *murring*). In recent years, axe heads mined at this quarry have been found as far away as Adelaide and parts of central New South Wales, meaning that they were traded far and wide across Australia.

Source 10 Dancers from different Aboriginal nations and cultural groups dancing in a Welcome to Country ceremony in Melbourne

Songlines

To assist people travelling through unfamiliar territory for trade, songs were developed to help visitors and traders remember important landmarks and help them find their way. These pathways were called songlines. Using songlines, a knowledgeable person could navigate their way across large distances by repeating the words of the song.

Conflict between different Aboriginal groups

Contact between different Aboriginal groups for social events and trade was usually friendly, but occasionally conflict broke out. Arguments over access to water or hunting rights could cause conflicts, especially during times of drought. Competition between men over women could also be a cause of conflict. Rock paintings from pre-colonial times show warriors armed with weapons.

Early British colonists in the Port Phillip District reported on tensions and conflicts between peoples of the Kulin nation and the Kurnai people of present-day Gippsland. Very little evidence of this (or any other instances of wars breaking out) is available. We do know that very few conflicts were fought over territory. The land was so closely tied to the identities of particular people that the idea of taking another group's traditional land was unthinkable.

Weapons and warfare

The types of weapons used by Aboriginal groups varied throughout Australia, but in the Kulin nation the most common weapons used for fighting included:

Source 11 This photograph taken at the Coranderrk Aboriginal Station near Melbourne around 1877 shows a range of different weapons and tools used by the peoples of the Kulin nation.

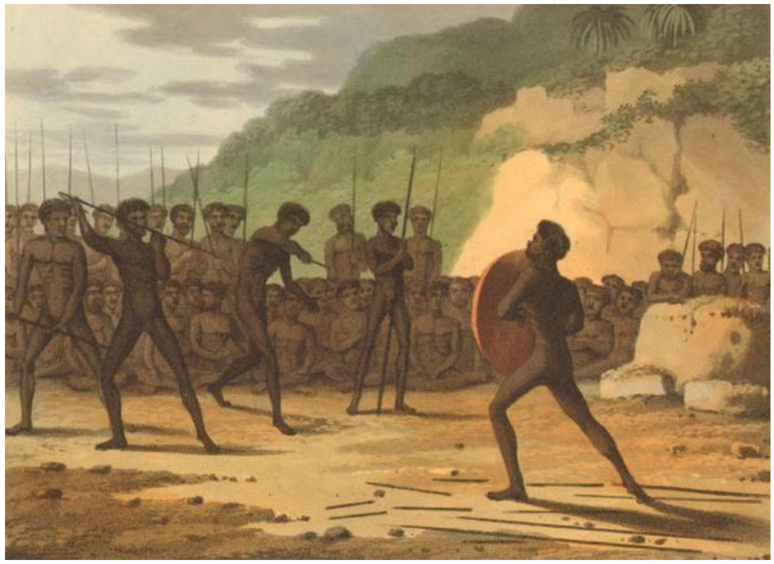
- spears (and spear throwers) – spears were generally about 3 metres long and made from the strong wood of the tea tree. The Kulin peoples used a spear thrower called a *murri wan* to hurl (throw) spears with great accuracy over long distances.
- shields – these were used to block attacks from enemy spears and clubs. They were carved from the bark of strong hardwood trees such as manna gum and acacia (wattle), and decorated with patterns and symbols.
- boomerangs – there were many different types of boomerangs and some were designed for fighting. Fighting boomerangs were a different shape from hunting boomerangs. They were longer and flatter and not designed to return when they were thrown. Skilled Wurundjeri men carved deadly fighting boomerangs from acacia wood.
- clubs – a variety of different-sized clubs were used during warfare. These were also carved from different types of hardwood.

Settling conflicts

Aboriginal peoples, including those from the Kulin nation, had well-developed laws and systems to settle conflicts and maintain peace and order. All different Aboriginal language and cultural groups have their own lore (knowledge and traditions). Lore is stories and customs, and these have been passed down through generations since the Dreaming. Aboriginal lore provides guidance to Aboriginal peoples about how to live. Elders play an important role as custodians (keepers) of lore.

While Aboriginal lore is about knowledge or beliefs, Aboriginal customary law governs behaviour that is acceptable or unacceptable. Much of the customary law (Aboriginal law) was based on the Dreaming stories. In the Kulin nation, customary law was administered by a council of Elders from different groups across the Kulin nation who often met at ceremonial gatherings such as corroborees.

The council of Elders could also set punishments for wrongdoers within their communities. Traditional Aboriginal punishments could take a wide variety of forms depending on the crime. Many other factors were also taken into account, such as the age, gender, social standing and previous history of the wrongdoer.



Source 12 Traditional Aboriginal punishments varied, depending on the crime. This illustration shows a wrongdoer being punished for a crime by having spears thrown at him. He has only a shield to protect him. Punishments like this rarely resulted in serious injury or death, but were designed to be a deterrent.

Punishments could include:

- shaming or public ridicule – individuals could be placed in a circle of people or Elders with everyone talking at them
- exclusion from the community – individuals were sent away for a specific period or could be banished forever
- duels – individuals could be punished by relatives or friends of the people they had hurt by having spears, boomerangs or fighting sticks used on them
- physical punishment – this could involve spearing, or burning the hair from the wrongdoer's body
- death – an individual could be punished by death.

Quiz me!
A quick quiz on contact and conflict between Aboriginal groups

7.5 CHECK YOUR LEARNING

Review and understand

1 What is a *tanderrum*? **Describe** what it involves.
2 **Outline** what types of activities take place at corroborees.
3 What are songlines? **Outline** how they helped people to find their way across large distances.

Apply and analyse

4 **Compare** Aboriginal customary law and Aboriginal lore. What are the differences and similarities between Aboriginal law and lore?
5 **Explain** what archaeological evidence there is to suggest that items such as axes and tools were traded over large distances.
6 In your own words, **summarise** what is meant by the term 'customary law'. Who administered customary law and what were some possible punishments?

Evaluate and create

7 William Barack was an influential *Ngurungaeta* (Elder) of the Wurundjeri-willam peoples. Research William Barack and **create** a biography of his life. Include details of his important accomplishments as an Elder and activist.

7.6 Contact and conflict with outsiders

In this topic, you will:

- explore pre-colonisation contact and trade between Aboriginal peoples and outsiders.

Some groups of Aboriginal peoples had contact with outsiders – both from Asia and Europe – before British colonisation began in 1788.

Contact with Asia

Evidence suggests that fishermen from a region in modern-day Indonesia called Makassar sailed to Australia as far back as 800 years ago. The fishermen travelled on sailing boats known as *proa*. The fishermen came to collect sea cucumbers to trade with the Chinese (who used sea cucumbers in food and medicine). As the Makassan fishermen often stayed for months to harvest and dry the sea cucumbers, they traded and worked with the local Aboriginal peoples. One such group of Aboriginal people were the Yolgnu in Arnhem Land (in northern Australia). The Makassan fishermen introduced tobacco and metal blades and knives into Yolgnu society.

It is also likely that some Chinese and Makassan visitors remained in Australia. Makassan fishermen visited the Yolgnu in Arnhem Land until 1907, when the Australian Government banned these visits. There are many words in Yolngu languages that come from Makassar. Depictions of the sailing boats (*proa*) and other objects from Makassar are present in Aboriginal rock art along the northern Australian coastline.

Source 13 *Makasar Prau*, 1966 bark painting by Dhalwaŋu (Yirrkala) artist Birrikitji Gumana; the painting recalls Birrikitji Gumana meeting the Makassan fishermen when he was young.

Aboriginal and Torres Strait Islander groups in northern Australia and the Torres Strait also had contact with people from Papua New Guinea. These people are believed to have visited northern Australia on a regular basis to trade with local Aboriginal and Torres Strait Islander peoples. Today, a strong Papuan influence on traditional Aboriginal and Torres Strait Islander items, such as ornamental masks, is evidence of this contact. It has also been noted that the languages of Aboriginal people in Cape York Peninsula (in Queensland) and Arnhem Land (in the Northern Territory) contain words that originally come from the native languages of Papua New Guinea.

Contact with Europeans

Possibly the earliest European contact with Australia was made by the Portuguese. Around 1520, a Portuguese expedition is believed to have sailed down the east coast of Australia. While there is no definite proof of this, some historians believe that a wrecked ship seen near Warrnambool during the nineteenth century was part of this expedition. This wreck became known as the Mahogany Ship.

Dutch explorers including Willem Janszoon, Dirk Hartog, Abel Tasman and Anthony van Diemen definitely charted (made a map of) the Australian coastline in the seventeenth century. Some of these Dutch explorers landed on Australian soil and made contact with some Aboriginal peoples. There are also suggestions that some shipwrecked Dutch sailors even lived with Aboriginal peoples in Western Australia.

Contact between the Kulin nation and Europeans

The first significant exposure of the Kulin people to European colonists occurred along the southern coast of Victoria around 1800. British colonists hunting seals and whales were common in Bass Strait around this time.

Source 14 Many examples of Aboriginal rock art around Australia record the arrival of ships from Europe. This example from Arnhem Land in the Northern Territory shows a European-style ship.

Port Phillip District 1836

The establishment of a European colony in Melbourne in 1836 had devastating effects for the Wurundjeri people. In June 1835, John Batman – as leader of the Port Phillip Association – 'purchased' 600 000 acres around Melbourne. He did this by presenting the local Wurundjeri Elders with a document – a land use agreement known today as 'Batman's treaty'. This treaty was used to claim that the people of the Kulin nation consented to Batman taking their land, in exchange for rations and goods. Batman's treaty was based on the European idea of land ownership and legal contracts. This idea did not exist for the Aboriginal peoples of Victoria. It is likely that the Wurundjeri people present at the signing of the treaty thought they were consenting to give John Batman safe passage through and temporary use of their land. The Wurundjeri people had often made similar transactions for safe passage within their land with other members of the Kulin nation. Two months later, this treaty and the 'purchase' was declared invalid under European law. The land was still taken from the Aboriginal custodians of the land and leased or sold to colonists.

By 1839 most of the Wurundjeri people had been displaced from their land. By 1850, estimates suggest that only about 3000 Wurundjeri people had survived the disease and violence that colonisation bought. Today, recognition of the place of the Wurundjeri people in Melbourne's history and culture is growing and is increasingly a part of public events and celebrations.

Quiz me!
A quick quiz on contact and conflict with outsiders

Source 15 *Batman's treaty with the aborigines at Merri Creek, 6th June 1835*, painted by John Wesley Burtt, *c*. 1875; it depicts Batman's meeting with the Wurundjeri people and the 'signing' of a 'treaty' to 'buy' their land. Laid out on blankets nearby are some items, including mirrors, beads and shirts, as payment for the enormous stretch of land. The concept of buying land did not exist for the Wurundjeri people.

7.6 CHECK YOUR LEARNING

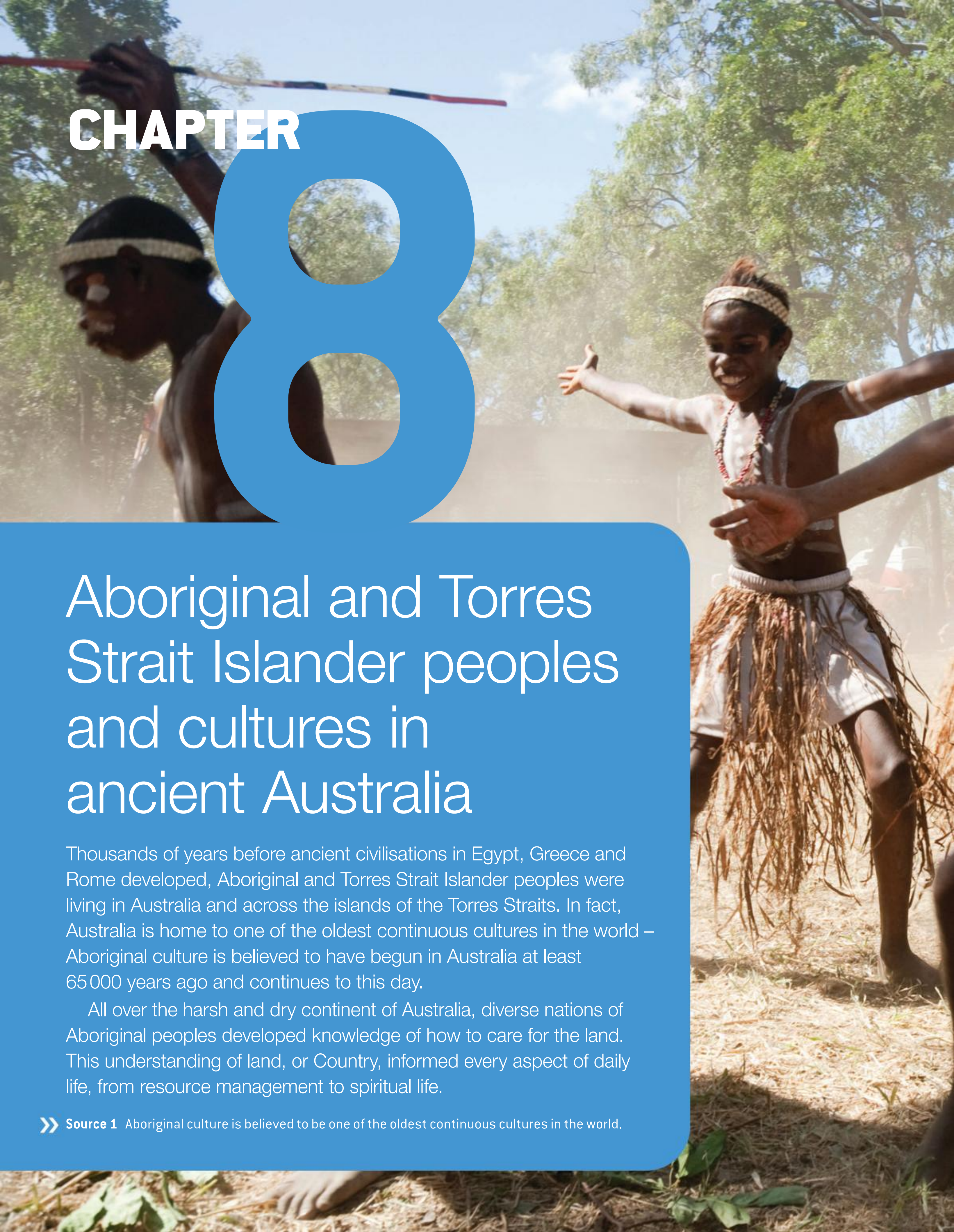
Review and understand

1 **Identify** the different groups of people believed to have visited Australia before British colonisation.

Apply and analyse

2 **Explain** the different concepts of land ownership of the Europeans and the Aboriginal peoples.

3 **Examine** the painting in Source 15. How reliable is this painting as a historical source? Support your answer with evidence.



CHAPTER 8

Aboriginal and Torres Strait Islander peoples and cultures in ancient Australia

Thousands of years before ancient civilisations in Egypt, Greece and Rome developed, Aboriginal and Torres Strait Islander peoples were living in Australia and across the islands of the Torres Straits. In fact, Australia is home to one of the oldest continuous cultures in the world – Aboriginal culture is believed to have begun in Australia at least 65 000 years ago and continues to this day.

All over the harsh and dry continent of Australia, diverse nations of Aboriginal peoples developed knowledge of how to care for the land. This understanding of land, or Country, informed every aspect of daily life, from resource management to spiritual life.

Source 1 Aboriginal culture is believed to be one of the oldest continuous cultures in the world.

8A

Who are Aboriginal and Torres Strait Islander peoples?

8B

What do we know about ancient Australia?

Please note

Aboriginal and Torres Strait Islander peoples are respectfully advised that this chapter (and the resources that support it) may contain the names, images, stories and voices of people who have passed away.

Non-Indigenous readers should be aware that showing the names and images of people who have died can cause distress for Aboriginal and Torres Strait Islander peoples who believe it disturbs the spirits of those who have died.

8.1 Ancient Australia: a timeline

Rock art at Narwala Gabarnmung

65 000 BCE | *c.* 30 000 | *c.* 20 000

***c.* 65 000 BCE**
The earliest date historians have found evidence of humans in Australia.

***c.* 40 000**
Clear evidence exists of humans living in Australia (Lake Mungo) around this time.

***c.* 29 000**
Evidence exists of humans living in the area now known as Keilor, Victoria.

***c.* 28 000**
Axe heads, tools and other artefacts found at the Tower Hill site near Warrnambool indicate Aboriginal presence in the area from this time.

***c.* 26 000**
Rock art found at Narwala Gabarnmung in the Northern Territory is believed to date from this period.

***c.* 18 000**
An ice age makes large parts of Australia too cold to inhabit. People live along the eastern coast of Australia and Tasmania during this time.

Mungo Man remains

Tower Hill near Warrnambool

Source 1 A timeline of key events in ancient Australia

Reference guide	
Nation	A term for a group of Aboriginal peoples. A nation can be made up of a single culture or language group, or many cultures and language groups. For example, the Kulin nation is an alliance of five language groups located in southern and central Victoria.
Language group	A term for a group of Aboriginal and Torres Strait Islander peoples who share the same language. This can include smaller groups or clans who do not live together but speak the same language.
Woi wurrung	A language, or the name of the language group, in central to eastern Victoria. The Woi wurrung are part of the Kulin nation.
Wurundjeri	The group of peoples that speak Woi wurrung. They are made up of smaller groups or nations who mostly lived separately but who shared many customs and socialised together.

Sequence this!
Events in Australia's past

The Torres Strait

The Landing of Captain Cook at Botany Bay, by William MacLeod, 1899

c. 14 000
Ice caps begin to melt and sea levels rise.

c. 11 000
Tasmania is cut off from the mainland by rising sea levels.

c. 10 000

c. 6000
The area between Northern Australia and New Guinea is flooded, creating the Torres Strait Islands.

c. 4000–7000
The flooding of Port Phillip Bay, originally Kulin nation land.

1 CE

c. 400
Tools made of bone found in the Otway Ranges, Victoria, suggest Aboriginal people were working with animal skins.

1500

1606
Dutch and Spanish explorers reach the Torres Strait and are believed to be the first Europeans to have contact with Torres Strait Islander peoples.

1770
Lieutenant James Cook sails along the east coast of Australia and claims the continent for Britain. He acknowledges the presence of the Aboriginal peoples but fails to recognise their ownership.

1835 CE
John Batman signs a treaty with the Kulin nation to 'buy' their land.

1850 CE

8.1 CHECK YOUR LEARNING

Review and understand

1 **Identify** when Tasmania was cut off from the mainland.

2 **Outline** the impact the last ice age had on where people lived in Australia.

Apply and analyse

3 Tasmania and the Torres Strait Islands were cut off (and therefore isolated) from the mainland of Australia. **Suggest** what the impact on culture in these places would have been.

4 **Examine** the painting of Captain Cook's landing at Botany Bay. This work was created in 1899 by a European painter who did not know much about Aboriginal culture.
   a Who created this painting?
   b What does the painting show?
   c How realistic do you think it is? Explain your answer.

8.2 The first people in Australia

In this topic, you will:

- distinguish between Aboriginal and Torres Strait Islander cultures
- outline beliefs about how people came to Australia, including the 'Out of Africa' hypothesis.

Aboriginal peoples and culture

The word 'Aboriginal' originally comes from Latin. There is no single Aboriginal language term that refers to all Aboriginal people throughout Australia. In English, the term 'Aboriginal peoples' is used to describe all of the different Aboriginal nations and language groups that live on mainland Australia and Tasmania as they have done for thousands of years. There is also no single Aboriginal language name for Australia. This continent was home to hundreds of diverse Aboriginal nations and language groups before the arrival of European colonisers in 1788. The name 'Australia' was given to this landmass by an English navigator.

KEY CONCEPT Continuity & change

Changing language

Language changes over time. A word or term that was widely used in the past may no longer be considered appropriate today. For example, the term 'Aborigines' was once commonly used to refer to Aboriginal and Torres Strait Islander peoples throughout Australia. This term is now considered outdated due to its links to colonial Australia, when it was used in a racist way.

Historically the word 'indigenous' was used to describe Aboriginal and Torres Strait Islander peoples along with the flora and fauna of Australia. The word 'indigenous' in a scientific context means 'native to a place'. Today, some people refer to Aboriginal and Torres Strait Islander peoples using the capitalised term 'Indigenous'. However, using the term 'Indigenous' can suggest that Aboriginal and Torres Strait Islander peoples are a single group, when this is not the case.

There is no single viewpoint on the most appropriate language to use when referring to Aboriginal peoples or Torres Strait Islander peoples throughout Australia. In this book, we have used 'Aboriginal and Torres Strait Islander peoples' when referring to the collective experiences of Aboriginal and Torres Strait Islander peoples.

For more information on this key concept, see page 192 of 'The history toolkit'.

Although Australia is a single continent, the Aboriginal cultures that developed here over thousands of years are complex and very different. Aboriginal peoples are not a single group of people, but many different groups. Most groups have their own distinctive languages, cultures and beliefs. Different Aboriginal groups who shared similar languages and cultures would sometimes form larger groups, known as nations. Nations can cover large geographical areas.

Creation stories of Aboriginal peoples

Weblink Creation stories

From an Aboriginal perspective, Aboriginal peoples have always been on the land that would become Australia. There are many different Creation stories throughout Australia that feature different Creator (or Ancestral) beings. Aboriginal peoples' Creation stories tell how the world was created and how people came to walk the land. According to these stories, the ancestors of Aboriginal peoples have lived in Australia since the beginning of time. Ancestor spirits came up through the earth and down from the sky in human form. As they moved through the land, they created everything that we see today, from the animals and plants to the mountains, rivers and oceans.

Creation stories are part of the most central belief system in Aboriginal life – known as **the Dreaming**. You will learn more about the Dreaming throughout this topic.

Scientific evidence tells us that Aboriginal peoples have been living in Australia for at least 65 000 years. Aboriginal peoples are sometimes called the first Australians because they were here long before the Europeans arrived in 1788.

the Dreaming
the belief system central to all Aboriginal cultures; the Dreaming also provides a moral code and guidance on interacting with Country; the Dreaming is not fixed in time – it is in the past, present and future

Source 2 *Seven Sisters Songline* (1994) artwork by Josephine Mick, a Pitjantjatjara woman, depicting songlines. Songlines were sung into being at Creation and cover Australia, showing the routes that Creator beings took during the Dreaming.

Aboriginal languages

Australia's huge land size meant that many Aboriginal groups never came into contact with one another. As a result, the customs of these different groups – the languages Aboriginal peoples spoke, the foods they ate, the stories they told and the art they created – were very different.

Historians believe that before European colonisation in 1788, there were approximately 750 000 Aboriginal people living in Australia. Before colonisation, there were around 600 Aboriginal nations across Australia. Approximately 250 Aboriginal languages were spoken. Each had many different dialects, producing up to 700 varieties. Before colonisation, this land was one of the most linguistically diverse areas on the planet. In some districts, within 80 kilometres you could hear three languages as different from each other as English, Russian and Hindi.

After Europeans began colonising Australia, the number of Aboriginal people declined dramatically, largely due to the diseases the Europeans introduced and violent conflicts between Aboriginal peoples and the Europeans.

Today, there are approximately 745 000 people in Australia who identify as Aboriginal. An estimated 150 Aboriginal languages are spoken across various language groups and in many different Aboriginal nations around Australia.

Source 3 Torres Strait Islander people come from the islands of the Torres Strait. Unlike Aboriginal peoples, Torres Strait Islanders are of Melanesian origin. This boy is wearing a headdress known as a *dhari*.

Torres Strait Islander peoples and cultures

The term 'Torres Strait Islander peoples' is used to describe people who come from the islands of the Torres Strait – a section of ocean that stretches from the tip of the Cape York Peninsula in Queensland across to Papua New Guinea. There are more than 200 islands in the Torres Strait, but only 17 of those are populated. Between 8000 and 10 000 years ago, there was a land bridge between Australia and Papua New Guinea that allowed ancient peoples to travel south from Asia and settle. Rising sea levels at the end of the last ice age flooded the area, leaving only the highest peaks above water. These peaks became the islands we know today.

Torres Strait Islander people are not mainland Aboriginal people who just live on the Torres Strait Islands. Instead, they are separate peoples with different cultural heritage and backgrounds. Unlike Aboriginal peoples, Torres Strait Islanders are of Melanesian origin. Melanesia is a region to the north and north-east of Australia that includes the countries of Papua New Guinea, the Solomon Islands, Vanuatu and Fiji. This means that Torres Strait Islanders are more closely related to these cultures than to Aboriginal cultures. Today, around 7000 Torres Strait Islanders live on the islands, but over 40 000 live on mainland Australia, mostly in Queensland.

I used to think, now I think

Reflect on your learning about Aboriginal peoples and culture and Torres Strait Islander peoples and culture and complete the following sentence.

- I used to think ...
- Now I think ...

What has changed in your understanding?

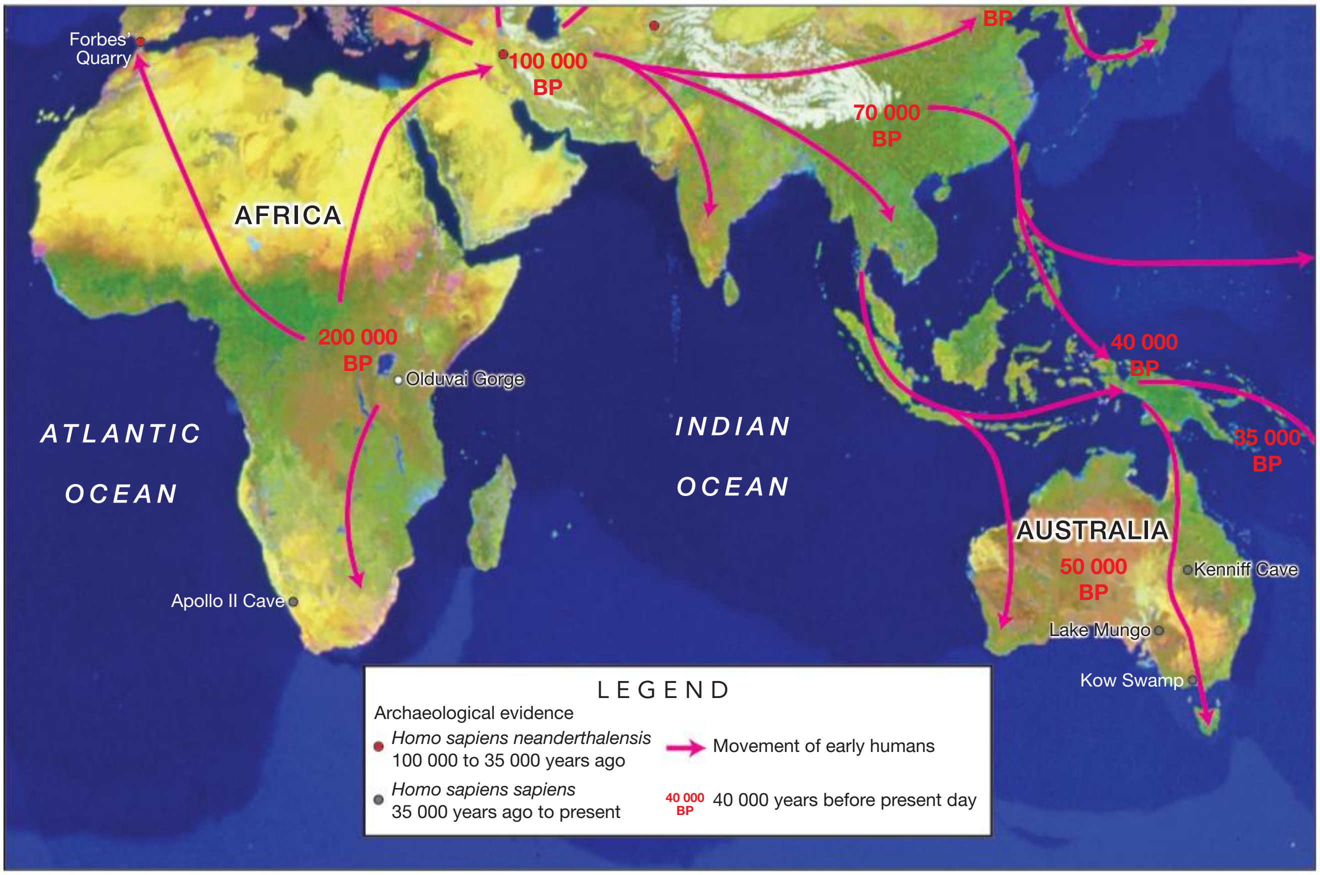
The 'Out of Africa' hypothesis

Scientists and historians believe that modern humans have existed on Earth for around 200 000 years. They also have evidence that modern humans, or *Homo sapiens*, originally came from Africa. According to the **'Out of Africa' hypothesis**, about 100 000 years ago, the first *Homo sapiens* started migrating from Africa in search of new hunting areas and places to settle. They moved in different groups over many thousands of years. Some groups travelled north into Europe. Others travelled towards the Middle East and then into Asia. From Asia, they spread further south and also into North America. The earliest Aboriginal peoples are believed to have crossed from Asia into Australia at a time when a section of land known as a land bridge connected the two areas. Around this time, scientists believe that the sea level

'Out of Africa' hypothesis
one model in the theory of how modern humans spread around the world, hypothesising that modern humans developed in Africa before migrating outwards

was 150 metres lower than it is today. Other groups may have travelled from Asia to Australia on boats or canoes. The 'Out of Africa' hypothesis is rejected by many Aboriginal peoples because it is different from many Creation stories.

WORLD: LOCATIONS AND MOVEMENT OF EARLY HUMANS



Source 4

Source: Oxford University Press

8.2 CHECK YOUR LEARNING

Review and understand

1. How many islands are there in the Torres Strait?
2. **Identify** how long ago scientists believe modern humans migrated out of Africa, according to the 'Out of Africa' hypothesis.
3. **Outline** why Australia was considered one of the most linguistically diverse areas in the world.

Apply and analyse

4. **Explain** the key points of the 'Out of Africa' hypothesis. What do scientists think prompted modern human migration?
5. According to the beliefs of many Aboriginal peoples, when did people first arrive in Australia? How did they arrive? **Summarise** how these beliefs may differ to the 'Out of Africa' hypothesis.
6. In your own words, **explain** the difference between Aboriginal and Torres Strait Islander peoples.

Evaluate and create

7. **Research** the history of Aboriginal peoples in Tasmania. Discuss three ways in which the culture and way of life for these people was different from groups on the mainland of Australia.

Explore it!
A virtual field trip to Torres Strait Islands

8.3 Aboriginal culture and beliefs – the Dreaming

In this topic, you will:

» explore the belief system of Aboriginal peoples

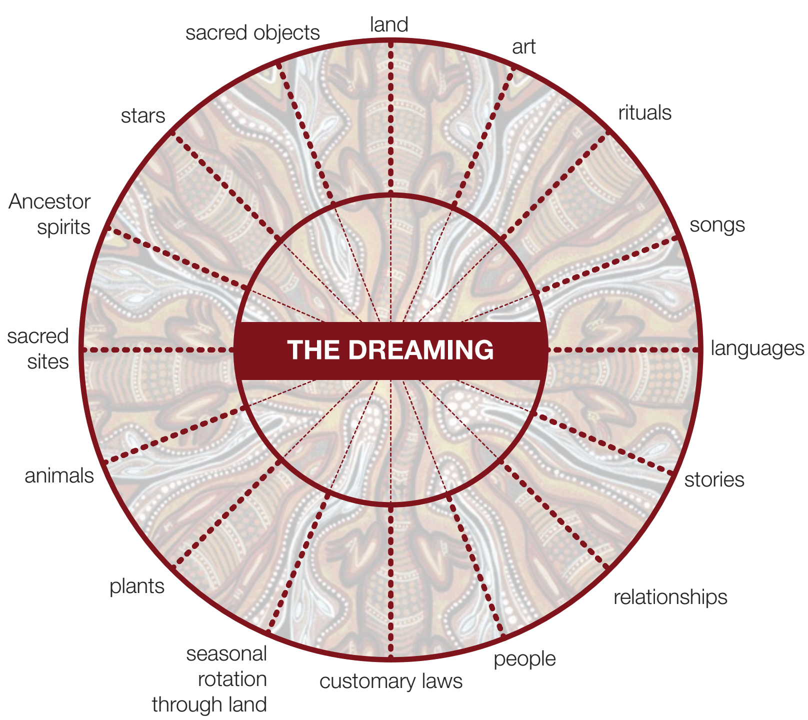
» understand the customary law of Aboriginal peoples.

The Dreaming is a belief system at the centre of all Aboriginal cultures. You may consider it equivalent to other religions or belief systems you might have studied, such as Christianity, Islam or Buddhism. The Dreaming is often a difficult concept for non-Indigenous people to understand. During the Dreaming, Aboriginal peoples believe the spirit Ancestors:

- came up out of the earth and down from the sky to walk on the land, where they created and shaped landforms such as rivers, mountains, forests and deserts. These were created while the Ancestors travelled, hunted and fought.
- created all the people, animals and vegetation, and laid down the patterns their lives would follow
- gave Aboriginal peoples the laws, customs and codes of conduct that they follow
- created the songs, dances, languages, ceremonies and rituals that are the basis of Aboriginal spiritual beliefs.

These Ancestors were spirits who appeared in a variety of forms. When their work was completed, the Ancestor spirits went back into the earth and sky, and also into the animals, landforms and rivers. The spirit Ancestors are alive in all Aboriginal peoples. The Dreaming is ongoing – it began with the creation of the Earth and continues to the present day. For Aboriginal peoples, all living things are part of the deep and spiritual tradition of the Dreaming.

Country
a term used by Aboriginal people to refer to all living things present on the land that they belong to. Country includes animals, plants and people as well as creeks, waterholes and hills. Creation spirits and seasons are also included in the term Country.



Source 5 The Dreaming is a belief system at the centre of all Aboriginal cultures. It connects all aspects of Aboriginal life, spirituality and law.

The Dreaming and the land

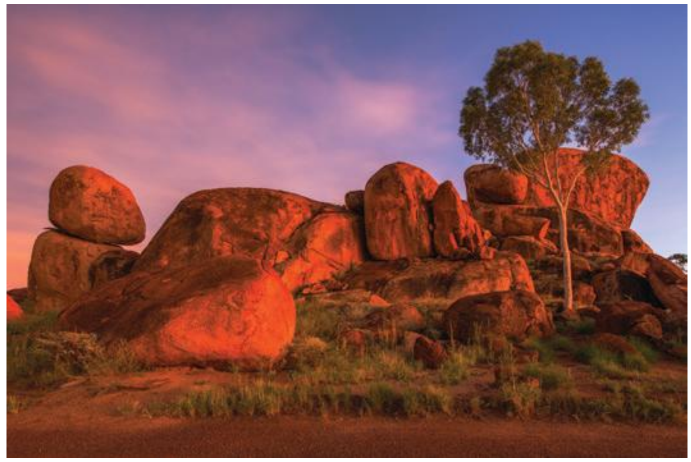
Aboriginal people do not see people as separate from the natural environment, but as part of it. The land is not just soil and rocks, but the whole environment. The land sustains Aboriginal people and is sustained by them. Aboriginal people see themselves as custodians (caretakers) of the land, rather than owners of it.

The land is fundamental to the wellbeing of Aboriginal people and deeply connected to the Dreaming. The Dreaming and the land are so closely connected that they cannot be separated.

Aboriginal people use the word **Country** to refer to both the physical and spiritual features of the land. When an Aboriginal person is in their Country, their spirit and the spirits of their ancestors live through the features of the land. Aboriginal people see Country as a living individual.

The Dreaming and the law

Stories from the Dreaming also pass on important knowledge, values and codes of behaviour for Aboriginal peoples to follow. Over time, these stories developed into a set of laws that must be followed. Traditional Aboriginal laws are referred to as **customary law**. Customary laws are very similar to Australia's national laws. If you break any of these laws, there are punishments you will have to face. The main difference between Australian laws and Aboriginal customary laws is that they developed from different starting points.



Source 6 The land is fundamental to the wellbeing of Aboriginal people and deeply connected to the Dreaming. Aboriginal people see themselves as custodians (caretakers) of the land, rather than owners of it.

Customary laws are based on stories passed down from the Ancestor spirits during the Dreaming. Over thousands of years, all these stories developed into a set of rules for people to follow and obey.

customary law traditional Aboriginal law connected to the Dreaming

Different views of the world

More than anything else, the Dreaming influences how Aboriginal people see themselves and view the world. There are some key differences between the way Europeans and Aboriginal peoples look at the world.

Analyse this! Different world views

European view of the world	Aboriginal view of the world
• Progress and change is valued – the world progresses. • People own the land – individuals own and use the land for their own gain. It is theirs to use however they like. • People own things – individuals or groups own property and decide whether they will share or sell it. • Things are counted, measured and analysed – science forms the basis of society. • Written culture – things are recorded and written down.	• Continuity is valued – things stay the same. • People do not own the land – individuals and groups are custodians (caretakers) of the land and then pass it to the next generation. • People share things – groups use things but do not own them. Things are shared between members of the group. • Things are spiritual, connected, cultural and environmental – the Dreaming forms the basis of society. • Oral culture – things are passed down by word of mouth.

Source 7 World views of Europeans and Aboriginal peoples

8.3 CHECK YOUR LEARNING

Review and understand

1 **Describe** how the mountains, rivers, forests and deserts were created, according to Aboriginal beliefs.

Apply and analyse

2 In your own words, **explain** the concept of Country.

3 Look carefully at Source 7. **Distinguish between** the world views of Europeans and Aboriginal peoples in relation to land and property. Remember, when you distinguish between two things you must talk about how they are different.

Evaluate and create

4 **Research** some Creation stories of Torres Strait Islander peoples. In groups, discuss how these stories are different from those of Aboriginal peoples.

8.4 Kinship and family relationships

In this topic, you will:

» outline the traditional structure of Aboriginal and Torres Strait Islander families.

kinship
an important part of Aboriginal and Torres Strait Islander cultures and values; kinship relates to relationships between people, and between people and the land

Elders
key people who are keepers of cultural and spiritual knowledge within Aboriginal communities

Kinship is an important part of Aboriginal and Torres Strait Islander peoples' lives. It refers to a system of rules that organise their families and social lives. The kinship system made sure everyone knew what their responsibilities were within the community.

Traditionally, Aboriginal cultural practices relating to kinship worked differently in groups across Australia, but some ideas were important to everyone. For example, gift giving was an important part of kinship, as a way of strengthening social bonds between families and alliances between groups.

The idea of family was also central to the kinship system. Unlike European families, traditionally Aboriginal and Torres Strait Islander peoples did not just care for the people directly related to them. Children could have a close relationship with relatives other than their mother and father. For example, a child's aunts and uncles would also be called their mother and father. Cousins could also be called brother and sister. Older people who were not related to them at all could be called aunty or uncle. While the terms and rules around family relationships could be different across groups, caring for their community as a family was always very important. This is still the case for many modern-day Aboriginal and Torres Strait Islander groups across Australia.

Elders

Source 8 The image on the $2 coin represents an Aboriginal Elder. The designer of the image used some of Gwoya Tjungurrayi's physical features as inspiration. Gwoya Tjungurrayi was a Walpiri-Anmatyerre man of the Northern Territory and an Elder in his community.

Elders were a very important part of each Aboriginal cultural group. This is still the case today. Elders played a key role in running the community from day to day, and led by example. It was their role to show young people the importance of the natural world.

Aboriginal Elders would teach younger people about bush tucker and bush medicines, and share knowledge about the Dreaming through songs and stories. If there was a problem or dispute in the community, the Elders would make a decision together about how to settle things. Elders would also lead initiation ceremonies for young people.

A person did not just automatically become an Elder when they got old. Respect and authority had to be earned by showing understanding and dedication to the community.

Marriage

For many Aboriginal peoples, there were strict rules about marriage as part of the kinship system. Love was not the most important factor when a marriage was arranged. For example, relationships in the Kulin nation had a lot to do with a person's totems. A marriage had to be between a man and a woman of different moieties (totems or symbols). Among the Kulin people, those whose moiety totem was the eagle often married people whose moiety was the crow. A person could not marry someone with the same moiety. This meant people did not have to marry their relatives, but could move between groups instead. You will find more information about totems and moiety on page 236.

The traditions and ceremonies surrounding marriages were also different across groups. In some areas there was no marriage ceremony. The young woman would simply move to live with her husband's people. In other groups, a marriage ceremony was held. This could involve special face and body painting, music and dancing, and the smoking of leaves to ward off bad spirits and give good fortune to the newly married couple.

Source 9 Elder Eileen Harrison, a Gunai (Kurnai) Elder and artist; Elders play an important role in passing down knowledge and keeping order in Aboriginal communities.

Quiz me!
A quick quiz on kinship and family relationships

8.4 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'kinship' as it refers to Aboriginal and Torres Strait Islander peoples' lives.

2 **Identify** the important people in Aboriginal and Torres Strait Islander families or groups. How did they become so important?

Apply and analyse

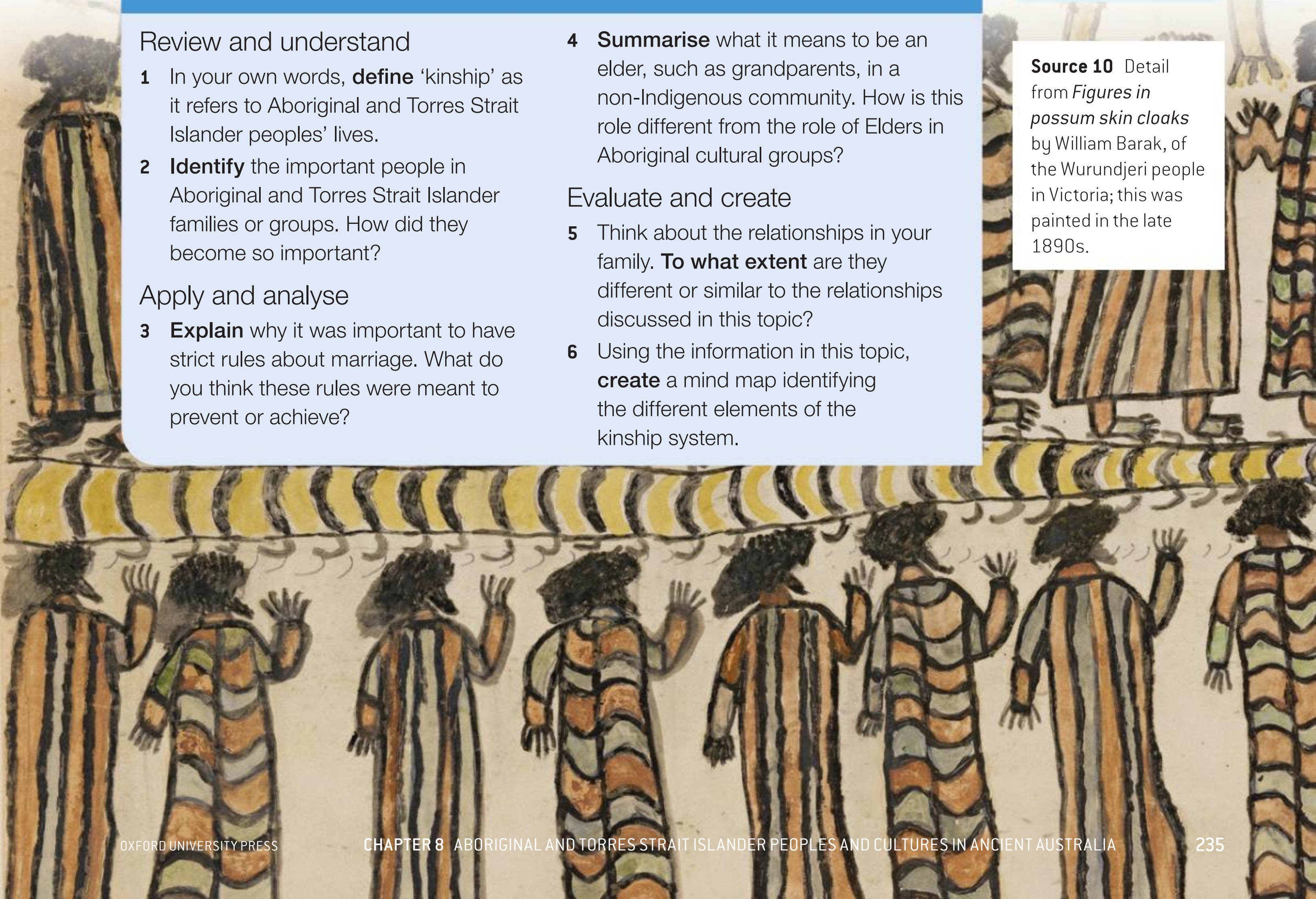
3 **Explain** why it was important to have strict rules about marriage. What do you think these rules were meant to prevent or achieve?

4 **Summarise** what it means to be an elder, such as grandparents, in a non-Indigenous community. How is this role different from the role of Elders in Aboriginal cultural groups?

Evaluate and create

5 Think about the relationships in your family. **To what extent** are they different or similar to the relationships discussed in this topic?

6 Using the information in this topic, **create** a mind map identifying the different elements of the kinship system.



Source 10 Detail from *Figures in possum skin cloaks* by William Barak, of the Wurundjeri people in Victoria; this was painted in the late 1890s.

8.5 Spiritual connection to the land

In this topic, you will:

» develop an understanding of the spiritual practices of the Wurundjeri people.

Explore it!
A virtual field trip to Hanging Rock, a sacred site

Aboriginal peoples have a strong spiritual connection to the land through the Dreaming. The Dreaming is about the knowledge, beliefs and practices that originated from Creation stories, which describe how the landforms and life on Earth came into being. The Dreaming guides the way people live on the land and how to care for it.

This topic will explore the spiritual practices of the Wurundjeri people, the traditional caretakers of the land in the Birrarung (Yarra River) valley. For the Wurundjeri people, spiritual beliefs are present in different sacred objects and cultural practices, such as totems, sacred sites, initiation rites and funeral rituals.

Totems

totem
an animal or object that has spiritual significance for Aboriginal peoples; different totems are given to children at birth and are considered guides and protectors

In Aboriginal cultures, a **totem** is the sacred object or symbol of a person or an entire group. When something is sacred, it means it has important religious or spiritual value. A totem was thought to be a spiritual protector. When Wurundjeri children were given a personal totem, it was usually an animal from their land, such as a wallaby or wombat. That animal was that child's spiritual ancestor throughout life, protecting them and connecting them to Country. In return, that person would never kill, eat or disrespect their totem.

Language groups and nations can also have a totem that guides and protects them. The Wurundjeri people have two moiety totems: Bunjil the eagle and Waa the crow (or raven). Moiety indicates a person's family relationship and refers to one of two groups into which a society is divided. A person's moiety was inherited from their father and was an important part of the Wurundjeri peoples' social structure. For example, people with the same moiety were considered siblings and were not allowed to marry.

Source 11 The golden-shouldered parrot is a totem animal of the Olkola people in northern Queensland.

Sacred sites

All of Country is special to the Wurundjeri people, but some places are particularly spiritual or significant. These sacred sites include places where totems appeared, or where sacred rituals, ceremonial gatherings or important trading took place.

Sacred sites were mostly made up of natural features, such as hills, rivers, rock formations or trees. These places required complete respect from the people who went there. Some sacred sites were for men or women only. These places had great spiritual and cultural value to the Wurundjeri people that could not be shared with outsiders.

Significant Wurundjeri places or sites include Hanging Rock (a site for male initiation ceremonies) and natural amphitheatres such as the site of the Melbourne Cricket Ground.

Around Australia, other **sacred sites** include places such as Gariwerd in Victoria, Uluru in the Northern Territory, Wilpena Pound in South Australia and the Pinnacles in Western Australia.

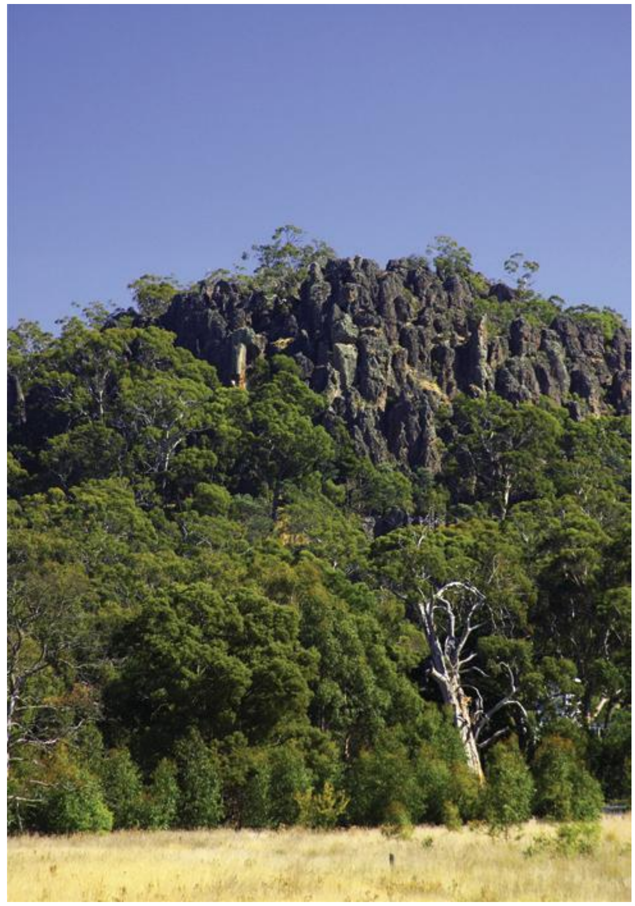
sacred sites
places that have special importance or cultural significance to Aboriginal peoples

Initiation ceremonies

In Aboriginal communities, girls and boys would be initiated in ceremonies that celebrated them becoming adults. Children would be initiated when the community thought they were physically and mentally ready to become adults. They had to earn the right to be initiated.

Non-Indigenous people are not allowed to attend these ceremonies, so it is difficult for people who are outsiders to know exactly what happens.

For the Wurundjeri people, boys being initiated were given items to signify their manhood, such as strips of possum skin and a narrow bone for their nose.



Source 12 Hanging Rock is a sacred site for the Dja Dja wurrung, Taungurong and Wurundjeri peoples of the Kulin nation.

Funeral ceremonies

All Aboriginal communities have a deep respect for the dead. Some groups believe that the spirit of the dead person remains near the place of death. Others believe the spirit of the dead would join their spiritual ancestors in the Dreaming. The nature of their mourning or grieving was meant to comfort the spirit, and ceremonies were different for each language group.

Some societies had different funeral practices for men and women. It was suggested by European observers that among the Wurundjeri people, funeral ceremonies were far more complex for men than for women.

In some Aboriginal communities, once a person has passed away, people are not allowed to say their name again. This is to make sure the spirit is not called back to this world, and is allowed to continue on its journey. It is also out of respect for the family of the person who has passed. Many Aboriginal peoples still observe this practice.

8.5 CHECK YOUR LEARNING

Review and understand

1 What kind of totem might a Wurundjeri person be given?

2 **Identify** what an initiation ceremony celebrates.

3 In your own words, **describe** what is meant by the term ‘sacred site’.

Apply and analyse

4 **Explain** why non-Indigenous people do not know much about initiation ceremonies.

5 **Summarise** why the names of people who have died are not allowed to be spoken aloud in some Aboriginal communities.

Evaluate and create

6 Using what you have learnt in this unit, **create** a mind map of the different ways Wurundjeri people are spiritually connected to the land.

8A RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Keeping culture strong

For almost 200 years, many non-Indigenous Australians denied the history, culture and beliefs of Aboriginal and Torres Strait Islander peoples. Most non-Indigenous Australians also did not know or acknowledge that they lived on stolen land. Changes in attitudes and laws since the 1960s have led to greater recognition of Aboriginal and Torres Strait Islander peoples and cultures in the daily lives of all Australians.

Today, Aboriginal and Torres Strait Islander flags often fly alongside the Australian flag, and the traditional custodians of the land are acknowledged at most public gatherings. However, Aboriginal and Torres Strait Islander people remain among the most disadvantaged Australians, and there is still a great deal of progress to be made before full recognition and equality can be achieved.

Across Australia and the Torres Strait Islands today, many programs have been put in place to keep these diverse cultures strong. For example:

- many landmarks, parks and regions are being renamed in the Aboriginal or Torres Strait Islander language of the region (e.g. Uluru, Kata-Tjuta, Gariwerd)
- Aboriginal and Torres Strait Islander languages are now being taught in more than 260 schools across Australia
- major organisations, companies and government departments are developing policies and programs to increase awareness of Aboriginal and Torres Strait Islander issues.

These programs are designed to:

- educate non-Indigenous Australians about the traditional customs of Aboriginal and Torres Strait Islander peoples
- build better relationships between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians
- help repair some of the damage caused by colonisation and keep Aboriginal and Torres Strait Islander cultures, languages and spiritual beliefs strong.

Source 13 Detail from *Figures in possum skin cloaks* by William Barak, of the Wurundjeri people in Victoria, painted in the late 1890s

Source 14 The Laura Aboriginal Dance Festival is held every two years in Far North Queensland. Over 20 communities participate across the region, with up to 500 performers.

KEY SKILL
Communicating & reflecting

Creating and delivering an audiovisual presentation

Audiovisual presentations can communicate the findings of your research to an audience by using a range of visual sources (such as photographs, maps and infographics) and audio sources (such as interviews and songs) to make your presentation informative and engaging. To create and deliver a good audiovisual presentation, follow these steps:

Step 1 Develop the research question (or questions). You will need to work out exactly what topic your audiovisual presentation will explore. Make a list of points you will need to cover.

Step 2 Gather your research. Find and collect a range of reliable sources that will help you answer your research question. Ideally, you should have a combination of primary and secondary sources. Make sure these sources are accurate.

Step 3 Plan and create your presentation. Make sure your presentation addresses the question (or questions) that you set out to explore. Decide on the format that you will use; for example, PowerPoint, Prezi, a short video or a talk supported by a poster.

Step 4 Deliver your presentation.

- Rehearse your presentation so that you can deliver it with confidence.
- Engage your audience by speaking slowly and clearly and making eye contact.
- Prepare for the worst by having a back-up plan in case technology lets you down.
- Finish strongly. Your presentation should finish on a high note.
- Encourage your audience to comment or ask questions at the end of the presentation.

For more information on this key skill, refer to page 213 of 'The history toolkit'.

Practise the skill

Create an audiovisual presentation on one or more local programs or initiatives that are designed to increase awareness of Aboriginal and Torres Strait Islander issues and keep Aboriginal and Torres Strait Islander cultures strong.

1 Develop a series of questions to guide your research, such as:
   - What is the program, event or project designed to do?
   - Who is involved?
   - How has it been received?
   - How has it helped to keep Aboriginal and Torres Strait Islander cultures strong?

2 **Research** and collect a range of information (such as pictures, music, videos, interviews and short quotes) and prepare your audiovisual presentation.

3 Present your finished product to the class.

Extend your understanding

The Australian Constitution is the founding document of Australia. It sets out the rules by which the country is run. In 1901, at the time the Constitution was put in place, the land of Australia was considered to be *terra nullius* (a land belonging to no one) and because of this, Aboriginal and Torres Strait Islander peoples were not included in discussions about the creation of the new nation on their traditional lands, nor were they included in any way in the Constitution. In recent years, many people have argued that the Constitution should be changed to recognise the first Australians. One campaign to bring about this change was called RECOGNISE. The RECOGNISE campaign formally ended in 2017.

Research the RECOGNISE campaign and answer the following questions.

1 **Identify** the main goal of the RECOGNISE campaign.

2 **Outline** who was involved in the campaign.

3 Were all Australians in favour of the campaign? **Discuss** why or why not.

8.6 The environment and climate of Australia

In this topic, you will:

» explain how the climate of Australia affected the lives of local Aboriginal and Torres Strait Islander peoples.

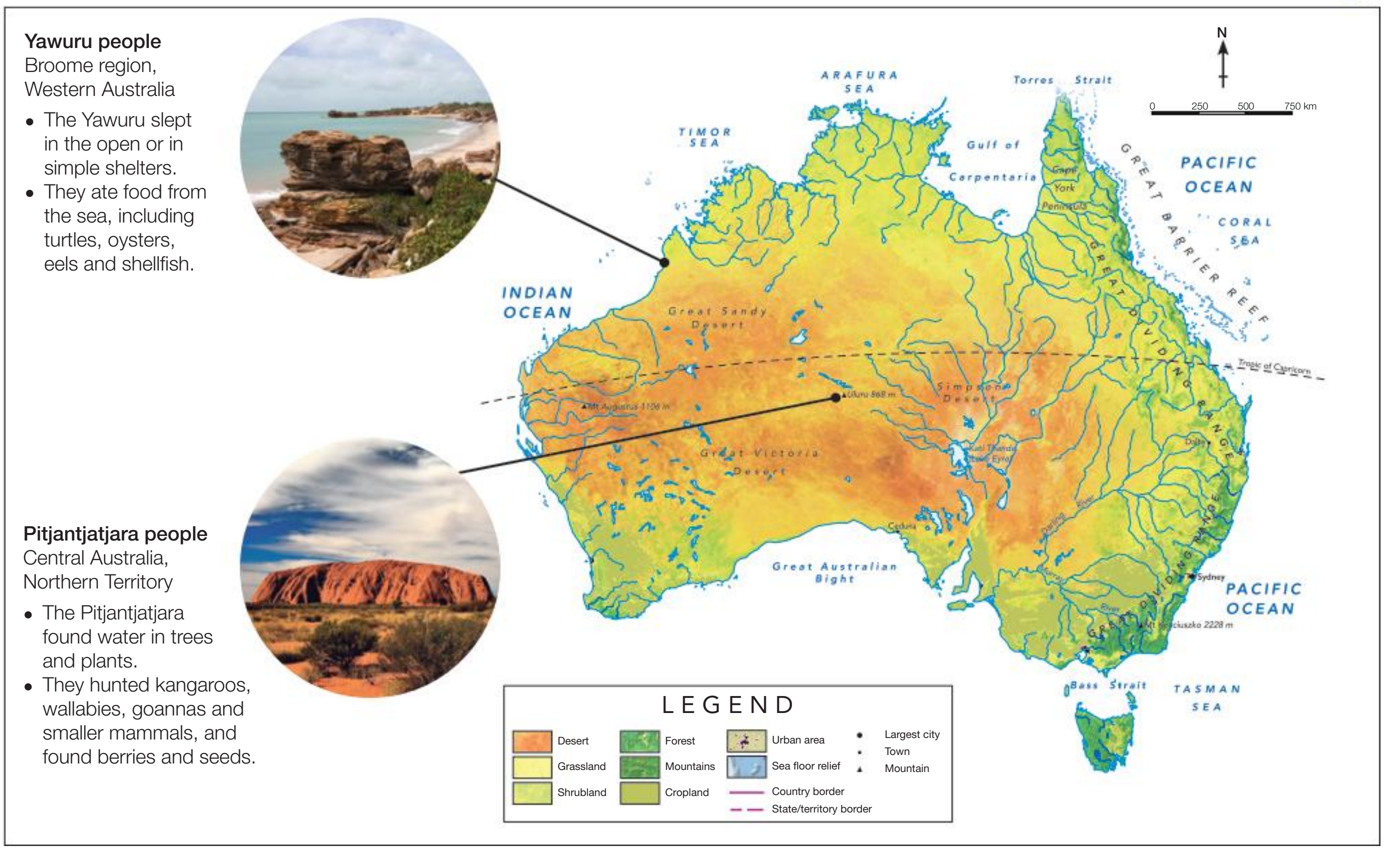
Australia is a very large continent made up of many different regions (see Source 1). When most people think about Australia, they often just think about the mainland and Tasmania. In reality, Australia also has over 8000 islands within its borders, including the more than 200 islands that make up the Torres Strait Islands.

As you can see in Sources 1 and 2, each region of Australia has its own environment and climate. This means that the plants, animals and landforms in these regions are different. For example:

- regions in the north – such as parts of Queensland, the Northern Territory and the Torres Strait – are tropical, meaning they are very warm and wet. They are covered with tropical forests and shrublands. There is plenty of water available.
- regions in the south – such as parts of Victoria and Tasmania – are temperate, meaning they are cold and wet. They are covered with forests and grasslands. Most of the year there is water available.
- regions in the centre – such as parts of the Northern Territory and South Australia – are dry, meaning they are hot and have little rain. Vegetation is sparse (thinly scattered) and there is very little water available.

Map it!
The environment of Australia

AUSTRALIA: ENVIRONMENT



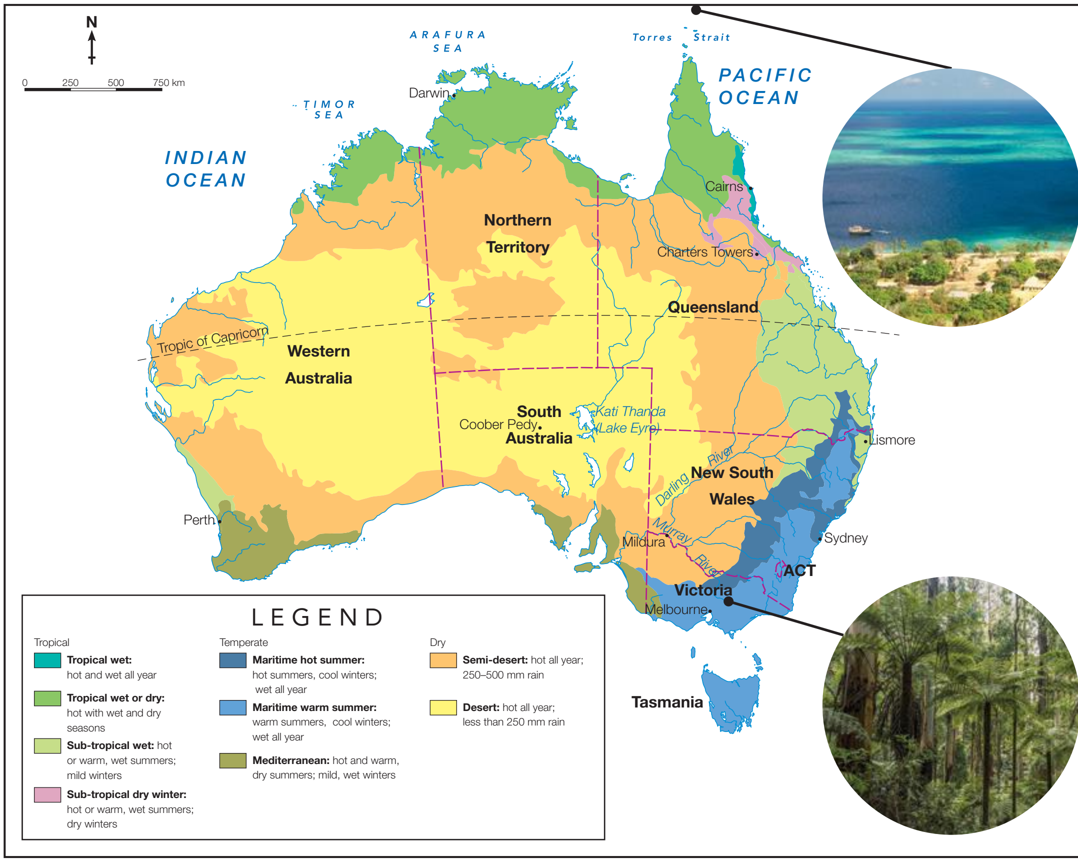
Source 1

Source: Oxford University Press

How environment and climate influenced Aboriginal and Torres Strait Islander peoples

Differences in environment and climate around Australia influenced how different Aboriginal and Torres Strait Islander peoples lived. These factors played a big role in the types of food people could access. Climate also influenced the types of shelter and clothing people needed. Aboriginal groups in the dry regions of Australia would have eaten different foods and had different agricultural and hunting techniques from groups in other places. Sources 1 and 2 show how different environments and climates influenced the lives of various Aboriginal and Torres Strait Islander groups around Australia.

AUSTRALIA: CLIMATE ZONES



Meriam people
Murray Island, Queensland

- The Meriam ate mainly seafood, including prawns and fish, and caught turtles and dugongs.
- They also grew and ate yams, and collected other berries growing on the island.

Kulin nation (including Wurundjeri people)
Central and southern Victoria

- In winter, some Wurundjeri slept in sheltered caves and kept warm with rugs made from possum skins.
- In summer, some Wurundjeri lived along the coast and built dome-shaped shelters.
- They ate kangaroos, wallabies and possums, and set river traps to catch eels and fish.

Source 2

Source: Oxford University Press

8.6 CHECK YOUR LEARNING

Review and understand

1 Australia is made up of more than just the mainland and Tasmania. How many islands are part of Australia?

2 **Identify** where the Torres Strait Islands are located.

3 The Pitjantjatjara people live in a very dry region of Australia. **Outline** how they found water to drink.

Apply and analyse

4 Australia has many different climate zones. **Examine** Source 2. Which zone is Melbourne located in?

5 Look carefully at Source 2. **Summarise** the main differences between tropical regions and temperate regions.

6 In your own words, **explain** how environment and climate in Australia influenced the way Aboriginal and Torres Strait Islander groups lived.

8.7 Managing the land

In this topic, you will:

» explore land management practices of Aboriginal peoples, including fire-stick farming.

Aboriginal people have a deep connection with Country. This connection informed how Aboriginal peoples used and cared for the land. Aboriginal peoples developed techniques to manage the land based on a thorough understanding of nature. This understanding came from thousands of years of observation. Aboriginal groups often rotated through the areas where they lived, to avoid depleting the resources in that area. Aboriginal peoples knew how much food to take and how much to leave. This knowledge meant that animal and plant populations were not overhunted or destroyed. Instead, animals and plants had time to recover or regenerate, so that there was always enough for people to hunt and harvest in the years to come.

Careful use of the land was not the only way that Aboriginal peoples looked after the environment. Aboriginal peoples also used land management techniques, such as landscape burning, to turn an area into grasslands. This would encourage animals to come to the area, and these animals could then be hunted for food. Landscape burning also encouraged regeneration of native plants. The use of fire was one of the most important elements of land management for many Aboriginal peoples around Australia.

Key skill worksheet
Identifying continuity & change: The use of fire

Fire-stick farming

The term 'fire-stick farming' comes from the method that Aboriginal peoples use to light fires. A base stick is made from a piece of soft wood. A wedge is cut into the wood and filled with fuel – this could be dried animal droppings or dry grass. An upright stick is then inserted into the wedge and rotated swiftly (see Source 4). Eventually the fuel smoulders and catches fire.

Aboriginal peoples would set fire to land in sections at a time, creating a patchwork of burnt land. This type of controlled burning has many purposes, including:

- thinning out vegetation that might stop other plants from getting sunlight
- allowing new grass to grow, which would attract kangaroos looking for food
- causing seeds to germinate or begin to grow
- reducing the amount of fuel that could be burnt by a serious bushfire
- making travel or access easier by getting rid of thick undergrowth and encouraging open grassland between the trees.

Women could then work on these burnt patches of land with their digging stick, looking for edible roots and tubers, such as yam daisies. In the process, clumps of soil would be thinned out and roots replaced.

Source 3 *View of Melbourne* by John Adamson, 1841, State Library of Victoria; this painting shows land that has been cleared.

Historical views of Aboriginal land management

Non-Indigenous historians used to think that land clearing around Melbourne was carried out after European arrival. It is now believed that Aboriginal peoples shaped the land using traditional land management techniques such as fire-stick farming. Fire-stick farming was an important tool to reduce the amount of scrub (bush) on the land and to help increase food sources for Aboriginal peoples.

According to historical sources, early colonisers commented on the large grasslands present in many areas. These grasslands were created by Aboriginal fire-stick farming practices. Before European colonisation of Australia, Aboriginal peoples managed the Australian land so consistently that the landscape changed. One example of this is the creation of grasslands out of areas that had previously been forests.

Aboriginal land management was severely disrupted by European colonisation of Australia. Without Aboriginal peoples managing the land with fire, the land became overgrown bush.

For more information on this key concept, refer to page 193 of 'The history toolkit'.

KEY CONCEPT
Evidence

Source 5 In New South Wales, Bundjalung man Oliver Costello and Gumea-Dharrawal/Yuin man Jacob Morris demonstrate cultural burning in a forest.

Watch it!
A video and quiz on fire-stick farming

Source 4 The use of controlled burning is an important part of modern bushfire control. This is a technique that Aboriginal peoples have understood and used for thousands of years.

8.7 CHECK YOUR LEARNING

Review and understand

1 **Outline** the benefits of fire-stick farming.

Apply and analyse

2 **Explain** why it is a good idea for us to manage our environment today by using ancient techniques such as fire-stick farming.

Evaluate and create

3 **Discuss** why European colonisers did not acknowledge the Aboriginal peoples as caretakers of the land when they arrived in Australia. What might have influenced their views?

4 Research traditional Aboriginal fire-starting techniques. **Create** a guide on how to light a fire without matches or a lighter. Include diagrams and helpful hints.

8.8 Studying ancient Australia

In this topic, you will:

» understand the nature of the sources of evidence about ancient Australia.

Studying ancient cultures can be challenging for historians. Over thousands of years, the historical **sources** that historians rely on for **evidence** (such as paintings, pottery, carvings and tools) can be lost or damaged.

How we know about ancient Australia

To gain an understanding of what life was like in ancient Australia, historians and non-Indigenous people should listen to and read accounts from Aboriginal and Torres Strait Islander peoples. Aboriginal and Torres Strait Islander peoples should always be considered the best source on Aboriginal and Torres Strait Islander history. A combination of other primary and secondary sources can also be used to gain an understanding of Australia's history. Historians study a range of different historical sources to gain information about the past. Some of these sources were created during the time being studied and provide direct evidence about this period of time. These are known as **primary sources**. Others were created after the time being studied and can attempt to explain primary sources. These are known as **secondary sources**.

sources
anything that allows us to understand the past; sources can be primary sources or secondary sources

evidence
information provided by a source that supports a given interpretation, or provides support for possible answers to inquiry questions

primary sources
sources that existed or were made in the time period being studied

secondary sources
sources created after the time being studied

Primary sources

Primary sources from ancient Australia can be divided into three categories:

- oral traditions
- rock paintings and traditional works of art
- archaeological evidence.

Oral traditions

The Aboriginal and Torres Strait Islander societies of ancient Australia had an oral tradition. Instead of writing, the records and histories of Aboriginal and Torres

Source 6 These paintings of Wandjina are located in sandstone caves at Raft Point, Kimberley, WA. The oldest Wandjina images in the Kimberley are believed to be up to 40 000 years old. They are a valuable source of evidence for historians investigating ancient Australia.

Strait Islander peoples were recorded by alternative methods. The Elders of different Aboriginal and Torres Strait Islander groups passed important information down to young men and women. Aboriginal and Torres Strait Islander literacy came through stories, songlines, painting, dance and song. The cultural and spiritual knowledge of the Aboriginal and Torres Strait Islander peoples has been passed down over many generations through these methods, as well as ceremonies and rituals.

Rock paintings and traditional works of art

In addition to oral traditions, ancient Aboriginal peoples left behind a huge amount of information about their lives and beliefs in paintings and carvings on rocks and cave walls. Traditional paintings, usually done in a natural pigment (dye) known as ochre, tell the Dreaming stories and show how people and animals lived. Dating these pictures can be very difficult, but archaeologists have identified pigments used in paintings at Cape York in Queensland dating back at least 30 000 years.

Archaeological evidence

Much of the information available to us about ancient Aboriginal and Torres Strait Islander life has been collected by **archaeologists**. Archaeologists find and examine a whole range of **artefacts** such as ancient tools, animal bones, burial sites, rock carvings and **middens** (ancient rubbish heaps). These artefacts tell a story about how Aboriginal and Torres Strait Islander peoples lived. In some areas, archaeological digs have revealed many layers of different artefacts.

archaeologists
people who uncover and interpret sources from the past, such as the remains of people, buildings and artefacts

artefacts
any objects that are made or changed by humans

middens
ancient rubbish heaps that contain the remains of meals such as shells and bones

Source 7 Middens are ancient rubbish heaps where people have left the remains of their meals (such as shells and bones). This midden was found at Boulder Point in Tasmania. Middens are valuable archaeological sites for historians because they show which foods people ate in the past. The charcoal remains of fireplaces and other artefacts (such as tools) were also found at this site.

KEY CONCEPT
Evidence

Key skill worksheet
Determining historical significance: Mungo Man

Mungo Lady and Mungo Man

Lake Mungo is a dry lake in the south-west corner of New South Wales. It is just one of 17 lakes in the Willandra Lakes Region. Until about 10 000 years ago, the lake was full of water. Lake Mungo is on the Country of the Paakantyi/Barkindji, Ngiyampaa and Mutthi Mutthi people. The ancestors of the Paakantyi/Barkindji, Ngiyampaa and Mutthi Mutthi people lived seasonally along the shores of the lake, which provided them with a source of food and water. Lake Mungo is a sacred site and burial ground to the Paakantyi/Barkindji, Ngiyampaa and Mutthi Mutthi peoples.

In 1969 and 1974, Lake Mungo became a site of great archaeological significance when human remains were found in the area. Geologist Jim Bowler came across the cremated (burned) remains of a female (who became known as Mungo Lady) in 1969. He also came across the bones of a man (who became known as Mungo Man) in 1974.

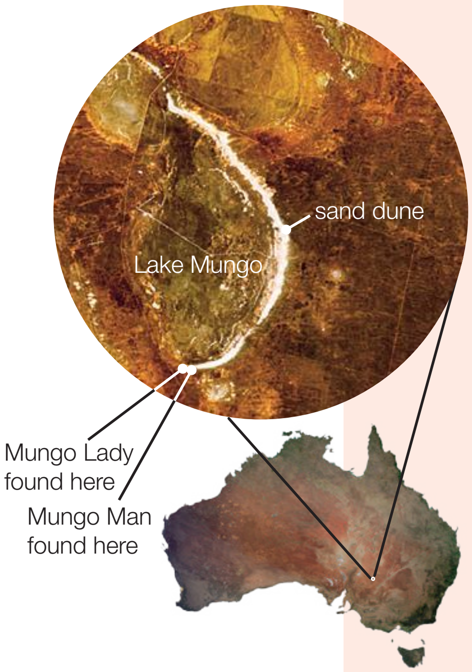
Scientists have since dated these remains as being around 40 000 years old. These remains changed how scientists understood the history of ancient Australia by providing archaeological evidence that Aboriginal peoples have lived here for at least 40 000 years (Aboriginal peoples believe that they have been on this land since the Dreaming, or since time began). This was also an important finding for scientists who study human migration across the world.

These remains showed scientists that their previous estimates of how long humans had inhabited Australia were incorrect. The remains are the oldest in Australia, and some of the oldest remains in the world.

Studying these remains has added to historians' understanding of the lifestyle, diet, health and culture of the earliest humans in Australia.

From these remains, archaeologist Steve Webb has developed a profile of Mungo Man. He is believed to have been about 50 years old when he died. He was 170 centimetres tall. He ate a diet of meat, grains and grasses. He had worn and scratched teeth, and was badly affected by arthritis. Mungo Lady's body was cremated and her bones were crushed, so archaeologists have fewer ideas about her life. It is thought that she collected food from around the Willandra Lakes region. Evidence suggests that her cremation was part of a careful process to mourn her death. The remains of Mungo Lady represent the oldest known cremation in the world.

For more information on this key concept, see page 193 of 'The history toolkit'.



Source 8 The location of Lake Mungo and the area where archaeologists excavated the remains of Mungo Lady and Mungo Man

KEY CONCEPT
Significance

Returning Aboriginal remains – righting the wrongs of the past

Managing the remains of ancestors is important to Aboriginal peoples because of cultural beliefs held around ancestral remains and because of the disrespectful way in which Aboriginal remains have been treated in the past by non-Indigenous scientists and governments. Aboriginal peoples believe that removing a person's remains disturbs their spirit. Aboriginal peoples also believe that if a person's remains are not in Country (and with their people), the person's spirit cannot rest.

To many Aboriginal people, the presence of the archaeologists who came to unearth the remains of Mungo Man and Mungo Lady was an intrusion on a sacred site. The remains of Mungo Man and Mungo Lady were unearthed, put in a suitcase and removed from their homelands without the traditional owners of the land being consulted. Researchers took the remains to the Australian National University (ANU) in Canberra. Since the remains were removed, traditional owners of the land have called for the remains to be returned to Lake Mungo. The remains of Mungo Lady were returned to Country in 1991. The 2014 film *Message from Mungo* tells the story of the Aboriginal individuals and communities who fought for decades to have the remains of Mungo Lady returned to Aboriginal custodians. The remains of Mungo Man were stored at ANU and with the National Museum of Australia before being repatriated (returned) to Country in 2017.

For more information on this key concept, see page 193 of 'The history toolkit'.

Source 9 These are the remains of Mungo Man being returned to Lake Mungo in 2017.

Secondary sources

Historians also use a range of evidence collected by others who write about aspects of ancient Australia after they happened. These are known as secondary sources.

Early colonists recorded many observations about how Aboriginal and Torres Strait Islander peoples lived from 1788 onwards. Until recent years, many of these writings were ignored. However, some modern historians are now re-examining these documents to build up a more detailed picture of Aboriginal and Torres Strait Islander life in the early years of British colonisation. Many of these secondary sources present a picture of Aboriginal peoples as clever and efficient land managers.

In particular, the early writings and paintings of early British colonists are being used as historical evidence. It is important to remember that these secondary sources may display bias as they only present one viewpoint. There are no written sources from Aboriginal and Torres Strait Islander peoples available from this time.

Quiz me!
A quick quiz on how we know about ancient Australia

8.8 CHECK YOUR LEARNING

Review and understand

1 What can rock paintings tell us about the beliefs of Aboriginal peoples? **Identify** the key features of the Wandjina figures shown in Source 6.

2 **Outline** why middens are important.

Apply and analyse

3 **Compare** primary sources with secondary sources. Remember, when you compare two things you must talk about how they are similar and how they are different.

4 **Suggest** how British colonisation from 1788 might have affected the oral traditions of Aboriginal and Torres Strait Islander peoples.

5 **Explain** why the remains found at Lake Mungo are significant as archaeological evidence.

6 **Summarise** why it is unethical to remove remains from Aboriginal land.

Evaluate and create

7 Conduct some additional research about Mungo Lady and Mungo Man. **Create** a biography of Mungo Lady or Mungo Man. Include details about their daily life and diet.

8.9 Protecting and conserving Australia's ancient past

In this topic, you will:

» explore ways of conserving Australia's Aboriginal and Torres Strait Islander cultures.

Source 10 Traditional Aboriginal shields on display in the Ian Potter Centre, National Gallery of Victoria, Melbourne

When Australia was colonised in 1788, the Aboriginal and Torres Strait Islander peoples were treated very badly. The British colonists declared Australia to be *'terra nullius'* (from Latin, meaning 'land belonging to no one') and forcibly removed Aboriginal and Torres Strait Islander peoples from their lands. Many Aboriginal and Torres Strait Islander people died from European diseases that the British brought from their overcrowded cities or towns, as Aboriginal and Torres Strait Islander peoples had no immunity to these imported diseases. The traditional cultures and lifestyles of the Aboriginal and Torres Strait Islander peoples were changed forever after colonisation, and many sacred sites and ancient practices were stolen.

In the 1960s, changing laws granted some Aboriginal peoples control over some Aboriginal lands, and gave Aboriginal and Torres Strait Islander peoples more rights.

Conserving sacred sites and artefacts

Historical sources from Australia's ancient past can be fragile and rare, so it is important that we protect and conserve them. Conserving ancient artefacts and protecting ancient Aboriginal and Torres Strait Islander sacred sites ensures that future generations can access them.

Although Aboriginal peoples lived in all parts of Australia, most people inhabited the coastal areas. This is where the majority of Australians live today, so a great many sites important to Aboriginal peoples have already been destroyed by building and development that has taken place since British colonisation. Aboriginal and Torres Strait Islander peoples have sought to protect important sites since colonisation. In recent decades, there have also been determined efforts by non-Indigenous groups, local communities and governments to preserve and protect sacred sites.

Analyse this!
Protecting the past

I used to think, now I think

Reflect on your learning about sacred sites and complete the following sentence.

- I used to think ...
- Now I think ...

What has changed in your understanding?

Source 11

Sacred sites are places within the landscape that have a special meaning or significance under Aboriginal tradition. Hills, rocks, waterholes, trees, plains, lakes, billabongs and other natural features can be sacred sites. In coastal and sea areas, sacred sites may include features which lie both below and above the water. Sacred sites derive their status from their association with particular aspects of Aboriginal social and cultural tradition.

Source: Aboriginal Areas Protection Authority, http://www.aapant.org.au/sacred-sites/what-sacred-site

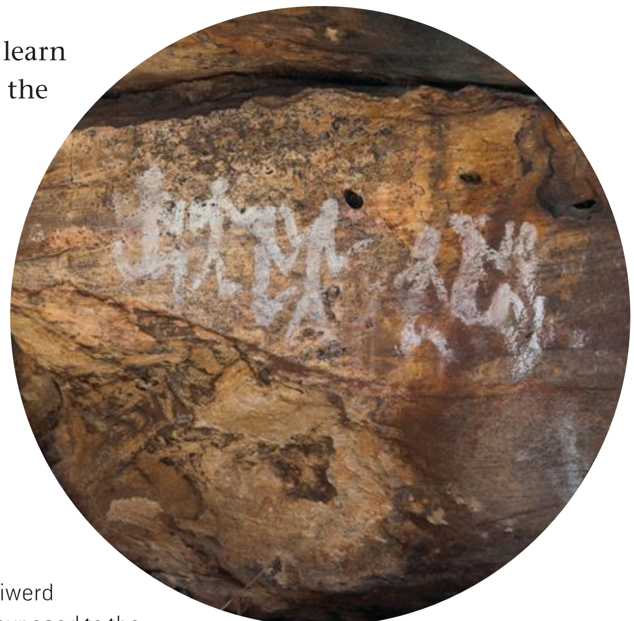
Conserving culture in museums

The conservation of traditional tools and artefacts is a skilled and delicate business. Many items of traditional and historical significance are fragile and must be handled with great care. The national association Museums Australia provides museums and galleries around Australia with detailed information on consultation with relevant communities about artefacts, and on the care and preservation of sacred and important objects.

Source 12 Aboriginal cultural artefacts on display at the Bunjilaka Aboriginal Cultural Centre

Museum displays are one of the main ways in which artefacts from Australia's ancient past are protected and preserved. Every day, people come to learn more about Aboriginal nations from the time of Creation to the modern day.

Rock and cave paintings are more difficult to protect and preserve because they are exposed to the weather. The Jardwadjali people are the custodians of some very important and valuable rock art at Gariwerd (the Grampians), about 250 kilometres west of Melbourne. The Jardwadjali have developed the Brambuk Living Cultural Centre where visitors can learn about the significance of the rock art figures and images. Rock art sites at Gariwerd are protected by mesh to ensure that they are not damaged or vandalised.



Source 13 Traditional Aboriginal rock art, such as this example found at Gariwerd (the Grampians) in Victoria, is difficult to protect and preserve because it is exposed to the weather.

8.9 CHECK YOUR LEARNING

Review and understand

1 Why is it important to conserve traditional Aboriginal and Torres Strait Islander artefacts and sacred sites? **Outline** what might happen if these artefacts and sites are not conserved.

2 **Identify** two examples of more respectful and inclusive attitudes towards Aboriginal and Torres Strait Islander cultures in today's society.

Apply and analyse

3 Read Source 11. In your own words, **explain** the meaning and significance of sacred sites. You may refer also to sites in your own life that you consider sacred.

4 **Suggest** why museums and galleries are increasingly keen to include Aboriginal and Torres Strait Islander art and artefacts in their collections.

Evaluate and create

5 Research the Brambuk Living Cultural Centre. Use the information you collect to **create** a script for a short segment of a TV travel show about the importance of Aboriginal sites at Gariwerd.

8B RICH TASK

Caring for Country

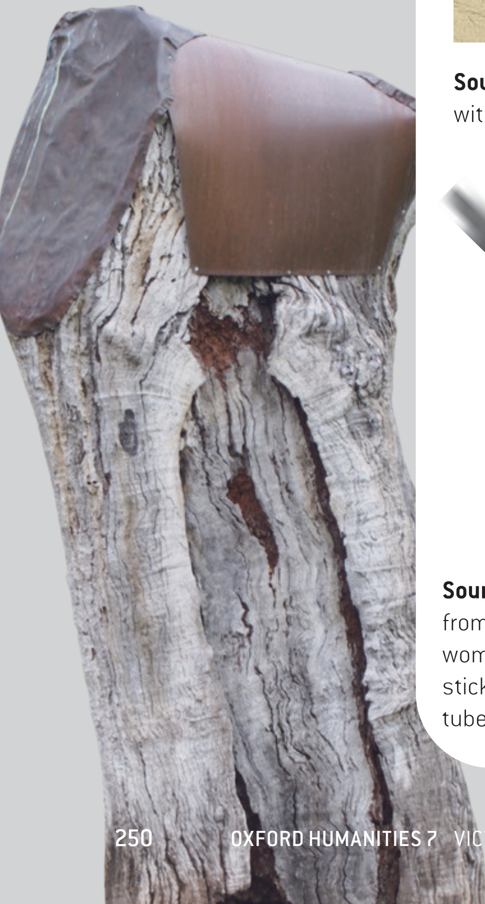
For many Aboriginal people, land management is known as 'caring for Country'. Caring for Country was and remains an important part of Aboriginal peoples' connection to the land that gave them life.

A common concept in Aboriginal cultures is that you should only take from the land what you can give back. This is shown in the way Aboriginal peoples looked after and preserved the environment that provided for them. Historians use a range of primary sources and secondary sources to learn about how Aboriginal peoples took care of the land they lived on. These sources include artefacts, paintings, oral accounts and other historical records.

Quizlet

Revise the key terms you have learnt so far.

Source 15 This illustration, by John Helder Wedge in 1835, shows women harvesting yam daisy tubers with digging sticks and turning the soil to help remaining tubers grow again the next year.



Source 14 This scarred tree in the Fitzroy Gardens, Melbourne, shows where Aboriginal people removed a large section of bark to make a canoe. The tree kept living for many years after, but died in the 1980s. The trunk of the tree has been preserved as a reminder that the Wurundjeri people lived here long before Europeans settled.

Source 16 A digging stick, or *wulunj*, from the Kulin nation; all Wurundjeri women carried a long, fire-hardened stick like this to harvest roots and tubers.

Source 17

> The natives seem to have burned the grass systematically along every watercourse, and round every waterhole, in order to have them surrounded with young grass as soon as the rain sets in. … Long strips of lately burnt grass were frequently observed extending for many miles along the creeks. The banks of small isolated waterholes in the forests were equally attended to …
>
> Explorer Ludwig Leichhardt, *Journal of an Overland Expedition in Australia*, T. & W. Boone, London, 1847.

KEY SKILL
Analysing sources

Analysing primary and secondary sources

The primary and secondary sources that historians use to understand the past all tell different stories. It is the job of historians to examine these sources and come to a conclusion about their usefulness and reliability. Follow these steps when analysing primary and secondary sources.

Step 1 Identify who wrote, produced or made the source. Is their personal perspective obvious in the source?

Step 2 Identify what type of source it is. Was the source created at the time?

Step 3 Find out when the source was created. How old is it? Is it an eyewitness account or did someone create it?

Step 4 Decide why it was written or produced. Was it meant to entertain or to argue something? Does its creator have anything to gain personally from producing the source? What may have influenced its creator?

For more information on this key skill, refer to page 205 of 'The history toolkit'

Practise the skill

1 Can modern historians develop a complete understanding of the ways in which Wurundjeri people lived before Europeans arrived? **Explain** why you think this.

2 **Examine** Sources 14–17 and complete a copy of the table below.

3 Once you have completed the table, use the information you have collected to write a short paragraph about life in the Kulin nation before Europeans arrived.

Extend your understanding

Historical sources are more useful to historians and archaeologists if their origin can be traced and other sources can be located that verify the information provided by them. Historians refer to this as provenance. Read Source 18 and complete the following questions to get a better idea of how this process works.

Source 18

In the forests and hills, possum was also a staple source of food and clothing. The flesh of the possum was cooked and eaten, while the skin was saved to be sewn into valuable waterproof cloaks. These cloaks were fastened at the shoulder and extended to the knees.

Source: 'Wurundjeri-willam: Aboriginal Heritage of Merri Creek', by the Merri Creek Management Committee, accessed 15 July 2016, https://www.mcmc.org.au/about-merri-creek/wurundjeri.

1 **Outline** what you can learn about the Wurundjeri people's way of life from this source.

2 **Summarise** how you would go about finding out how accurate or reliable this source is.

3 **Propose** (put forward) suggestions for two additional sources that you could investigate to get a better understanding about the way of life of the Wurundjeri people before colonisation.

	Is it a primary or secondary source?	What kind of source is it? (e.g. painting, photograph, artefact)	Who created the source?	What does the source show or describe?	How does the source show or describe the way Kulin people cared for Country?
Source 14					
Source 15					
Source 16					
Source 17					

8 CHAPTER REVIEW

Review questions

8A Who are Aboriginal and Torres Strait Islander peoples?

1 In your own words, **explain** the Dreaming and its role in Aboriginal life. (3 marks).

2 **Summarise** the role of Elders in Aboriginal and Torres Strait Islander culture. (3 marks)

3 **Analyse** how totems (in Aboriginal and Torres Strait Islander cultures) help to protect the environment. (4 marks)

(Total: 10 marks)

8B What do we know about ancient Australia?

1 **Summarise** how Australia's climate affected daily life for different groups of Aboriginal and Torres Strait Islander peoples. (3 marks)

2 **Outline** two practices that Aboriginal peoples used to care for and manage the land in ancient Australia. In your answer, include how each practice helped the environment. (4 marks)

3 Select an example of a historical source from ancient Australia, and **suggest** the best way to conserve this source. (3 marks)

(Total: 10 marks)

Source 19 Uluru in the Northern Territory is an area of spiritual significance for the Anangu people.

Review activity

Read the information and examine the map, then answer the following questions.

Songlines as trade routes

Songlines are walking routes across the Australian landscape. Certain songlines describe the routes that Creator beings took during the Dreaming. Other songlines describe ceremonial trade routes. Songlines link together important locations and often refer to landscape features such as trees, waterholes and creatures.

For Aboriginal peoples travelling across Australia to trade or attend ceremonies, songlines were important as a memory aid in remembering which route to take or follow. Songlines were often sung during a journey. Because songlines are musical, they could be understood by many different Aboriginal language groups.

Before colonisation, the routes of songlines were maintained through regular use and clearing. Following the colonisation of Australia, some Europeans used songline routes – which were the easiest, cleared routes across the land – as paths for horses and carts or sheep. Over time, these paths were made into gravel roads. Many of the ceremonial trade routes described in songlines are present today as roads and highways across Australia.

Source 20 A map depicting traditional Aboriginal trade routes of Australia. Some of these trade routes were described in songlines.

1 In your own words, **define** a songline. (1 mark)

2 **Explain** how songlines worked. How and why were they used? (3 marks)

3 **Outline** the cultural significance of songlines to Aboriginal peoples. (2 marks)

4 **Identify** three landscape features that might be described in a songline. (3 marks)

5 Songlines were important for trading across Australia. **Explain** how songlines helped Aboriginal peoples across Australia meet for ceremonies and trade. (3 marks)

6 **Examine** Source 20 and describe the trade routes shown. (3 marks)

7 **Outline** how early European colonisers used songlines. (2 marks)

8 In your own words, **summarise** how non-Indigenous people might use songlines today. (3 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

pro

Student book questions
Chapter 8

Key skill worksheet
Communicating & reflecting: Chapter 8

Quizlet
Play a game of Quizlet on Aboriginal and Torres Strait Islander peoples and cultures in ancient Australia.

Chapter review quiz
Chapter 8

CHAPTER 9

Introduction to the European and Mediterranean world

The Mediterranean world lies at the crossroads of three continents – Europe, Africa and Asia. The name Mediterranean comes from a Latin word meaning 'inland' or 'in the middle of land'.

In this chapter you will learn how physical features, social structure and government, cultural evidence, religion, and war and conflict influenced Mediterranean societies. You will also learn how ancient civilisations in Egypt, Greece and Rome influenced our modern world.

Source 1 The Pyramids of Giza in Egypt are among the most important sites from the ancient Mediterranean world. They were built around 4500 years ago to house the remains of dead pharaohs who had ruled over ancient Egypt.

9A
Where and when did ancient societies in the Mediterranean world develop?

9B
What were the key features of ancient societies in the Mediterranean world?

9C
How did ancient societies in the Mediterranean world influence our modern world?

The European and Mediterranean world

This unit offers a choice of three topics:

- Ancient Egypt
- Ancient Greece
- Ancient Rome.

You must choose *at least one* of these topics for study.

9.1 The where and when of the Mediterranean world

In this topic, you will:

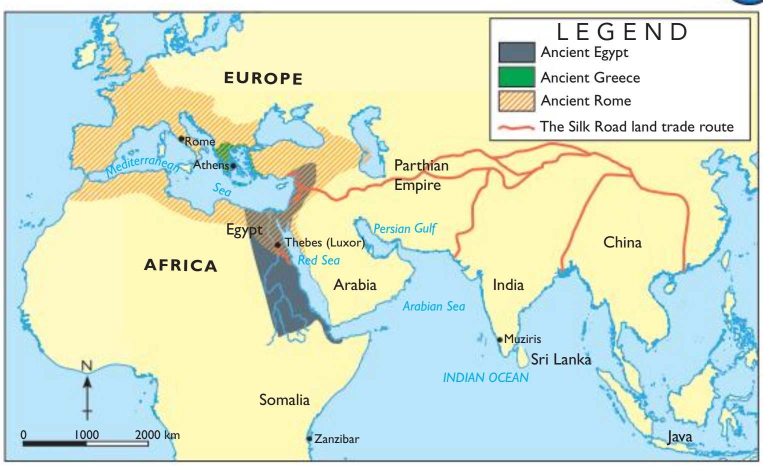
» explore when and where the ancient civilisations of the Mediterranean world developed.

Some of the most significant ancient **civilisations** developed on the continents we now know as Europe and Africa. They included ancient Egypt, ancient Greece and ancient Rome. All these civilisations had one thing in common – their connection to the Mediterranean Sea. The name Mediterranean comes from a Latin word meaning 'inland' or 'in the middle of land'. By looking at Source 1, you can see how it earned this name.

In this unit you will be learning about one of these ancient civilisations in detail. To get a better understanding of how and why your chosen civilisation developed, it helps to look at some of the factors they had in common and how their development was linked.

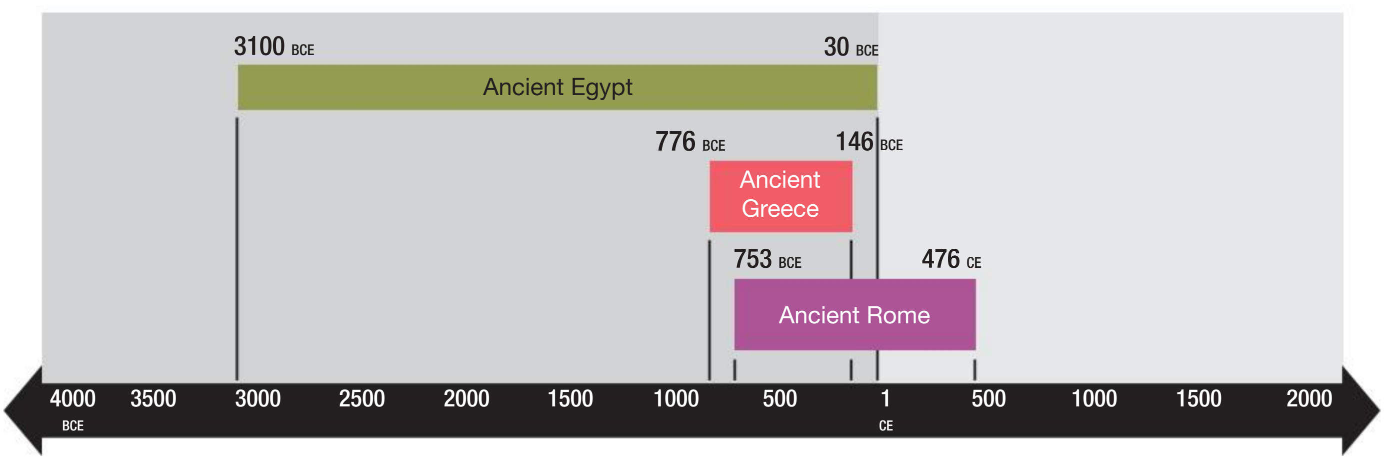
civilisations
the societies, cultures and ways of life in particular areas

MEDITERRANEAN WORLD: KEY CIVILISATIONS



Source 1 Source: Oxford University Press

Source 1 shows the location and size of these ancient civilisations and provides some key information about each of them. The timeline (Source 2) also shows the dates for each of the civilisations in the Mediterranean world. Note the dates for each civilisation as you are looking at the map – not all of them existed in the same time periods. Some flourished and then disappeared, only to later become part of another civilisation. This was the case with ancient Egypt and ancient Greece, both of which eventually became part of the Roman Empire.



Source 2 A timeline showing the rise and fall of ancient civilisations in the Mediterranean world

ANCIENT EGYPT (*c.* 3100–30 BCE)

Ancient Egypt was a civilisation based around the Nile River in northern Africa. It was one of the world's first civilisations. Ancient Egypt was ruled under one government from about 3100 BCE. Between then and 30 BCE, when the last pharaoh died, there were 31 dynasties and 70 pharaohs.

Source 3 The Great Sphinx, Egypt

ANCIENT GREECE (*c.* 776–146 BCE)

Formed from three existing cultures in the region, ancient Greece covered all of modern-day Greece as well as parts of Turkey and other settlements around the Mediterranean and Black seas. The civilisation lasted only about 400 years, but its legacy (including democracy) influences the Western world to this day.

Source 4 The Acropolis, Athens

ANCIENT ROME (753 BCE–476 CE)

The civilisation of ancient Rome lasted approximately 1300 years. It was centred on the city of Rome, in modern-day Italy. The Romans conquered the ancient Egyptians and Greeks, as well as many other peoples. During its history, Rome was ruled as a monarchy, a republic and an empire. It was a powerful civilisation with a strong military and an advanced culture.

Source 5 The Colosseum, Rome

dynasties
periods of rule by members of the same family who come to power one after the other

pharaohs
leaders of ancient Egypt who were believed to be gods; the pharaoh had absolute power and total control

monarchy
a system of government in which a single monarch (such as a king or queen) has power

republic
a system of government in which the people and their elected representatives (such as a president, politicians or senators) have power

empire
a group of countries and/or areas, often with different languages and cultures, that are ruled by a central power or leader (known as an emperor or empress)

9.1 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** the word 'Mediterranean', and name the language it comes from.
2. **Identify** the geographical feature that ancient Egypt, ancient Greece and ancient Rome had in common.
3. Which ancient civilisation lasted longer, ancient Egypt or ancient Rome?

Apply and analyse

4. **Summarise** one legacy of ancient Greece.

Evaluate and create

5. Examine Source 1 and look at the route of the Silk Road. Using the internet or library, **research** the Silk Road and write a short paragraph describing what it was and why it was important.

Quiz me!
A quick quiz on the where and when of the Mediterranean world

9.2 Key features of ancient societies in the Mediterranean world

In this topic, you will:

» explore the key features of the ancient Mediterranean world, including physical features, social structure, art, religion and conflict.

Even though ancient societies across the Mediterranean world were very different, they were all influenced by some common factors, including physical features, social structures (such as governments), religion and wars. We will look briefly at some of these factors now and see how they influenced different societies in the Mediterranean world.

Source 1 A satellite image of Egypt showing the fertile Nile valley and delta in green

Physical features

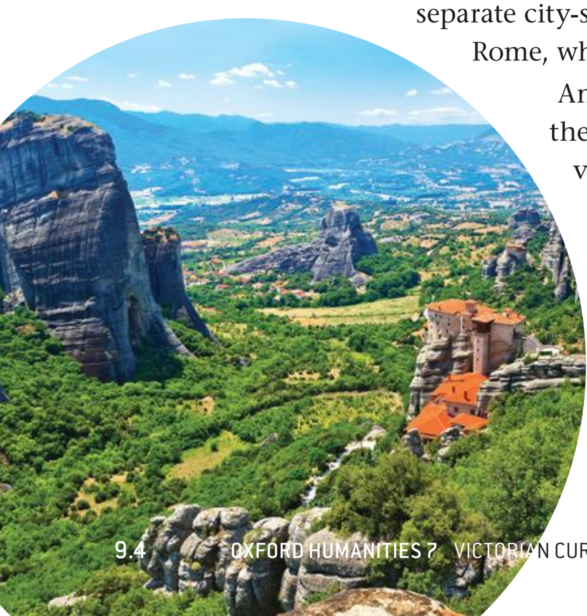
The physical features of the Mediterranean region were critical in influencing how early societies there developed.

In ancient Egypt, the Nile was the lifeblood of the civilisation. Egypt would never have developed as a civilisation without the Nile. It provided the water critical for irrigating crops that fed the early Egyptians. The deserts to the west could not support a civilisation, but they did provide the Egyptian people with protection from enemy invaders because they were impossible to cross. The Red Sea to the east and the Mediterranean Sea to the north also provided barriers against invasion. Egyptian architecture and fashion were adapted to life in a hot, dry climate.

agriculture
the science and practice of farming, including cultivating soil for growing crops, and raising animals to provide food, wool and other products

The ancient Greek civilisation sprang up in an area known as the Peloponnese, on the shores of the Aegean Sea. The land is mostly mountainous (see Source 2) and the climate moderate, with wet winters and warm, dry summers – a very different geography and climate from Egypt. The fertile coastal plain was suitable for **agriculture**. The mountains isolated early settlements, as did the many islands that make up Greece, so these settlements developed independently of one another as separate city-states. Each city-state had its own ruler and customs – unlike Egypt and Rome, which each had one ruler.

Ancient Rome was settled on the Italian peninsula, which juts out into the Mediterranean Sea (see Source 3). The landscape of the peninsula is varied, with mountains and fertile plains. A rugged mountain range, the Appenines, runs down the peninsula's centre, which made expansion inland difficult. Being close to the sea, however, allowed the Romans easy access to many coastal settlements and other foreign territories around the Mediterranean region, which they gradually conquered with the help of their strong navy.



Source 2 Steep mountains and flat farmland in the Peloponnese, Greece

Social structure and government

A common element of Mediterranean societies was that they were organised in a **hierarchy**. This means that they each had strict social classes. Despite this similarity, Egypt, Greece and Rome all had very different forms of government that developed and changed over time.

Ancient Egypt was ruled by a pharaoh who owned all the land and its resources. His power was passed on to his son. Other social groups were defined by their jobs, such as priests, merchants and scribes. Slaves, who were often captured as prisoners of war, did most of the hard work in Egyptian society. The role of women was generally to raise a family, but they had relatively strong rights for that era.

Unlike Egypt, ancient Greece was made up of a series of city-states and had no centralised government. In Greece's early history, the city-states were ruled by kings who had total power. Later, that power passed to a small group of **aristocrats**. In the sixth century BCE, the people of Athens developed a democratic system of government, which gave **citizens** some power in running the state. Most city-states eventually adopted **democracy**. Citizenship was restricted to adult men whose parents had been born in the city-state and were married. Women, slaves and foreigners were not 'citizens' and could not vote. Women were expected to stay at home, regardless of their wealth and position. Slaves were usually prisoners of war or children sold by very poor families, and many lived short, brutal lives.

After 27 BCE, Rome was ruled by emperors. For a large part of its earlier history, however, the government of ancient Rome was similar to that of ancient Greece. Political decisions were made by a small group of people in the Senate and a Citizens' Assembly. All the politically important, powerful jobs were held by **patricians**, members of ancient Rome's wealthy aristocratic families. The ordinary people who made up the majority of Roman society were called **plebeians**. Similar rules of citizenship applied, so women, foreigners and slaves could not have full citizenship. Roman women had few rights and led restricted lives that centred on the home and their family. Like other ancient civilisations, Rome depended on slaves as a source of labour. Roman slaves were also usually prisoners of war or abandoned children. Some slaves were freed (freedmen), and a few became very wealthy and influential.

Source 3 A satellite image of the Italian peninsula

hierarchy
a way of organising things (or people) from top down in order of importance or significance; ancient societies had strict hierarchies with a ruler at the top and peasants at the bottom

aristocrats
people who (through wealth or birth) belong to the upper class of a social group

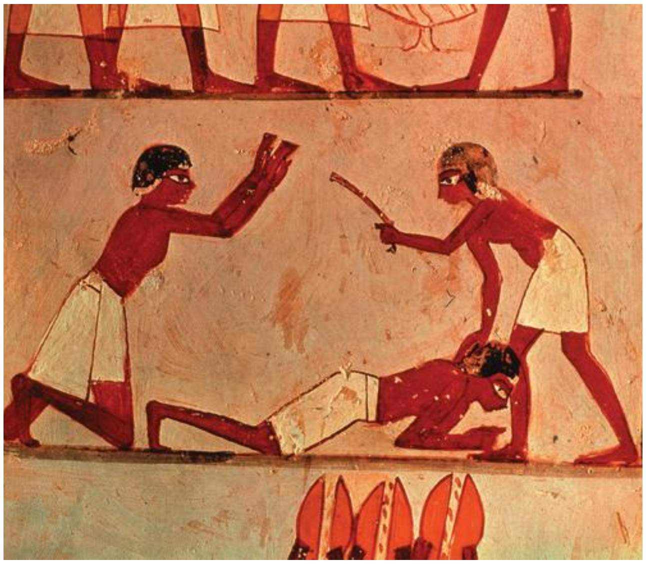
citizens
people who, through birth (or by meeting certain conditions) are recognised legal members of a community

democracy
a political system in which people hold the power, either directly or through representative democracy

patricians
educated and usually influential male members of one of ancient Rome's aristocratic families; usually wealthy landowners

plebeians
a term used to describe the many poor and uneducated people in ancient Rome

Quiz me!
A quick quiz on key features of ancient societies in the Mediterranean world



Source 4 An ancient Egyptian painting of slaves

Source 5 An ancient Roman mosaic showing a slave serving wine

Source 6 An ancient Egyptian plaque

Cultural evidence

A lot of what we know about ancient civilisations comes from cultural evidence. This evidence includes artefacts such as paintings, sculptures and pottery. Cultural evidence is also present in iconography. This term refers to the content of art – how civilisations used pictures and symbols to represent their ideas and way of life.

Art, iconography and pottery

Ancient civilisations practised art for tens of thousands of years. The oldest rock paintings are believed to be 32 000 years old, and pottery has existed for more than 20 000 years.

In ancient Egypt, art was magical and was supposed to appeal to the gods. Art was found in temples, palaces and tombs. Artists used recognised symbols to seek protection from gods. When artists depicted people, they showed as much of the person as possible (both front and side) so that the gods would recognise them. Certain colours symbolised particular gods or parts of nature.

Most of the art remaining from ancient Greece can be found on pottery. Pots became highly detailed during Greece's Golden Age (*c.* 500–300 BCE), and depicted many aspects of religion and daily life. Greek pots usually showed red or orange images on black backgrounds or vice versa (see Source 8). The Greeks also produced many sculptures, usually of nude figures.

The ancient Romans produced vast quantities of pottery and glassware, but it was not as decorative as ancient Greek pottery. Much of Roman art was borrowed from the Greeks. The ancient Romans produced sculptures, paintings and mosaics (pictures made of tiles). Like the Greeks, they depicted gods, important people or scenes from everyday life (see Sources 5 and 7).

Source 7 An ancient Roman mosaic depicting street musicians

Source 8 A *krater* – a pot used to dilute wine in ancient Greece

Writing

Some ancient societies developed systems of writing to keep records of trading. The ancient Sumerians in **Mesopotamia** produced the first known script around 3500 BCE. Only the very privileged or highly educated would have been able to read or write.

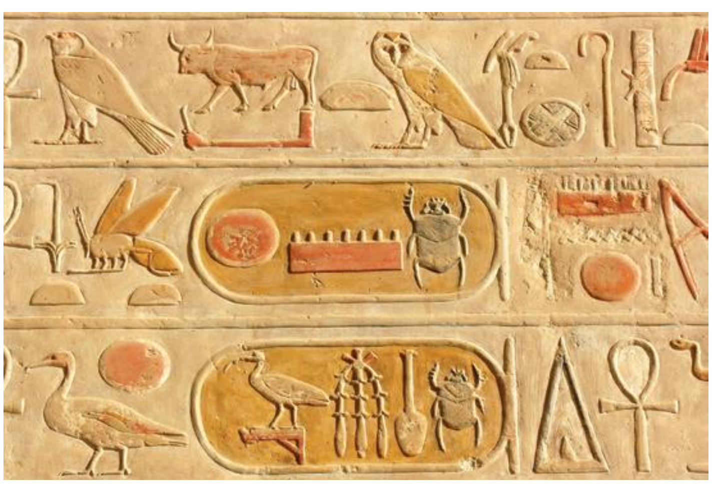
The ancient Egyptians were using **hieroglyphs** by 3000 BCE. There were about 700 signs, each one representing a word or a sound.

By the early part of the first **millennium** BCE, a number of languages in the Middle East region had alphabets. These were lists of symbols that related to particular sounds. The first alphabets contained only consonants. The alphabet of the ancient Phoenicians (a people living in the region of modern-day Lebanon) had 22 characters. It would later influence the writing of the ancient Greeks and provide the basis for the alphabet of the ancient Romans.

Mesopotamia
the fertile land lying between the Tigris and Euphrates rivers (now covering a large part of Iraq); Mesopotamia is an ancient Greek word meaning 'between rivers'

hieroglyphs
picture-like signs used in the original writing system of the ancient Egyptians

millennium
a period of 1000 years



Source 9 Hieroglyphs from an ancient Egyptian tomb

Source 10 A clay tablet displaying a cuneiform script, developed by the ancient Sumerians

Religion

culture
the customs and traditions that a community, society or civilisation develops over time that are passed down from generation to generation

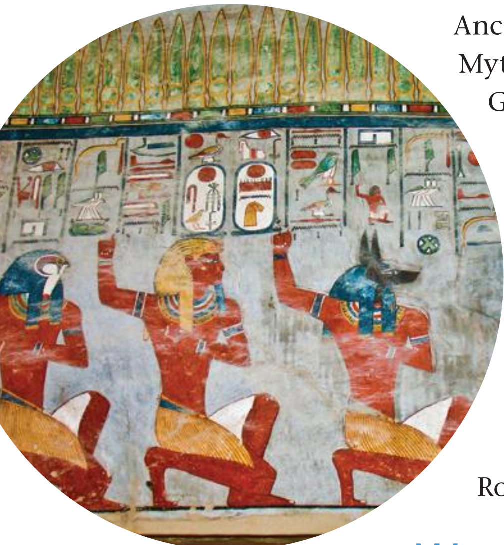
deity
a god or goddess

Religion played a central role in **culture** and society across the Mediterranean world. The Egyptians, Romans and Greeks all had complex religious beliefs. They all worshipped multiple gods whom they believed were responsible for things like the weather and natural disasters.

In Egypt, religion dominated society and the pharaoh was seen as a **deity**. Priests and priestesses were at the top of the social hierarchy. Many Egyptian gods were represented with animal parts, and gods were used to explain the natural world and forces of nature. Many of the most famous features of ancient Egypt, such as pyramids and mummies, were the result of religious practices related to death.

Ancient Greek religion, like Egyptian religion, involved many gods and goddesses. Myths and legends about the gods were used to explain the world and strengthen Greek history and culture. Religion was important but, unlike in Egypt, the head of the government was not a religious figure. Religious beliefs and practices influenced many aspects of Greek culture, including architecture and even the Olympic Games.

Most ancient Roman deities were the equivalent of ancient Greek gods and goddesses. Romans also incorporated the deities of civilisations they had conquered into their belief system, such as the Egyptian goddess Isis. Roman deities were worshipped in temples and at home, and this often involved sacrificing animals. After Christianity was founded, it spread to Rome. Despite Christians facing around 300 years of brutal persecution in Rome, by 394 CE Christianity had become the official religion of ancient Rome.



Source 11 A depiction of the Egyptian god Anubis

War and conflict

In its early years, Egypt was a peaceful society, but by 1550 BCE it had a very powerful army, which included foot soldiers and charioteers. The pharaoh used the army to protect Egypt from attack, and various pharaohs also used the military to expand Egypt's territory and influence in the region.

Source 12 A marble carving showing the Greek god Apollo and the hero Heracles

Because the Greeks were not governed by one ruler like the Egyptians, different city-states often fought wars against one another. Different city-states used different military structures and strategies. Wars were an important part of myth and legend, and the gods were believed to be involved in determining their outcomes.

A long period of wars between Greek states ruined much of Greece's farmland and weakened the city-states. Eventually, the king of Macedon, Philip II, conquered Greece's city-states. His son Alexander the Great consolidated control and also conquered Egypt in 332 BCE.

Rome had a large and powerful army. Military service was an important part of life for most citizens and was crucial to expanding the empire and then defending it. The Roman army was highly structured and organised, very disciplined, and it employed a wide range of military tactics. Through wars with neighbouring societies, Rome was able to expand its empire around the entire Mediterranean Sea. It eventually conquered the Greeks and the Egyptians.

Source 13 A seventeenth-century painting of the Roman god Neptune

Source 14 A painting showing the Egyptian pharaoh Tutankhamun on his war chariot

Source 15 An artist's impression of the Roman army at war

Source 16 A seventeenth-century representation of a scene from the Peloponnesian War

9.2 CHECK YOUR LEARNING

Review and understand

1 What was the name given to the rulers of ancient Egypt?

2 Choose a social group (such as women or slaves) and **describe** its role in each of the three ancient societies.

Apply and analyse

3 a Copy the following table into your notebook. In each column, write the main features of the social structure in ancient Egypt and ancient Rome.

Social structure in ancient Egypt	Social structure in ancient Rome

b In a short paragraph, **compare** the social structure in ancient Egypt and ancient Rome. Remember, when you compare two things, you must talk about how they are similar and how they are different.

4 **Explain** some of the ways that religion and beliefs influenced ancient societies in the Mediterranean world.

9.3 Legacies of societies in the Mediterranean world

In this topic, you will:

- explore how ancient societies have influenced the way we live today, including through belief systems, government, sport and entertainment, and technology.

Ancient Mediterranean societies heavily influenced the development of our world in many ways. From religion and politics to science and architecture, many of the things we take for granted in the modern world can trace their beginnings to ancient societies in the Mediterranean.

Belief systems

Christianity is the world's largest religion. It arose in the Middle East, but it first became an official religion in Rome. The Roman Empire was also central to the spread of Christianity. Today, the Pope, who is the head of the Catholic Church, is still based in Rome.

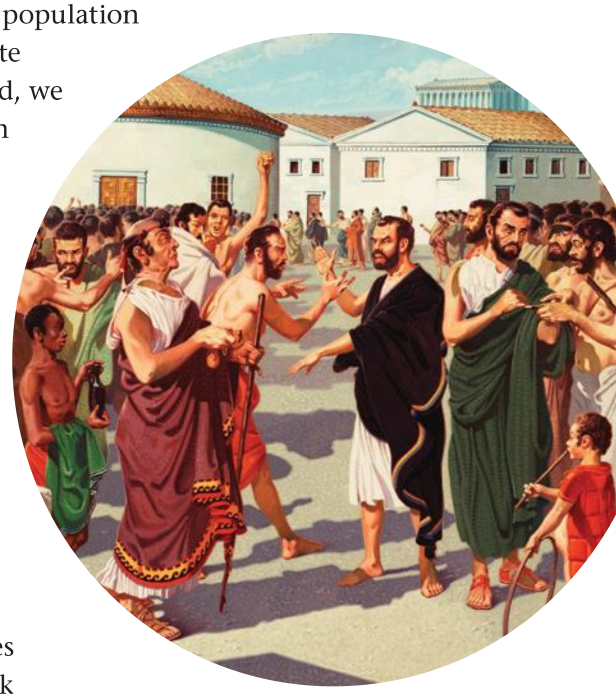
Source 1 Crowds gathering outside the Basilica of Saint Peter in Rome for a mass conducted by the Pope

Government

A major legacy of the ancient world is democracy, a form of government that developed in ancient Greece. Many countries today (including Australia) have adopted democracy as their system of government. Some things have changed about the way it works, but its central ideas continue. Athens did not have political parties. Every male citizen participated directly in decisions about how their city-state was run. In countries like Australia today, our population is far too big for everyone to participate directly in running the country. Instead, we choose representatives who participate in parliament on our behalf. We also have a much broader group of citizens. In Athens, females, slaves and foreigners could not be citizens and could not vote.

Science and technology

In ancient Greece, the arts and sciences flourished. Philosophers and scholars of mathematics, astronomy, science and history created works that are still influential today. For example, we still use Archimedes' mathematical formulas. The writing of Greek philosophers – including Socrates, Plato and Aristotle – continues to influence thinking in the modern world. Greek storytellers continue to inspire us. When you were younger, you may have read Aesop's fables, which came from ancient Greece, as did famous stories such as the Trojan Horse.



Source 2 A modern painting showing men of ancient Greece taking part in a democratic process

There is evidence that the ancient Egyptians used complex mathematics in their architecture. They understood decimals, fractions and geometry. They also had relatively advanced medicine. The ancient Greeks learnt a lot about medicine from the Egyptians. For example, they used hot knives during surgery to seal blood vessels.

Sport and entertainment

Many forms of modern entertainment also originated in the ancient Mediterranean world, such as sport and theatre. The massive sports stadiums of today are designed using the same planning concepts that inspired the Colosseum in ancient Rome. Our modern Olympic Games had their beginnings in ancient Greece nearly 3000 years ago, and the idea of marathons comes from an ancient Greek battle. Ancient Greek auditoriums are a model for many modern concert halls and movie theatres, and Western drama has its origins in ancient Greece.

Source 3 The remains of the Colosseum in Rome

Source 4 The design of the State Library of Victoria in Melbourne was influenced by ancient Roman architecture.

Building technology

Greek and Roman architectural forms have been influential in modern architecture. Many modern (or relatively modern) buildings in the Western world use the columns and domes developed by the Greeks and Romans.

Cement was invented in the Roman Empire, and the Roman road-building techniques continue to impress modern engineers. Some of the principles used by the Romans in building their huge road network are still relevant today.

9.3 CHECK YOUR LEARNING

Apply and analyse

1 Identify the most significant legacy of ancient Greece. **Compare** this with the system of government in modern-day Australia by identifying the similarities and the differences.

2 What was the name given to ancient Rome's largest sporting and entertainment arena? **Examine** Source 3. How did the design of this building influence modern-day stadiums?

Evaluate and create

3 The work of ancient Greek philosophers such as Socrates, Plato and Aristotle has had a significant impact on modern society. Using the internet or library, **research** one of these philosophers and list three ways in which they have influenced the world we live in today.

Quiz me!
A quick quiz on legacies of societies in the Mediterranean world

CHAPTER 10

Ancient Egypt

About 30 000 years ago, the Sahara Desert of north Africa was a grassy plain. It began to dry out around 8000 BCE. This change in climate forced people in the region to move on. Many drifted towards the area next to the Nile River, where the land was more fertile and there was a good water supply.

From this simple start developed one of the world's first civilisations – ancient Egypt. It lasted for nearly 3000 years. As the population grew, the society became more structured. Powerful rulers, called pharaohs, expanded Egypt's territory. Huge monuments, temples and pyramids were built that would last for thousands of years.

Source 1 The Karnak temple is the largest religious building ever constructed. This city of temples was built over a period of 2000 years, from around 2055 BCE to 100 CE. The temple at Karnak was built in tribute to the gods Amun, Mut and Khonsu, and was the location of an annual festival to honour these gods, which usually lasted around 27 days.

10A
How did the physical features of ancient Egypt influence its development?

10B
What shaped the roles of key groups in ancient Egypt?

10C
How did beliefs, values and practices influence ancient Egyptian lifestyles?

10D
How did contacts and conflicts with other people change ancient Egypt?

10.1 Ancient Egypt: a timeline

Egyptian hieroglyphs such as these have been essential in unlocking the history of ancient Egypt.

The Great Sphinx of Giza

***c.* 8000 BCE**
People start forming settlements in the Nile valley.

***c.* 3200**
Earliest known evidence of hieroglyphic writing

***c.* 2500**
Building of Great Sphinx and Great Pyramid at Giza; Egyptians start experimenting with mummifying dead bodies.

8000 BCE | 3000 | 2000

Predynastic period
8000–2700 BCE

Old Kingdom
2686–2180 BCE

Middle Kingdom
2055–1730 BCE

***c.* 3100**
Kingdoms of Upper and Lower Egypt unite as one country under the first pharaoh, Menes.

***c.* 3000**
Egyptians start building walled towns and villages; the first buildings are made of mud brick.

***c.* 2650**
First stone pyramid is built in Saqqara for the pharaoh Djoser.

***c.* 2100**
Book of the Dead starts being used in funeral ceremonies.

The Djoser pyramid is the oldest building in the world made from cut blocks.

Source 1 A timeline of some key events and developments in the history of ancient Egypt

Sequence this!
Events in ancient Egypt

Temple of the pharaoh Hatshepsut in the Valley of the Kings, near Luxor

This bust of Cleopatra was created during the time of her rule as the last pharaoh of Egypt.

c. 1550
Construction of many royal tombs in the Valley of the Kings

New Kingdom
1550–1069 BCE

1479
Hatshepsut, a woman, becomes pharaoh.

1332
Tutankhamun ascends the throne at the age of nine; he dies just 10 years later.

1274
Pharaoh Rameses II claims victory against his enemies, the Hittites, at the Battle of Kadesh.

1000

332
Egypt is invaded by Alexander the Great and made part of his empire.

51
Cleopatra becomes pharaoh of Egypt and rules for 21 years.

30
Cleopatra commits suicide, and Egypt becomes part of the Roman Empire.

1 CE

10.1 CHECK YOUR LEARNING

Review and understand

1. **Identify** the years in which the following events happened:
   - a people first began to settle in the Nile Valley
   - b the Great Sphinx and the Great Pyramid at Giza were built.
   - c Hatshepsut becomes pharaoh.
2. Who was Cleopatra? **Identify** the length of her rule.

Apply and analyse

3. Using the timeline, **analyse** when the period of the most change in ancient Egypt occurred. Remember, when you analyse something you must break it down into smaller parts and explain how they relate to each other.

Evaluate and create

4. The timeline shows that ancient Egyptian society began in approximately 8000 BCE and ended about 332 BCE. During this period, many historians identify four distinct eras, commonly known as the Predynastic period, the Old Kingdom, the Middle Kingdom and the New Kingdom. **Research** these periods and complete a chart with the following headings.

Period	Date	Key people	Interesting facts

Remember to include references to show where you found your information.

10.2 Physical features of ancient Egypt

In this topic, you will:

» explore how the physical features of ancient Egypt influenced its development.

Ancient Egypt was a long, narrow country in north-eastern Africa. The world's longest river, the Nile, ran the length of the country. Ancient Egyptian lands were also surrounded by a huge **desert**. Both of these geographical features played very important roles in the development of ancient Egyptian society.

The Nile begins in central Africa and flows north into the Mediterranean Sea. Ancient Egypt's desert environment made the Nile a very important geographical feature. It was so crucial for the society's survival that the people worshipped it as a god. They called this god 'Hapi'.

desert
an area that receives less than 250 mm of rain every year; can be hot or cold

Explore it!
A virtual field trip to the Nile

The Nile has three main sources – the White Nile, the Blue Nile and the Atbara River. The Blue Nile and the Atbara River begin in the highlands of central Africa. Every summer, they are flooded by melting snow and heavy rains. These waters gush into the Nile, carrying a load of dark mountain silt – soil that is rich in nutrients. Every year, this increase in water caused the Nile to burst its banks and flood parts of Egypt.

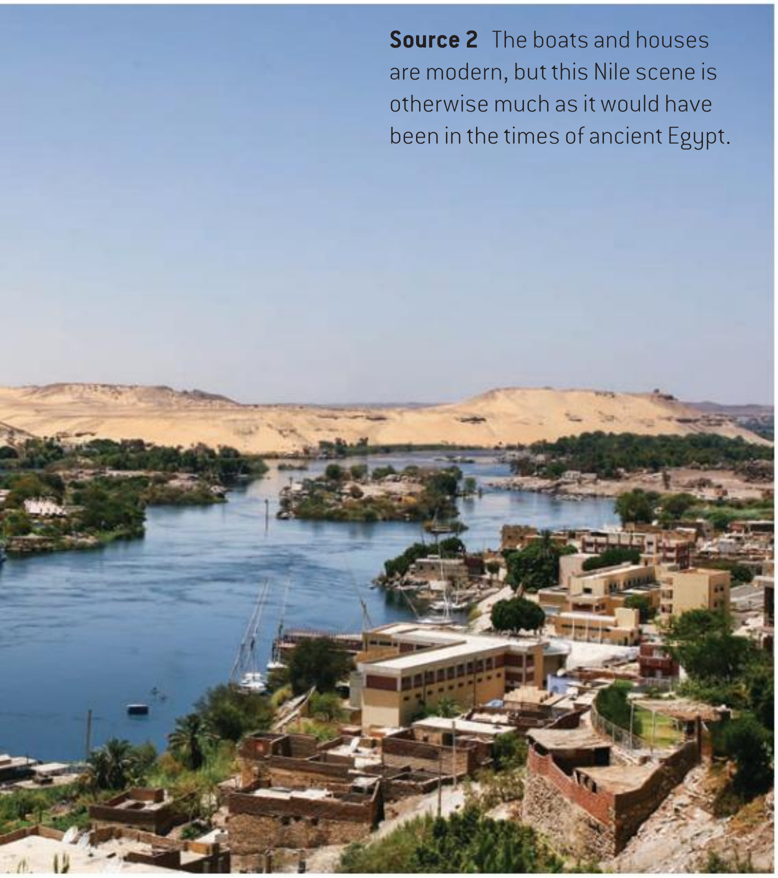
Today, dams have been built along the Nile to prevent it from flooding, but in the days of ancient Egypt, these dams did not exist. Every year in June, the Nile would flood and leave a pile of dark, fertile soil all over the nearby land. This flooding season was known as the **inundation**. As soon as the floodwaters went back down, the farmers would plant crops such as barley and other grains. These crops would grow very quickly in this fertile soil.

inundation
a term used for a flood; there was a yearly flooding of the Nile River in Egypt

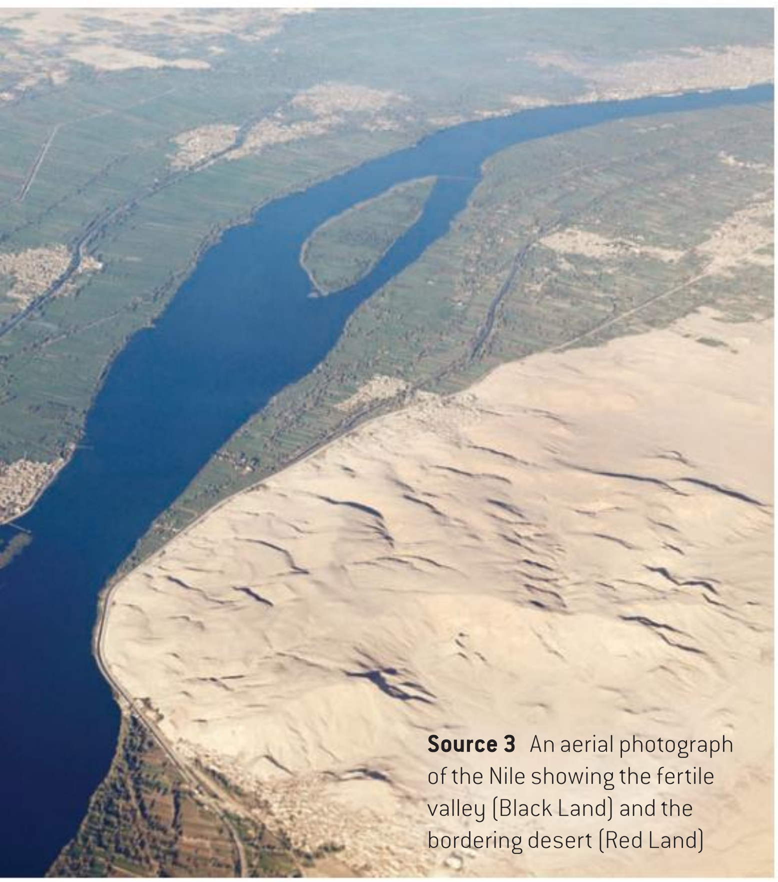
The ancient Egyptians called the fertile land with rich dark soil around the river the 'Black Land'. This was where most people lived. On each side of the Nile, beyond the Black Land, were large areas of desert. The ancient Egyptians named these areas the 'Red Land'. Hardly anyone lived in the Red Land.

The Nile was important for other reasons too. It provided fresh water for drinking and bathing. The ancient Egyptians used spears and nets to catch fish in the Nile. They also caught the birds, such as ducks and geese, that lived near it and used them for food. They picked wild reeds, called **papyrus**, which grew alongside the river. The ancient Egyptians used these reeds to make a type of paper and boats. The Nile also allowed the ancient Egyptians to travel quickly from place to place, so that they could trade with each other.

papyrus
a type of riverside plant; the ancient Egyptians made paper from the crushed pulp of the plant

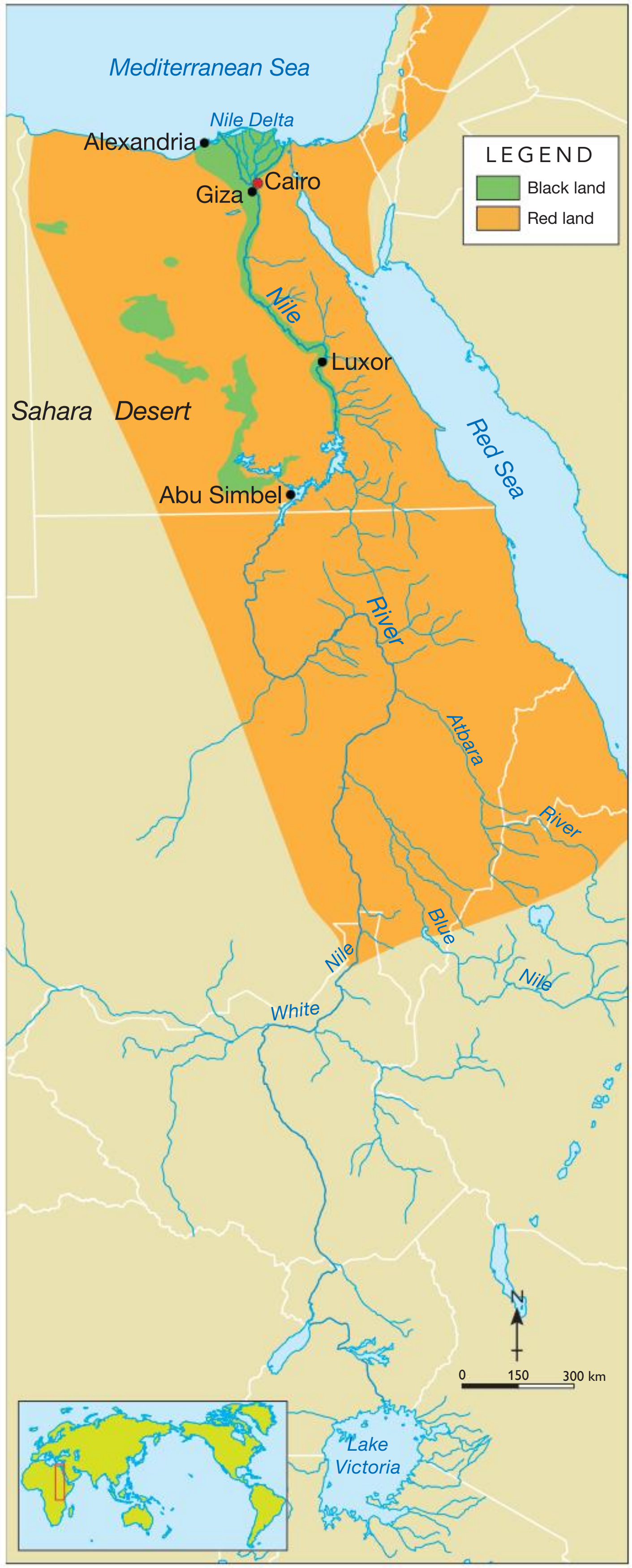


Source 2 The boats and houses are modern, but this Nile scene is otherwise much as it would have been in the times of ancient Egypt.



Source 3 An aerial photograph of the Nile showing the fertile valley (Black Land) and the bordering desert (Red Land)

ANCIENT EGYPT AND THE NILE

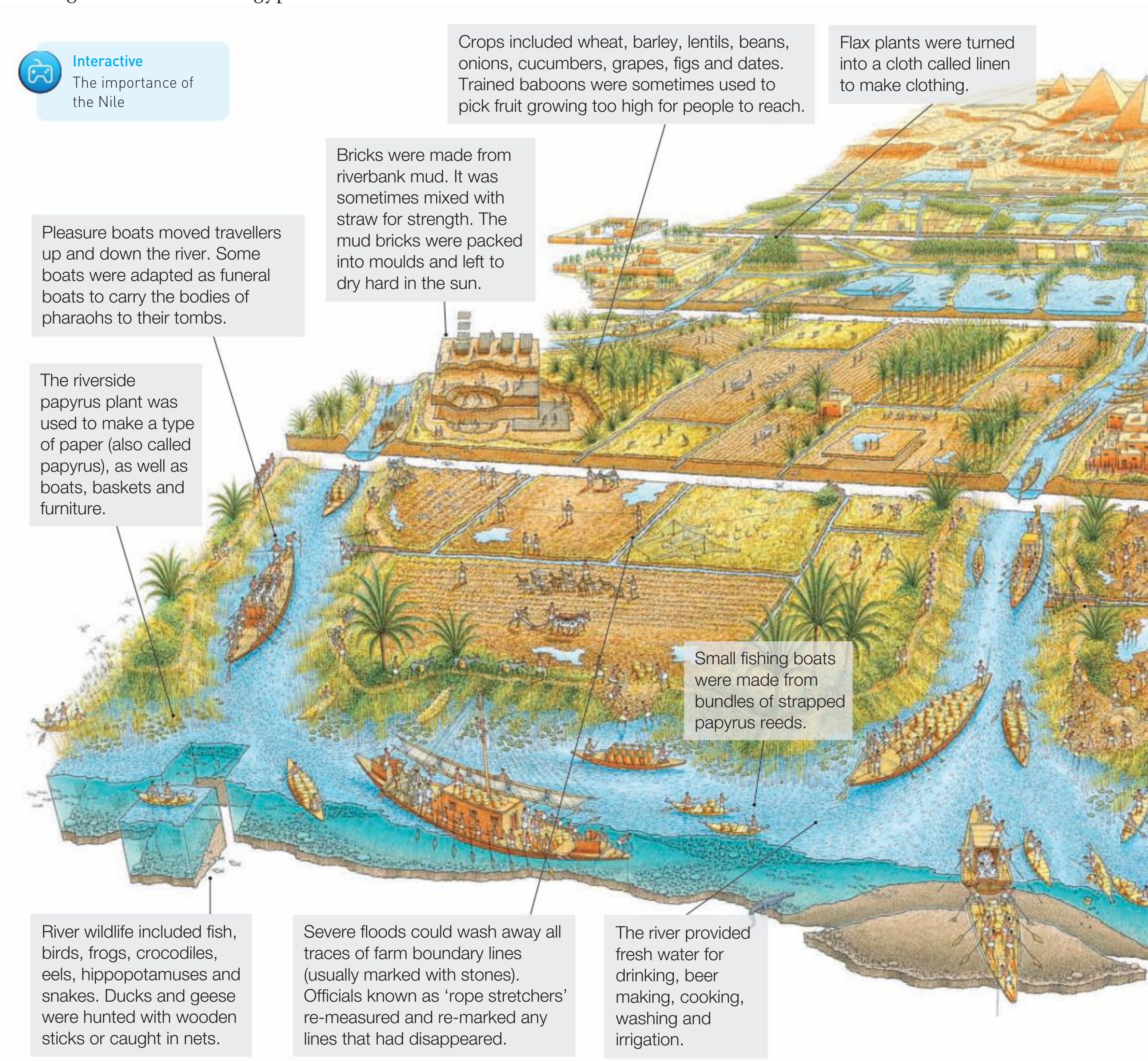


Source 4 Source: Oxford University Press

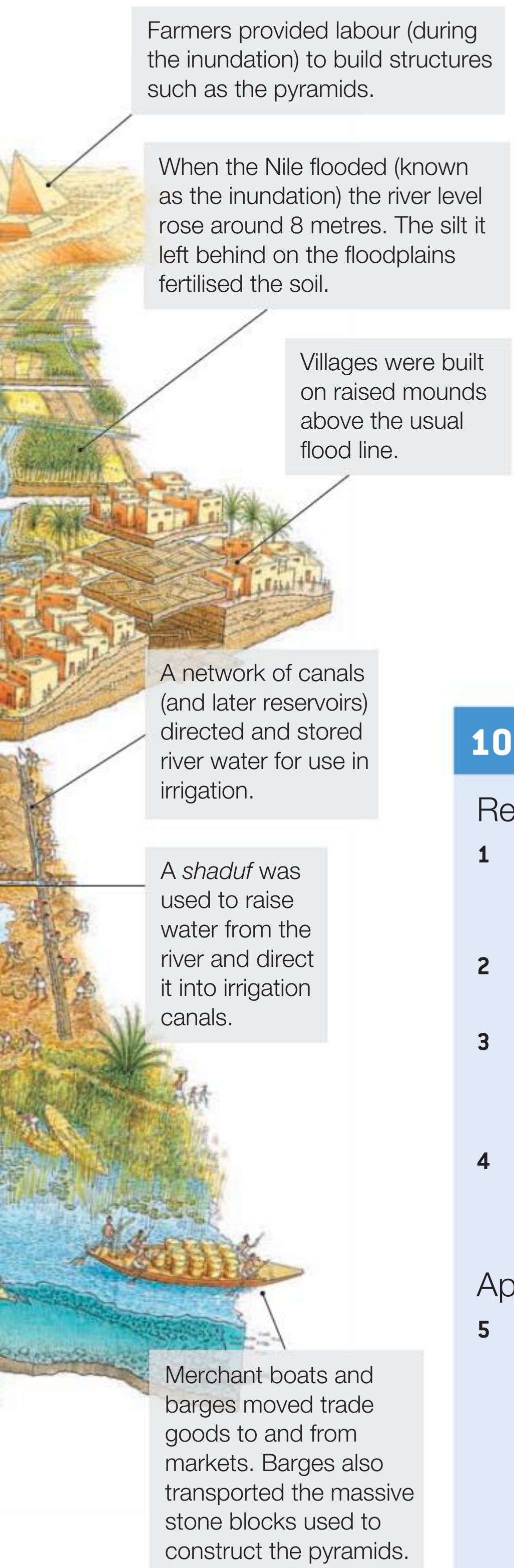
The importance of the Nile

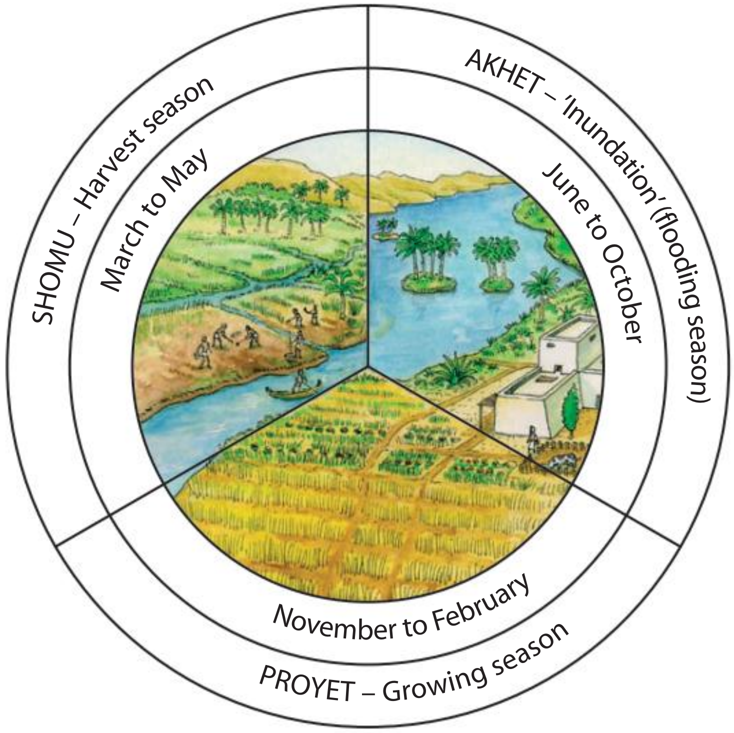
The Nile was the lifeblood of ancient Egyptian society. It provided water for drinking and bathing; fertile soil for growing crops; fish and water birds for eating; and a means of transporting goods. The Nile also played a central role in the spiritual and religious beliefs of the Egyptians.

Interactive
The importance of the Nile



Source 5 An artist’s impression of the central role that the Nile played in ancient Egyptian life





Source 6 The ancient Egyptian seasons

10.2 CHECK YOUR LEARNING

Review and understand

1. **Identify** three ways in which the Nile was important to the ancient Egyptians.
2. **Identify** the month that the Nile flooded each year.
3. **Outline** the main reasons that:
   a. the Nile used to flood
   b. the Nile no longer floods.
4. **Describe** why the ancient Egyptians called the land along the banks of the Nile the 'Black Land'.

Apply and analyse

5. **Examine** (look closely at) the illustration and labels in Source 5.
   a. **Identify** the devices the ancient Egyptians used or made to help store and distribute water to fields.
   b. What were the different purposes of boats used at the time?
6. **Explain** how the Nile influenced the ways in which buildings were made and villages designed.
7. Apply the information provided in Source 6 to **determine** (decide) which 'season' it would be currently in ancient Egypt. Explain what would be happening in this season.

Evaluate and create

8. Using the internet, research how a *shaduf* worked. **Propose** (put forward) one modification or addition that would make it work better.
9. Imagine you are providing the voiceover for a feature documentary on the Nile. Write the segment in which you explain the importance of the Nile, why it flooded every year, and how this benefited the people of ancient Egypt. Make your report interesting – remember it is a speaking role!

10.3 The climate of ancient Egypt

In this topic, you will:

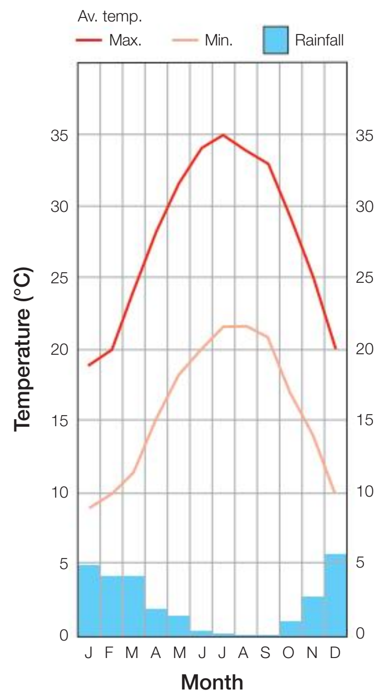
- explore how the climate of ancient Egypt influenced its development and way of life.

Interactive
Cool house design

Ancient Egypt was located within what is now the biggest desert in the world – the Sahara. This meant that the climate of Egypt was incredibly hot and dry.

Being surrounded by desert provided Egypt with some security. Any army that wanted to attack would have had a long, hot walk if invading from the east or the west.

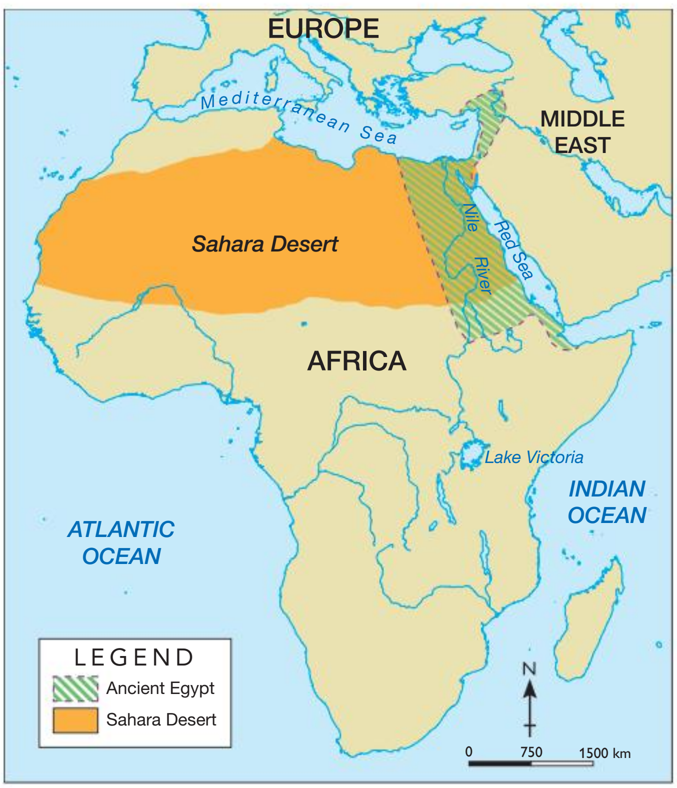
The desert was inhabited by many different animals that were hunted by the ancient Egyptians for food. These animals included gazelles, hares and foxes. The desert was also the source of minerals, rocks and metals, which the Egyptians used for building houses, pyramids, statues and tombs, and making weapons and jewellery. The ancient Egyptians were able to trade many of these resources, as well as the products they made from them.



Source 7 Climate graph for the city of Cairo

How the climate influenced lifestyle

LOCATION OF ANCIENT EGYPT ON THE AFRICAN CONTINENT



Source 8 Source: Oxford University Press

Living in a very hot and dry climate, the ancient Egyptians mostly lived an outdoor lifestyle. Most of them worked outside as farmers, fishers, builders and merchants. People cooked and often slept outside their homes (frequently on the roof) because of the heat.

Houses

Rich or poor, most Egyptians lived in houses that were similar in design. They had flat roofs and were made from sun-dried mud bricks. Most houses were single-storey structures.

The one-room homes of poor farmers had dirt floors. In urban areas, houses were joined, a bit like apartments and terrace houses are today.

Source 9 A headrest used by the wealthy while sleeping; it allowed air to circulate around the head and neck.

Fashion

The people of ancient Egypt dressed very lightly because of the heat. Men (including the **pharaoh**) often went bare-chested and wore short linen tunics. Women usually wore long linen dresses. Linen is a natural fabric, made from the flax plant, that allows sweat to evaporate more easily.

Most clothing was white, which is cooler than darker colours because it reflects the heat. Leather or papyrus sandals were sometimes worn by the rich, but most people went barefoot. Children and slaves were usually completely naked.

pharaoh
the leader of ancient Egypt who was believed to be a god; the pharaoh had absolute power and total control

Source 10 Papyrus sandals from ancient Egypt; these would have been very cool to wear.

Living with dust and glare

Because of the desert surrounding ancient Egypt, dust, glare and wind-blown sand were a fact of life. Eye infections were common. Stone carvings have been found in tombs that show groups of blind people. Ancient papyrus texts show that bat blood was one treatment for eye problems. Another treatment was to rub a paste of mashed human brain and honey over the affected eye. Both men and women wore heavy eye make-up, called kohl, to help protect their eyes from dust and glare.

Men and women would also wear wigs, usually over a shaved scalp. Shaving kept heads cool (when at home, without wigs) and allowed scalps to be kept clean. Sometimes, a cone of solid perfumed fat was worn on top of a wig on special occasions (see Source 11). As it slowly melted in the heat, sweet-smelling liquid dripped over the face and upper body, cooling the skin.

KEY CONCEPT
Evidence

For more information on this key concept, see page 193 of 'The history toolkit'.

Source 11 This detail from an Egyptian tomb shows a woman wearing heavy eye make-up and a cone of scented fat on top of her wig.

10.3 CHECK YOUR LEARNING

Review and understand

1 **Identify** three resources that the desert provided for the people of ancient Egypt.

2 **Identify** where the people of ancient Egypt often cooked and slept.

Apply and analyse

3 In your own words, **summarise** the advantages and disadvantages of shaving your head and wearing a wig when living in a location like ancient Egypt.

4 **Examine** (look closely at) Source 7.

a During which months, on average, was there no rain in Cairo? **Identify** the average temperature for each of these months.

b Melbourne's highest rainfall occurs from September to December, with monthly rainfall averaging between 58 and 66 millimetres in those months. **Outline** some of the differences between average rainfall in Cairo and average rainfall in Melbourne.

Evaluate and create

5 **Evaluate** the positives and negatives of Egypt's climate. Remember, when you evaluate something you should talk about its strengths and weaknesses. Be sure to give your overall opinion.

6 **Create** a diary entry in which you describe the climate and desert of ancient Egypt, as if you had lived there.

10A
RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Irrigation in ancient Egypt

The annual inundation (flooding) of the Nile was so important to the ancient Egyptians that they organised their lives around it.

Flooding happened in a season the Egyptians called *akhet*. As the flood receded, the fertile silt left on the ground near the river ensured perfect conditions for *proyet*, the growing season, which was when farmers would plant and grow their crops. The crops would continue to grow until they were picked in *shomu*, harvest season. During *proyet* the ancient Egyptians needed to irrigate (water) the crops they had planted. They experimented with many different kinds of irrigation over the course of their history.

KEY SKILL
Analysing sources

Interpreting primary sources

Primary sources are things that were created during the time being studied. They can be documents, objects, paintings and other sources that provide us with a firsthand account of what life was like in the past.

Because they are firsthand accounts, primary sources often convey the creator's point of view, attitudes and values. It is important that you can identify and describe these elements in their work. Use the following steps:

Step 1 Ask yourself what factual information is conveyed in this source. (Be careful: sometimes things that are presented as fact are not always accurate, so you might need to think about whether the information can be verified. Where else might you look to check and make sure those 'facts' are accurate?)

Step 2 Think about how the world described or depicted in the source is different from the world you live in today. What do you already know about what the creator of the source and the people around them believed? How would you feel if you were in the creator's shoes?

Step 3 Ask yourself what opinions are expressed in the source. If the source is written, which specific words or phrases show how the writer feels?

Step 4 Ask yourself what is implied in the source. For instance, people do not always spell out what they are thinking when they write something. The reader needs to use clues in the text to 'read between the lines' and infer meanings that are not spelled out.

The following primary sources provide evidence about the beliefs, values and attitudes of the ancient Egyptians towards the Nile and the annual inundation, as well as important types of irrigation technology that were developed. For more information on this key skill, refer to page 205 of 'The history toolkit'.

Source 16 The Nile River

Source 12 Canals were an important form of irrigation in ancient Egypt. A simple Egyptian canal system is depicted in this painting, found in the tomb of a commoner named Sennedjem.

Source 13 *Shadufs* were used in ancient Egyptian irrigation. This painting of a man drawing water from the Nile with a *shaduf* was found in the tomb of Ipuy, at Deir el-Medina, Egypt.

Source 14 This traditional waterwheel near Luxor, Egypt, is similar in design to those used in ancient times. The water comes out of the well on a second wheel carrying clay water jugs (shown to the right). This water then supplies the irrigation network.

Source 15

Hail to you, Nile River! You show yourself over this land, and come to give life to Egypt! Your source is mysterious, but we celebrate the day when you come to us! Watering the orchards created by Ra, to cause all the cattle to live, you give the earth to drink, inexhaustible one!

…

Lord of the fish: during the inundation, no bird lands on the crops. You create the grain, you bring forth the barley, you make sure the temples will last for eternity. If you stop your toil and your work, then all that exists in our world will be in trouble.

Extract from 'Hymn to the Nile', written *c.* 2100 BCE in ancient Egypt

Worksheet
Irrigation technology in ancient Egypt

Practise the skill

1 Read Source 15 carefully.
   a **Identify** the factual information in this source.
   b **Explain** the writer's beliefs and attitudes about the annual cause of the inundation. Remember to identify the specific words or phrases in the source that support your conclusion.
   c What can you tell about the writer's values?

2 Use Sources 12, 13 and 14, and information gathered on the internet, to **compare** the use of canals, *shadufs* and waterwheels in ancient Egypt. Log onto your obook pro to complete the worksheet: Irrigation technology in ancient Egypt.

Extend your understanding

1 Using the results of your research, write a short report on the history of irrigation technology in ancient Egypt. Make sure you:
   - include an introduction **explaining** why irrigation was so important in ancient Egypt
   - include a main body, broken up into sections (with subheadings) that **describe** each type of technology (for example, 'Canals', '*Shadufs*' and 'Waterwheels')
   - **explain** within each section when this type of irrigation technology was invented and how it worked. Include diagrams if you wish.

10.4 Key groups in Egyptian society

In this topic, you will:

- identify the social structure of Egyptian society
- distinguish between the roles and experiences of key social groups in ancient Egypt, including women and slaves.

The society of ancient Egypt was well organised. Ancient Egyptians had a central government and, from the fifteenth century BCE, they also had a professional army. People knew what their social responsibilities were. Some of these roles were shaped by the society's laws and traditions. Some were determined by religious beliefs. Other roles were determined by a person's wealth and abilities (such as whether they could read and write).

The society of ancient Egypt was a **hierarchy**. At the top was the royal family: the pharaoh and his family. At the bottom were the slaves and the poorest of the poor farmers.

Men usually did the jobs their fathers did. They learnt the skills a bit like apprentices learn trades today. Education was the key to improving a person's position in society. A merchant, or even a farmer, could do this by learning to read and write.

hierarchy
a way of organising things (or people) from top down in order of importance or significance; ancient societies had strict hierarchies with a ruler at the top and the peasants at the bottom

scribe
a highly educated person in ancient Egypt who was able to read and write

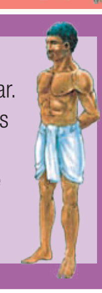
Nomarch
I govern one of our country's 42 nomes (provinces). I keep the Vizier happy by collecting lots of taxes. Like other important and wealthy people, I wear garments made from the finest linen and lots of gold jewellery.

Scribe
I am one of the very few people in Egypt who can read and write. I record the pharaoh's orders and decisions, and help the Vizier and the Director of the Seal to keep tax records. I also keep accounts for the army, write letters for local people and prepare inscriptions for tomb walls and sculptures. I hope one day to become a doctor or an architect.

Merchant
I am a trader. I am constantly sailing up and down the Nile with goods from Egypt, such as linen, papyrus, pottery, grain and gold. Goods I bring back from other places include ebony wood, ivory, incense, copper and baboons. Every now and then, I sail north, across the Mediterranean Sea.

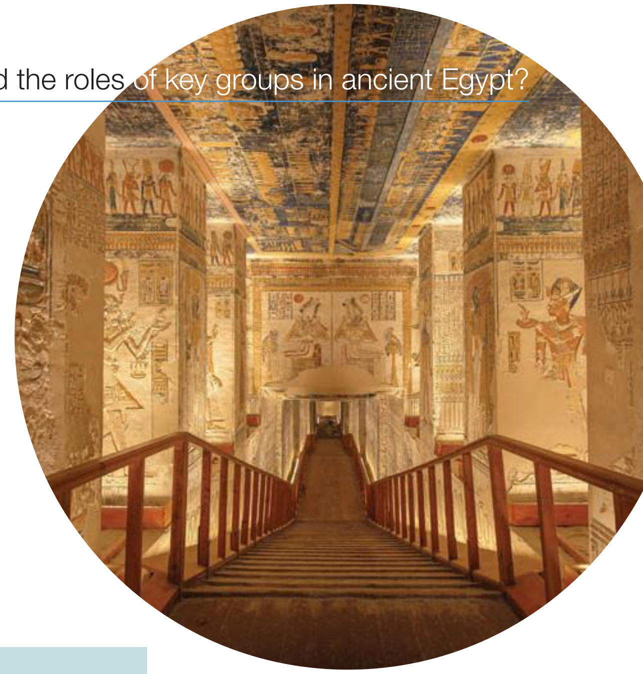
Linen workshop supervisor
I was at home for many years raising my seven children. To help out, I made linen from flax. My husband used to trade it in the local market for other things that we needed. I now have a supervisor's job, managing women in a linen workshop.

Slave
I was born in Libya, but was captured as a prisoner of war. Other slaves come from Syria and Nubia. My master uses me as a field hand. Some of the lucky slaves work in the palace of the pharaoh – much better than working in the quarries or mines out in the hot desert.



Source 1 The social hierarchy (structure) of ancient Egypt

Pharaoh
My main duty is to keep life in balance – on this Earth and beyond. I govern with a large team of officials.



Source 2 Inside the tomb of Rameses VI; in keeping with the pharaohs' position at the top of the social hierarchy, their tombs were grand and highly decorated.

Vizier
I am the pharaoh's second-in-command. I supervise the other officials and judge law-breakers. I also make sure people pay their taxes, in grain or goods. Sometimes people provide their labour as a tax payment.

Director of the Seal
I am the treasurer. I manage all the goods (food and other products) that come into the pharaoh's storehouses. Most of these goods are tax payments, but some items are imports from other countries.

Priestess
My husband is a nomarch. In fact, most of my fellow priestesses are married to senior officials – the high priestess in our temple is a daughter of the pharaoh. My main role is to help look after the temple goddess and to sing and play music if the pharaoh visits our temple. I report to the chief priest.

Chief priest
I represent our country's top priest, the pharaoh, and look after the gods. I enter the inner part of the temple where the statue of the god is kept. Each day I wash it, wrap it in clean linen and bring it food. If I didn't do this, bad things would happen. On special days, I take it out to show the people. My priests and I don't wear clothing made from animal products because that would be unclean. We wear only the finest white linen. We shave all our body hair and wash many times each day.

Soldier
I am a soldier. I am very skilled at using a pike (spear). I march on foot but our army also has charioteers. Our army divisions – all named after gods – usually consist of about 5000 men. Often, I fight alongside mercenaries – men from other countries who are paid to fight for us. Many of them come from Nubia. When not at war, I help out by supervising building projects.

Interactive
Key social groups in ancient Egypt

Stonemason
I spend my days making stone statues (usually of my pharaoh), carving the blocks used to build temples and pyramids, and engraving the walls of tombs. My father was a stonemason, too, of course. Until she went blind, my mother made wigs from real hair.

Potter
I am a member of the middle class – not too poor, but not too rich either! I give some of the pots I make to the pharaoh as a tax payment. Some of my pots are exported to other countries. Most of my friends are craftsmen, too. We learnt our trades from our fathers. Some make jewellery; others make papyrus, boats or furniture. I wish I was smart enough to be a scribe.

Farmer and his wife
Except for slaves, we are at the bottom of the social ladder (along with tomb builders, pig herders and beggars). I grow wheat and barley, and flax used to make linen. My wife here helps me in the field when she can. I work very hard, digging canals for irrigation and preparing the soil. During the inundation, I often help out with the pharaoh's building work. I pay over half of the grain I produce as tax.

The role of women

The role of most women in ancient Egypt was to raise a family. Pregnancy was always a celebrated event. It was common for a woman to have lots of pregnancies, and many women died in childbirth. Girls were often married as young as 12, and were expected to have children quickly. Life expectancy was low. A poor woman might only live until she was 30.

Rich and poor women

Poorer women usually devoted their entire lives to raising their children, keeping house and helping their husbands with planting and harvesting crops.

Upper-class women, such as the wives of pharaohs and nobles, had a more pampered life. They had servants to wait on them, and fine clothing and jewellery to wear (see Source 2). If they were the eldest child, they inherited their father's wealth.

Rights and freedoms of women

The man was the head of the household in ancient Egypt, but women had more freedom than in many other ancient societies, such as ancient Greece. This may partly be because of Egyptian religious beliefs. The ancient Egyptians saw their world as being controlled equally by male and female **deities**.

deities
gods or goddesses

Women could own land and businesses, keep the children if there was a divorce, and openly breastfeed their children. They could make wills, testify in court and bring legal actions against men. Women could also hold jobs. For poorer women, a job meant manual labour. They might work on farms, look after animals or become weavers; some might have worked as singers or dancers. Wealthier women might work as priestesses.

Source 3 Tomb art, painted about 4500 years ago in Thebes, showing Egyptian women celebrating at a feast, attended by servants

The role of slaves

Many people think that slaves were used to build the pyramids. Actually, there is little evidence to support this. Records suggest that there were not many slaves during the Old Kingdom, when the pyramids were built. Rather, it is thought they were built by peasants and farmers who could not work on the land during the rainy season.

The number of slaves in ancient Egypt did increase during the Middle and New Kingdoms. Most were prisoners of war. Others were bought and sold at markets, or were unlucky travellers captured by slave traders.

Most slaves in Egypt lived fairly pleasant lives. Their role often was to be a faithful servant in the households of pharaohs, nobles and priests. They could own land and hire servants. They could marry those who were not slaves. Some talented or beautiful slaves were able to get promoted to senior or privileged positions.

Less fortunate slaves were sent to work in the gold and copper mines of north Africa's deserts. They often died of thirst or heat exhaustion.

Source 4 An engraving showing roped slaves on the stone wall leading into the Great Temple of Rameses II at Abu Simbel

Considering perspectives

As with today, a person's experience and perspective of the world was influenced by their standing in ancient Egyptian society. For example, the pharaoh was likely to have experienced life in a way that was very different to that of a farmer. It is therefore important to ask questions about where a primary source comes from, why it was created, and what it tells us about the world it portrays.

Look closely at Source 3. This painting depicts Egyptian women celebrating at a feast. These women are being attended by servants, which suggests that they were rich women with a high standing in society. Think about how the perspectives of the women in this painting would be different to that of the slaves. Do you think they would have the same perspective, or would it be different?

Log onto your obook pro to complete the Key skill worksheet: Analysing sources: Considering perspectives.

KEY SKILL
Analysing sources

Key skill worksheet
Analysing sources: Considering perspectives

10.4 CHECK YOUR LEARNING

Review and understand

1 **List** these social roles in order (from most to least important) according to the values of ancient Egyptian society: potter, merchant, pharaoh, farmer, priestess, vizier, scribe.

2 **Outline** how a farmer's social role and standing might change if he learnt to read and write.

3 **Identify** the types of duties most slaves were expected to carry out. What types of duties were less fortunate slaves expected to carry out?

Apply and analyse

4 **Compare** the roles of a chief priest and the vizier in ancient Egypt. Remember, when you compare two things you must talk about how they are similar and how they are different.

5 In your own words, **summarise** how religious beliefs in ancient Egypt shaped the role of women.

6 **Compare** the perspectives of rich women and poor women in ancient Egypt. How might these two groups of women have perceived life in ancient Egypt? Do you think it would be similar or different?

Evaluate and create

7 The powerful roles in ancient Egyptian society were those of people who were wealthy, had political power or had religious authority. As a class, **discuss** the extent to which this represents the situation in Australia today.

10.5 Pharaohs

In this topic, you will:

» understand the role and responsibilities of the pharaoh in ancient Egypt

» understand the way power was passed between pharaohs and dynasties.

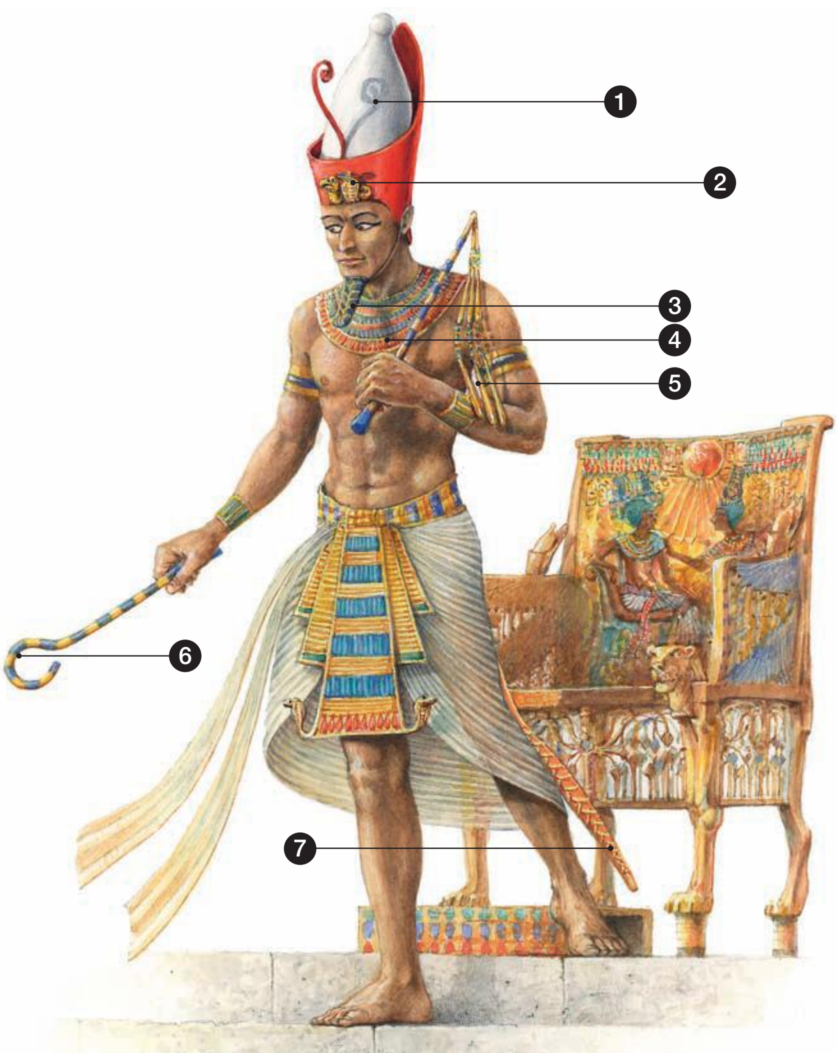
Analyse this!
The power of the pharaohs

The pharaoh was the head of Egyptian society and was almost always a man. Pharaohs were regarded as god-kings, and were seen as descendants of Ra, the sun god. People knelt and kissed the ground when they met the pharaoh.

Pharaohs were very wealthy, owning all the land and its resources. They demanded heavy taxes, which were usually paid to them in the form of grain and other crops. In addition to power, pharaohs had a number of responsibilities, some of which were shaped by law, others by religion (see Source 5).

Source 5 Responsibilities of the pharaoh as god-king

Earthly responsibilities (shaped by the law)	Divine responsibilities (shaped by religion)
The pharaoh was responsible for: • directing the government • commanding the army and leading it into battle • protecting the people and keeping peace and order • making all laws, and sometimes making decisions in the courts • managing building, mining, trade and irrigation.	The pharaoh was responsible for: • acting as chief priest • keeping the gods happy so the Nile flooded every year and harvests were plentiful • choosing priests • overseeing religious ceremonies and festivals • building temples to honour the gods • performing religious duties.



1. A crown symbolised the pharaoh's position as chief ruler. The crown shown here was the official crown; its design is a combination of the white crown of Upper Egypt and the red crown of Lower Egypt that merged to form a united Egypt. Pharaohs also wore a range of other headgear depending on their duties.
2. The *uraeus* (gold headpiece shaped like an upright cobra) symbolised magical powers and a readiness to strike.
3. A false beard made from goat's hair symbolised the pharaoh's status as a god.
4. The heavy jewelled collar symbolised great wealth.
5. The flail (whip) symbolised total authority.
6. The crook symbolised the pharaoh's role as a shepherd of the people.
7. An animal tail (usually from a bull) symbolised strength and fertility.

Source 6 An artist's impression of a pharaoh and their symbols of power

The rulers of ancient Egypt

By about 3300 BCE, the Nile settlements were grouped into two kingdoms: Upper Egypt and Lower Egypt. These united in about 3100 BCE. For the next 2800 years, the unified kingdom of Egypt was ruled by pharaohs, thus creating the world's first national government.

heir
a person who has the legal right to receive somebody's property, money or title when that person dies

dynasty
a period of rule by members of the same family who come to power one after the other

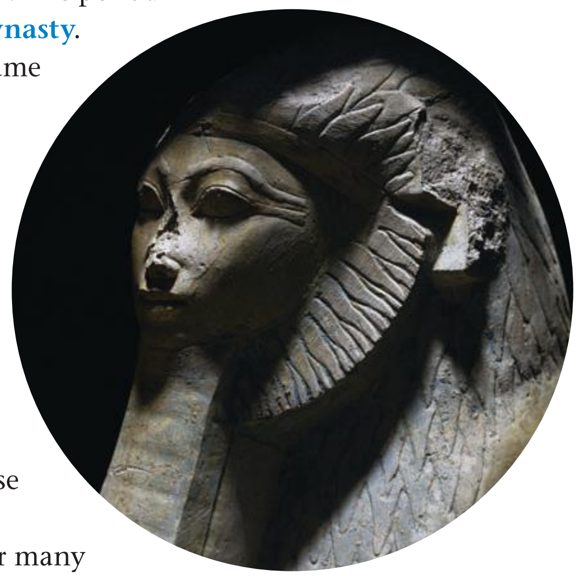
Dynasties

The laws and traditions of ancient Egypt meant that a pharaoh passed on his power as ruler to the son (usually the eldest) of his main wife – in the ancient world, it was common for men to have more than one wife. If the main wife did not have a son, the son of a less important wife would become the new ruler, or **heir**. The period of time where members of the same family ruled was known as a **dynasty**. Sometimes, someone from outside the family seized power and became pharaoh. This meant the start of a new dynasty.

In 332 BCE, Egypt was conquered by the king of Macedon (modern-day Macedonia), known as Alexander the Great. He started what was to be the last dynasty in ancient Egypt, known as the Ptolemaic Dynasty. This dynasty lasted until 30 BCE when its last ruler, Cleopatra, committed suicide. After that, Egypt became part of the Roman Empire.

Hatshepsut – 18th-dynasty ruler

Hatshepsut was one of few female pharaohs. She ruled between about 1473 and 1458 BCE. When she became pharaoh, she wore a false beard, men's clothing and a bull's tail, and changed her name to its male form. She ordered the construction of many buildings, paid for many trading expeditions, and rebuilt trade routes that had been damaged by former invaders.



Source 7 An ancient stone carving of the female pharaoh Hatshepsut

10.5 CHECK YOUR LEARNING

Review and understand

1 **Outline** the main difference between the pharaoh's divine role and earthly role.

2 In your own words, **define** the term 'dynasty' and give reasons why a dynasty usually changed.

Apply and analyse

3 **Examine** Source 6. Copy this table in your notebook, and add at least three items to each column.

Item worn or carried by the pharaoh	What it symbolised

4 **Suggest** why the ancient Egyptians knelt and kissed the ground when they met the pharaoh.

5 Consider some of the items the following people wear or carry to reflect their social position or role. For each item, **determine** what it symbolises:
- the Queen
- a high-ranking soldier
- an Australian High Court judge
- the principal of your school.

Evaluate and create

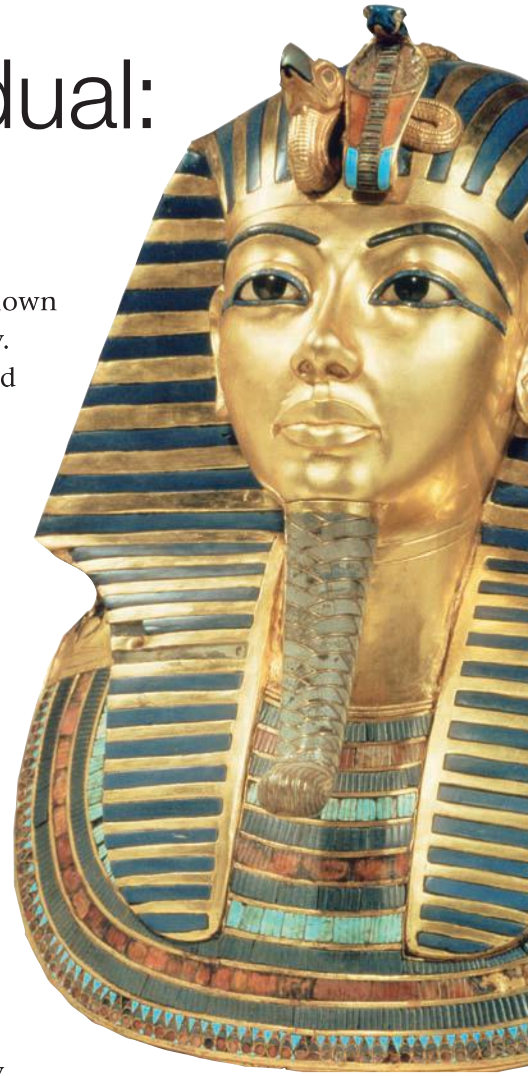
6 a How did Hatshepsut adjust her appearance to suit her role as pharaoh? **Discuss** why she would have made these changes.

b Do you think people today feel pressured to change their appearance and behaviour when they move into a public leadership role? **Discuss** with a partner. Give examples if possible.

10.6 Significant individual: Tutankhamun

In this topic, you will:

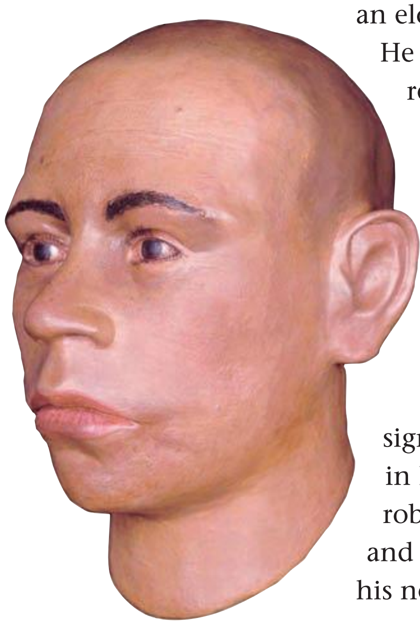
» examine the historical context, life and achievements of Tutankhamun.



Tutankhamun (*c*. 1342–1323 BCE) is the world's best-known pharaoh and one of the most studied figures in history. He was a boy when he became pharaoh in 1332 BCE and only ruled for 10 years, yet his story still captivates people all over the world.

Scientific analyses of his remains reveal that he was about 170 centimetres tall, with a slight bend in his spine. He had an overbite, a cleft palate and an elongated skull. He was only 19 when he died. He did not live long enough to do much that was remarkable. He did, however, change the command of his predecessor, Akhenaten, that the people only worship one god – Aten, the sun god. Tutankhamun declared that Egypt's old gods could again be worshipped. He restored their temples, priests and festivals. He also reversed Akhenaten's decision to move ancient Egypt's capital. He moved the capital to Memphis.

Despite his short life, Tutankhamun is significant because his tomb is the only ancient tomb in Egypt so far found not to have been broken into by robbers. It contained over 5300 sources of evidence of his life and burial practices at the time. These sources include his decorated gold throne and his nest of coffins.



Source 9 The reconstructed head of Tutankhamun

The discovery of Tutankhamun's tomb

The English archaeologist Howard Carter found the tomb in 1922. It was at the end of a long tunnel in the Valley of the Kings. This was a deep, rocky valley close to the Nile where many pharaohs were buried. Carter reported: 'At first I could see nothing … but as my eyes grew accustomed to the light, details of the room within emerged slowly from the mist, strange animals, statues and gold – everywhere the glint of gold!'

Tutankhamun's **mummy** lay within a solid-gold body-shaped coffin (110 kilograms in weight) in the burial chamber. This coffin was enclosed by two more coffins. In the treasure chamber next door were four **canopic jars** holding the pharaoh's mummified liver, lungs, stomach and intestines.

His body was covered in **amulets** and jewels, and he was wearing an 11-kilogram solid-gold burial mask inlaid with precious stones. Carter and his team used hot knives to remove the mask. They also cut up the body to retrieve the jewels and amulets that were wrapped up in his bandages.

mummy
a body prepared for burial or entombment in ancient Egypt

canopic jars
jars used in ancient Egypt to store body parts removed during the mummification process

amulets
charms thought to keep away evil

How Tutankhamun died

To this day, historians cannot agree on how Tutankhamun died. Some historians used to think he was murdered, because there was a hole at the back of his skull and a floating piece of bone behind his eyes. This view has been contested in more recent years.

In 2005, an extensive number of CT scans (special X-rays) were taken of Tutankhamun's remains. These scans led the Egyptian archaeologist Zahi Hawass to conclude that he died of a complication from a broken leg – specifically, gangrene (which is the rotting away of living tissue). He thinks the break in the leg became infected. The hole in the skull, he thinks, might have been a **mummification** accident. Other historians have found evidence to suggest that Tutankhamun might have had malaria, which could have contributed to his death.

For more information on this key concept, see page 193 of 'The history toolkit'.

KEY CONCEPT
Evidence

mummification
the process of preserving a dead body by preventing its natural decay; in ancient Egypt a body was mummified by removing internal organs (except the heart) and drying out the remaining body tissue, and the mummy was then buried

Since then, conservators (people responsible for preserving important historical sources) became more worried about the damage that was still being done to Tutankhamun's mummy. When visitors entered the tomb, their breath and body heat caused damage to the mummy and other parts of the tomb. Tutankhamun's remains stayed within his coffin until November 2007, when they were moved into a special, climate-controlled case within the tomb.

Source 10 The gold mask found fused to Tutankhamun's head and upper body

*** I used to think, now I think**

Reflect on your learning about Tutankhamun and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

10.6 CHECK YOUR LEARNING

Review and understand

1 Who was Tutankhamun?

2 **Identify** two changes that Tutankhamun made during his reign.

Apply and analyse

3 Tutankhamun did not live long enough to do much that was considered remarkable. **Explain** why historians still regard him as significant.

4 **Analyse** the treatment of Tutankhamun's remains by archaeologists. How has the discovery of his remains put them at risk? Has enough been done to help conserve them?

5 **Explain** why the cause of Tutankhamun's death has been contested by historians.

Evaluate and create

6 **Create** a diary entry that Howard Carter might have written after discovering Tutankhamun's tomb. Use the internet to research more about the discovery and the tomb's contents.

Quiz me!
A quick quiz on Tutankhamun

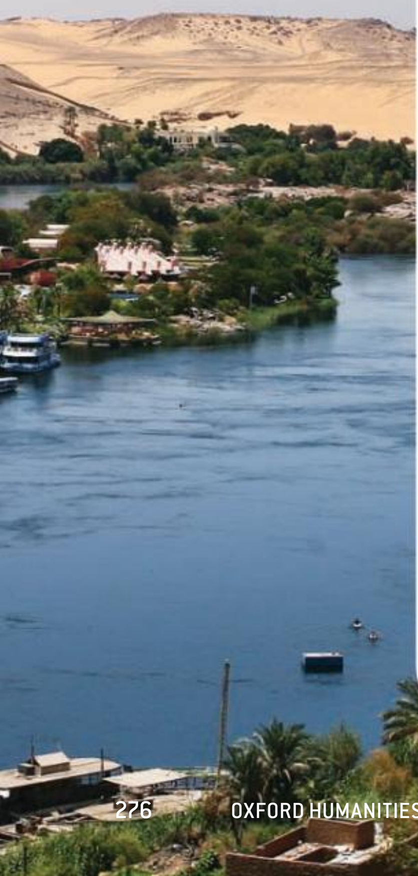
Source 8 The mummified head of Tutankhamun

10B RICH TASK

Farming in ancient Egypt

Farmers in ancient Egypt prospered because of the fertile land along the banks of the Nile. Farming was so central to the success of ancient Egypt that many aspects of society were shaped by it, such as the calendar, the design of houses, even the class system. Most of the pharaoh's wealth came from the taxes paid in grain by farmers. This grain was stored in plentiful years for use when food was in short supply.

Quizlet
Revise the key terms you have learnt so far.



Source 11 The banks of the Nile River

KEY SKILL
Analysing sources

Using primary sources as evidence

Historians focus their research on sources that are relevant. After locating a range of sources that they think might be useful, historians need to analyse them to discover if they contain evidence that will be relevant to the particular question they are investigating. The evidence is the information contained in or gathered from the source. A source becomes evidence if it can be used to answer a particular question about the past.

The first thing you must do before attempting to locate, compare, select and use a range of sources as evidence is to be very clear about the historical questions you are investigating. In this Key skill, your research questions are:

- What were farming practices like in ancient Egypt?
- What role did farmers have in the social hierarchy?

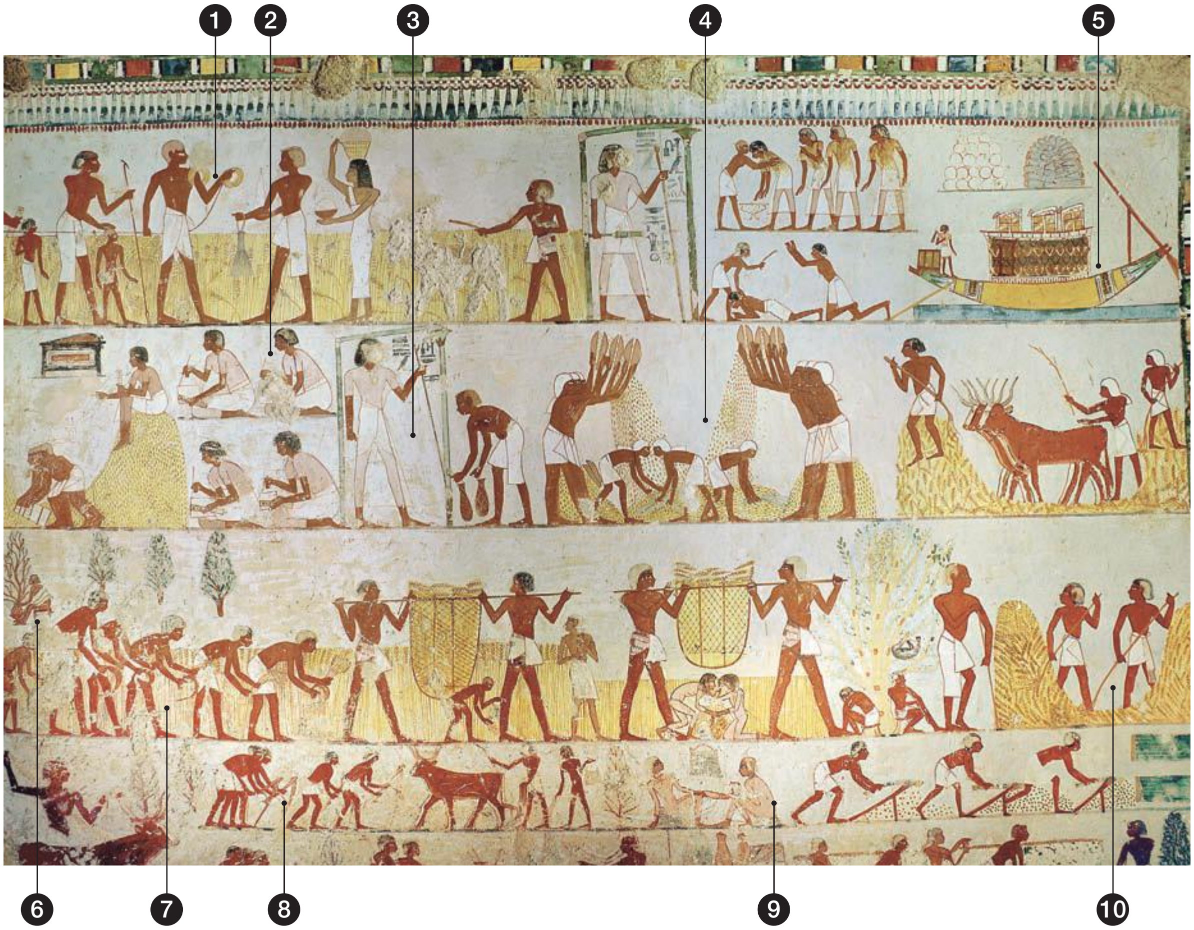
You need to keep these questions in mind as you work through the following steps:

Step 1 Look at the source carefully and note the obvious things that it is telling you.

Step 2 Look beyond the obvious and see what you can infer; that is, what can you work out from what you see in the source, even though it may not be immediately obvious?

For a more information on this key skill, see page 205 of 'The history toolkit'.

Source 12, a wall painting from the tomb of an important official called Menna, provides a lot of information about ancient Egyptian farming, including crops, tools and farming methods. It is a very useful primary source.



Source 12 This is a detail from a wall painting in the tomb of Menna, an important official from ancient Egypt. The painting (*c*. 1400–1390 BCE) contains detailed information about farming practices in ancient Egypt.

Practise the skill

1 Each farming activity listed below has a letter beside it. **Examine** the painting and numbers in Source 12. Find the section of the painting that shows each activity and write the matching letter and number in your notebook.

- **A** Cutting grain with scythes (metal cutting tools)
- **B** Threshing (beating) the grain
- **C** The arrival of a noble to check grain stores
- **D** Picking fruit
- **E** Preparing for planting
- **F** Stopping for a rest
- **G** Measuring the size of the field
- **H** Recording details of the harvest
- **I** Separating the husks from the grains
- **J** Transporting the crop

2 Who is involved in the activities? **Identify** as many different classes, genders and ages as you can.

3 What tools and animals can you **identify** in the painting? Can you suggest what the tools are made from?

Extend your understanding

1 **To what extent** does this painting help you to understand why farmers were at the bottom of the social hierarchy? Think about how many workers there are and the tasks they are performing.

2 **Research** on the internet to find three other types of primary sources that provide useful evidence in your research into what farming practices were like in ancient Egypt, and the role of farmers in the social hierarchy. Remember to include references to show where you found your information.

10.7 Religious beliefs and practices

In this topic, you will:

» explore the religious beliefs, values and practices that the ancient Egyptians lived by.

Religious beliefs dominated the lives of the ancient Egyptians. Nearly everything in their world was seen as being controlled by hundreds of deities (gods and goddesses). People's beliefs greatly influenced how they lived, what they built and how they waged war. These beliefs also shaped their views about death and how they prepared for it.

Beliefs and values in ancient Egypt

The ancient Egyptians believed that one group of gods created the world and its living things, while another group controlled the forces of nature. There also were gods of fertility, wisdom, love, music and dance, death, health and childbirth. The Sun god Ra (or Re) was the most important god. The Egyptians believed he rode across the sky each day in a boat. Ra is often shown with the Sun symbol on his head (see Source 1). He is said to travel alongside Nut, the universal mother, during the day and night. Every night, she swallows the Sun and gives birth to it again next morning.

Video
A video about cats in ancient Egypt

Traditions and ceremonies

The ancient Egyptians built many temples where priests and priestesses served the gods and goddesses they believed lived there. The priests burned incense, made offerings and held festivals.

Source 1 A hieroglyph depicting the Sun god Ra (left); Ra is often shown with the body of a human, the head of a hawk and a golden disc with a serpent on top of his head.

See, think, wonder
Look at Source 1.
- What do you see?
- What do you think?
- What do you wonder?

Ordinary people made shrines in their homes where they said prayers and left offerings for the deities. People played instruments such as ***sistra*** (metal rattles; see Source 5 on page 280) to keep away evil spirits. They also wore amulets to attract the protection or goodwill of the gods and goddesses.

sistra
metal musical instruments in ancient Egypt that rattled when shaken; the singular form is *sistrum*

Animal gods

Many deities throughout ancient Egypt were shown with the heads or bodies of animals. For example, the goddess of war, Sekhmet, was shown as a lion, and the god of water, Sobek, was represented as a crocodile. As a result, many priests and priestesses kept crocodiles as pets and spoilt them with offerings of food.

The Egyptian goddess Bastet, the protector of homes, was shown as a cat. The ancient Egyptians valued cats highly, not only out of respect for Bastet, but also because they protected their grain stores by killing vermin such as mice and rats. Households treated cats very well; harming or killing a cat was often punished by death. The Greek historian Herodotus wrote that when a cat in ancient Egypt died, the occupants of the house would mourn and often shave their eyebrows to show their loss.

Source 2 An ancient painting showing the weighing of a heart in front of the jackal-headed god Anubis. The heart is balanced against a feather.

Source 3 Many animals in ancient Egypt were mummified after death as a sign of respect, or as offerings. Shown here is a mummified cat.

10.7 CHECK YOUR LEARNING

Review and understand

1 Who was the most significant Egyptian god? **Outline** why this god was so important.

2 How were gods worshipped in ancient Egypt?

3 **Identify** the ways that ordinary people tried to keep evil spirits away and how they tried to attract protection from the gods.

Apply and analyse

4 **Explain** why cats were valued highly in ancient Egypt.

5 Look closely at Source 2. **Determine** (decide) whether it is a primary or a secondary source, and give reasons for your answer.

Evaluate and create

6 **a** Using the internet, **research** three Egyptian deities other than Ra. Find out how they were depicted. Look particularly at their heads.

b **Create** three new gods: a god of peace, a god of greed and a god of courage. Draw sketches of them, remembering to pay attention to the head.

10.8 Everyday life

In this topic, you will:

- explain what daily life was like for the ancient Egyptians.

Ancient Egypt was a highly organised civilisation that was deeply influenced by its people's beliefs, values and practices. This influence was evident in various aspects of the ancient Egyptians' daily lives.

Source 4 This sculpture comes from the tomb of a couple buried together at Saqqara, near Cairo. The level of affection shown here (the woman's arm behind the man) is uncommon in Egyptian paintings and carvings.

Marriage, love and birth

Egyptians married as teenagers. Marriage was usually a business matter, arranged by the parents when the partners were young. This is why a man might, for example, marry his sister – to keep the money in the family. It seems not much fuss was made about weddings – the woman simply left home to live with her new husband. Yet marriage was seen (by law and religious belief) as a serious commitment and, as Source 4 indicates, some marriages would also have involved mutual love and respect apart from economic arrangement.

Childbirth was a risky business. There was a high loss of life for both babies and mothers. Some women gave birth in special 'birthing houses' in temples. People often called on deities for help. For example, they might ask for support from Hathor, the goddess of women (represented as a cow). Or they would ask Ra, the main Egyptian deity, to send a wind to cool the mother.

Source 5 These musical instruments, known as *sistra*, made a loud clanging sound when shaken as the moving metal parts banged into each other.

Music and dance

The ancient Egyptians had a range of musical instruments, including harps, drums and *sistra* (see Source 5). Music and dance were always part of funerals. They were also seen as ways to communicate with deities such as Sekhmet. People who had done the wrong thing were very scared of this goddess, because they believed she would destroy the wicked. Dancing was a way to appeal to her mercy. The ancient Egyptians also believed that *sistra* both honoured the god Hathor and frightened off the desert god Set (the god of chaos).

Communication

Only around 1 per cent of people in ancient Egypt learnt to read and write. These people, almost always men, were highly respected. They were called scribes (see 'Key groups in Egyptian society', page 268).

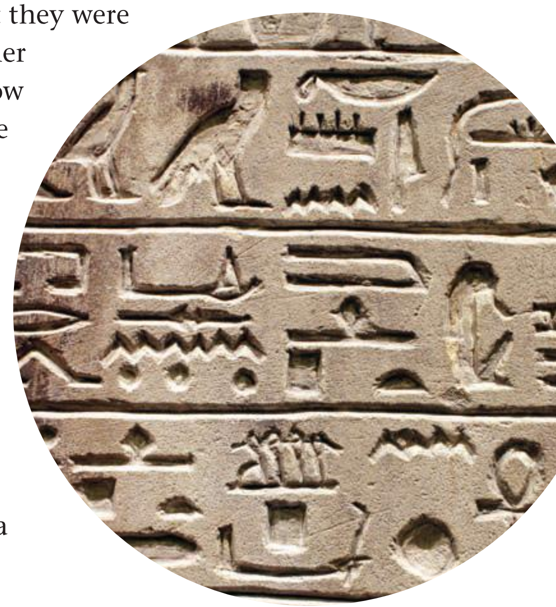
During the period of the Old Kingdom, the ancient Egyptians used **hieroglyphs**, which were a form of writing, or script. This script contained over 750 symbols. As time passed, the ancient Egyptians developed simpler scripts – the **demotic and hieratic** scripts. These could be written more quickly, and were used for everyday writing.

hieroglyphs
picture-like signs used in the original writing system of the ancient Egyptians

demotic and hieratic
both simplified systems of writing based on hieroglyphs; demotic was faster and easier to write

Health and hygiene

The ancient Egyptians valued cleanliness. The wealthy bathed often. Priests used to shave their entire bodies regularly, and wash up to four times a day, so that they were completely clean when performing their religious duties. Slaves, on the other hand, washed rarely and so could be smelly and sticky. Records describe how one pharaoh, Pepy II, used to surround himself with naked slaves who were smeared with honey, so that flies would annoy them instead of him.



Source 6 Ancient Egyptian hieroglyphs in the Temple of the Dead of Rameses III, Luxor

Health problems

Despite Egyptians' love of cleanliness, ancient Egypt was not a healthy place to live. Malnutrition was common, especially among the poor, and there were other problems. These included:

- mosquitoes that bred in the Nile, spreading diseases such as malaria, which causes flu-like symptoms including fever
- rubbish and human waste that were often dumped in the Nile and other canals, leading to diseases such as dysentery, which causes severe diarrhoea
- breathing in sand blown in from the deserts, which often led to a lung disease called silicosis
- fragments of rock left in flour from the stones used to grind the grain, which caused tooth damage and decay.

Medicine and healing

The ancient Egyptians discovered a lot about the human body through their practice of mummification. For example, they knew how to use hot knives during surgery to seal blood vessels in order to stop uncontrolled bleeding. However, healing and medicine also relied heavily on magic and the influence of the gods. Priests were often involved in medical treatments, reciting spells and performing magic rituals.

Quiz me!
A quick quiz on everyday life in ancient Egypt

10.8 CHECK YOUR LEARNING

Review and understand

1 **Identify** the ways in which ancient Egyptians showed that they valued cleanliness and their physical appearance.

2 Why were scribes so highly valued?

3 **Identify** the practice that advanced the knowledge of anatomy for the ancient Egyptians.

4 **Outline** the role of music and dance in the society of ancient Egypt.

Apply and analyse

5 **Explain** why ancient Egyptians often suffered from each of the following: bacterial infections, bad teeth and silicosis.

6 **Explain** why women called on gods when giving birth in ancient Egypt.

Evaluate and create

7 Over time, written forms of communication developed and changed in ancient Egypt. **Propose** why these changes happened.

10.9 Warfare

In this topic, you will:

» examine how warfare and conflict affected everyday life in ancient Egypt.

Ancient Egypt had a fairly peaceful early history, mainly because the physical features that surrounded ancient Egypt, such as mountains and deserts, acted as natural barriers against invasion. During the Old Kingdom, Egypt had only a small army. During the Middle and New Kingdoms, however, the army grew into a large, well-organised group because the pharaoh's rule was often threatened.

The army and the pharaoh's military role

Ancient Egypt's army was similar to a loosely organised police force. It had three main roles:

- to keep law and order
- to protect the pharaoh and his palace
- to guard borders.

One of the pharaoh's main responsibilities was to protect the Egyptian people from attack. The pharaoh was considered to be a god, so he had to make his people believe that he was strong enough to protect them. This was one of the reasons why many pharaohs built huge statues of themselves.

The army included both foot soldiers (those who walked and fought on the ground) and charioteers (soldiers who drove and fought from horse-drawn chariots like the one shown in Source 7). Usually, there were two charioteers in each chariot. One man steered the horses and the other used the weapons (usually a bow and arrow, and a spear). It cost a lot of money to buy a chariot and horses, so only wealthy men could become charioteers. Successful charioteers were looked on as heroes.

Source 7 The remains of a wall painting showing Pharaoh Rameses II charging into battle; the horse-drawn chariot was an important weapon in ancient Egypt.

Life of a soldier

Evidence from ancient Egyptian sources shows that army life was tough. Soldiers had to participate in a very challenging program of weapons training and physical exercise. Soldiers who did anything wrong might be whipped. Often, soldiers had to go on long marches through the desert.

Treatment of enemies

Ancient Egyptians could be very harsh in their treatment of enemies they fought and conquered. There are accounts of corpses being destroyed, with body parts such as arms and heads chopped off to present to the pharaoh or the gods. But there were also many occasions of mercy. For example, conquered leaders were sometimes allowed to continue to rule their local region as long as they acknowledged the pharaoh as supreme ruler.

Source 8 A model of Egyptian foot soldiers from the tomb of Mesehiti, an important official in Egypt during the 11th Dynasty (*c.* 2134–1991 BCE)

Weapons and armour

Soldiers did not wear much clothing, mainly because of the heat. They would usually wear a belt and loincloth, or a short tunic. They did not wear headgear. Some charioteers wore a type of armour on their upper body, made from leather straps. It seems that only the pharaohs wore metal armour, but not all the time. This armour was made from overlapping bronze pieces. Pharaohs would also wear a special headpiece during battle, known as the **khepresh** or blue crown. It was usually made of cloth or leather stained blue and covered with small gold or bronze discs (see Source 7).

Many weapons also served as farming tools. For example, axes might chop down palm trees as well as enemy bodies. Spears might kill creatures such as lions as well as men. Throwing sticks were useful for hunting birds. Many weapons, such as the mace, had religious importance. Archaeologists have often found weapons in graves alongside the remains of ancient Egyptian bodies.

Weapons used in ancient Egypt

- Flint and bronze knives
- Swords and daggers (made of bronze, and later iron)
- Bows and arrows
- Spears
- Maces (heavy clubs with stone or copper 'heads')
- Battleaxes
- Shields
- Battering rams and scaling ladders (for attacking buildings with high walls)

Source 9 Some weapons used by soldiers in ancient Egypt

khepresh
a blue crown often worn by the Egyptian pharaoh when in battle; it was often studded with semi-precious stones to create a hard surface

Analyse this!
Weapons and armour in ancient Egypt

10.9 CHECK YOUR LEARNING

Review and understand

1 The army of ancient Egypt had two main types of soldiers. **Identify** them and describe how they fought.

2 Write a short paragraph to **describe** what life was like for a soldier.

Apply and analyse

3 **Explain** why the Old Kingdom of ancient Egypt only needed a small army.

Evaluate and create

4 After some battles, ancient Egyptian soldiers cut off parts of people they had killed in battle and presented them to the pharaoh or as offerings to the gods. **Propose** (put forward) two reasons why you think they might have done this.

5 With a partner, **create** a role play between two soldiers who are discussing what life is like in the army – both in training and in battle.

10.10 Death and funeral customs

In this topic, you will:

» explore the beliefs associated with death and funerary customs in ancient Egypt.

Religion played a major part in the life and death of ancient Egyptians. For those who were considered worthy, death was not seen as the end. Instead it was regarded as the start of a different sort of existence. To be worthy, each person had to live a good life.

In addition to living a good and honest life, there were a number of rituals that needed to be performed to ensure a smooth journey into the afterlife. These included:

- preserving the body after death through a process known as mummification
- reciting certain magic spells to ensure the person's safe passage into the afterlife
- making sure that the dead person had access to what he or she would need in the afterlife. These items needed to be placed in the person's tomb.

Journey to the afterlife

Once a person's body was ready for burial, a procession including family, priests and professional mourners would take the body to its tomb. At the entrance of the tomb, the priests performed various rituals, including the 'opening of the mouth' ceremony. A priest touched all the head openings of the mummified body with an axe-like tool. This was believed to awaken the dead person's senses. The coffin was then sealed up and placed in the stone **sarcophagus**. The dead person was now ready to start the journey into the afterlife.

sarcophagus
the outer case (usually stone) of the nest of coffins containing the dead body of a person of importance

The *Book of the Dead*

In order to reach the afterlife, the ancient Egyptians believed that the dead person would need magic spells and special prayers to support them through any dangers and further rituals on their journey. These spells and prayers were recorded in a special text known as the *Book of the Dead*. A copy of the *Book of the Dead* was often buried with the dead person.

One of the important rituals the dead person must undergo before being allowed into the afterlife was the 'weighing of the heart'. In ancient Egypt, it was believed that the heart contained the soul, so the weighing of the heart was a kind of final judgement. The ritual is explained in Source 11.

Source 10 This person was buried in a pit in the Egyptian desert 5400 years ago, along with some possessions. The well-preserved body had a number of broken bones.

Tombs

The earliest tombs were often graves in the desert. The hot, dry sand soon sucked all moisture from the corpse, preserving it. The poor continued to be buried this way even after burial practices had changed.

The first above-ground tombs were called *mastabas*. These were large, box-like structures. Many *mastabas* had detailed designs, with stones in patterns decorating the walls. Perhaps the best-known above-ground tombs were the pyramids. Today, more than 160 pyramids have been found.

When grave robbers started becoming a problem, tombs for important people such as pharaohs were dug underground in places such as the Valley of the Kings. This began to happen from about 1500 BCE.

Burial goods

Egyptians buried their dead with goods they believed would be needed in the afterlife – clothing, jewellery, pots, furniture, wigs, tools, chariots, boats, food and even servants! Later, small models of servants were used instead of the real servants.

Watch it!
A video and quiz on the tomb in the Great Pyramid

1. Anubis, god of embalming and the dead, leads the dead person to judgment.
2. A row of judges sit watching.
3. Anubis weighs the dead person's heart against a feather from the headdress of Ma'at, the goddess of truth and justice. If the heart is lighter than the feather, it means the person has led a good life and will be admitted to the afterlife.
4. Ammit, a female demon with the head of a crocodile, will eat the dead person's heart if it is heavier than the feather.
5. Thoth, god of writing and knowledge, records the result of the weigh-in.
6. Horus, god of the sky and ruler of the world of the living, leads the dead person (who has passed the test) to Osiris.
7. Osiris, god of the dead and the underworld, allows the person into the afterlife.

Source 11 An ancient Egyptian painting showing the 'weighing of the heart' ritual

10.10 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** the following terms:
   a. *mastabas*
   b. pyramids.
2. **Outline** what the *Book of the Dead* was, including the role it played in Egyptian funeral customs.
3. Why was it so important to ancient Egyptians to preserve the body when someone died?
4. What role did climate and physical features have in ancient Egyptian burial practices?

Apply and analyse

5. **Analyse** the connection between burial rituals and grave robbing in ancient Egypt.
6. Look at Source 11. **Explain** why 'having a heavy heart' might indicate that a person has not led a good life.

Evaluate and create

7. **Discuss** how religion influenced the burial and funerary customs of the ancient Egyptians. Look closely at the sources in this topic to help you.

10.11 How mummies were made

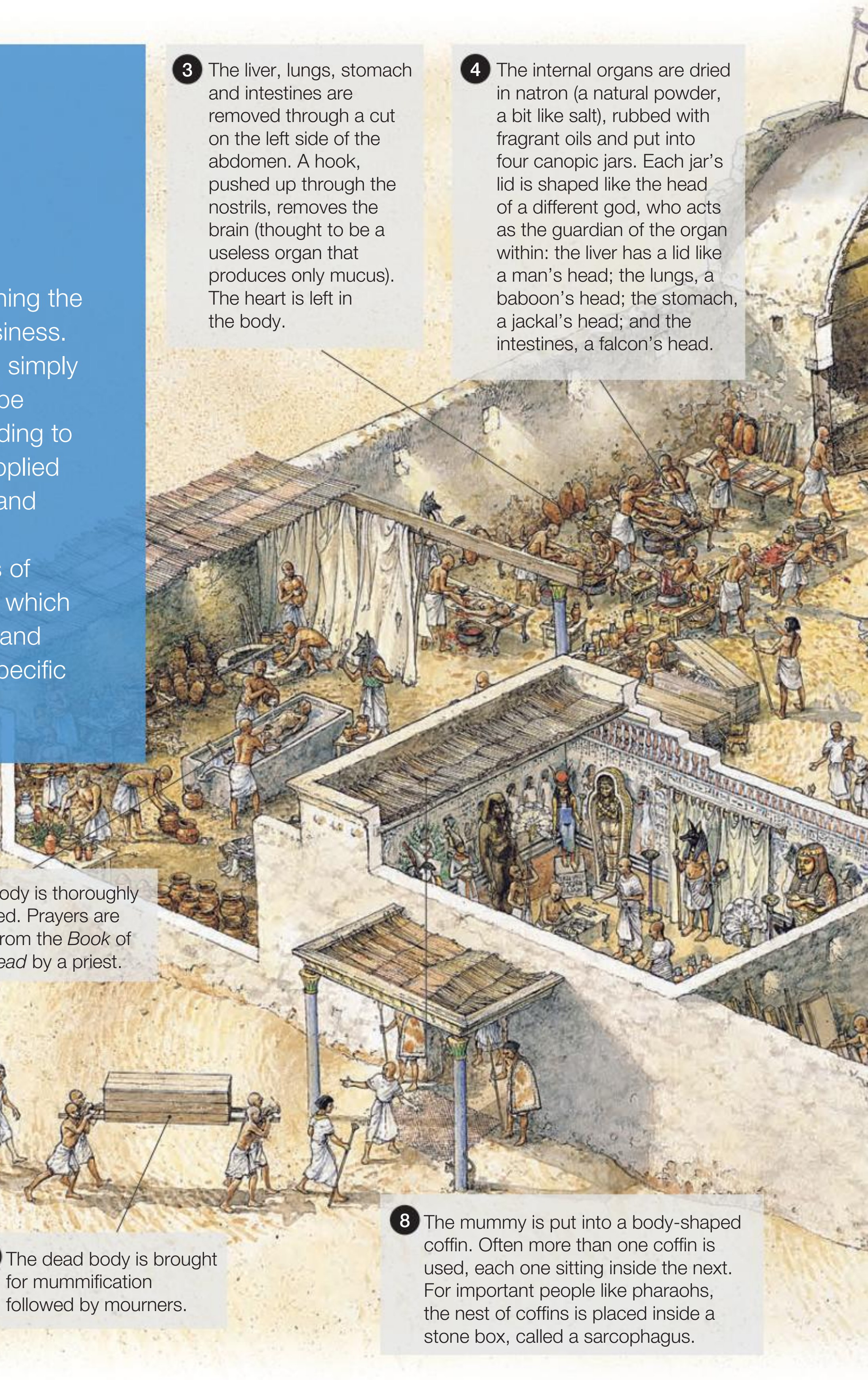
In this topic, you will:

» investigate the process of mummification in ancient Egypt.

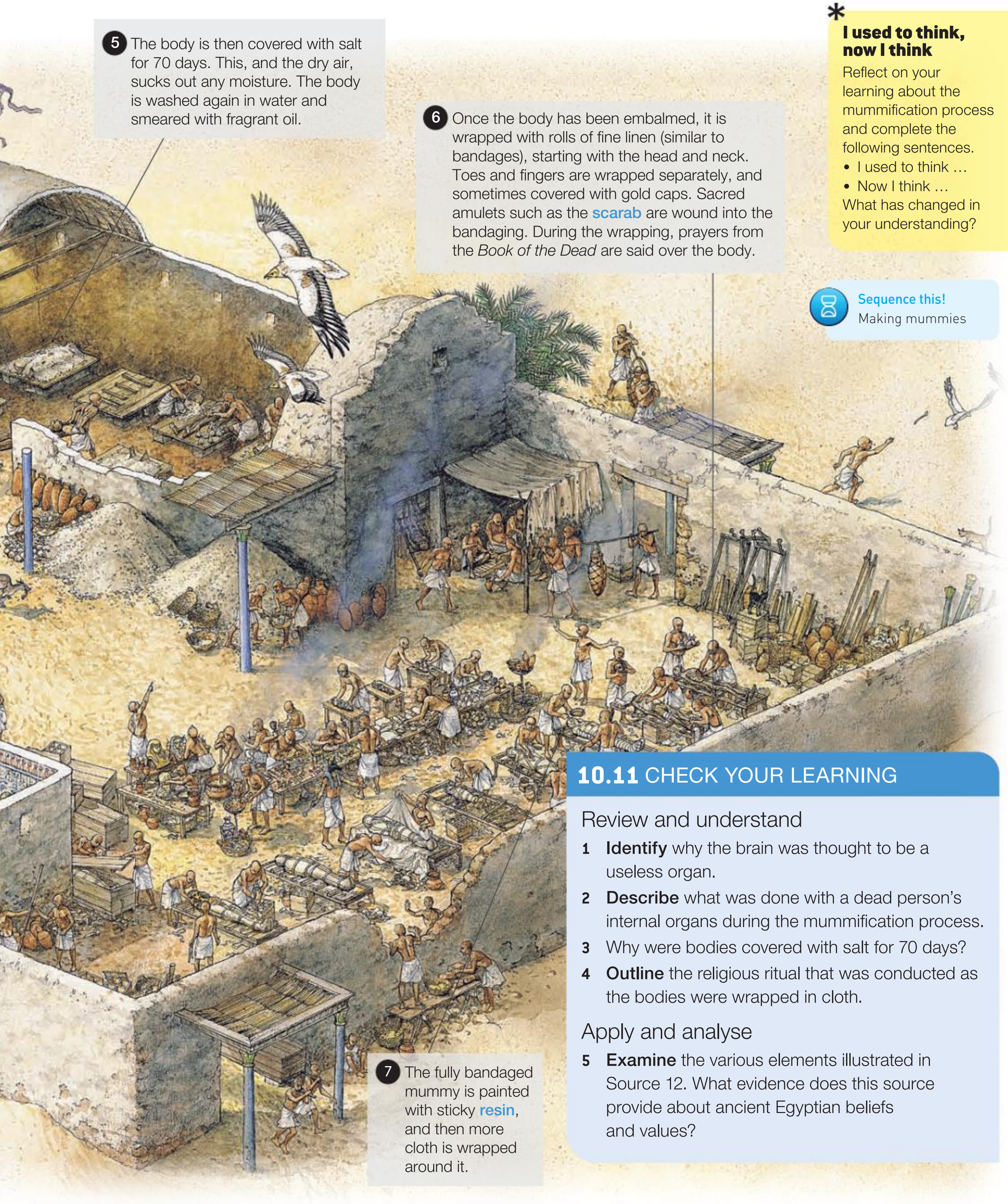
To the ancient Egyptians, reaching the afterlife was a complicated business. It was not enough for a person simply to be worthy, they also had to be prepared for the journey according to a number of rituals, and be supplied with the necessary provisions and protections. Their bodies were preserved through the process of mummification (or embalming), which involved removing vital organs and placing charms and spells in specific areas (see Source 12).

resin
a sticky substance (similar to the sap from a tree) used in ancient Egypt to glue bandages together

scarab
a type of beetle considered sacred by the ancient Egyptians; the word 'scarab' also refers to items of stone or metal jewellery in the form of the scarab beetle



Source 12 The steps followed during the mummification process



5 The body is then covered with salt for 70 days. This, and the dry air, sucks out any moisture. The body is washed again in water and smeared with fragrant oil.

6 Once the body has been embalmed, it is wrapped with rolls of fine linen (similar to bandages), starting with the head and neck. Toes and fingers are wrapped separately, and sometimes covered with gold caps. Sacred amulets such as the **scarab** are wound into the bandaging. During the wrapping, prayers from the *Book of the Dead* are said over the body.

7 The fully bandaged mummy is painted with sticky **resin**, and then more cloth is wrapped around it.

*** I used to think, now I think**

Reflect on your learning about the mummification process and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

Sequence this!
Making mummies

10.11 CHECK YOUR LEARNING

Review and understand

1 **Identify** why the brain was thought to be a useless organ.

2 **Describe** what was done with a dead person's internal organs during the mummification process.

3 Why were bodies covered with salt for 70 days?

4 **Outline** the religious ritual that was conducted as the bodies were wrapped in cloth.

Apply and analyse

5 **Examine** the various elements illustrated in Source 12. What evidence does this source provide about ancient Egyptian beliefs and values?

10C
RICH TASK

The Great Pyramid at Giza

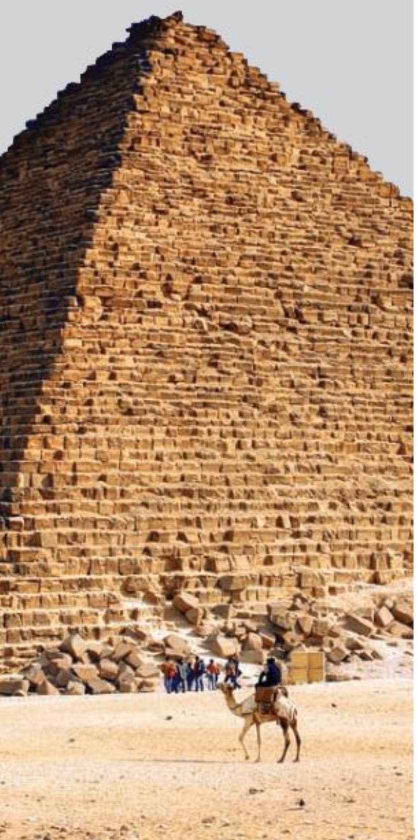
The Great Pyramid at Giza is the only remaining wonder of the ancient world. It was built in *c.* 2580 BCE as the tomb of the Pharaoh Khufu. The question of how the Great Pyramid was constructed with such accuracy has mystified many historians.

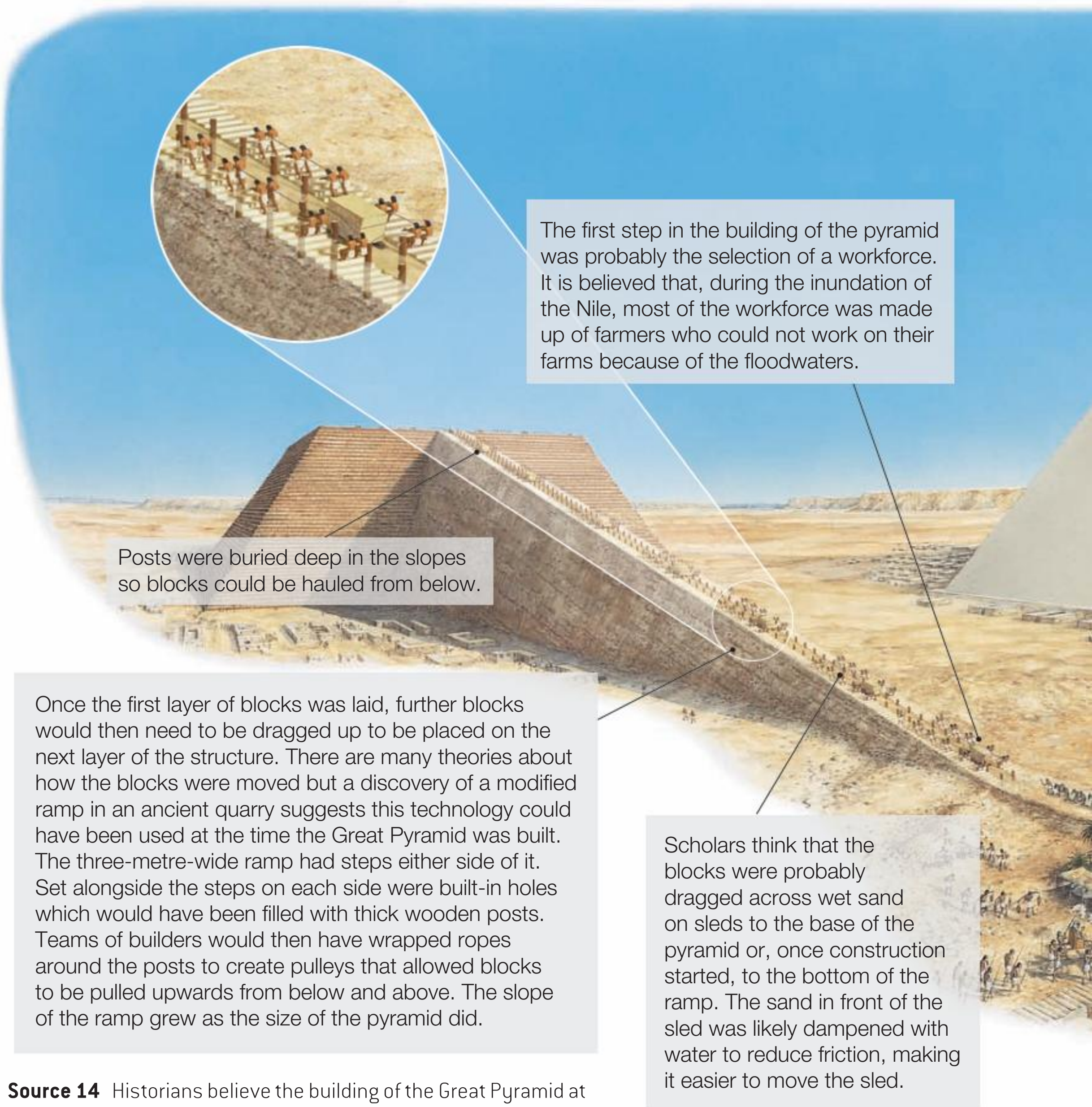
Historians have come up with many different hypotheses about how it was built. Source 14 highlights the main steps that may have been used in the pyramid's construction.

Quizlet

Revise the key terms you have learnt so far.

Source 13 The Great Pyramid at Giza



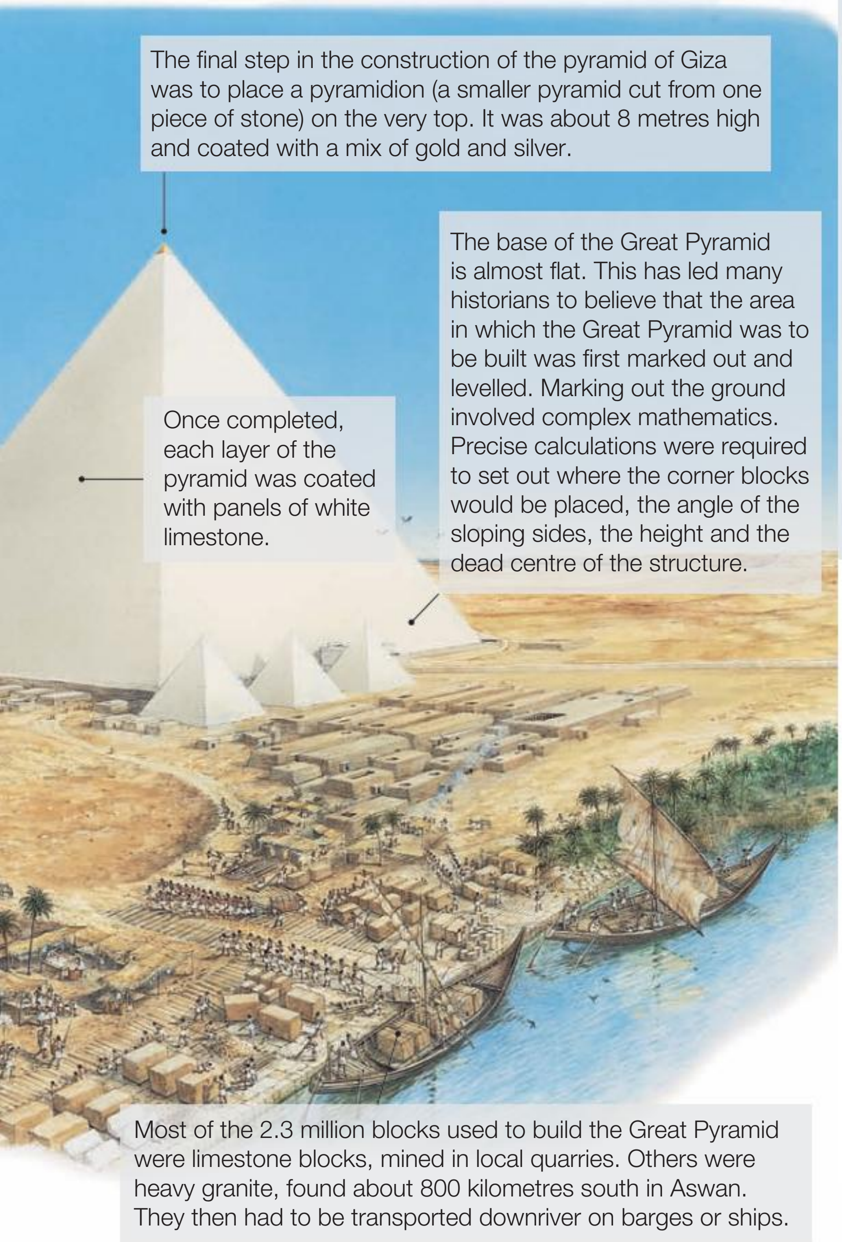


Source 14 Historians believe the building of the Great Pyramid at Giza took about 20 years and used more than 100 000 workers.

It is important to note that there is some debate about how the Great Pyramid was constructed. There are no surviving texts or manuals to tell us exactly how it was built.

Practise the skill

1 Look carefully at Source 14. **Identify** what the key steps would have been in the building of the Great Pyramid, and the order they would have been carried out. Create a flow chart that outlines these steps, using the guidelines above.



KEY SKILL
Communicating & reflecting

Creating a flow chart

After conducting their research, historians need to be able to express and communicate their findings in a range of ways and using different forms. Sometimes, historians communicate their findings orally or in writing. At other times, historians use particular graphic organisers, such as flow charts, to communicate information.

Flow charts are a very useful tool for communicating steps in a process. To create a flow chart, you need to think carefully about the steps involved in a process, as well as the order in which these steps would have been performed. A good flow chart should include:

- written descriptions of each step
- a small drawing or visual representation of each step
- arrows between each step to show the order in which they were performed.

For more information on this key skill, see page 213 of 'The history toolkit'.

Extend your understanding

1 Source 14 shows one theory of how the Great Pyramid was built, but some historians still contest this theory.

a **Research** theories about how the pyramids were built. For example:
- a ramp that winds around the pyramid
- ramping systems inside the pyramids
- some of the blocks being made on the pyramid.

b **Describe** each theory and draw a simple picture to illustrate how it may have worked.

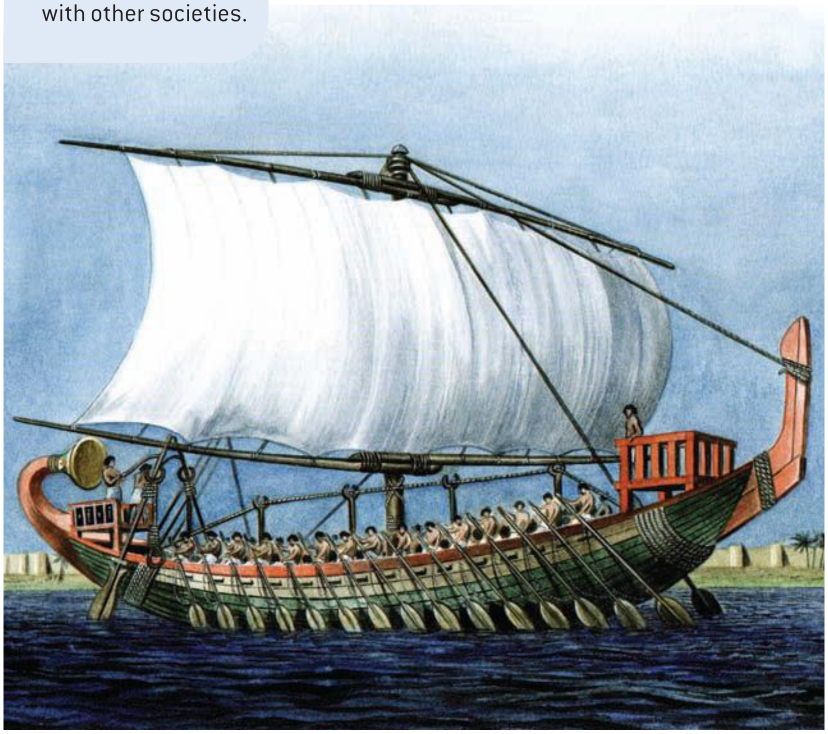
c Which theory do you think is most likely to be correct? **Justify** (give reasons for) your answer.

10.12 Change through trade

In this topic, you will:

» examine the causes and effects of ancient Egypt's contact and trade with other societies.

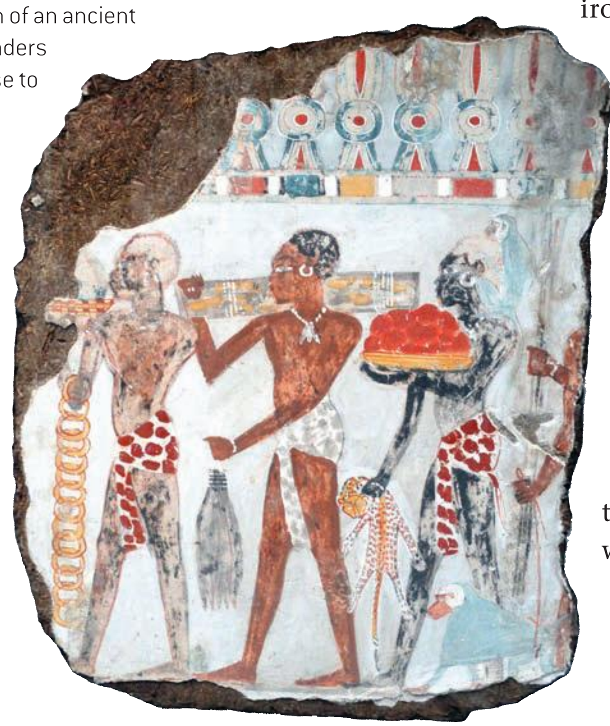
Ancient Egypt's location offered it many advantages in terms of trade. For example, the Nile allowed merchants easy access to the Mediterranean Sea and beyond. The trade contacts they made with new markets helped Egypt to develop and prosper. So did the lands Egypt acquired through their military conquests during a period known as the New Kingdom.



Source 1 An artist's impression of an ancient Egyptian river boat; Egyptian traders would have used boats like these to transport goods along the Nile.

There is evidence to suggest that Egyptian traders were making contact with other countries almost from the start of their history. There were early expeditions up and down the Nile, down the Red Sea and across the deserts.

Egypt had plenty of grain and dates, papyrus, flax (a plant used to make linen), stone, fish, oxen and salt. The ancient Egyptians bartered plentiful goods such as these for other goods that they had little of. Bartering was a way to exchange or swap goods without using money. For example, they would trade with their southern neighbour Nubia (modern-day northern Sudan), swapping their own supplies of grain for exotic goods such as ivory (elephant tusk) and ebony (a rare timber). They would also buy goods such as silver, iron, horses, copper, cattle, leopard skins and spices.

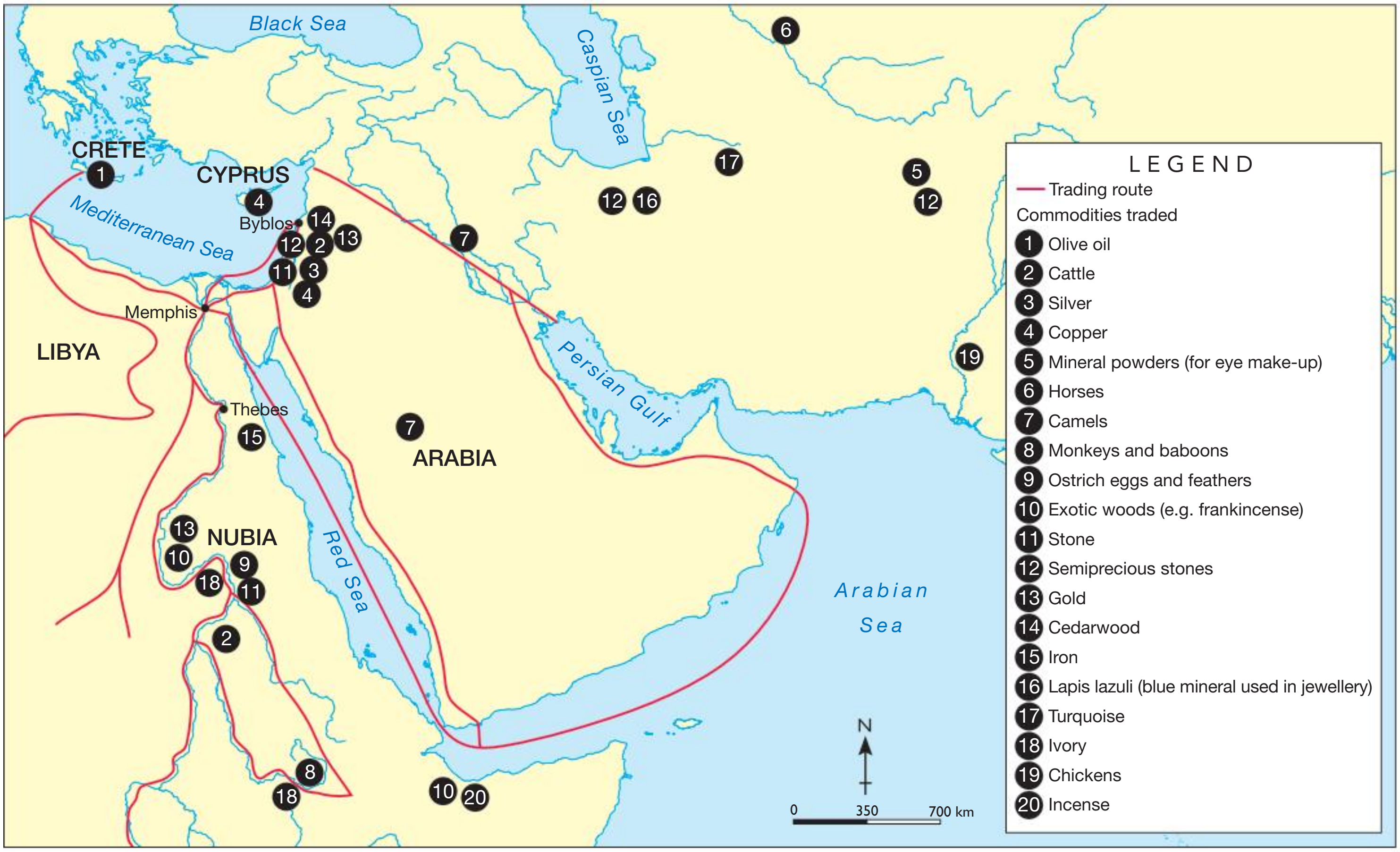


Source 2 An Egyptian tomb painting showing Nubians carrying goods; some exchanges were 'gift giving' rather than trade. What was given reflected the power balance – a ruler who respected the power of Egypt might give 'better' (or more) goods than they received.

One of the more famous trade expeditions in ancient Egypt was when Queen Hatshepsut sent an expedition down the Red Sea, where they obtained trees, elephant tusks, gold, ebony, spices and foreign animals such as panthers. Sailors on the trading ships were paid in grain.

Egyptian traders would often travel on land with camel caravans through deserts. Alternatively, they would travel by boat or barge.

KEY TRADE ROUTES OF ANCIENT EGYPTIANS



Source 3

Source: Oxford University Press

10.12 CHECK YOUR LEARNING

Review and understand

1 **Identify** the goods the ancient Egyptians had plenty of to trade.

2 In your own words, define the term 'barter'. **List** the goods the ancient Egyptians bartered with the Nubians.

3 Look at Source 2. **Identify** the goods in this image you are familiar with. With a partner, try to work out what the other items might be.

Apply and analyse

4 **Explain** how the exchange of goods was sometimes a way to reinforce how rulers perceived the power of other countries.

5 **Examine** Source 3 on this page. Using the world map at the back of this book, list the modern names of at least three countries that the ancient Egyptians traded with to obtain various goods.

Evaluate and create

6 **Create** a concept map to show how imported goods listed in Source 3 might have helped to change the society of ancient Egypt.

7 Imagine that Australia is cut off from all contact with the rest of the world. As a class, **discuss** how you think this would influence our society in both the short term and the long term. What does your discussion reveal about the impact of trade on societies?

See, think, wonder

Look at Source 3.

- What do you see?
- What do you think?
- What do you wonder?

Quiz me!

A quick quiz on change through trade in ancient Egypt

10.13 Change through conflict

In this topic, you will:

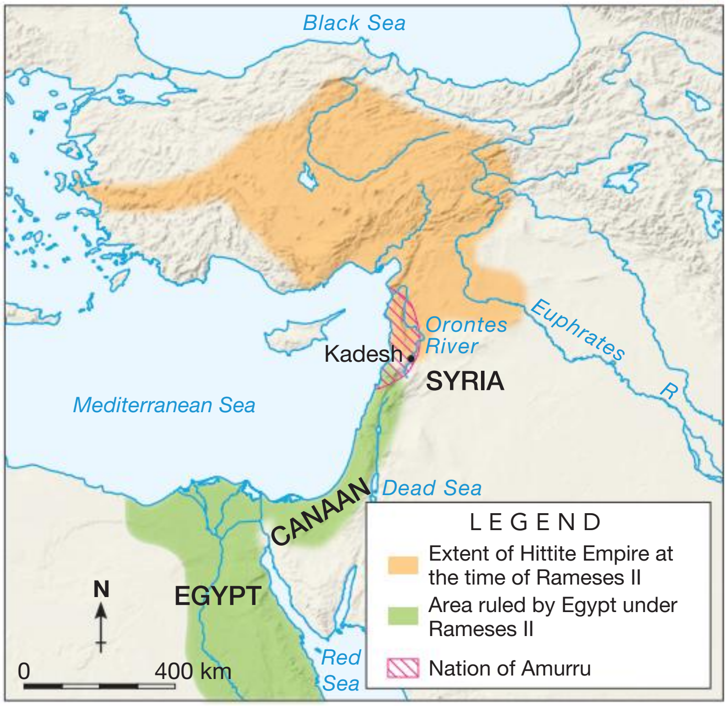
» examine the causes and effects of ancient Egypt's contact and conflict with other societies.

At the start of the New Kingdom in 1550 BCE, Egypt's army was more professional than it had ever been. Its soldiers had better military equipment and were better trained. This put Egypt in a strong position to conquer territories beyond its borders.

The pharaoh Thutmose III and his army were particularly successful at this. Their efforts meant that a large part of southern Syria was brought under Egypt's control.

A growing threat to Egypt around this time were the Hittites. The Hittites were a group of people keen to build their empire. From about the fourteenth century BCE, the Hittites started to push south from the area that is today known as Turkey, down through the coastal regions of the western Mediterranean Sea. Egypt had maintained a trade interest in this region for a long time.

EGYPT'S TERRITORIAL EXPANSION DURING THE NEW KINGDOM



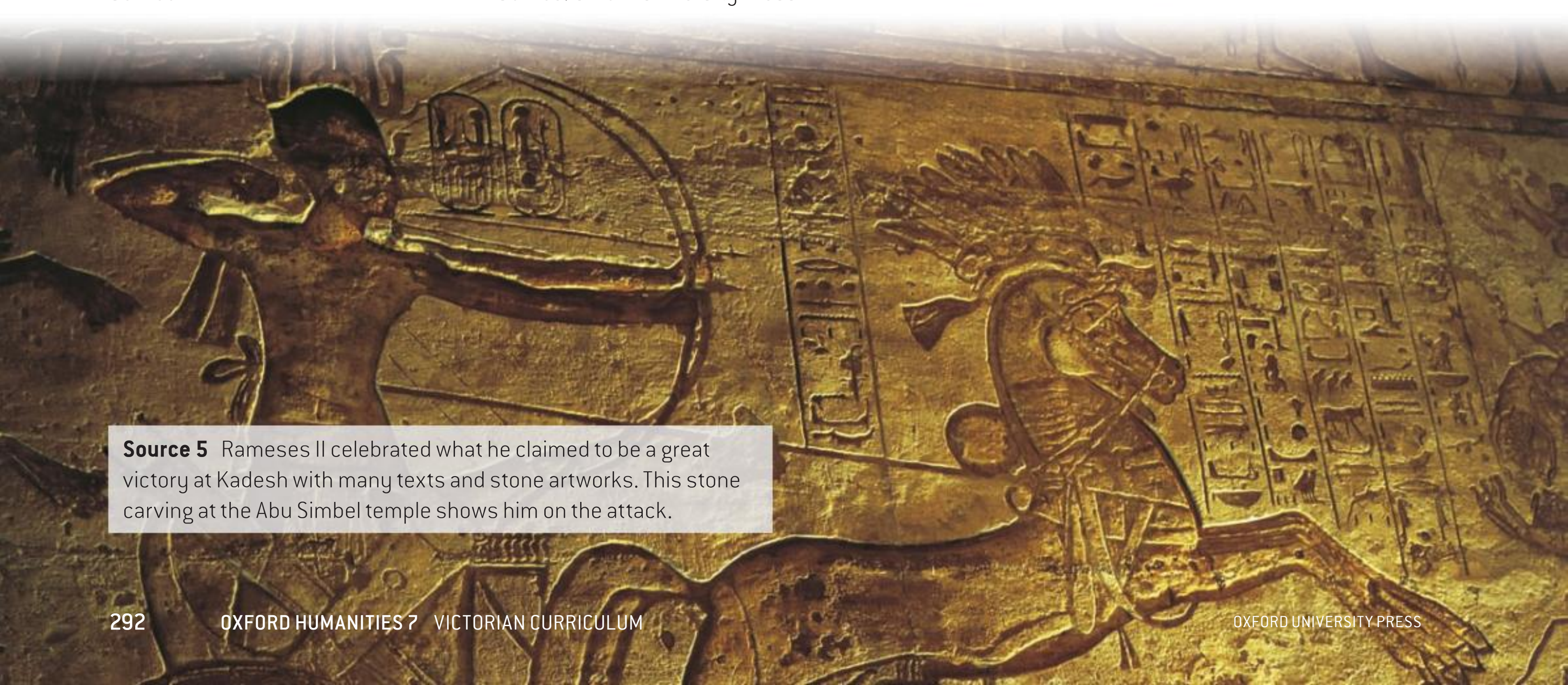
Source 4 Source: Oxford University Press

Campaigns of Seti I and Rameses II

The 19th Dynasty pharaoh Seti I used Egypt's growing military strength to further expand Egypt's influence. He fought conflicts in Canaan, Syria, Libya and Nubia in an attempt to increase Egypt's power and prestige.

Kadesh was a city in Syria that had been taken from the Egyptians by the Hittites. Seti I led a very bloody battle against the Hittites and was able to reclaim Kadesh for a short time.

Rameses II became the pharaoh after his father, Seti I. He was in power for a long time, from *c.* 1279 to 1213 BCE. Under his rule, Egypt's



Source 5 Rameses II celebrated what he claimed to be a great victory at Kadesh with many texts and stone artworks. This stone carving at the Abu Simbel temple shows him on the attack.

economy boomed. Rameses was also a remarkable soldier, and he was determined that Egypt would take over Kadesh permanently.

The Battle of Kadesh

The Battle of Kadesh (1274 BCE) is thought to be the biggest chariot battle in history. It is also the first battle in history where there are records from both sides, and it led to the world's first peace treaty. For all these reasons, the Battle of Kadesh is seen as historically significant.

Key skill worksheet
Determining historical significance: The Battle of Kadesh

The Battle of Kadesh

The ancient city of Kadesh lay on the trade route that linked the Mediterranean Sea to the northern part of ancient Syria. Egypt lost its influence over Kadesh to the Hittites during the time that the pharaoh Akhenaten was in power (around the mid-fourteenth century BCE). The main reason for the battle was that Egypt wanted Kadesh back. Amurru, a nation near Kadesh, had also been taken over by the Hittites. The battle was started because Amurru asked for help from Rameses II to free itself from Hittite rule.

In the end, neither side actually won, although Rameses tried to say that he was the victor for some time. The longer-term effect of this battle was the historic treaty that Egypt signed with the Hittites in 1269 BCE. The treaty set out their agreement that Egypt would not invade Hittite territory and the Hittites would not invade Egyptian territory. The effect of this treaty was that there were 70 years of peace for the region.

For more information on this key concept, see page 192 of 'The history toolkit'.

KEY CONCEPT
Cause & effect

Source 6 This tomb painting shows Rameses II at the Battle of Kadesh. It is only one of a great many monuments and paintings he had made as propaganda for his achievements.

10.13 CHECK YOUR LEARNING

Review and understand

1 **Outline** the importance of Kadesh. Why was it so important to Rameses II?

2 **Identify** what started the Battle of Kadesh.

3 **Describe** why the Battle of Kadesh was so historically significant.

Apply and analyse

4 Look at Source 6. Given what you know about Rameses II and the Battle of Kadesh, **explain** why this tomb painting is a good example of propaganda. How do you think the Hittites might have reacted to this?

Evaluate and create

5 **Propose** reasons why Rameses II tried to say that he was the victor in the Battle of Kadesh. To help answer this question, think about what you know of the role of the pharaoh in ancient Egypt.

10D RICH TASK

The Battle of Kadesh

Quizlet

Revise the key terms you have learnt so far.

In this battle, the Egyptian pharaoh Rameses II and his army fought the Hittites to regain control over the ancient city of Kadesh.

Rameses II's plan of attack was to divide his troops into four groups or 'divisions': Amun, Re, Ptah and Seth. Each group would march from their starting point in the forest, north through the desert into Kadesh, one day apart, in the order mentioned. Rameses II led one of the groups – the Amun. They set up camp in a swampy area south of Kadesh. Two Hittite spies told Rameses II that the Hittites were far away, so Rameses II was very confident that he and his army would be able to take Kadesh.

Unknown to him, the Hittite army was hidden and waiting. While the Amun group camped near the swamp, the Hittites sneaked out and attacked the Re group, killing nearly all of them. Then, the Hittites turned north to finish off the Amun group. Luckily for Rameses II, the Ptah group arrived to help the Amun group at the scene of battle. It was a tough battle and Rameses II was forced to fight for his life.

Source 7 A stone carving of the Battle of Kadesh showing the army of pharaoh Rameses II fighting Hittite soldiers.

KEY SKILL
Sequencing events

Creating a visual representation of a historical event

Historians often use information in a written secondary source to create a visual representation of the key ideas or events. This representation might be a map or a labelled diagram. The process of creating such a representation can be very helpful for forming a better understanding or building a clearer picture of events. The resulting visual representation also makes it easier to explain events to others.

The following steps will help you to create a good visual representation of a historical event:

Step 1 Read the information in the source carefully.

Step 2 Identify the key players mentioned in the source.

Step 3 Re-read the information, this time making sure you visualise each stage of the events being described.

Step 4 Choose symbols and colours to represent key players, locations and events; for example, you might use arrows to show movement.

Step 5 Include a legend to explain the symbols and colours used in your representation.

For more information on this key skill, see page 198 of 'The history toolkit'.

Practise the skill

1 Copy the maps in Source 8 into your notebook and use them to **create** a visual representation of how the Battle of Kadesh unfolded. The first one has been done for you. Do not forget to complete the legend.

Extend your understanding

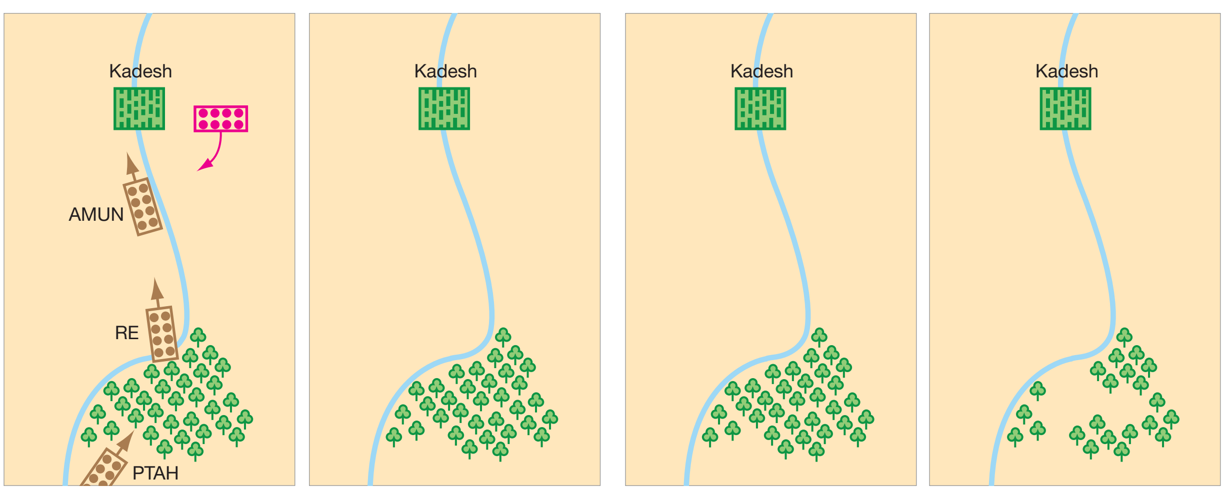
1 **Explain** how Rameses II might have reduced his troop losses to help him win the battle.

2 **Discuss** how the propaganda about the godlike achievements of Rameses II would have been received in Egypt. How do you think it influenced the perceptions of ordinary Egyptians?

3 Write a poem about the battle from the point of view of Rameses II.

4 Design a stone relief or wall painting to commemorate the Battle of Kadesh. The design can be from a neutral perspective, or from the perspective of Rameses II or the Hittites.

HOW THE BATTLE OF KADESH UNFOLDED



Source 8

LEGEND

10 CHAPTER REVIEW

Review questions

10A How did the physical features of ancient Egypt influence its development?

1 **Summarise** the difference between the 'Black Land' and the 'Red Land'. (3 marks)

2 **Explain** the importance of the flooding season. (3 marks)

3 **Analyse** the importance of the desert in providing resources for ancient Egypt. In your response, consider three different resources provided by the deserts. (4 marks)

(Total: 10 marks)

10B What shaped the roles of key groups in ancient Egypt?

1 **Describe** how the society of ancient Egypt was organised. (2 marks)

2 **Outline** how a new dynasty began in ancient Egypt. (2 marks)

3 **Discuss** the rights and freedoms held by women in ancient Egypt. Be sure to consider different perspectives in your answer, and provide your own opinion. (6 marks)

(Total: 10 marks)

10C How did beliefs, values and practices influence ancient Egyptian lifestyles?

1 **Identify** the most important god to the ancient Egyptians. (1 mark)

2 **Summarise** common health problems in ancient Egypt. (3 marks)

3 **Discuss** the influence that the afterlife had on the death and funerary customs of people in ancient Egypt. (6 marks)

(Total: 10 marks)

10D How did contacts and conflicts with other people change ancient Egypt?

1 **Identify** the term used to describe the exchange or swapping of goods without using money. (1 mark)

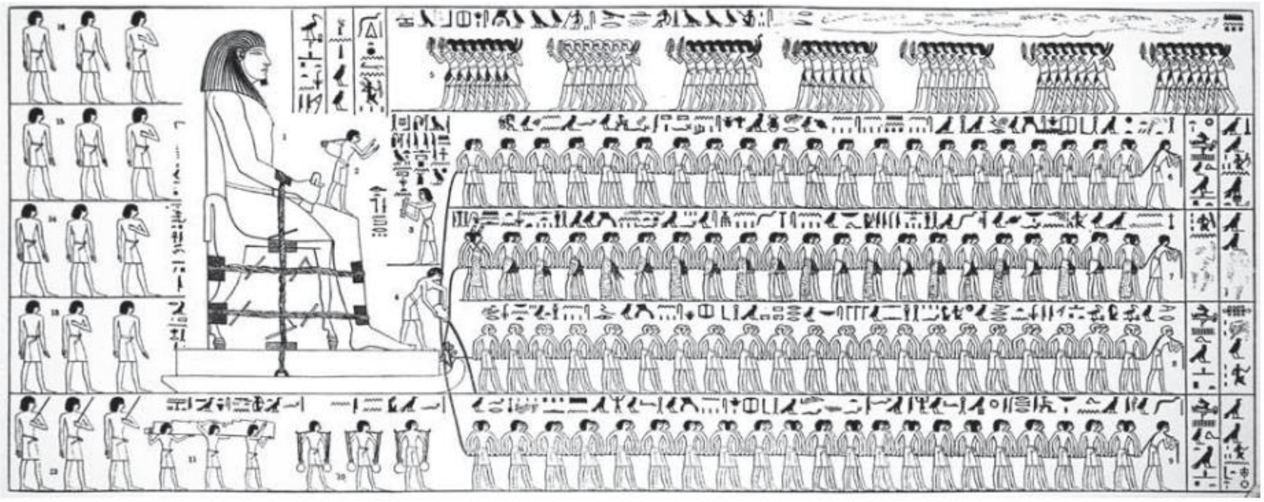
2 **Suggest** reasons why a pharaoh might use Egypt's army. (3 marks)

3 **Discuss** the importance of trade with other countries for the ancient Egyptians. In your answer, refer to at least two examples. (6 marks)

(Total: 10 marks)

Review activity

Examine both sources carefully and answer the questions below.



Source 9 Wall painting from the tomb of Djehutihotep, who was a government official during the 12th Dynasty, *c.*1900 BCE.

Source 10

The famous scene from Djehutihotep's tomb illustrates well the reasons why the ancient Egyptians were so successful in manoeuvring and building such impressive monuments, which were accomplished by the combination of knowledge, skill and necessary man-power, the latter provided by a willing workforce drafted in especially for the task rather than an army of slaves so often portrayed in books and films …

The colossus has been placed on a wooden sledge for transportation … The hauliers are gliding the sledge over a layer of carefully prepared sand, and there is some speculation about the significance of the man pouring water in front of the sledge: he was originally thought to be offering a *libation* (a drink poured out as an offering to a deity) as part of a ceremony, but it has been recently proposed that the ancient Egyptians understood that if a certain amount of water is added to sand, it significantly reduces the amount of friction generated by the dragging of such heavy loads.

An analysis of Source 9, provided by The Griffith Institute

1 **Identify** the role of Djehutihotep in ancient Egyptian society. (1 mark)

2 **Determine** (decide) whether the sources provided are primary or secondary sources. Give reasons for your answer. (3 marks)

3 a **Explain** the significance of the man pouring water in front of the sledge.
  b What was it previously thought that the man was doing? (4 marks)

4 As you have learned, every source is created from a different perspective. Read Source 10 and **list** some of the words that the author has used that indicate their perspective on the ancient Egyptians' construction skills. (2 marks)

5 **Evaluate** the construction abilities of the ancient Egyptians, using both sources to help you. (10 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 10

Key skill worksheet
Communicating & reflecting: Chapter 10

Quizlet
Play a game of Quizlet on Ancient Egypt.

Chapter review quiz
Chapter 10

CHAPTER 11

Ancient Greece

Ancient Greece covered the area known today as Greece, as well as the parts of modern Turkey near the Aegean Sea. It also had many colonies or settlements around the Mediterranean Sea and the Black Sea.

Ancient Greece is sometimes called the ‘cradle of Western civilisation’ because of the many features of modern life that have their origins in the time of the early Greeks. These features include democracy as a form of government, drama (theatre) and the modern Olympic Games. Some aspects of modern architecture and sculpture also draw on the classical traditions of ancient Greece. The work of ancient Greek mathematicians, thinkers and storytellers still inspires many people today.

Source 1 Ruins of the Acropolis of Lindos on the island of Rhodes in Greece; this is a popular tourist attraction today.

11A
How did the physical features of ancient Greece influence its development?

11B
What shaped the roles of key groups in ancient Greece?

11C
How did beliefs, values and practices influence ancient Greek lifestyles?

11D
How did contacts and conflicts with other people change ancient Greece?

11.1 Ancient Greece: a timeline

Source 1 A timeline of key events and developments in the history of ancient Greece

A typical Cyclades sculpture

Finishing line for races at the ancient Olympics

c. 3000 BCE
Start of Cyclades culture

c. 2500
Start of Minoan civilisation

c. 1600
Mycenaean civilisation declining

c. 1500
Eruption of volcano on Thera

776
First recorded Olympic Games

c. 750
Homer credited with writing the *Illiad* and the *Odyssey* – two important and influencial epic poems

c. 720
First Greek colonies established on the island now known as Sicily

c. 610
Female poet Sappho born on the Greek island of Lesbos

3000 BCE | 2500 | 1500 | 750 | 650

A wall panel from the Minoan palace on Crete

KEY SKILL
Communicating & reflecting

Sequence this!
Events in ancient Greece

Using historical terms and concepts

An important division exists between the years before the birth of Jesus Christ (Year 1) and the years after that date. Until the late twentieth century, the division was marked by the letters BC (Before Christ) and AD (Anno Domini, which is Latin for 'in the year of the Lord'). In recent decades, as society has become more secular (not based in religion), the terms have been changed to BCE (Before the Common Era) and CE (Common Era).

For more information about this key skill, refer to page 213 of 'The history toolkit'.

Practise the skill

1 Examine Source 1 to observe these historical terms in use. **List** the historical terms you can see in Source 1.

Alexander the Great

550 — **450** — **350** — **250** — **1 CE**

508
Cleisthenes, the 'father of democracy', reforms the constitution to create equal rights for all Greek citizens.

490
Battle of Marathon (First Persian War)

480
Battles of Thermopylae and Salamis (Second Persian War)

***c.* 450**
Herodotus writes his account of the Persian War.

447
Construction of the Parthenon on the Acropo-lis in Athens starts.

431
Start of hostilities between Athens and Sparta, leading to the outbreak of the Peloponnesian Wars

404
Sparta defeats Athens, ending the Peloponnesian War, and becomes the supreme power in ancient Greece.

338
Phillip II, king of Macedon (and father of Alexander the Great), controls most of the Greek city-states.

323
Alexander the Great dies after defeating the Persians and setting up an empire that spread Greek culture.

197
Rome finally defeats Macedon, forcing it to give up the Greek city-states it formerly controlled.

146 BCE
Rome conquers Corinth, the last resisting city-state in Greece.

11.1 CHECK YOUR LEARNING

Review and understand

1 Read the timeline closely and answer:

- **a** In what year (approximately) did the volcano on Thera erupt?
- **b** When did the Peloponnesian Wars begin?

Apply and analyse

2 The Olympic Games were established in ancient Greece. **Explain** what this tells us about the type of people they were.

3 **Explain** why the term BC was changed to BCE.

Evaluate and create

4 Looking at the timeline from about 500 BCE, identify four events that might have contributed to the overall decline of the ancient Greek civilisation. **Justify** one of the choices you have made, giving reasons why you think it contributed to the decline of ancient Greek civilisation.

11.2 Physical features of ancient Greece

In this topic, you will:

» explain how the physical features of ancient Greece influenced its development.

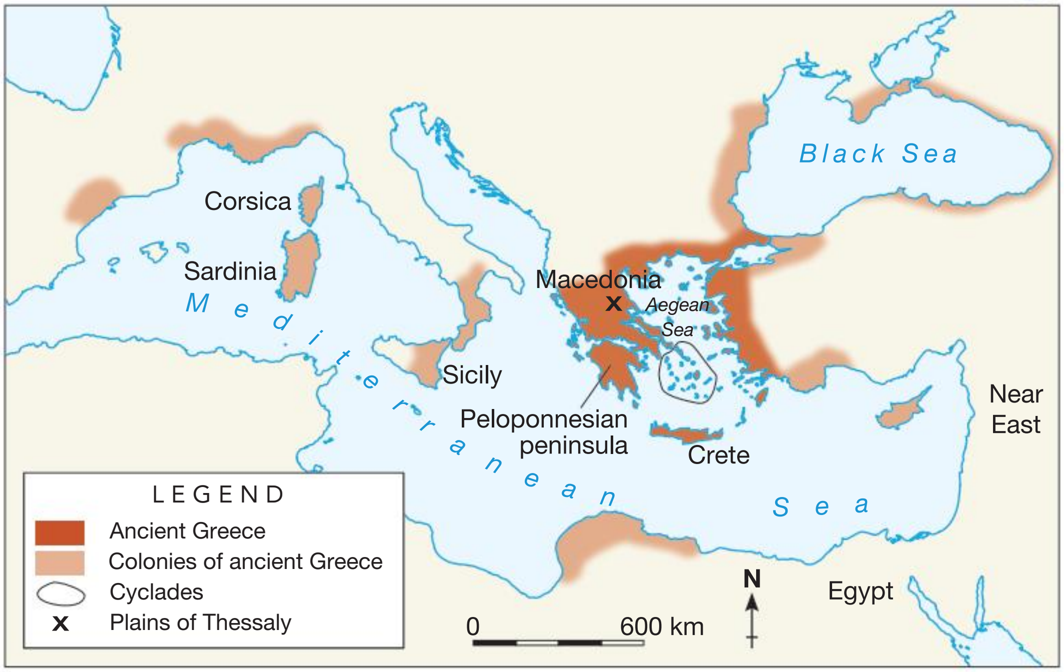
Ancient Greece was located in south-eastern Europe. Its territory surrounded the Aegean Sea (see Source 3). It also included the many islands in the Mediterranean and Aegean seas. Greece's mountainous mainland and mostly unnavigable rivers made travelling difficult. These geographical features had a significant influence on the development of ancient Greek **societies** and **civilisations**.

societies
communities of people living in a particular area who have shared culture, customs and laws

civilisations
the societies, cultures and ways of life in a particular area at a particular time

Explore it!
A virtual field trip to Greece

ANCIENT GREECE AND ITS COLONIES *C.* 550 BCE



Source 2 Source: Oxford University Press

Cyclades
an early Greek civilisation based on a group of rocky islands in the Aegean Sea from about 3000 to 1700 BCE

Minoans
an early Greek civilisation on the island of Crete from about 2500 to 1600 BCE

Mycenaeans
an early Greek civilisation on the mainland from about 1600 to 1100 BCE

city-states
independent settlements made up of an inner fortified city surrounded by houses and farmland

The first known fixed settlements on Greece's mainland were on the Peloponnesian peninsula and on the fertile plains in Thessaly (see Source 2). Evidence has been found of scattered mud-brick villages built around 7000 BCE. Many historians agree that the roots of ancient Greek civilisation lie in three Bronze Age cultures. The first of these cultures belonged to a group known as the **Cyclades** (who lived on the Cyclades Islands in the Aegean Sea). The other two were the cultures of the **Minoans** (who lived on the island of Crete) and the **Mycenaeans** (who lived on mainland Greece).

Greece's steep mountains, rugged high country and thousands of islands made contact between settlements difficult. These features prevented the ancient Greek people from growing as one nation. Rather, many settlements developed as centres known as **city-states**. This meant there was no single Greek ruler.

City-states

City-states were independent urban centres often located in coastal areas. They generally shared a common language, cultural practices and religious beliefs. Occasionally, some banded together to fight wars or for protection. At different times, one or another city-state might dominate. The most powerful city-states were Athens and Sparta, but other significant city-states included Corinth, Thebes, Troy and Syracuse.

The population of Greece grew significantly between 1000 and 800 BCE. A lack of fertile farmland in the area meant that mainland Greece could not feed its growing population, so the people looked beyond the mainland for other resources. This led to the **colonisation** of many areas, including parts of modern-day Turkey, Russia, North Africa and Italy.

ANCIENT GREECE AND SOME OF ITS CITY-STATES

Source 3 Source: Oxford University Press

11.2 CHECK YOUR LEARNING

Review and understand

1 Look closely at Source 3 and answer the following questions.
   a **Describe** the geographical areas in which most city-states are located.
   b What do you think are the main reasons for this settlement pattern?

Apply and analyse

2 **Explain** why Greece developed as a series of city-states rather than a unified country.

Evaluate and create

3 Using the internet or library, research one of the following city-states in ancient Greece: Corinth, Syracuse, Thebes or Troy. **Create** a travel brochure that outlines the key features of your chosen city-state. Your brochure should include a map. Remember to include references to show where you found your information.

colonisation
the process of setting up outposts or settlements in other lands, by a country, kingdom or empire

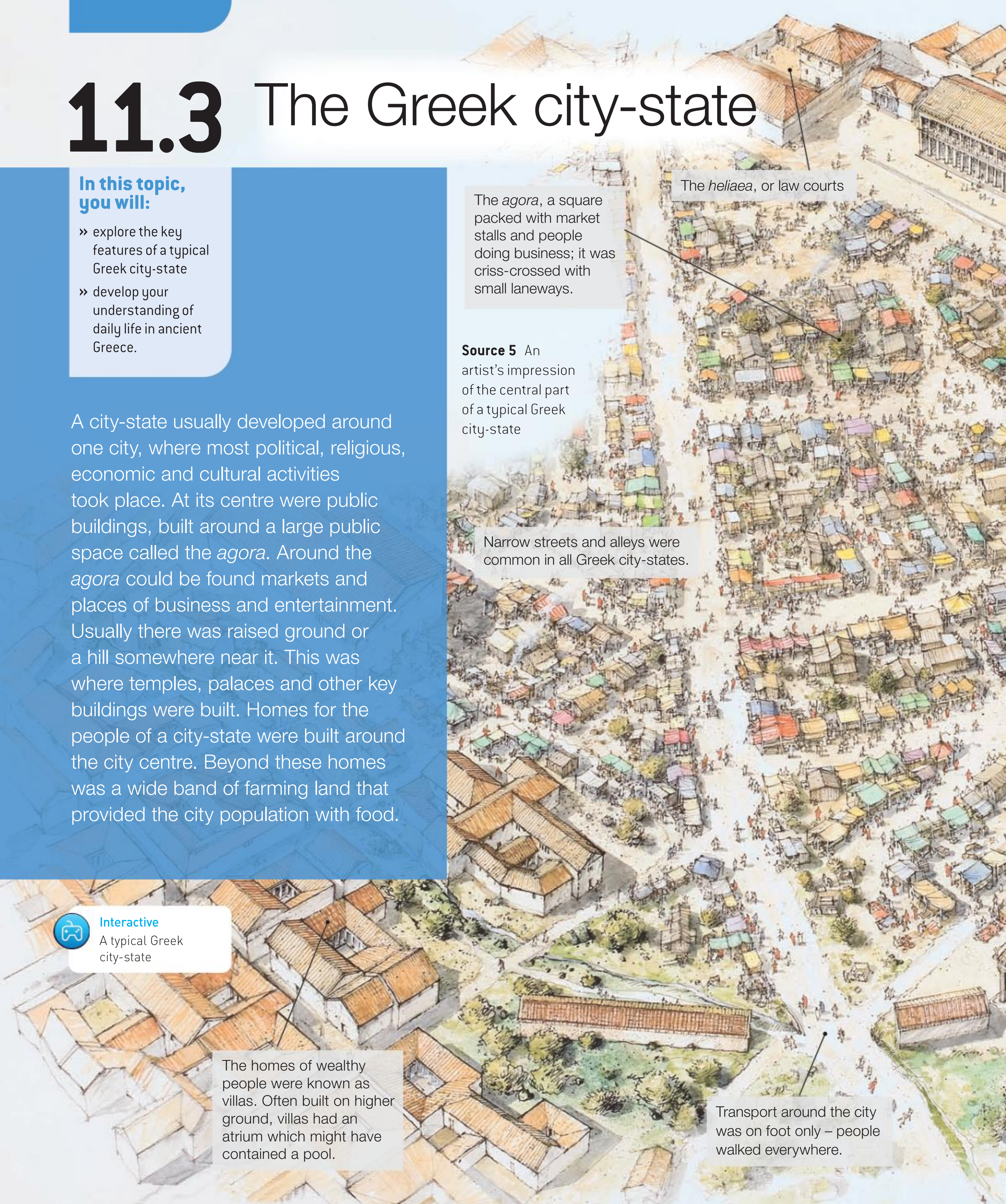
Source 4 A coastal landscape of Greece on the Peloponnesian peninsula

11.3 The Greek city-state

In this topic, you will:

- explore the key features of a typical Greek city-state
- develop your understanding of daily life in ancient Greece.

A city-state usually developed around one city, where most political, religious, economic and cultural activities took place. At its centre were public buildings, built around a large public space called the *agora*. Around the *agora* could be found markets and places of business and entertainment. Usually there was raised ground or a hill somewhere near it. This was where temples, palaces and other key buildings were built. Homes for the people of a city-state were built around the city centre. Beyond these homes was a wide band of farming land that provided the city population with food.



Source 5 An artist's impression of the central part of a typical Greek city-state

Interactive
A typical Greek city-state

11.3 CHECK YOUR LEARNING

Review and understand

1 **Describe** the characteristics of an *agora*. What was it, and where was it typically found?

Evaluate and create

2 In a group of four, **create** a SWOT analysis chart (see Source 6) related to city-states in ancient Greece. Use information on the previous pages and in Source 5. Copy a large version of the SWOT chart in Source 6 onto an A3 sheet of paper, leaving room to write more in each segment.

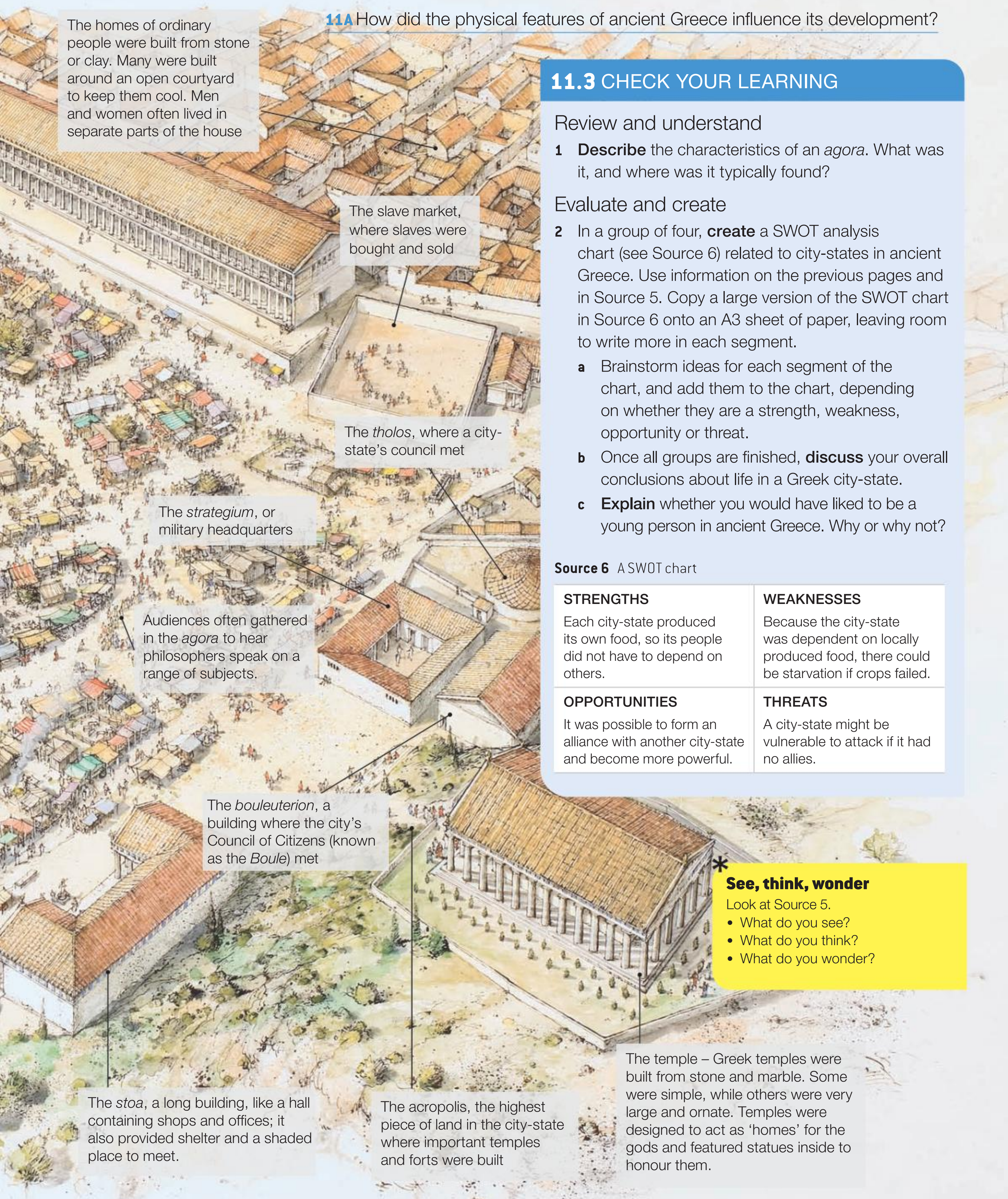
  a Brainstorm ideas for each segment of the chart, and add them to the chart, depending on whether they are a strength, weakness, opportunity or threat.

  b Once all groups are finished, **discuss** your overall conclusions about life in a Greek city-state.

  c **Explain** whether you would have liked to be a young person in ancient Greece. Why or why not?

Source 6 A SWOT chart

STRENGTHS Each city-state produced its own food, so its people did not have to depend on others.	**WEAKNESSES** Because the city-state was dependent on locally produced food, there could be starvation if crops failed.
OPPORTUNITIES It was possible to form an alliance with another city-state and become more powerful.	**THREATS** A city-state might be vulnerable to attack if it had no allies.



See, think, wonder

Look at Source 5.

- What do you see?
- What do you think?
- What do you wonder?

11A RICH TASK

The beginnings of ancient Greece

Quizlet

Revise the key terms you have learnt so far.

With a long and indented coastline, Greece was an ideal location for navigation and seafaring. For two of the world's earliest civilisations, the Minoans and the Mycenaeans, sea trading was an important part of their economies.

The Minoan period lasted from about 2500 to 1600 BCE. The Minoans lived on the island of Crete. As well as sea trading with countries as far away as Egypt, the Minoans grew grain crops and raised animals. They used bronze to make implements and weapons, and they built walled cities. One of the most significant buildings that has been unearthed from the Minoan period is the palace of Knossus. Evidence suggests that the Minoans had a written language which has been named Linear A. It has not been decoded.

The Mycenaean civilisation was active from about 1600 to 1100 BCE. Like the Minoan economy, much of the economy of the Mycenaean civilisation was based around seafaring and trade. They cultivated the soil and grazed animals to provide food for the people. They were also advanced in architecture and art. By about 1000 BCE, their civilisation had spread to encompass much of mainland Greece and around 100 active centres, including Athens. Many of their cities were built on hill tops, enclosed by walls. The Mycenaeans used a written language, described by scholars as Linear B. Thousands of tablets inscribed with Linear B script have been decoded and interpreted.

Source 7 An artist's reconstruction of the former kingdom of Mycenaea; like the later Greek city-states, palaces and temples of Mycenaean cities were enclosed within solid city walls.

KEY SKILL
Identifying continuity & change

Using a Venn diagram to help with comparison

Venn diagrams are simple diagrammatic tools that help you organise your thinking. They consist of two overlapping circles. Venn diagrams help to identify and document what two things have in common and how they differ. These 'things' can be anything – artefacts, cities, buildings, furniture, political systems, warfare strategies and so on. Venn diagrams can be a quick and helpful way to help you think about similarities and differences between historical periods and movements.

To complete a Venn diagram you need to work through the following steps:

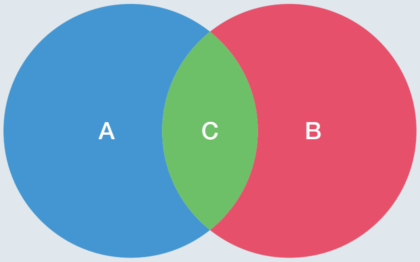
Step 1 On an A3 piece sheet of paper, draw a large Venn diagram (see Source 8). Make the circles and the overlapping section big enough to write in.

Step 2 Choose two things to compare, and on your diagram, write the name of one above section A and the other above section B.

Step 3 Think about how the two things are different. Write these features in section A and section B.

Step 4 Think about how the two things are similar. Write these features in the overlapping section of the circles (section C).

For more information on this key skill, refer to page 202 of 'The history toolkit'.



Source 8 A Venn diagram

Practise the skill

1 **Examine** the information about the Minoan and Mycenaean civilisations and Sources 7 and 9 carefully, noting the features of each. You may do additional research to identify other features.

2 Now prepare a Venn diagram to **compare** the following:
- in section A, note as many features as you can that relate to the Minoan civilisation (think about time period, place, activities and so on)
- in section B, note as many features as you can relating to the Mycenaean civilisation
- in section C, note the features that the two civilisations have in common.

Extend your understanding

1 Examine your completed Venn diagram. Use the points you have noted to write a short explanation (about 250 words) comparing the Minoan and Mycenaean civilisations. In your explanation, state which you believe to have been the greater civilisation and **justify** (give reasons) for your answer.

Source 9 An example of Minoan pottery found in the ruins of the Palace of Phaestus in Crete

11.4 Key groups in ancient Greek society

In this topic, you will:

- examine the social structure of ancient Greek society
- distinguish between key social groups in ancient Greece.

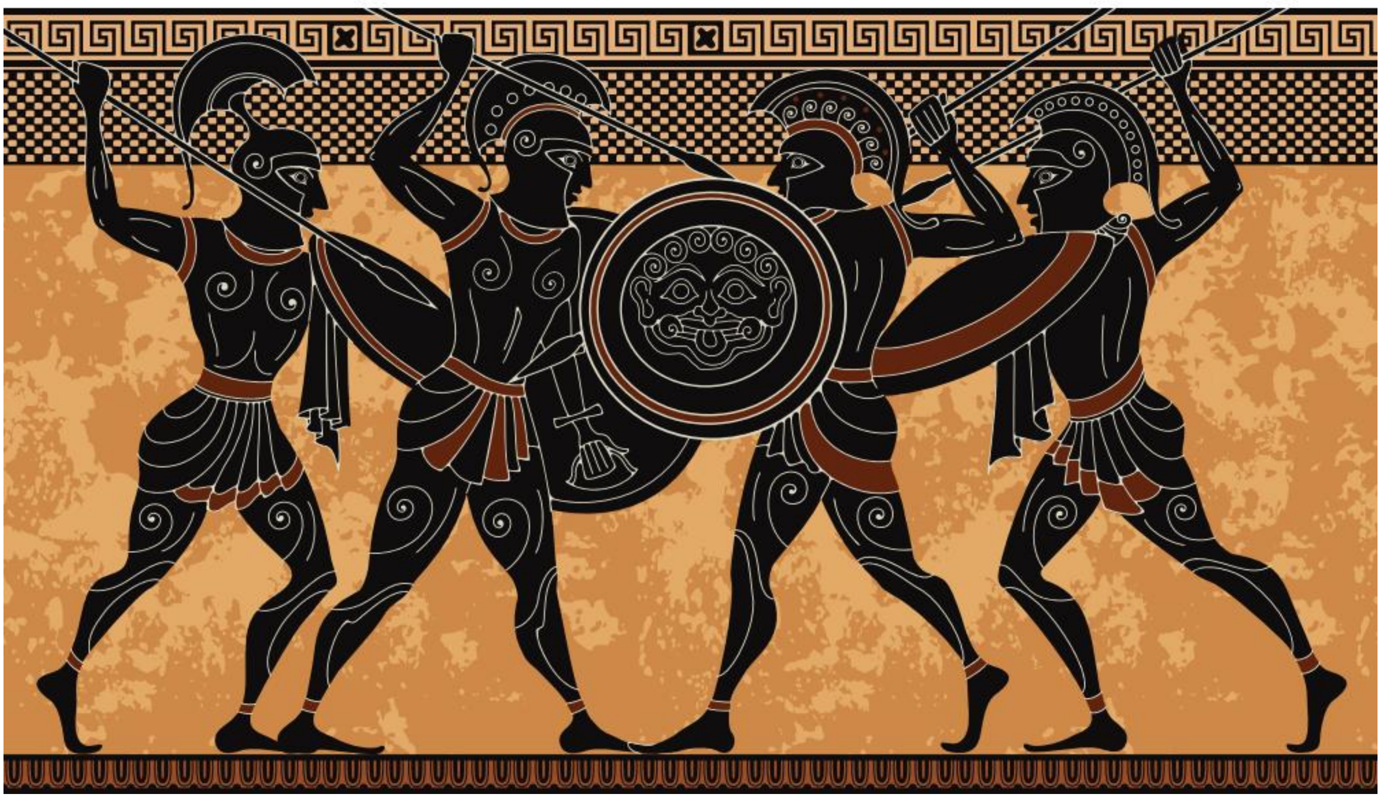
citizens
a person who, through birth (or by meeting certain criteria), are recognised as legal members of a community

Ancient Greece consisted of several hundred city-states, each with its own system of government. Each of the city-states had its own unique features, but some of the roles and responsibilities of their main social groups were similar. The most detailed information available about the key social groups in ancient Greece comes from the city-states of Athens and Sparta. The works of historians, writers and playwrights including Herodotus, Homer and Sophocles provide considerable insight into the life and values of ancient Greece.

Ancient Greek society was essentially divided into two groups: **citizens** and non-citizens. Citizens usually formed the smallest and most powerful groups, while non-citizens made up the bulk of the city-states' populations.

Citizens

In Athens, only men born of Athenian parents could be citizens. Citizens were the only ones who could own land, vote and contribute to the running of the city-state. They were not allowed to be employed because they were required to spend most of their time on compulsory military training, politics and war. They also devoted a lot of time to more leisurely pursuits such as music and literature.



Source 1 Spartan citizens were required to do a great deal of military training so they were prepared for war.

Sparta was similar in these respects, except that it was mostly a military state, ruled by two kings. The top group in Sparta were the Spartiates (Spartan-born men of equal status). They spent nearly all their time in compulsory military training and were rarely at home with their families. They did not have much time for leisure and luxuries as these were thought to undermine military discipline.

Non-citizens

Non-citizens included women, foreigners and slaves. Unlike the citizens, they had no legal rights.

Women

Women in ancient Greece were nearly always expected to stay at home, regardless of whether they were wealthy or poor. Greek women ran the day-to-day matters of the household, had children and cared for their families. They were expected to obey the man of the house.

Girls were often married at around the age of 13 to a man chosen by their father. In most cases girls were not educated because the purpose of education in city-states such as Athens was to produce good male citizens.

Wealthy married women led more pleasant lives than poor women. They usually bathed every day and used perfumed oil. Powdered chalk or lead was applied to create a pale complexion. Despite their comfortable lives, they were still mostly confined to the home. An outing might mean attending a religious festival, a wedding or a funeral, or visiting another woman at home.

Life for a poor woman, on the other hand, consisted of family responsibilities and daily chores such as fetching water, cooking, spinning and weaving cloth.

Source 2 A Greek painting from the fifth century BCE showing a wealthy woman in ancient Greece holding a mirror and powdered chalk to lighten her complexion

Some restrictions placed on women in ancient Greece

- They were required to put a newborn baby out to die if the man of the house said so.
- They were not educated.
- They could not attend the gymnasium.
- They could not participate in public life or institutions.
- They could not visit the *agora* except to fetch water or, in the case of poorer women, sell some items.
- They had virtually no legal or political rights.
- They could legally have their children and dowry taken from them if divorced by their husband.
- They could not attend the Olympic Games.
- They were not allowed to attend feasts and men's discussions (called *symposia*) held in their homes.
- They could not, by law, inherit property.

Source 3 Restrictions on women in ancient Greece

An exception to the rule – the women of Sparta

Although Spartan women could not be citizens or hold government positions, they were educated and physically fit. They could also own property and represent themselves legally. They were older than Athenian women when they married. Their main role was to produce strong sons to fight for Sparta.

Source 4 A sculpture of a Spartan woman

Foreigners

Foreign-born people in Athens were known as *metics* and they were usually professional men: merchants, manufacturers, tradesmen, craftsmen and artists. They could become citizens only by a special vote of the *Ekklesia* (see page 314). Foreigners could own slaves, but not land. They also had to pay taxes and would sometimes have to serve in the army.

Sparta had a similar group of people who were known as *perioikoi*. These men and their families lived in the towns and villages surrounding the central city. As Spartiates were forbidden from engaging in any commercial activity, the *perioikoi* did most of the trading and other professional work in Sparta.

Slaves

Slaves in ancient Greece were regarded as property. They might have been prisoners of war, people sold by very poor families or abandoned babies. By the fifth century BCE, slaves made up about 30% of the population of Athens.

Source 5 An artist's impression of slaves being sold in a Greek marketplace

Male slaves typically worked on farms and ships, and in mines. They also made up a large part of Athens' police force. If they were highly educated (for example, prisoners of war from other city-states), they might teach the male children of a wealthy household. Female slaves mostly worked around the home. A few slaves in Athens were treated well. Some were even granted their freedom. But many, especially those working on ships or in mines, had short, brutal lives.

Slaves in Sparta (known as *helots*) made up most of the population. Each Spartiate was given land by the city-state as a source of income. As the Spartiates were not allowed to work, the *helots* did all the labour – raising the animals for food and doing the household chores. *Helots* were treated very badly and they often organised rebellions to try to improve their lot.

*** I used to think, now I think**

Reflect on your learning about the differences between women in ancient Greece and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

Understanding bias

Primary sources provide a helpful insight into the past. However, we must remember that not all sources are equally reliable! No matter who creates a source, they have their own perspective that may influence the reliability of their account.

In ancient Greece, women were not permitted to compete in the Olympic Games. Pausanias, a Greek travel writer from the second century CE, wrote in his work *Descriptions of Greece*, that women took part in the Heraia, a special female sporting and spiritual event also held at Mt Olympia. As far as historians can tell, the only eyewitness account of the Heraia comes from Pausanias. In order to get an insight into Pausanias' perspective, we need to ask ourselves the following questions:

- What is known about the person who wrote it?
- Does the writer come from a particular class, group, place or background that could influence what they wrote?
- What could you do to find out whether the source is reliable?
- If you could not verify the source, how could you still use it?

Log onto your obook pro to complete the Key skill worksheet: Analysing sources: Understanding bias.

KEY SKILL
Analysing sources

Key skill worksheet
Analysing sources: Understanding bias

11.4 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** each of the following:
   a. citizen
   b. *helot*
   c. Spartiate.
2. **Outline** the role of a slave in ancient Greece. What sorts of people were typically slaves, and what jobs did they do?

Apply and analyse

3. **Explain** why citizens were not allowed to have jobs.
4. **Determine** (decide) why severe restrictions were placed on most women in ancient Greece. In your answer, refer to five restrictions.

Evaluate and create

5. a. **Create** a two-column chart. On one side, list the features of life for women and girls in Athens. On the other side, list the features of life for Spartan women.
   b. **Compare** the lives of Athenian and Spartan women and girls, using at least three specific examples.

Quiz me!
A quick quiz on key groups in ancient Greek society

11.5 Significant individual: Sappho

In this topic, you will:

- examine the historical context, early life and achievements of Sappho
- compare different sources on Sappho to help understand her significance.

One woman who was not typical of most women in ancient Greece was a poet named Sappho. Historians have different views about her life because there are not many recorded sources about her. One thing all historians agree on is that she was one of the greatest poets of ancient times.

Sappho was born on Lesbos, one of the larger Greek islands in the Aegean Sea, around 600 BCE. Restrictions on women were less rigid on Lesbos than they were in other parts of Greece. Historians believe she was born into a wealthy family, which would also have given her greater freedoms.

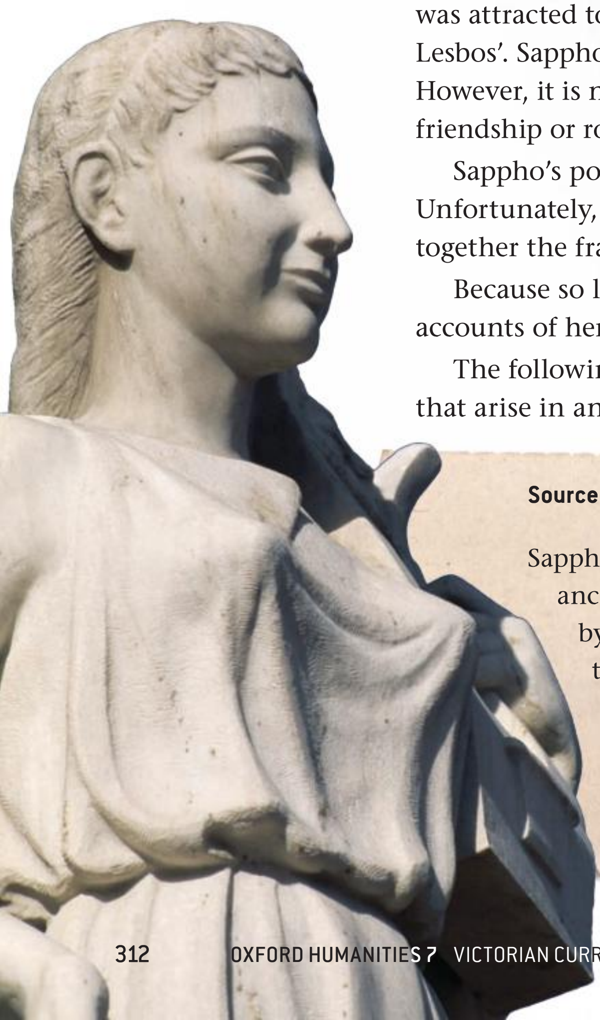
There is much debate about whether she married and had children. Some say she committed suicide after a love affair with a man went wrong, while others suggest she was attracted to women. In fact, the word 'lesbian' literally means 'from the island of Lesbos'. Sappho wrote about women's daily lives, their beauty and their relationships. However, it is not clear whether she wrote about these things from the perspective of friendship or romance.

Sappho's poetry was very unusual compared to other poets of her time. Unfortunately, much of Sappho's work has been lost. Scholars have carefully put together the fragments that have been found, some on ancient rubbish dumps.

Because so little is known for certain about Sappho, there are many differing accounts of her life, her work, and why so much of it was lost.

The following extracts provide an important insight into the many contradictions that arise in any discussion of Sappho's life.

Source 6 A sculpture of Sappho at Mytilene on the Greek island of Lesbos



Source 7

Sappho, *c.* 620–570 BCE, was a lyric poet whose work was so popular in ancient Greece, and beyond, that she was honoured in statuary and praised by figures such as Solon and Plato. Very little is known of her life and of the nine volumes of her work which were widely read in antiquity. Only fragments survive. Contrary to popular opinion, her works were not destroyed by closed-minded Christians seeking to suppress lesbian love poetry but were lost simply through time and circumstance.

Source: *Sappho of Lesbos* by Joshua J. Mark (2014)

Analyse this!
Sources on Sappho

Source 8 'Woman with wax tablet and stylus' (also called Sappho); the artist of this artwork is unknown but it is estimated to have been created around 50 CE.

Source 9

Sappho, a poet of ancient Greece, is known through her work: ten books of verse published by the third and second centuries BCE. By the Middle Ages, all copies were lost ... Sappho probably wrote about 10,000 lines of poetry. We have just 650 of them today.

The poems of Sappho are more personal and emotional than they are political or religious, especially compared to her contemporary, the poet Alcaeus. A 2014 discovery of fragments of ten poems has led to a reassessment of the long-held belief that all her poems were about love.

… She was from a wealthy family, and we do not know her parents' names. A poem discovered in the 21st century mentions the names of two of her three brothers. Her daughter's name is Cleis, so some have suggested that for her mother's name as well (unless, as some argue, Cleis was her lover rather than her daughter).

Sappho lived in Mytilene on the island of Lesbos, where women often congregated and, among other social activities, shared poetry they'd written. Sappho's poems usually focus on the relationships among women.

A 20th-century theory was that Sappho served as a chorus teacher of young girls and that much of her writing was in that context. Other theories have Sappho as a religious leader.

Sappho was exiled to Sicily about the year 600, possibly for political reasons. The story that she killed herself is probably a mistaken reading of a poem.

Source: *Sappho of Lesbos* by Jone Johnson Lewis (2019)

11.5 CHECK YOUR LEARNING

Review and understand

1. **Describe** the significance of Sappho. What makes her such an important figure from ancient Greece?
2. Why is there so much confusion and disagreement on the details of Sappho's life?

Apply and analyse

3. In this topic, you have been provided with some information on Sappho as well as two written sources. Copy this table into your notebook to **determine** (decide) what historians know about Sappho, and what they disagree on. Use at least three examples of each.

Aspects of Sappho's life that historians generally agree on	Aspects of Sappho's life that historians disagree on

Evaluate and create

4. Investigate what is known of Sappho's contemporary, the poet Alcaeus, who also lived on Lesbos.
   a. **Create** a presentation about Alcaeus in which you explain what is known of his life and work.
   b. **Propose** (put forward) two reasons why so much is known about Alcaeus while so much about Sappho is uncertain.

11B

RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Power in ancient Greece

Until about 1200 BCE, most city-states were monarchies, where the king had total power. Gradually, this power passed from one monarch to a group of wealthy landowners or aristocrats (the upper class of society). This group would rule as an oligarchy (a small group in control of the city-state).

During the sixth century BCE, democracy developed in Athens. This was a form of government elected by the people. The word 'democracy' comes from two Greek words – *demos* ('people') and *kratos* ('rule'). Under democracy, every citizen could be involved in the political process. However, citizenship was limited to males over 18 who were the sons of citizens.

Many city-states adopted the democratic structure of Athens, although some others retained the more traditional forms of government. Powerful Sparta, for instance, became a military state, and kept the roles of its kings.

The *Ekklesia* (assembly) was the main institution of democracy in Athens. Every 10 days or so, the *Ekklesia* met on the side of a hill called Pnyx, in Athens, to make important decisions. In theory the *Ekklesia* was made up of all citizens over the age of 18, but some decisions required at least 6000 citizens to be present to vote. Slaves carrying ropes soaked in red dye were sent out to round up citizens to vote. It was considered shameful to be seen with red dye on one's clothing, so this helped encourage citizens to participate.

Source 10 The Parthenon, Athens

Source 11 An artist's impression of the Greek leader, Pericles, during a democratic debate with the men of Athens

KEY SKILL
Asking questions & conducting research

Generating historical inquiry questions

One of the first and most important steps in conducting a historical inquiry (investigation) is to generate key questions. The questions you generate will direct the research that you undertake.

Usually, historians generate one broad, overarching question for their inquiry. For example, 'How was power distributed and used in ancient Greece?' After that, they generate more specific questions. These questions will be a mixture of:

- closed or simple questions, such as 'Who was X?' or 'When did X occur?'
- open or probing questions, such as 'Why did event X take place?' or 'What were the consequences?'
- questions that relate to the process of historical research, such as 'What evidence is there?' or 'What other sources might be needed?'

The first step in generating questions is to think about what you already know about the topic. Use a table like the one below to brainstorm all the things you know in one column. In the second column, generate a related question that will help to deepen or build your understanding. Remember to include a mix of the three question types described above.

For more information on this key skill, refer to page 195 of 'The history toolkit'.

Something you already know

Overarching inquiry question: *How was power distributed and used in ancient Greece?*	
WHAT I ALREADY KNOW	**QUESTIONS TO HELP BUILD MY UNDERSTANDING**
Different city-states had different power systems.	• *During which years were most city-states ruled by monarchs?* • *Why did most city-states eventually adopt democracy?*

Closed or simple question

Open or probing question

Source 12 An annotated example of a brainstorming table

Practise the skill

1 Using the information in the Key skill box, generate five questions related to the overarching historical inquiry question: How was power distributed and used in ancient Greece?

2 Using the internet or library, **research** power in ancient Greece to help you to generate and answer your questions. (Search topics such as 'monarchy in ancient Greece', 'oligarchy in ancient Greece' or 'Athens and Sparta'.)

Extend your understanding

1 Using the information on these pages, plus your research and questions, **create** a television news report on an *Ekklesia* meeting in Athens. You should include in your report the general scene, the system of government, who can vote and the issue under discussion (perhaps a war or an increase in taxes). You should also mention the way that citizens were rounded up and why.

11.6 Religion in ancient Greece

In this topic, you will:

» identify the religious beliefs, values and practices that the ancient Greeks lived by.

The ancient Greeks believed in a great many **deities**. Each was thought to oversee certain aspects of life. Most of the festivals that were held in ancient Greece were designed to honour the gods. What the people believed was reinforced by their myths and dramatically influenced the way they lived their lives.

deities
gods or goddesses

Quiz me!
A quick quiz on religion in ancient Greece

Source 1 An artist's impression of the key gods and goddesses of Mount Olympus

Beliefs and values in ancient Greece

Every morning, a Greek family would pray at the household **shrine**. The deity that they prayed to depended on what was happening. A man going off to fight might pray to Ares, the god of war. A woman tending a garden might pray to Hegemone, goddess of plants. Offerings, often wine or food, would be left on the shrine.

How one prayed was also important. For example, to pray to Hades, god of the **Underworld**, people extended their arms forward with palms parallel to the ground. Prayers and offerings (such as the sacrifice of slaughtered animals) might also be made at temples.

One of the main events held to honour the gods was the Olympic Games (see page 318), which honoured Zeus, the king of the gods. Another festival was the annual Panathenaea, which honoured the patron of Athens, Athene.

shrine
a place or building where respect and devotion is paid to a god or goddess; shrines often house religious objects known as relics

Underworld
the place where spirits of the dead were believed to reside according to ancient Greek beliefs

Source 2 Sean Bean played Zeus, the king of the gods, in the movie *Percy Jackson and the Lightning Thief* (2010), one of the many films and books inspired by the ancient Greek deities.

Temples

Temples in ancient Greece were built as 'homes' for the deities whenever they were on Earth. Their design reflected this function – they were impressive, huge structures (see Source 3). Usually they were built on a hill called an **acropolis**. They were decorated both inside and out. A statue of the deity for whom the temple was built was erected inside.

acropolis
a raised and fortified area within a Greek city-state on which public structures such as temples were built

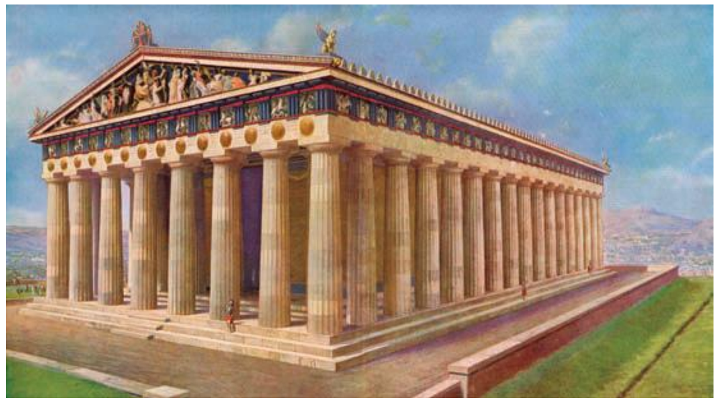
See, think, wonder
Look closely at Source 3.
- What do you see?
- What do you think?
- What do you wonder?

Oracles and seers

Sometimes people felt a need to contact a deity more directly than was possible through sacrifices and festivals. For example, a ruler might wish to ask a god about whether he should go to war. To make such contact, people had to consult an oracle or a seer.

An oracle was a person or thing that the ancient Greeks thought of as a portal through which the gods could pass messages. If the oracle's message was confusing, it was often interpreted by priests. One of the most famous oracles was the Oracle Pythia in the Temple of Apollo at Delphi, a town on the coast of the Gulf of Corinth. According to historians, Delphi was regarded in the time of the ancient Greeks as the centre of the world.

A seer interpreted a deity's wishes by analysing dreams and interpreting signs. A seer might interpret what he or she saw in the guts of sacrificed animals, or in the pattern of leaves.



Source 3 An artist's impression of the Parthenon when first built; the temple, built on the Acropolis in Athens, was dedicated to the city's patron, Athene, the goddess of war and wisdom. The artwork at the front of the temple depicted scenes from her life, as well as other gods, battles and feasts.

11.6 CHECK YOUR LEARNING

Review and understand

1 Copy and complete the following table:

Name of god/goddess	God/goddess of ...
Zeus	
	War and wisdom
	The underworld
Ares	
Hegemone	

2 **Outline** how the ancient Olympic Games were linked to the religious beliefs of the people.

Apply and analyse

3 a **Explain** why a leader in ancient Greece might visit each of the following:
- an oracle
- a seer.

b **Distinguish between** an oracle and a seer. Remember, when you distinguish between two things you should talk about their differences.

c Who might people today consult to get answers about what they should do in their lives?

Evaluate and create

4 How did religion influence the lives of the ancient Greeks? Give at least one example.

5 The ruins of the Temple of Apollo at Delphi were declared a UNESCO World Heritage Site in 1987.
- **Research** the history of this site.
- Imagine that you were on the committee to decide whether Delphi should be honoured by UNESCO. Prepare a 200-word report arguing the case for World Heritage listing.

Remember to include references to show where you found your information.

11.7 The Olympic Games

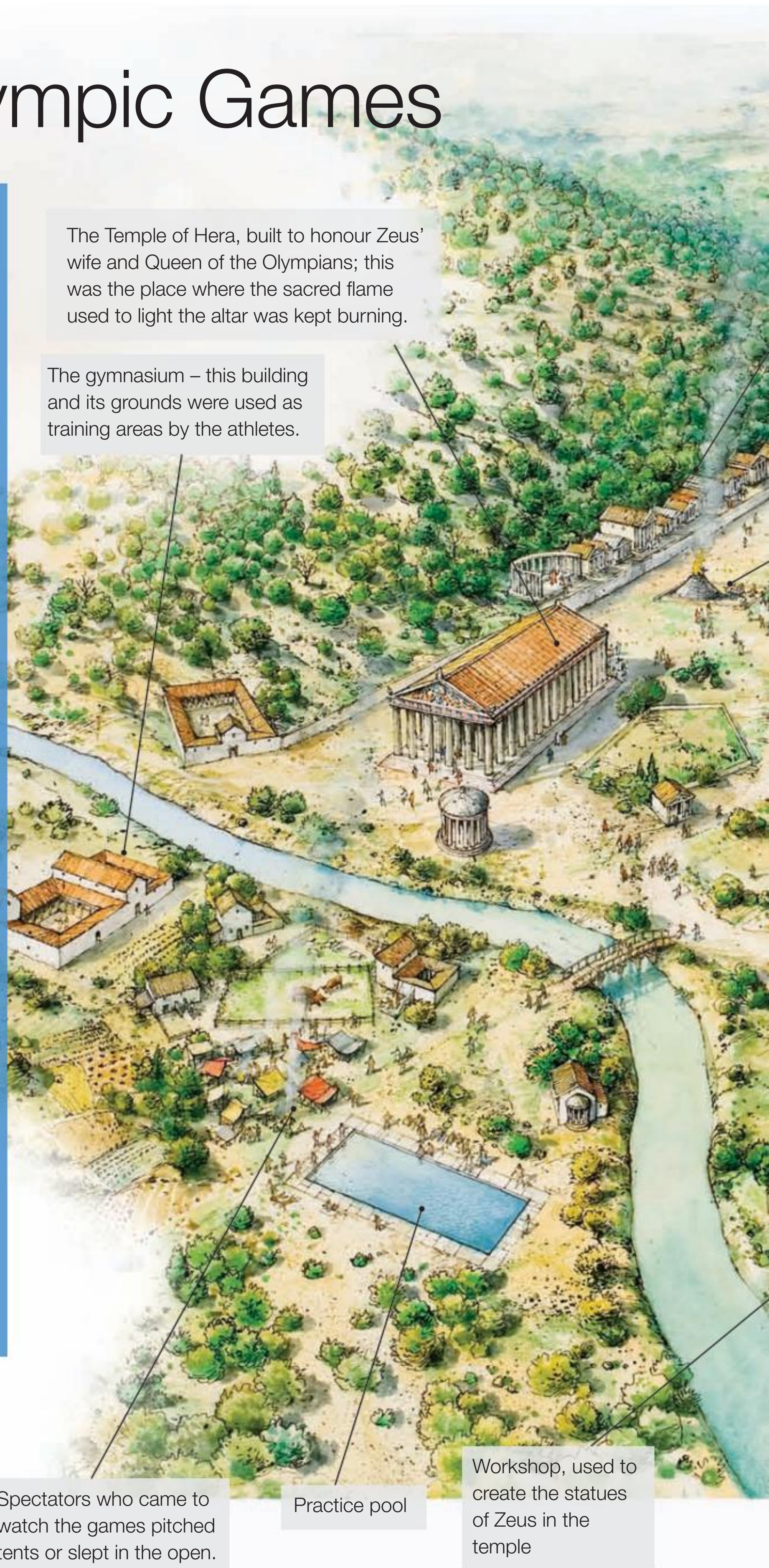
In this topic, you will:

» investigate the origin and significance of the Olympic Games.

The first ancient Olympic Games were held in 776 BCE in the city-state of Olympia. The Games began as a ritual tied closely to religious beliefs and practices. Sporting events took place alongside rituals to honour the god Zeus. The Games began with the sacrifice of an animal. Its bloodied remains were placed on the altar to Zeus and set on fire. Athletes initially competed for no more than a wreath of olive leaves. Later, Olympic champions enjoyed fame all across Greece.

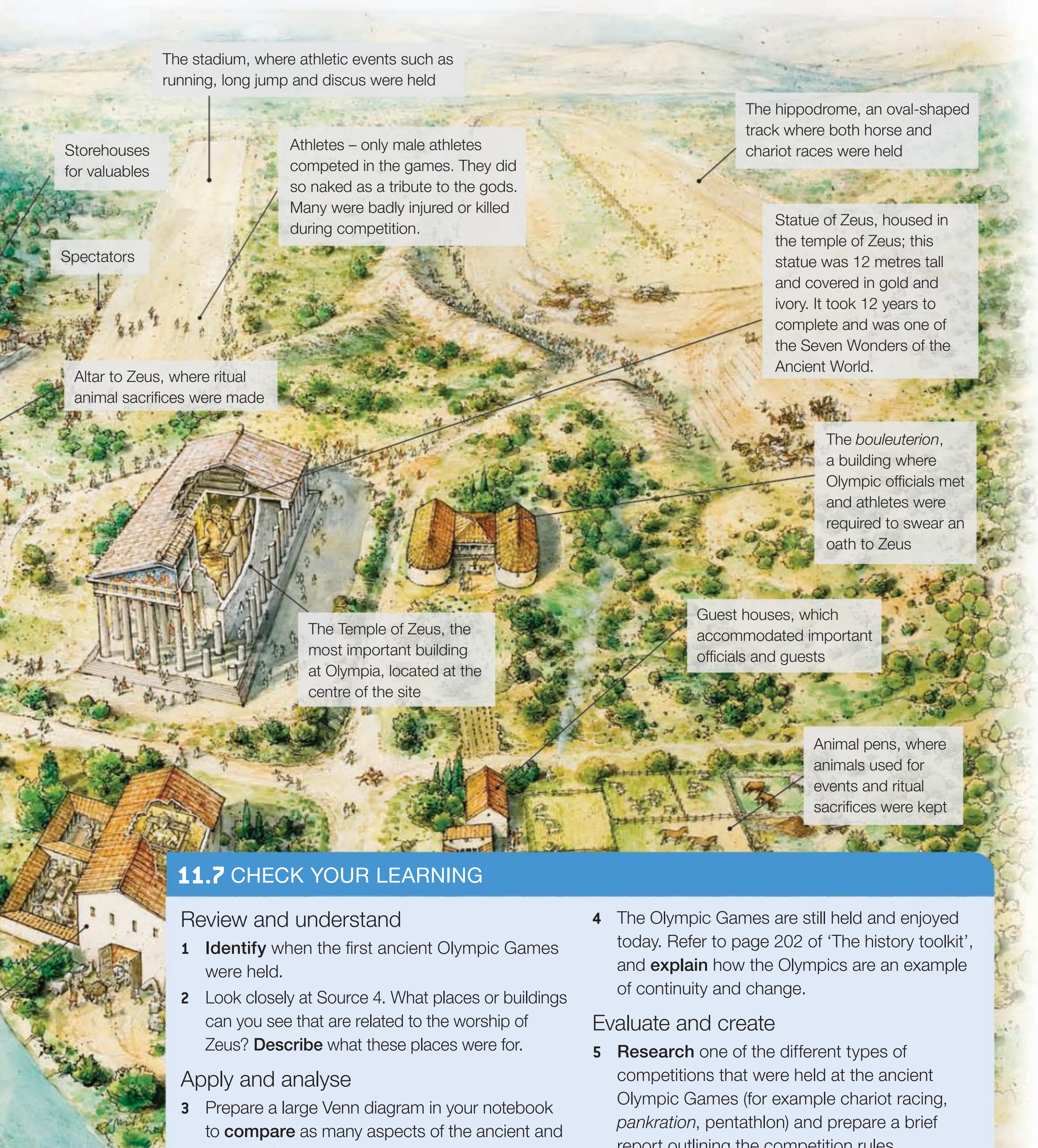
The five-day Games were held every four years until 394 CE, when they were stopped by the Christian Roman emperor Theodosius I.

When the Spartans began competing, events such as spear throwing, discus and wrestling were included. Later came boxing, the marathon, the pentathlon and chariot racing. Such was the sense of duty to participate in the Games, that even involvement in wars was halted.



Explore it! A virtual field trip to Olympia

Source 4 An artist's impression of the site of the ancient Olympics



11.7 CHECK YOUR LEARNING

Review and understand

1 **Identify** when the first ancient Olympic Games were held.

2 Look closely at Source 4. What places or buildings can you see that are related to the worship of Zeus? **Describe** what these places were for.

Apply and analyse

3 Prepare a large Venn diagram in your notebook to **compare** as many aspects of the ancient and modern Olympics as you can. Remember, when you compare two things, you must talk about how they are similar and how they are different.

4 The Olympic Games are still held and enjoyed today. Refer to page 202 of 'The history toolkit', and **explain** how the Olympics are an example of continuity and change.

Evaluate and create

5 **Research** one of the different types of competitions that were held at the ancient Olympic Games (for example chariot racing, *pankration*, pentathlon) and prepare a brief report outlining the competition rules.

11.8 Everyday life

In this topic, you will:

» explore what daily life was like in ancient Greece.

In ancient Greece, great emphasis was placed on the need to be a responsible citizen. A good citizen devoted his life to the protection and growing prosperity of his city-state.

Education

Girls were required to be good wives, mothers and keepers of the home. They did not receive much of an education beyond household matters. Boys, however, began their education at age seven and might continue until their late teens.

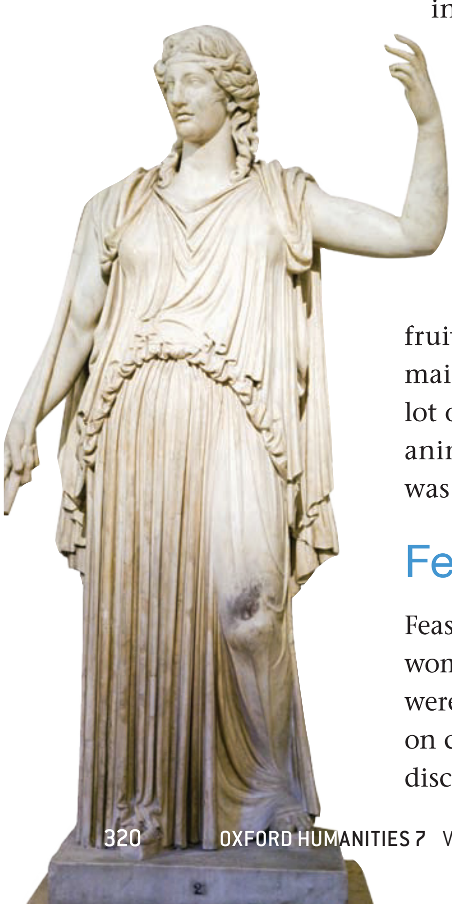
Besides learning to read and write, boys studied mathematics, poetry, music and dance (see Source 6), athletics and gymnastics, and sometimes philosophy and public speaking. These were seen as the necessary skills for well-rounded, good citizens.

Fashion and beauty

Clothing in ancient Greece was loose-fitting and simple. A common garment worn by both men and women was known as a *chiton*. *Chitons* were knee-length for young men and floor-length for women and older men. These garments were usually made of linen or wool draped over the body and were held in place with brooches and belts. Shoes, if worn, were typically sandals. Jewellery was popular among both women and men. A woman always covered her head with a veil when she left the home.

Rich women used powdered lead and chalk to make their skin look pale. This indicated their upper-class status. They would also use other make-up, such as eyeshadow made from ground charcoal mixed with olive oil, or rouge for the cheeks made from crushed mulberries.

Source 5 Statue of a Greek woman wearing a *chiton*



Food

The ancient Greeks ate a simple diet. Grains, such as wheat and barley, wine and olive oil were the most common foods. Grains were ground to make bread or soaked in water to form a porridge. Ancient Greeks also ate vegetables and fruit, goat's cheese, eggs, nuts and sometimes honey and sesame cakes. Fish was the main source of protein. Meat was eaten rarely (except in Sparta, where soldiers ate a lot of pork). Usually the only meat eaten by the poor followed an animal sacrifice. The animal's bones, skin and blood were burned to ash as an offering to a god. Its meat was cooked and shared among the people.

Feasts

Feasts were a common form of entertainment. They were men-only affairs. The only women allowed were known as the *hetairai*. These women were usually foreigners and were employed to entertain men. Food was served by slaves while guests lay around on couches eating and drinking. After the meal, the symposium began, where men discussed things such as philosophy, poetry, politics and the important issues of the day.

Source 6 A detail from an ancient Greek *amphora* showing a boy learning to dance; amphoras were ceramic storage pots, used for food and liquids. Much of what we know about ancient Greek culture comes from scenes painted on such pots.

Architecture

During the Golden Age of Greece (*c.* 500 to 300 BCE), peace was finally made with Greece's long-time enemy, Persia. This truce allowed Athens to rebuild its war-damaged buildings such as the Parthenon. This, in turn, allowed Athenians to become more involved in cultural activities.

Temples were the most important buildings in ancient Greece. This reflected the important role that religion played in people's lives. But these magnificent structures also served to show off the wealth, skill and artistic ability of a city-state. The architects of ancient Greece used three different column designs – Doric, Ionic and Corinthian (see Source 7). The Parthenon was built in the Doric style.

Source 7 The three styles of Greek columns

Uncovering the past

Evidence comes in many forms, including written documents, drawings, buildings (including ruins), songs and legends, clothes and kitchen utensils. There is considerable written evidence about the lives of men in ancient Greece. Not as much is known about other sectors of the population, including women and slaves, who were less likely to have left written records.

As new evidence is uncovered, our understanding of the past can change.

Until the early nineteenth century, it was accepted that ancient Greece had held the Olympic Games every four years, but little was known about the details. However, archaeological excavations around Mount Olympus by Abel Blouet in 1829 provided valuable new evidence. Further excavations in the 1870s provided a deeper understanding of the Olympic site and the traditions associated with the Games.

For more information about this key concept, refer to page 193 of 'The history toolkit'.

KEY CONCEPT
Evidence

*** I used to think, now I think**

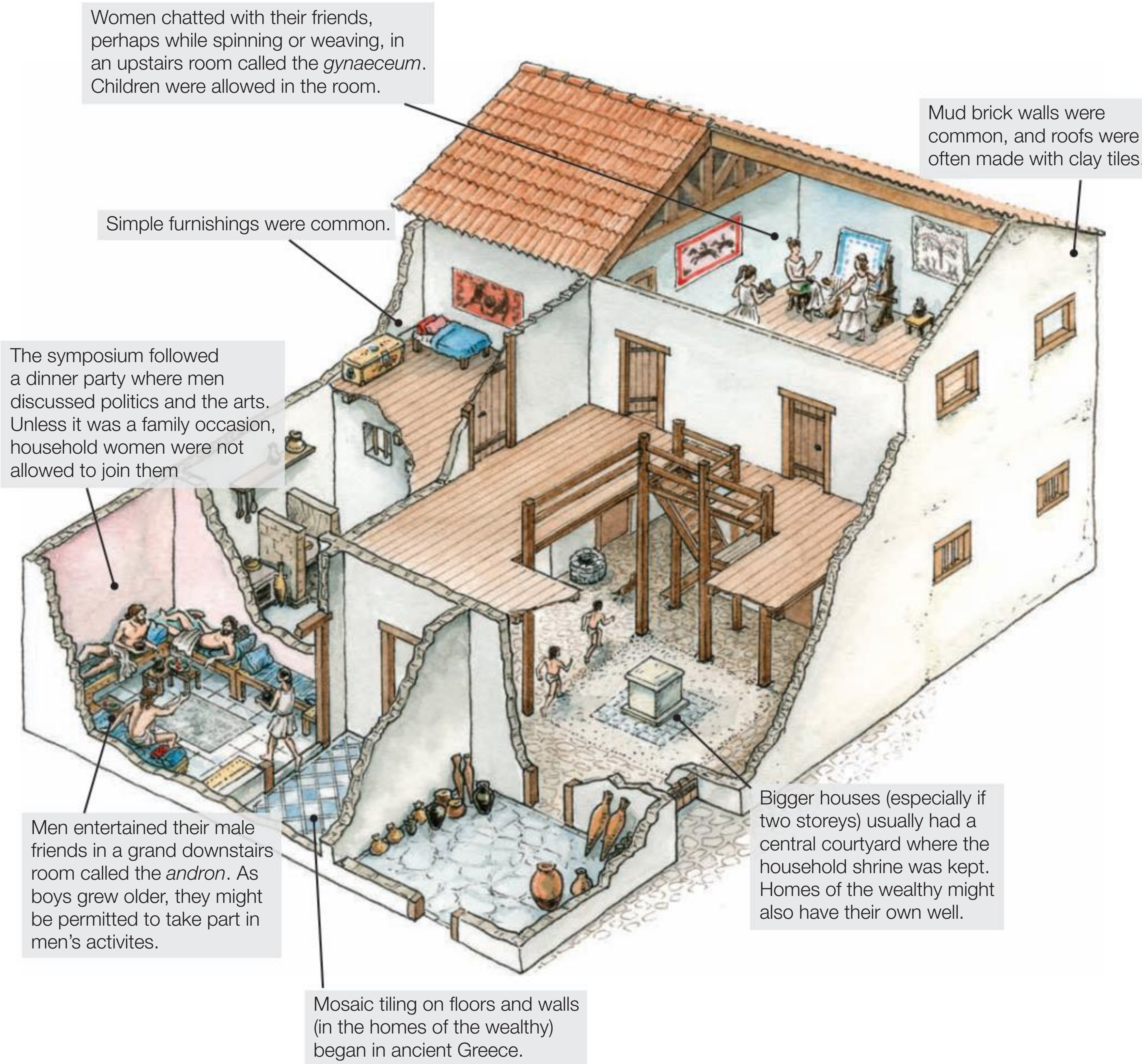
Reflect on your learning about evidence from ancient Greece and complete the following sentences:

- I used to think …
- Now I think …

What has changed in your understanding?

Greek housing

As you have seen in topic 11.4 on page 308, the social divisions between men and women in ancient Greece were very strict. These divisions were clearly visible in the layout of Greek homes, especially those of the wealthy (see Source 8 on the next page). For example, an area known as the *gynaeceum* was set aside for women only. It was located at the back of most Greek homes, often upstairs. Similarly, an area known as the *andron* was set aside for men only. It was a large downstairs room in which men could relax, entertain guests and discuss daily events.



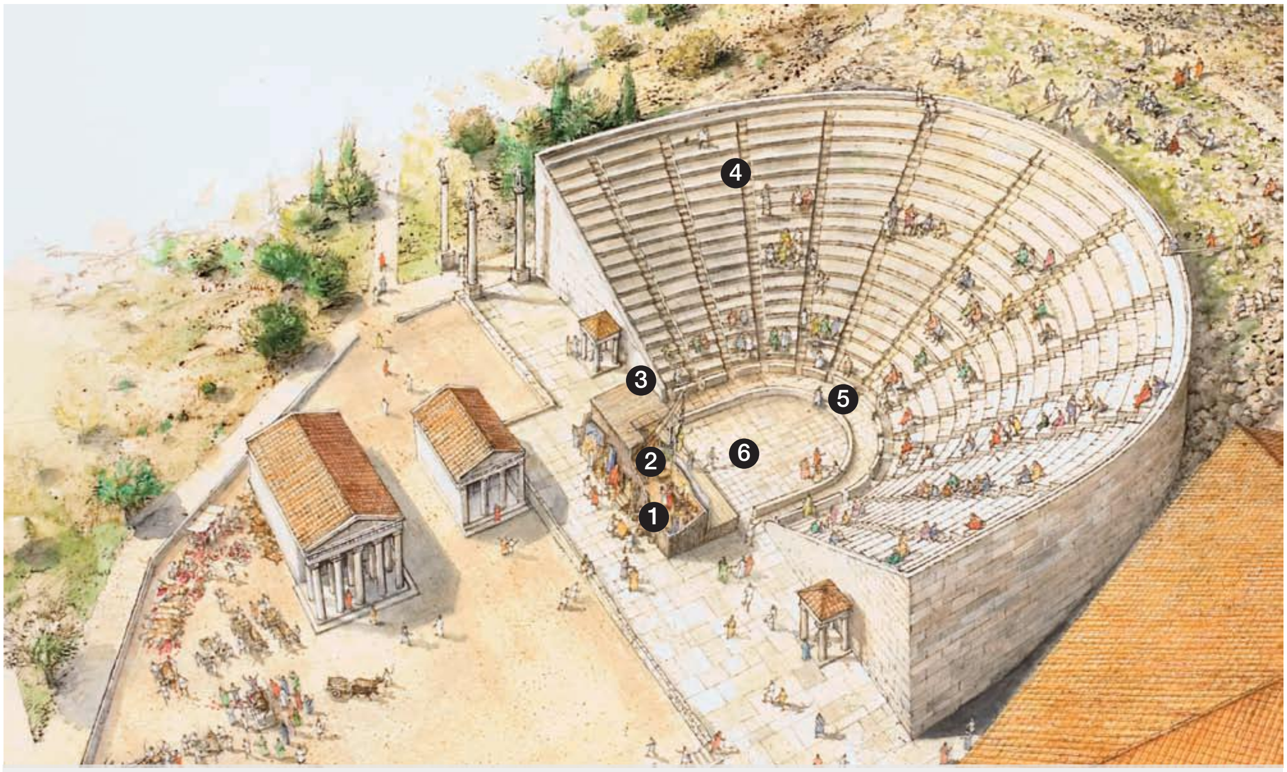
Source 8 An artist's impression of a wealthy family's home in ancient Greece

The living areas of slaves were separate from those of the family. Slaves would typically work in the kitchen or gardens and were not seen in the house unless serving their master and family.

Quiz me!
A quick quiz on everyday life in ancient Greece

Drama

Ancient Greece gave us the basis of all Western drama – the theatre. Performances began as song-and-dance festivals to honour Dionysus, the god of wine and pleasure. They became more structured and writers competed to have their 'performances' chosen. Theatre became so popular that large open-air auditoriums were built throughout Greece as spaces where these performances could take place (see Source 9). Actors were almost always male although some slave women were permitted to play certain roles. Actors wore masks whether they were playing male or female roles.



1 A painted scene was often hung or constructed at the back of the *skene*. The modern word 'scene' comes from this ancient Greek word.

2 Many actors wore masks of stiffened cloth with large funnelled openings for their mouths to help them project their voice. The masks were very big so that spectators at the back of the auditorium could see them.

3 A device like a crane was often used to make actors appear to fly (when playing the role of gods).

4 Tiered seating was designed to give spectators further back a good view of the performance.

5 Judges and important officials sat at the front of the auditorium.

6 Plays were performed in an area known as the *orchestra*. Sometimes this was made of packed earth and sometimes it was tiled.

Source 9 An artist's impression of an early Greek auditorium

11.8 CHECK YOUR LEARNING

Review and understand

1 **Describe** the ways that boys and girls were educated.

2 **Identify** what you might find in the make-up kit of a wealthy Greek woman.

3 In your own words, **define** 'symposium'.

Apply and analyse

4 **Explain** what you can learn about the different roles of males and females in ancient Greece by looking at the following:
   a the education system
   b the layout of the Greek home
   c the theatre.

   Support your answers with at least three pieces of evidence.

Evaluate and create

5 Is Source 5 useful in helping us understand what life was like for the ancient Greeks? Why or why not?

6 Using the information on the ancient Greek diet in this topic, **create** a three-course menu for a dinner that follows a spiritual lamb sacrifice.

7 The period in ancient Greece's history from about 500 to 300 BCE was called the 'Golden Age'. Using the library and the internet, **research** the Golden Age to find five reasons for this description.

11.9 Death and funerary customs

In this topic, you will:

» explore the beliefs associated with death and funerary customs in ancient Greece.

All societies have rituals and ceremonies associated with death. Religious beliefs and traditions influenced what the ancient Greeks did when someone died. Death was thought to be the start of a long spiritual journey through the Underworld. The Underworld was the world of dead souls (called 'shades') and was sometimes called Hades, after the god of the dead and king of the Underworld. A mythical river, the River Styx, was believed to separate the Underworld from the world of the living. Gaps and openings in the earth, such as cave tunnels and deep caverns, were seen as gateways to this realm.

Source 10 The three possible destinations, for eternity, of dead Greek souls

Destination	Description
Elysian Fields	• for the souls of heroes who had the favour of the god Zeus • a sunny, fragrant, peaceful and happy place
Asphodel Fields	• for the majority of human souls, who were not heroes, nor all good or all wicked • a misty, grey, boring place where nothing much ever happened
Tartarus	• for the souls of wicked people • a place of everlasting torment and misery, surrounded by a layer of night

Beliefs about death

The ancient Greeks believed that when people died, their destination after death was the decision of Atropos, one of three goddesses believed to control life on Earth. The others were her sisters, Clotho and Lachesis. Dead souls were led into the Underworld by the messenger god, Hermes. A man called Charon (the ferryman) rowed those able to pay for the ride across the River Styx to the Underworld (see Source 11). The fare was paid with a coin that was placed in the mouths of the dead before they were buried.

Once they reached the other side, dead souls were judged by deities according to the life they had led on Earth. They ended up in one of three places (see Source 10). A three-headed dog named Cerberus guarded the entrance to Hades to stop the dead from leaving and the living from entering.

Source 11 An artist's impression of Charon the ferryman rowing the dead to the Underworld, which was known as Hades in ancient Greek times

Source 12 An ancient Greek vase showing funeral rituals being carried out

Funeral customs

When someone died in ancient Greece it was very important that others observed the correct rituals (see Source 13). Otherwise, it was believed, the dead person's soul would never find rest in the afterlife.

Sequence this!
Rituals for the dead

- Wash the body with seawater (if possible) and clean any wounds.
- Put a coin in the mouth and close the mouth and eyes.
- Rub sweet-smelling oils into the skin and wrap the body in clean white (or grey) cloth.
- Display the body for at least a day in the main courtyard of the house, facing the door.

↓

- Notify friends and relatives of the death so they can pay their respects.
- Make lots of noise, with loud displays of grief as people move around the corpse. This was regarded as a sign of respect for the dead. Hire professional mourners if necessary.

↓

- Leave the house before daybreak for the burial plot or place where the body will be cremated (both outside the city walls).
- Transport the dead body using a horse and cart if this is affordable; otherwise organise some strong men of the family to carry the body on a stretcher. Men walk at the head of the funeral procession, women behind.
- Continue the loud wailing and crying, and have musicians add to the noise if available.

↓

- Stand around until the body is burned away (if the body is being cremated) and then put out the flames with wine.
- Placed burned bones in a funeral pot for burial.

↓

- Men stay at the site to bury the body or burned remains, while women return to the house to organise a feast.
- If the corpse if not buried in a tomb, pile dirt over the grave and cover it with a *stele*.

↓

- Family members return to the grave often to remember the loved one.
- Offerings of oil, food and wine are left and the *stele* might be adorned with ribbons and flowers. A tube may be pushed into the dirt and wine poured into it to allow the dead person to 'drink' the wine offered.

Source 13 The steps to be followed when a person in ancient Greece died

11.9 CHECK YOUR LEARNING

Review and understand

1 **Identify** the role of each of the following in the spiritual journey from life to death and the Underworld:
   - Hades
   - The River Styx
   - Atropos
   - Hermes
   - Charon
   - Cerberus.

Apply and analyse

2 **Explain** why a funeral procession in Ancient Greece had to be so noisy.

3 **Distinguish between** Elysian Fields and Tartarus. Remember, when you distinguish between two things, you must talk about how they are different.

4 **Examine** Source 11.
   a Who are the figures in this source?
   b What does this source tell you about beliefs about death in ancient Greece?
   c Is this a reliable source? Why or why not?

Evaluate and create

5 **Determine** (decide) how much of an influence death and the Underworld had on the way that the Greeks lived their lives.

6 Look carefully at Sources 10 and 11. Use a Y-chart to **determine** what the Underworld might have looked like, sounded like and felt like.

11.10 Warfare

In this topic, you will:

» consider how warfare and conflict affected everyday life in ancient Greece.

Warfare was a significant part of life in ancient Greece. Early Greek armies consisted mainly of foot soldiers recruited from the poor. Historians believe that they fought with no more than stones and spears, as only the wealthy could afford horses and more sophisticated weapons. The type of conflict changed as ancient Greece itself developed – for example, conflicts that were once fought in open areas became less frequent and assaults on walled cities became the main form of conflict. This required different strategies and weapons, as well as a different type of soldier.

The hoplites

From the seventh century BCE, the Greek army produced well-trained foot soldiers with better armour and knowledge of battle tactics. These soldiers were known as **hoplites**. Each city-state had its own army of hoplites. When wars ended, hoplites in most city-states went back to their regular lives and jobs. Sparta was the only city-state where an army was constantly on duty and ready to fight.

1. Helmet; some curved out at the bottom to deflect slipping blades away from the body. It covered everything but the eyes.
2. A chest plate called a *cuirass*, made from bronze or leather. Sometimes it was moulded to look like a bared chest (abs and all). Armour was heavy (about 30 kilograms) and hot to wear in the summer.
3. Double-edged sword, with a curved blade
4. Concave round shield, typically decorated
5. Metal greaves, which guarded the shins
6. Red cloak; some researchers suggest that this was not worn in battle.
7. Spear, over 2 metres long, with an iron blade at one end and bronze spike at the other
8. Long hair, typically combed and decorated before a battle

Source 14 An artist's impression of a Spartan hoplite

hoplites
Greek warriors

battering ram
a heavy wooden pole extending from the front of a boat

Interactive
A Spartan hoplite

The navy

The strength of the city-states of Athens and Corinth was their navies. Their main warships were known as triremes because they had three tiers of oarsmen on each side of the hull, sitting one above the other. The trireme was built so that it could sail close to the shore. A heavy **battering ram** protruded from the bow (the front of the boat). The idea was to ram this into the hull of an enemy vessel to sink it.

Military structure in Sparta

Sparta became a military state with a professional army in the seventh century BCE. All citizens (only men could be citizens) had to be soldiers. Occupations such as farmers, merchants, potters and sculptors were not options for Spartan men. All saw it as an honour to die for Sparta – for example, Greek historian Plutarch (*c.* 46–120 CE) recounts the story of a Spartan woman who 'gladly' accepted the death of her five sons because the battle was successful.

In Sparta, weak or sick babies were killed or left out in the open to die. Spartan children were, therefore, healthy and tough. But Spartan families did not have the luxuries and leisure time enjoyed by families in Athens during its Golden Age. Spartans were driven by military obligations and duties.

AGE 7	Boys left home at the age of seven to live in barracks and start their military training.
AGE 8–29	For the next 22 years, their training was hard: physical exercise, beatings, mind training and war games. To encourage self-reliance and mental toughness, they were fed little, so they had to steal food. They were not punished for stealing, but for being *caught* stealing.
AGE 30	A man became a citizen at age 30. Until then, he could not live with his wife and family. He had to live in the barracks with his fellow soldiers.
AGE 60	A man retired from army service at 60. He might then be elected a member of the Spartan senate.

Source 15 The life of a Spartan man

Warfare technologies and strategies

Technology and strategy in warfare were first used to great effect in ancient Greece. As well as battle formations such as the **phalanx**, the ancient Greeks developed many devices capable of attacking and scaling fortifications, including:

- battering rams – used to slam into weaker spots in a city's fortifications, such as wooden gates
- catapults – big slings that were designed to throw heavy rocks great distances
- multi-storeyed wooden towers on wheels (later called belfries) – these structures shielded attackers as they were pushed towards a city wall. Once in place, the attackers inside the towers were able to scale the wall.

Later, the Roman army went on to use these devices and ideas to become the best organised army in the ancient world.

phalanx
a tight battle formation used by the ancient Greeks in which soldiers would pack together with their shields overlapping; spears in the front row were held forward, those in the rows behind were held higher

Gods and heroes

As discussed earlier, oracles might be consulted before a battle. Prayers and sacrifices were made to the gods, both to plead for victory and to thank them in the event that this happened.

Heroes were highly valued, and stories about them became part of the **mythology** of ancient Greece. They include Heracles, Jason and his band of Argonauts, and the key warriors of the Trojan wars such as Achilles, Odysseus, Hector and Paris.

mythology
a series of stories that the ancient civilisations used to explain life and the natural world

11.10 CHECK YOUR LEARNING

Review and understand

1 What was the main difference between the Spartan army and other ancient Greek armies?

2 **Describe** how hoplites were different from earlier Greek soldiers.

3 **Outline** what might happen to a hero in ancient Greece.

Apply and analyse

4 Pick one military device: battering ram, catapult or belfry. What were the strengths and weaknesses of this device?

5 **Examine** the image of the hoplite in Source 14. Which part of his armour do you think is the most important? Why do you think this?

Evaluate and create

6 'The organised, disciplined army of Greece contributed to its success and expansion.' **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position.

7 **Research** the legend of Jason and the Argonauts. Divide the class into two groups and prepare a debate on the topic 'Jason was a Greek hero'.

11C RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Ancient Greek pottery

Source 17 An ancient Greek *amphora* in the black-figure style, sixth century BCE

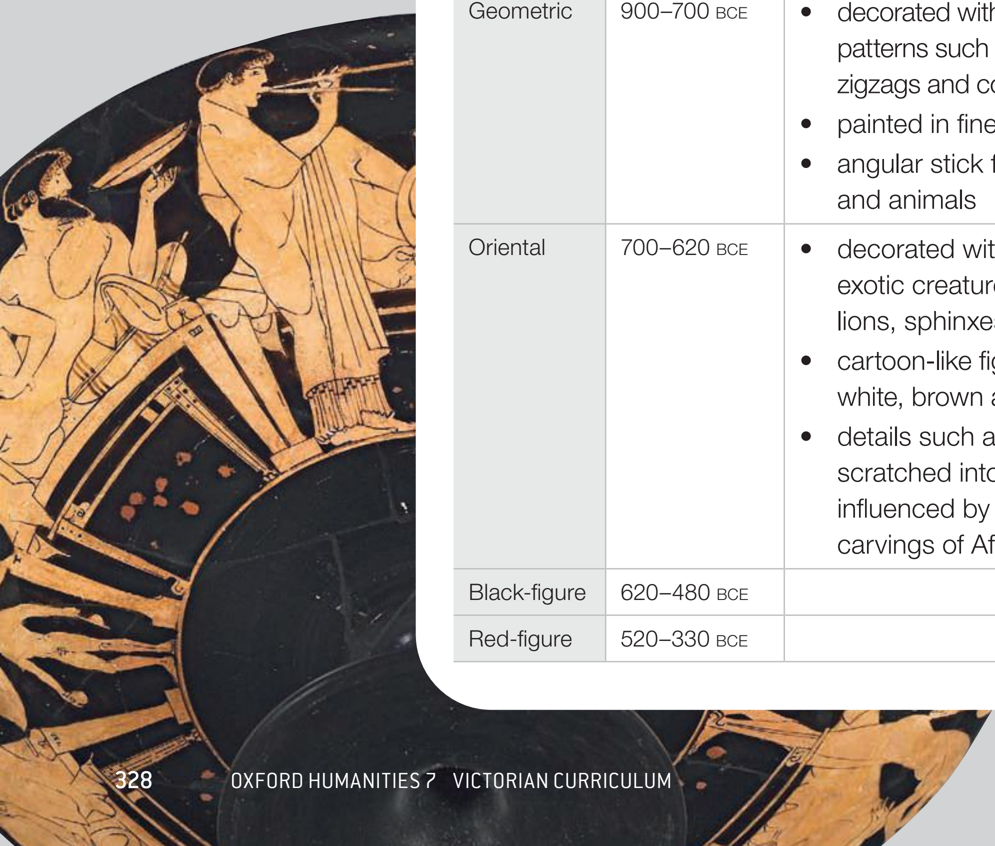
Historians and archaeologists use a variety of sources to piece together the story of the past, including the very useful source of ancient pottery. Because it is so durable, many pieces have been recovered by archaeologists and studied by historians.

The ancient Greeks used ceramics for cooking, serving, transporting and storing all kinds of food and materials. The *amphora* was the most common type of storage pot used in ancient Greece. Because the Greeks decorated pots in distinctive styles over different time periods (or eras), they can be used to work out when settlements were built, lived in or abandoned. The decorations also indicate the types of things that were important to these societies, and what life was like. In fact, much of what we know about education, festivals and daily life comes from scenes painted on pots.

Historians have identified four main styles of ancient Greek pottery (see Source 16), each with its own characteristics.

Source 16 Development of Greek pottery

Style	Approximate date	Characteristics	Sketch	Reliable URLs
Geometric	900–700 BCE	• decorated with complex geometric patterns such as checks, meanders, zigzags and concentric circles • painted in fine black lines • angular stick figures of humans and animals		
Oriental	700–620 BCE	• decorated with mythological and exotic creatures such as sirens, lions, sphinxes and phoenixes • cartoon-like figures coloured with white, brown and purple slip (glaze) • details such as hair and feathers, scratched into the clay, perhaps influenced by the ivory and bone carvings of Africa and Asia		
Black-figure	620–480 BCE			
Red-figure	520–330 BCE			



KEY SKILL
Asking questions & conducting research

Using the internet to find relevant and reliable sources

Being able to locate relevant primary and secondary sources using the internet is an important historical skill. However, you need to keep in mind that not all information you find online is necessarily true, accurate, reliable or credible. So, in addition to being able to find source material, you need to be able to evaluate the reliability of the information you find.

Use the following steps to apply this skill:

Step 1 Identify key words related to your topic and type these into a search engine such as Google. (Use only these keywords – do not type in whole sentences or questions.)

Step 2 Add further relevant keywords to refine your search if you cannot find what you want on your first attempt.

Step 3 Research beyond the first page of results. The best results do not always appear first.

Step 4 Assess the reliability of each site by asking yourself the following questions:

- **a** Who is the author or creator? If it is an individual, do they have any qualifications listed (such as a degree or title)? If it is an organisation, is it a reputable organisation such as a government or university department?
- **b** What is the purpose of the website? Is it trying to inform, persuade or sell?
- **c** Is the site objective? Is the author's point of view biased or one-sided?
- **d** Is the information accurate? Can the information be verified if you cross-check it with other sources of information?
- **e** Does the site contain spelling mistakes or grammatical errors? (If so, this may be an indication that the site is not particularly reliable.)
- **f** Is the information current?

For more information on this key skill, refer to page 195 of 'The history toolkit'.

Practise the skill

1. Copy the table (Source 16) into your notebook. It outlines four different styles of Greek pottery and the approximate period in which each style was popular. Characteristics of the first two styles have been provided for you as examples.
2. Using the internet, **research** relevant, credible and reliable source material about the other styles of ancient Greek pottery. You will need to find information about the characteristics of the black-figure and red-figure styles, and record this information in dot points in your table.
3. Find images of pots created in each of the four styles, in order to familiarise yourself with their features and appearance. Sketch an example of each in the third column.
4. In the final column of the table, record the URLs of the sites you have found and believe to be credible and reliable (using Step 4 from the Key skill box).

Extend your understanding

1. Design and draw a Greek *amphora* in one of the styles you have researched. Consider the following features before you begin:
   - type of decoration
   - depiction of figures
   - colours
   - referencing an event that could help archaeologists date your *amphora*.

Source 18 An example of ancient Greek pottery in the geometric style, eighth century BCE

11.11 Change through conflict

In this topic, you will:

» explore the causes and effects of ancient Greece's contact and conflict with other societies.

In any society, change can occur as a result of war and conflict. Several key battles between Greek city-states and foreign armies caused many changes across ancient Greece and the region more generally. In addition to going to war with Persia, the ancient Greek city-states and communities fought among themselves. Ultimately, conflict weakened ancient Greece so much that foreign powers – such as the Macedonians, and later the ancient Romans – were able to take over much of the region.

Persian Wars

The Battle of Marathon (490 BCE)

The area of Ionia on the eastern coast of the Aegean Sea was conquered by Persia around 540 BCE. In 499 BCE, Greek city-states in Ionia revolted against Persian rule. Their stand was supported by the Greek city-states of Athens and Eretria. Together, they destroyed Sardis, a Persian capital. (See Source 3 on page 303 to locate these places.)

In 490 BCE, the Persian king, Darius I, took his revenge on the Greeks. He laid siege to Eretria until it fell. He then ordered a huge Persian fleet to sail to Marathon in Greece. Darius demanded that Athens and Sparta surrender, but the Greeks defied his order.

Source 1 An artist's impression of Miltiades urging the Greek forces to attack the Persian army at the Battle of Marathon

Athenian hoplites marched to Marathon. They hung back at the sight of such a huge Persian force. But the Greek general Miltiades persuaded his fellow officers to string the hoplites out into a long line (to make their forces look bigger) and charge at the enemy (see Source 1). Greece won because the Persians fled back to their ships in fear.

The first 'marathon' runner

Miltiades knew that the retreating Persian fleet would head for Athens. He ordered a young man to run ahead to warn the city. The distance was about 42 kilometres. The young man is said to have dropped dead after delivering his warning. When the Persian navy reached Athens, they found its walls defended by civilians. Thinking the city was defended by soldiers, the Persians chose not to attack, and left.

The Battle of Thermopylae (August 480 BCE)

Ten years after the Persian king Darius lost the Battle of Marathon, his son Xerxes set his sights on conquering more Greek territory. He demanded that the Greeks surrender their weapons. The defiant reply of King Leonidas of Sparta, who led the allied Greek armies, was brief and to the point – *Come and get them!*

That is what Xerxes set out to do. Heading for Athens, his huge army had to push through the rocky pass at Thermopylae, on Greece's eastern coast. He found it guarded by a determined Greek army. For three days the Greeks held the Persians back. Then a Greek traitor showed the Persians a secret mountain route that would allow them to attack the Greeks from the front and the rear.

Source 2 An artist's impression of the Battle of Thermopylae

When he discovered that he had been betrayed, Leonidas ordered most of the Greek army to flee. He hand-picked 300 Spartans to help him delay the Persian advance for as long as possible. The Spartans battled to the last man, inflicting a huge loss on the Persians (see Source 2).

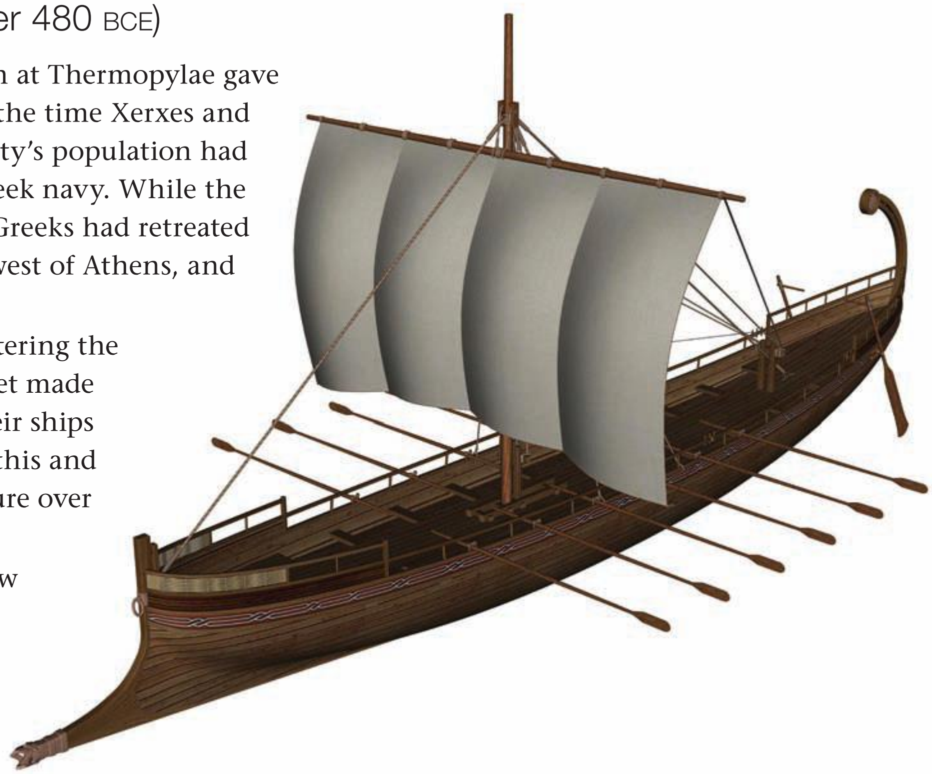
The Battle of Salamis (September 480 BCE)

The 'last stand' of Leonidas and his men at Thermopylae gave the Greeks enough time to regroup. By the time Xerxes and his army reached Athens, most of the city's population had been evacuated with the help of the Greek navy. While the Persians looted and burnt the city, the Greeks had retreated to the island of Salamis, 16 kilometres west of Athens, and prepared for battle again.

The Persian navy was tricked into entering the narrow Straits of Salamis. Their large fleet made it impossible for them to manoeuvre their ships properly. The Greeks took advantage of this and attacked. They managed to sink or capture over 300 Persian ships, and won the battle.

This crushing defeat was a severe blow to Persian morale and helped to end the Persian Empire's ambition to rule the Aegean region.

Source 3 A modern artist's illustration of a Greek ship



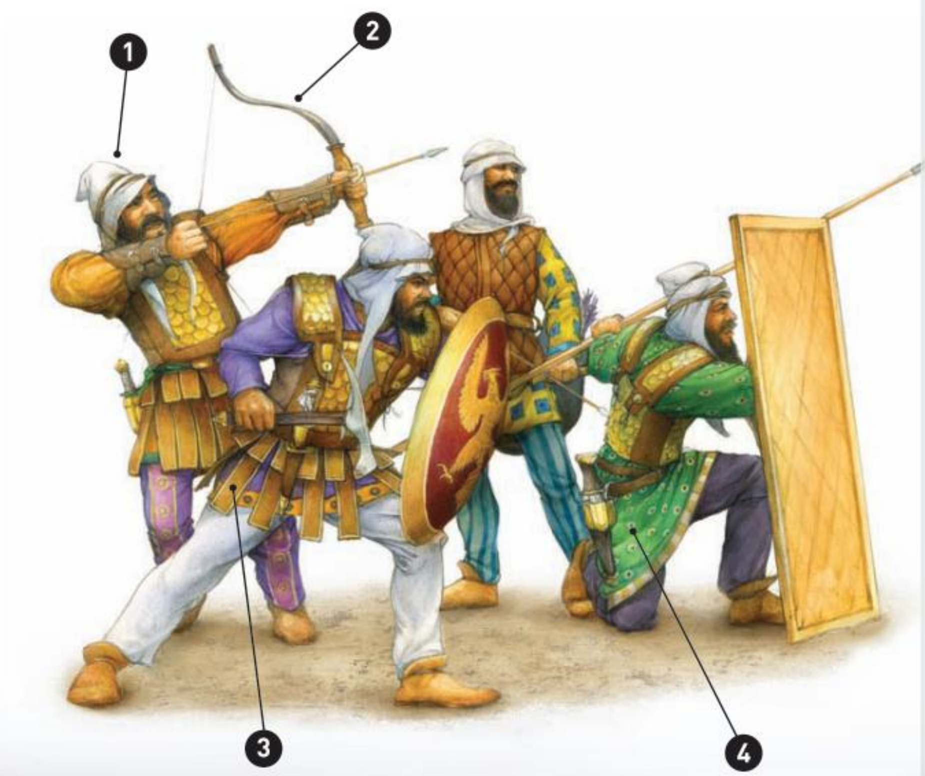
The Peloponnesian Wars (431–404 BCE)

As well as battles against outsiders, there were internal conflicts between city-states, especially Athens and Sparta. The long-running conflict between Athens and Sparta was sparked by Sparta's distrust of Athens' growing wealth and strength. In 431 BCE, Sparta marched into the region of Attica, laying siege to the walled city of Athens and burning and destroying farms. Sparta repeatedly invaded Attica over the next 10 years. This wore down both sides.

In 415 BCE, Athens attacked the city-state of Syracuse in Sicily, an ally of Sparta. The attack failed disastrously in 413 BCE, with the defeat of the entire Athenian force.

A decade later, Sparta did a political deal with Persia to get more ships. A huge sea battle was fought in 405 BCE at Aegospotami, in the north-west of the Aegean. Sparta had another stunning victory over the Athenian force.

By 400 BCE Athens was greatly weakened. The following year, Sparta again laid siege to the city. With its fleet largely gone and its morale shattered, Athens surrendered quickly. The Spartans then set up their own style of government in Athens – an oligarchy. For a time, Sparta was the supreme power in ancient Greece.



1. A *thanvabara* or archer wears a loose-fitting tunic and trousers under his leather armour. His bow is made from wood, bone and animal sinew and has a range of over 100 metres. He carries a secondary weapon, a sword, in case he is required to fight the enemy at close quarters.
2. Bows and arrows used for enemies at a distance
3. A Persian soldier wears leather armour and is armed with a war hammer. He carries a shield made of fabric-covered wood.
4. The *sparabara* or 'shield bearers' were the frontline infantrymen. This soldier wears an embroidered tunic and Scythian-style headdress. In battle, several *sparabara* form a shield wall using their large, wicker shields and 2-metre spears to protect the archers and other soldiers. The wicker shields were light and manoeuvrable, but did not provide protection against heavily armoured opponents.

Source 4 An artist's impression of Persian soldiers

Effects of the war

The consequences of all this conflict were that by 400 BCE, much of Greece's farming land was ruined and social upheaval was widespread. While Greece's power was starting to crumble, a new power was gaining strength in the north – Macedon.

By 338 BCE, Phillip II, king of Macedon, had the weakened city-states of Greece under his control. Before he was able to conquer Persia, he was assassinated in 336 BCE. His son Alexander became king. Within the next 13 years Alexander conquered the Persian Empire and Egypt, and became known as Alexander the Great. His admiration for Greek culture led him to set up Greek rulers and introduce many Greek customs and practices in the lands he conquered. This widespread Greek influence survived for centuries.

Sequence this!
Conflict in ancient Greece

KEY SKILL
Sequencing events

Ordering significant events

To understand the way that certain historical events and movements unfold, it is important be able to sequence events in the order in which they occur. This skill is related to the key concept of chronology, which helps historians understand when, how and why events occurred. They might do this on a timeline or a flow chart.

Sometimes a chronological list of events involves cause and effect. If the causes on the list are not in order it is difficult for the historian to explain what happened and why.

For more information on this key skill, refer to page 198 of 'The history toolkit'.

Practise the skill

1 Below are five events or influences related to the Peloponnesian Wars (431 to 404 BCE). Rearrange the events in chronological order.
- Sparta acquired more ships from Persia.
- Athens launched a disastrous attack on Syracuse in Sicily.
- Athens surrendered to Sparta.
- Greece's economy, agricultural land and social cohesion were shattered.
- Sparta had a deep resentment of the growing wealth and power of Athens.

11.11 CHECK YOUR LEARNING

Review and understand

1 **Describe** the events of each of the following battles: Marathon, Thermopylae and Salamis.

2 **Outline** the achievements of the king of Macedon that led to him becoming known as 'the Great'.

Apply and analyse

3 **Explain** the consequences suffered by Greece as a result of the Persian and Peloponnesian wars.

4 Look closely at Source 4 on page 332 (the Persian soldiers) and Source 14 on page 326 (the Spartan hoplite). Pay particular attention to the armour they are wearing. Which would best suit a battle fought at close quarters? **Explain** your answer.

Evaluate and create

5 **Create** a concept map that explores the ways in which the Peloponnesian wars led to the collapse of the city-state of Athens.

6 Write a letter home that a Greek hoplite might have written after the Battle of Marathon. Describe what occurred and **discuss** how this battle might have affected the morale of the Greek army, and why.

11.12 Change through trade

In this topic, you will:

» explore the causes and effects of ancient Greece's contact and trade with other societies.

Over its long history, ancient Greece came in contact with many different cultures and civilisations in its region. Sometimes this contact was peaceful, spurred on by the desire to find new markets overseas and trade locally produced goods. At other times contact was aggressive and developed into territorial claims. Either way, this contact and conflict changed ancient Greek society in many ways.

Greece's soil was good enough to grow olives and grapes but not grain crops in the quantities required to feed a growing population. Timber was plentiful in some parts of Greece, but was quickly used up to build boats. Greece had other resources, such as deposits of silver, that boosted Athens' wealth and growth in its Golden Age (fifth century BCE). Other essential metals were in limited supply.

Source 5 An ancient Greek jug from the oriental period (seventh century BCE)

By the start of the sixth century BCE, Greek city-states (particularly Athens) were looking for new sources for many of the goods they needed. To this end, they established **colonies**. These colonies provided much of the grain they needed. Trade links were also set up around the Mediterranean, including with ancient Egypt and Rome. These contacts exposed Greece to a diversity of cultures and gave it an opportunity, through trade, to advance and to acquire great wealth.

colonies
outposts set up by a country, kingdom or empire, often for social, financial or strategic (military) reasons

Source 6 An artist's impression of Greek trading ships at the Greek island of Delos (an island in the Cyclades)

Over time, sea trade became very important to ancient Greece. Ports sprang up along the coastline and many Greek merchants became very rich. Evidence of the increase in Mediterranean Sea traffic at this time is provided, in part, by shipwrecks, whose remnants still litter the long Greek coastline today. Radiocarbon dating of wrecks indicates that only two have been found from the eighth century BCE, while as many as 46 wrecks date from the fourth century BCE.

Through sea trade, the ancient Greeks improved their navigation and shipbuilding skills. They also acquired new ideas and skills from those they traded with. These included:

- cooking techniques using spices from parts of Asia
- metalworking techniques from the ancient Syrians, used in the making of weapons, tools, jewellery and other decorative objects
- ideas about astronomy, building methods and mathematics from ancient Egypt. Egyptian design also influenced pottery art during Greece's so-called oriental period (see Source 5).

*** See, think, wonder**

Look at Source 6.

- What do you see?
- What do you think?
- What do you wonder?

IMPORTS		
gold	pork	metals
glass	cheese	wood
perfumes	timber	linen
ivory	papyrus	pitch (like tar)
rugs	spices	grain

GREECE

EXPORTS	
wine	marble
pottery	wool
olives	silver coins
olive oil	figs

Source 7 Goods that ancient Greece imported and exported

11.12 CHECK YOUR LEARNING

Review and understand

1 What evidence do historians use to support the view that there was a rapid increase in sea trade in the Mediterranean between the eighth and fourth centuries BCE?

2 **Identify** at least three of the new techniques and skills that the ancient Greeks acquired from their trading partners, and where they were from.

Apply and analyse

3 **Classify** the products imported by ancient Greek merchants into three groups – food, building materials and luxury goods.

4 **Explain** why ancient Greece needed to import grain.

5 Participants came from far and wide to take part in the ancient Olympic Games. How do you think this contact might have influenced ancient Greece and other societies who came to participate in the Games?

Evaluate and create

6 'Trade does much more for a society than merely expanding the range of goods that are bought and sold.' **Discuss** this statement in small groups then write a short (200 words) response. Be sure to support your response using evidence from this topic, as well as examples from modern-day Australia.

Quiz me!
A quick quiz on change through trade in ancient Greece

11.13 Legacy of ancient Greece

In this topic, you will:

- discuss the legacy of ancient Greece
- explain the concept of continuity and change through democracy.

While every society leaves a certain legacy, the legacy of some civilisations is particularly long lasting and influential. Ancient Greece, which is sometimes referred to as 'the cradle of Western civilisation', is one such civilisation.

During the Golden Age of ancient Greece, drama, poetry, philosophy, mathematics and science all emerged in forms that continue today. The democracy that modern Australia cherishes also has its roots in the ancient city-state of Athens.

Democracy

It is generally believed that the city-state of Athens was the first state to adopt a democratic system of government. The term comes from a combination of two words – *demos* (ordinary people) and *kratos* (rule or power).

KEY CONCEPT Continuity & change

Citizenship

Only Athenian citizens could vote and take part in democratic processes. That principle continues in Australia today, as does the Athenian practice of being eligible to vote at 18 years of age.

Athenian citizens were men over 18 whose parents had both been born in Athens. Their fathers had to be citizens (and, later, their mother's father had to be as well). They were also the only Athenians who could own land. Women, slaves, children and foreigners were not citizens.

In that respect, things have changed. Everyone born in Australia, whether male or female, is a citizen. Those who immigrate or are welcomed as refugees can choose to become citizens if they wish. Those applying for Australian citizenship must pass certain tests and participate in a citizenship ceremony.

For more information on this key concept, refer to page 192 of 'The history toolkit'.

Source 8 Two newly declared Australians at their citizenship ceremony

Analyse this! The legacy of ancient Greece

Philosophy

The three most famous philosophers from ancient Greece are Socrates, Plato and Aristotle, who lived in the fifth and fourth centuries BCE. Their thinking focused on ethics and morality and encouraged people to lead good lives, for their own sake and for the good of society.

The philosophy of the ancient Greeks is believed to have played a role in the development of thinking about Christianity and Islam. Socrates, Plato and Aristotle are still widely studied by students of philosophy in schools and universities today.

Language

Many English words have their origins in ancient Greece (see Source 8). The Greek influence is also reflected in the modern English alphabet. In fact, that word is a combination of the first two words of the Greek alphabet – *alpha* and *beta*. Sixteen letters of the English alphabet bear a strong resemblance to their Greek counterparts.

Source 9 Some common words in the English language have Greek origins.

Building and architecture

The architecture of ancient Greece has endured the test of time. The public buildings of Athens and Sparta were simple, symmetrical and adorned with columns of three varieties (Doric, Ionic and Corinthian). Greek building styles were adopted by the Romans, and their popularity has persisted through medieval and Renaissance times to the present day. The Victorian Parliament building (pictured in Source 10), the front of the Capitol in Washington and St Martin-in-the-Fields in London are all examples of architecture inspired by ancient Greek styles.

Source 10 The Parliament of Victoria, located in the CBD of Melbourne, is an example of the influence of Greek architecture.

Mathematics and science

The ancient Greeks developed and refined many of the mathematical principles of ancient Egypt. One of the most famous Greek mathematicians was Pythagoras. His theorem that 'the square of the hypotenuse of a right-angled triangle is equal to the sum of the squares of the other two sides' is well-known to modern students.

Many scientific and medical discoveries can also be traced back to ancient Greece. Astronomers including Aristotle and Eratosthenes proposed that the Earth was round and used geometry to measure the Earth's circumference. Hippocrates was one of the first scientists to look carefully at the causes of illness, not just the possible cures. He also speculated on the connection between diet and illness. The ideas of Hippocrates have formed the foundation of medical studies for over 2000 years. Today, doctors take the Hippocratic oath when they are admitted to practise medicine.

11.13 CHECK YOUR LEARNING

Review and understand

1 **Identify** five features of modern life that can be traced back to ancient Greece.

2 What was the focus of the thinking of Socrates, Plato and Aristotle?

Apply and analyse

3 **Explain** the elements of continuity and change that are evident in democracy from ancient Greece to modern-day Australia.

Evaluate and create

4 **To what extent** does the legacy of ancient Greece still influence our lives today? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position.

5 'Ancient Greece is the cradle of Western civilisation.' Using the internet, **research** this statement and write a short paragraph outlining its exact meaning.

11D RICH TASK

Quizlet

Revise the key terms you have learnt so far.

The Battle of Thermopylae

In his book *The Histories* (written between 450 and 420 BCE), Greek historian Herodotus tells of how the great Persian army, led by King Xerxes, was defeated as it tried to invade Greece.

One of the most famous battles during this invasion was the Battle of Thermopylae, where a small force of Spartans led by King Leonidas was able to defend the narrow pass between the hills and the sea for three days. This bought the Spartans more time for their allies further south, but unfortunately almost all of their small force was killed. The feat is attributed to the Spartan warriors, who were said to fight with no fear of death.

The following extract describes how a soldier, sent to spy on the Greek army by Xerxes, observes the Spartans preparing for battle. The spy then returns and tells Xerxes what he saw:

Source 12

At that moment (the Spartans) were stripped for exercise, while others were combing their hair. The Persian spy watched them in astonishment; nevertheless he made sure of their numbers, and of everything else he needed to know, as accurately as he could, and then rode quietly off. No one attempted to catch him, or took the least notice of him.

Back in his own camp he told Xerxes what he had seen. Xerxes was bewildered; the truth, namely that the Spartans were preparing themselves to die and to deal death with all their strength, was beyond his comprehension, and what they were doing seemed to him merely absurd.

Source: Herodotus, *The Histories*, Book 7

Source 11 A film still from *300*, a modern-day interpretation of the Battle of Thermopylae

Xerxes then calls a Greek named Demaratus (who is on the side of the Persians) to explain the significance of the Spartans' personal grooming before going into battle:

Source 13

'Once before', Demaratus said, 'when we began our march against Greece, you heard me speak of these men. I told you then how this enterprise would turn out, and you laughed at me.

'These men have come to fight us for possession of the pass, and for that struggle they are preparing. It is the custom of the Spartans to pay careful attention to their hair when they are about to risk their lives. But I assure you that if you can defeat these men and the rest of the Spartans who are still at home, there is no other people in the world who will dare to stand firm or lift a hand against you. You have now to deal with the finest kingdom in Greece, and with the bravest men.'

Source: Herodotus, *The Histories*, Book 7

KEY SKILL
Analysing sources

Assessing the usefulness of sources

Some historical sources are more useful than others.

The first thing to ask of a source is whether it is biased. Bias is having an unbalanced or one-sided opinion. Bias is found in both primary and secondary sources. It is natural for people to show their opinion when they write something. To recognise bias in a source, ask yourself these questions:

- Who wrote it?
- When was it written?
- Why was it written?
- Does this source distort the facts?
- Does this source give one side of the story, or is it balanced?
- Can the views expressed in this source be verified?

Just because a source is biased does not automatically mean that it is not useful. It may be extremely useful if you are investigating the opinions of a particular group at a particular time. However, if you are investigating the facts of an event, a biased source may be much less useful.

Consider the following points about Herodotus' account of the Battle of Thermopylae:

- the Battle of Thermopylae took place in 480 BCE and *The Histories* were written more than 30 years later
- Herodotus was less than five years old when the battle occurred
- *The Histories* were based largely on stories told to Herodotus.

For more information on this key skill, refer to page 205 of 'The history toolkit'.

Practise the skill

1 How does Herodotus describe the Spartan worries in *The Histories*? Include two quotes to support your answer.

2 **Suggest** why Herodotus might be biased or inaccurate in his account of the event. Which side is presented more favourably? Support your answer with two pieces of evidence.

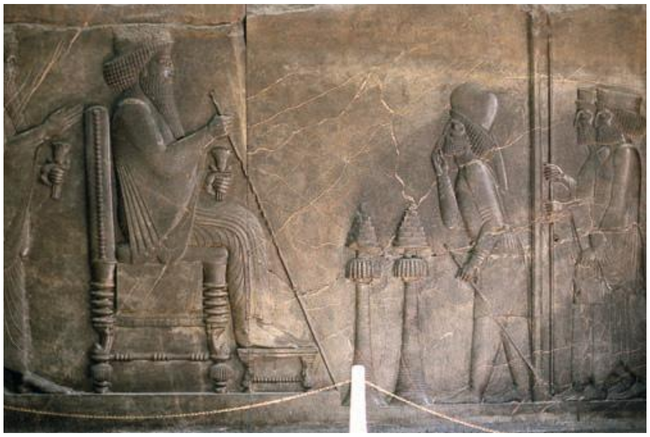
3 What conclusions can you draw about the usefulness of *The Histories* in an inquiry into the facts surrounding the Battle of Thermopylae?

Extend your understanding

1 Is *The Histories* a primary or a secondary source? Give reasons for your answer.

2 Brainstorm other primary and secondary sources that could provide further evidence about the facts surrounding the Battle of Thermopylae. For example, a piece of pottery could be found showing an illustration that shows an aspect of the battle.

Propose (put forward) reasons for which of these sources may be biased and which unbiased, and explain your thinking.



Source 14 A wall carving showing Xerxes I standing behind the throne of his father, Darius I, the king of Persia. This carving, dated *c.* 515–485 BCE, was discovered in the ruins of the royal palace complex of Persepolis, Iran.

11 CHAPTER REVIEW

Review questions

11A How did the physical features of ancient Greece influence its development?

1 **Describe** the physical features of Greece. (2 marks)

2 **Distinguish between** an acropolis and the temple in a typical Greek city-state. (4 marks)

3 **Outline** two strengths and two weaknesses of having city-states rather than one unified country in ancient Greece. (4 marks)

(Total: 10 marks)

11B What shaped the roles of key groups in ancient Greece?

1 **Identify** two requirements for a person to be recognised as a citizen of Athens. (2 marks)

2 **Outline** one process that was used to ensure that citizens attended the *Ekklesia* to vote, and **explain** why it was successful. (4 marks)

3 **Compare** the lifestyle and rights of upper-class women with those of poor women in most city-states. (4 marks)

(Total: 10 marks)

11C How did beliefs, values and practices influence ancient Greek lifestyles?

1 **Identify** three aspects of life in ancient Greece that tell us religion and spiritual beliefs were central to the lives of the people. (3 marks)

2 **Explain** what a hoplite was in ancient Greece and how hoplites in Sparta were different. (4 marks)

3 **Explain** how the ancient Greek theatre is a good example of the historical concept of continuity and change. (3 marks)

(Total: 10 marks)

11D How did contacts and conflicts with other people change ancient Greece?

1 **Identify** the foreign army that the ancient Greeks fought in several key battles. (1 mark)

2 **Explain** how the coastline helped contribute to the economy in ancient Greece. (3 marks)

3 What do you think is the greatest contribution from ancient Greece to modern life? Write a short paragraph (200 words), using evidence to **justify** your answer. (6 marks)

(Total: 10 marks)

Review activity

Read the information about Socrates and answer the questions below.

Socrates on children

Socrates was an ancient Greek philosopher who lived from about 469 to about 399 BCE. He is known for his wisdom and his insightful views on life. Socrates believed that people should reflect on their lives and he acknowledged that he did not know everything. A well-known quote attributed to Socrates is ‘The unexamined life is not worth living’.

The majority of Socrates’ observations were made in conversations and speeches, and were not written down. Most of the ideas that are now attributed to Socrates were in fact written by Plato, his student. Plato, who lived from about 428 to about 348 BCE, listened to Socrates’ speeches and ideas and wrote them down. It has also been suggested that some sayings believed to have originated with Socrates were actually written in the early twentieth century.

The following observation on children has been widely attributed to Socrates.

Source 15

> The children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders and love chatter in place of exercise. Children are now tyrants, not the servants of their households. They no longer rise when elders enter the room. They contradict their parents, chatter before company, gobble up dainties at the table, cross their legs, and tyrannize their teachers.
>
> Socrates on children, *Encyclopaedia Britannica*

1 **Identify** one reason why we might doubt the reliability of this source. (1 mark)

2 a If this observation *was* made by Socrates, what can you learn from that fact that these ideas were being expressed over 2000 years ago? (2 marks)

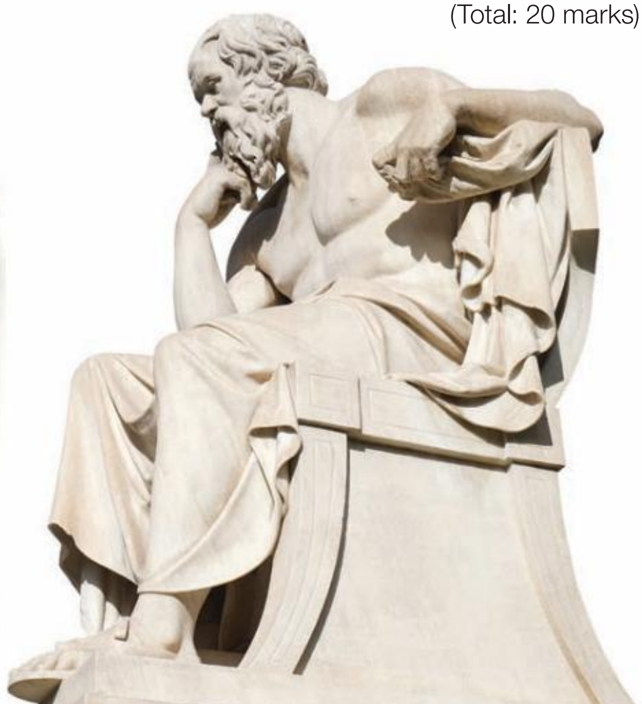
  b If this observation *was not* made by Socrates, why would so many historians continue to say that it was? (2 marks)

3 **Suggest** how a historian could assess the reliability of this quote. (3 marks)

4 What is the overall message or ‘point’ being made in Source 15? Support your answer with a quotation from the source. (2 marks)

5 ‘There is no need to accurately quote Socrates – he lived so long ago, we can give him whatever quote we want!’ **To what extent** do you agree with this statement? Write a 200-word response using specific examples to explain your answer. (10 marks)

(Total: 20 marks)



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Chapter 11

Key skill worksheet
Communicating & reflecting: Chapter 11

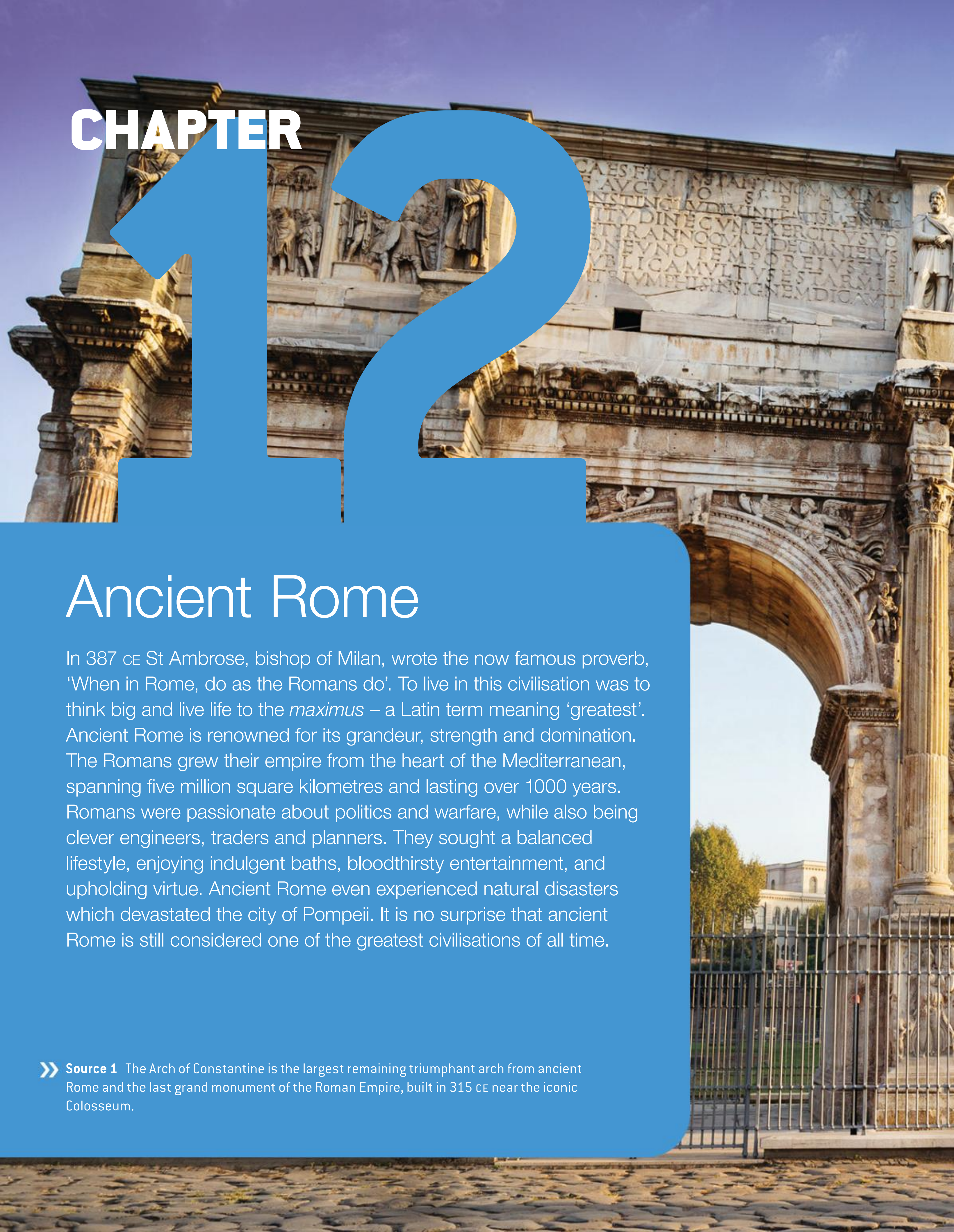
Quizlet
Play a game of Quizlet on Ancient Greece.

Chapter review quiz
Chapter 11

CHAPTER 12

Ancient Rome

In 387 CE St Ambrose, bishop of Milan, wrote the now famous proverb, 'When in Rome, do as the Romans do'. To live in this civilisation was to think big and live life to the *maximus* – a Latin term meaning 'greatest'. Ancient Rome is renowned for its grandeur, strength and domination. The Romans grew their empire from the heart of the Mediterranean, spanning five million square kilometres and lasting over 1000 years. Romans were passionate about politics and warfare, while also being clever engineers, traders and planners. They sought a balanced lifestyle, enjoying indulgent baths, bloodthirsty entertainment, and upholding virtue. Ancient Rome even experienced natural disasters which devastated the city of Pompeii. It is no surprise that ancient Rome is still considered one of the greatest civilisations of all time.



Source 1 The Arch of Constantine is the largest remaining triumphant arch from ancient Rome and the last grand monument of the Roman Empire, built in 315 CE near the iconic Colosseum.

12A
How did the physical features of Rome influence its development?

12B
What shaped the roles of key groups in ancient Rome?

12C
How did beliefs, values and practices influence ancient Rome?

12D
How did ancient Rome change and develop?

12.1 Ancient Rome: a timeline

The foundation myth of Rome tells the story of Romulus and Remus – sons of the war god, Mars. The brothers were saved by a she-wolf before being raised by a shepherd and his wife. Romulus is said to have killed his brother Remus before founding the city of Rome and making himself king – hence the name Rome.

800 BCE — 500 — 200 — 1 CE — 100

753 BCE
Legendary founding of Rome

509
Rome becomes a republic.

***c.* 450**
First law code, *Law of the Twelve Tables*, is published.

264–241
First Punic War: Rome fights Carthage, a powerful city-state on the north coast of Africa, for control over the western Mediterranean.

218–202
Second Punic War: Rome defeats Hannibal, the Carthaginian general, at Zama.

149–146
Third Punic War: Rome destroys Carthage and conquers the last Greek city-state of Corinth.

44
Julius Caesar, Roman consul (the highest elected official in Rome), is assassinated (murdered).

27
Start of the rule of Augustus; Rome moves towards becoming an empire.

64
The Great Fire of Rome destroys much of the city.

79
The volcanic eruption of Mount Vesuvius destroys the cities of Pompeii and Herculaneum, killing 16 000 people.

80
The Colosseum opens in Rome, hosting a celebration that lasts 100 days.

Source 1 A timeline of some key events and developments in the history of ancient Rome

The Roman Forum is now a protected archaeological park.

An artist's impression of Emperor Augustus

12A How did the physical features of Rome influence its development?

An artist's impression of the sacking of Rome by invading 'barbarians' – a term used by Romans to describe people from outside the empire

300 — 400 — 500 CE

330
Work starts on St Peter's Basilica in Rome.

360
A group of people known as the Huns start invading Europe.

395
The Roman Empire is permanently divided into two parts, the Western Empire and the Eastern Empire.

410
A group of people known as the Goths attack and plunder Rome.

451
Last strong military campaign of Roman army

476 CE
'Barbarian' forces remove the last Western emperor from power, marking an end to the Western Roman Empire.

Sequence this!
Events in ancient Rome

12.1 CHECK YOUR LEARNING

Review and understand

1 What year does legend say Rome was founded, and who is said to have founded the city?

2 **Identify** when Rome became a republic.

3 **Identify** when the Roman Empire was permanently divided into the Eastern Empire and the Western Empire.

4 Who was the ruler when Rome began the move towards becoming an empire?

Apply and analyse

5 Using the timeline, **calculate** how many years in total the Punic Wars lasted.

Evaluate and create

6 Select four events on the timeline that you think might have been particularly significant in the history of ancient Rome. For each event, **create** one or two related questions to which you would like to find out the answer. For example, if you select the Great Fire of Rome in 64 CE, you might ask:
- What caused the fire?
- How many people were killed in the fire?

Record these questions in your notebook. Once you have finished working through the chapter, return to these questions and see if you are able to answer them. You may need to carry out some further research to find all the answers.

12.2 Physical features of ancient Rome

In this topic, you will:

» explore how the physical features of ancient Rome influenced its development.

The physical features of ancient Rome were a key factor to its success. Hills, rivers, floodplains, mountain ranges and the Mediterranean Sea provided an ideal combination of physical features necessary for an empire to flourish.

The civilisation of ancient Rome began in a small region in central western Italy called Latium. It had fertile farming land, and a climate that was hot and dry in summer and mild and wet in winter. The region is bordered by the Apennine Mountain range to the east and the Mediterranean Sea to the west.

The Tiber River flows from the north, and along its marshy floodplains is where the city of Rome was founded. With mountains providing protection from invasion, the nearby coast providing easy access to trade and a river providing water for farming, the city of Rome was settled in an ideal location.

The Mediterranean Sea

The Mediterranean Sea covers an area of 2.5 million square kilometres. Due to its landlocked nature, the Sea has little tidal movement or storms, which makes its conditions ideal for sailing and navigation. The Mediterranean Sea

THE MEDITERRANEAN SEA AND SURROUNDING AREAS

Source 2

Source: Oxford University Press

could be considered the 'internet' of ancient times, as it provided a network for trade, ideas and technologies to be shared amongst many diverse cultures from different continents.

With the Italian Peninsula located on its doorstep, Rome soon took control of the port of Ostia to commence trading activity. The Romans became expert seafarers and they developed a strong navy, which helped them conquer new territories. At its peak, ancient Rome grew to control the entire Mediterranean coast (see Source 2). These included the Carthaginians in north Africa, the Celts on the Iberian Peninsula (modern-day Spain and Portugal), the Greeks and the Egyptians. The ancient Romans became so dominant in the region that they called the Mediterranean Sea *mare nostrum* – meaning 'our sea'.

Romulus and Remus and the Seven Hills of Rome

According to legend, Rhea Silvia, daughter of King Numitor, was married to the God of War, Mars. They had twin sons, Romulus and Remus. With threats against her sons' lives, Rhea Silvia placed them in a basket onto the Tiber River in hope they would be found safely downstream.

It is believed Romulus and Remus were discovered by a she-wolf, who fed them her own milk until a shepherd found them and raised them. The twins eventually learned of their origins and sought to establish a city of their own. They founded Rome on the banks of the Tiber where they had been rescued by the she-wolf.

Source 3 An artist's impression of a she-wolf nursing Romulus and Remus as they are discovered by a shepherd on the banks of the River Tiber

When they found the surrounding land had seven hills, the brothers argued over the ideal defensive location for their city. Romulus began to build walls around his chosen hill – the Palatine Hill – which Remus mocked for their low height. Tensions built between the twins until one day Remus jumped over his brother's wall and was killed. Historians argue about exactly how Remus was killed; however, they agree that this act allowed Romulus to name the city after himself. Rome was founded in 753 BCE.

As Rome expanded, the seven hills created a natural boundary for the city. In the early fourth century, the 10-metre high Servian Wall was built around Rome to protect the Seven Hills. Spanning 11 kilometres in length, it had 16 gates and acted as a **fortification**.

Explore it!
A virtual field trip to Rome

fortification
a tower or wall built to defend a place against attack

KEY CONCEPT
Evidence

Romulus and Remus

Historians have debated the myth of Romulus and Remus for years. They argue that there are many inconsistencies and parts of the story are impossible to support. In 1988 archaeological excavations at the Palatine Hill discovered walls which dated back to the time of the legend of Romulus. Some historians argued this could have been the wall which Remus jumped over leading to his death, but others strongly disputed this.

In February 2020, an archaeological team recovered a 2600-year-old sarcophagus within an ancient temple (see Source 4) which was hidden deep beneath a palace stairwell located on one of the seven hills. Based on ancient sources that recount Romulus' location, the temple has been linked to Romulus. This new evidence has reignited the historical debate around the supposed mythical origins of ancient Rome.

Alfonsina Russo, Director of Rome's Colosseum Archaeological Park, states that 'All myths and legends have an element of truth, I am convinced that there was a founding hero.' Experts remain divided over the new evidence and if the brothers even existed.

For more information on this key concept, refer to page 193 of 'The history toolkit'.

sarcophagus
the outer case (usually stone) of the nest of coffins containing the dead body of a person of importance

Source 4 The ancient tomb linked to Rome's legendary founder, Romulus

Analyse this!
Romulus and Remus

12.2 CHECK YOUR LEARNING

Review and understand

1. **Identify** two of the physical features that surrounded ancient Rome.
2. **Describe** how hills and walls helped protect ancient Rome.
3. Why did the ancient Romans call the Mediterranean Sea *mare nostrum*?

Apply and analyse

4. Do you agree with the statement, 'All myths and legends have an element of truth'? Use examples from this topic to **explain** your answer.
5. **Compare** the Mediterranean Sea to the internet today. Provide an example of how a new trend may spread globally or 'go viral' online.

Evaluate and create

6. **Create** a visual diagram which shows how a network may have connected places on the Mediterranean coastline. Using your imagination, include the flow of various things from different places, such as technology, language, fashion, food produce, and new ideas.
7. **Propose** (put forward) two other types of evidence that could help develop historians' understanding of Romulus and Remus.

12.3 Urban planning in Rome

In this topic, you will:

- » describe how the ancient Romans planned and managed their resources
- » develop an understanding of historical significance.

The Tiber River and flood control

The Tiber River was an essential resource to Rome. Measuring 400 kilometres in length, it was used as a trade and transport route. The Roman historian Livy describes the Tiber River as being an advantage for Rome, as it enabled the movement of goods and fresh produce inland without exposing the city to enemy fleets.

However, Rome was also prone to flooding after months of winter rainfall. Soil on the banks of the Tiber would become so heavily saturated that surface run-off would accumulate, and the river would overflow.

It is believed 33 floods may have occurred between 414 BCE and 400 CE. These floods created rich **alluvial** soil which made the land ideal for farming. Unfortunately, flooding also damaged buildings and limited development in low lying areas, so the Romans embarked on a series of engineering projects to manage the river.

alluvial
made of sand and earth that is left by rivers or floods

Canals and sewers

As early as the sixth century BCE, the Romans constructed open air canals to divert smaller streams known as tributaries into the Tiber River. These canals also enabled them to drain the marshlands surrounding the seven hills. By controlling the flow of water, the Romans were able to plan the development of their city, similar to how urban planners do today. They built more residential areas, as well as landmarks for the community. They constructed a port to facilitate trade, a meat market, known as the Forum Boarium, and a huge chariot-racing track called the Circus Maximus.

By 100 BCE, the canals were covered and formed an underground sewer system known as the Cloaca Maxima. This major sewer system was connected to the bathhouses, street drains and **latrines** across the city, with wastewater entering the Tiber in a giant tube. These early sewers are still visible in Rome today (see Source 5).

latrines
the early name for toilets

Aqueducts

By the fourth century BCE, the rapidly growing city created a greater demand of the Tiber River's water supply. The Romans invented **aqueducts** to transport fresh water from mountain springs into the city. The aqueducts were a series of tunnels, pipes, bridges and archways that supplied water to fountains, latrines, public bath houses and wealthy residences across the city. The Roman geographer, Strabo, celebrated that 'almost every house is furnished with water-pipes and copious fountains.' Once constructed, these aqueducts could not be shut off, which meant they ran constantly. They were used to power mills and machinery, and flushed the city's wastewater into the sewers, improving sanitation.

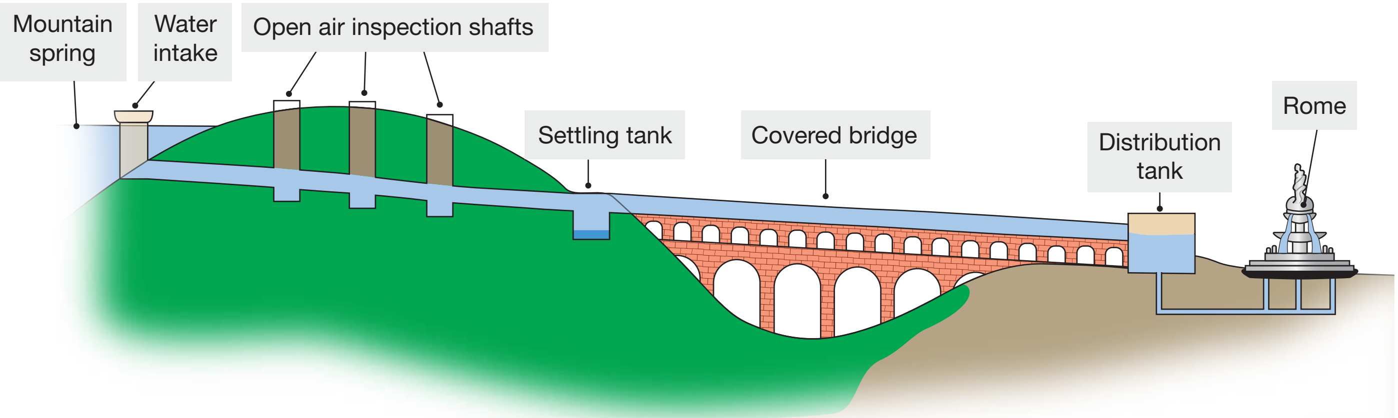
aqueducts
human-made channels for transporting water

The Roman aqueducts used gravity and required a slight slope for the water to flow (see Source 6). They were costly, requiring maintenance and protection to ensure the water quality was safe from debris. By the third century CE, eleven aqueducts served the city and up to 700 people were employed to manage them.

Source 5 Outlet of the Cloaca Maxima into the Tiber River

hydraulic engineering
the planning and management of the flow, pressure and storage of water

The aqueduct system grew so large that historians estimate they could have supplied 1000 litres of water to each Roman per day. As the empire grew, aqueducts were built right across the Mediterranean. The Roman aqueducts are the earliest example of **hydraulic engineering** and laid the foundations for modern plumbing systems. Some aqueducts are still in use today.



Source 6 The engineering of an aqueduct using gravity

Urban planning and roads

garrison
a group of soldiers living in a town to defend it

A key strength of the Roman Empire was their ability to build long, straight roads for military use. The road system, which was planned by surveyors, reached up to 400000 kilometres in length with 80000 kilometres paved. This massive network enabled Rome to efficiently communicate and control a huge area. The road network began in the area known today as northern England, and finished near Egypt. This is the origin of the phrase you might have heard, 'All roads lead to Rome.'

As new **garrison** sites were created for the expanding empire, the Romans developed a grid pattern known as 'centuriation'. This grid pattern was originally used to help plan the placement of soldiers' tents, with specific instructions given to ensure there was a two-chariot-wide gap between each tent and no tents erected in the centre of the camp. This layout was used to establish the garrison into a town, define clear property boundaries and plan the placement of canals and minor roads.

Source 7 An existing section of the Via Appia (sometimes called the Appian Way), a road built by the Romans from 312 BCE to connect Rome to the south-east of Italy

Many major cities in the Roman empire were planned according to centuriation, with Pompeii being the best-preserved example.

The Roman Forum

The Roman Forum was the political, religious and economic centre of Rome. This rectangular plaza originated as a marketplace and was essential for daily life activities with open air markets and shops lining the paths. The Forum served many purposes over time – in early Rome it contained the palaces of kings, during the Roman Republic it provided a meeting place for the Senate, and throughout Imperial Rome it was primarily a place of religious ceremony. By 410 CE, it was abandoned and left as a cattle-grazing field.

Beginning in the eighteenth century, excavation of the Roman Forum showed that the Romans never maintained an even street level. While they were remarkable urban planners, they could not stop the build-up of soil layering and sediment deposits from the Tiber River when it flooded. When the ground became unsteady under buildings, the Romans demolished them. Instead of levelling the street as we would today, they erected new buildings on the rubble. This means that the street level was constantly raised.

The remains of the Forum show how buildings were stacked on top of each other, at varying heights (or *strata*), like a game of Tetris (see Source 8). It is an excellent example of stratigraphy (described on page 218) and supports the common phrase, 'Rome wasn't built in a day'. The Forum is now part of a protected archaeological park which includes the Colosseum and Palatine Hill where archaeological research and preservation is ongoing. In 2008 an entry fee to the site was introduced and in 2018 a staggering 7.6 million visitors walked on some of the oldest roads in the world.

For more information on this key concept, refer to page 193 of 'The history toolkit'.

KEY CONCEPT
Significance

Quiz me!
A quick quiz on urban planning in Rome

Source 8 The Roman Forum ruins provide a good example of the varying foundation height of monuments.

12.3 CHECK YOUR LEARNING

Review and understand

1 **Describe** two methods used to manage water in ancient Rome.

2 **Identify** one positive and one negative of flooding in ancient Rome.

Apply and analyse

3 Brainstorm reasons why an entry fee may have been introduced to enter the Roman Forum.

4 **Summarise** three reasons why the Roman Forum is historically significant.

Evaluate and create

5 Based on the innovations outlined in this topic, **evaluate** which one was the most important to people living in ancient Rome and why. Remember, when you evaluate something you should weigh up its strengths and weaknesses and explain your answer.

6 Which innovation do you think is most important to our lives today? **Discuss** your answer with a partner or in small groups.

12A RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Pompeii

Founded near two intersecting fault lines, ancient Rome was significantly affected by volcanic activity. The most well-known event is the eruption of Mount Vesuvius in 79 CE, which destroyed the cities of Pompeii and Herculaneum, both within 10 kilometres of the volcano.

With no previous records of the volcano being active, Pompeii was established as a wealthy town with flourishing farming and produce. However, on 24 August 79 CE a massive blast occurred. A huge plume of ash and gas erupted high into the sky and covered Pompeii in a thick blanket of smoke, making it difficult to breathe. This was followed by a surge of hot gas and rock pouring out of the mountain at a rate of 100 kilometres per hour. The eruption lasted 24 hours and killed 16 000 people. Pompeii was covered in volcanic ash and abandoned for centuries.

In 1748 explorers started to dig the area and discovered that the ashes had preserved the city of Pompeii. Over time, the remains of the townspeople had been reduced to dust and bone. Archaeologist Giuseppe Fiorelli discovered that pouring plaster into the cleaned-out cavities revealed the shapes of the bodies such as those shown in Source 10.

MAJOR FAULT LINES ON THE ITALIAN PENINSULA

Source 9 Source: Oxford University Press

Source 10 These two people were found in 2020 and are believed to be a master and his young slave based on the clothing and physical appearance.

KEY SKILL
Analysing sources

Analysing sources using DAMMIT

When presented with a historical source, it is important to ask questions. The use of an acronym such as 'DAMMIT' can make it easier to analyse and structure your response. DAMMIT is explained in Source 13.

Source 13 The DAMMIT acronym is a helpful way to remember the questions you should ask yourself about any source.

Letters of the acronym	The questions you should ask when looking at sources
Date	When was the source created? If it was created during the time you are studying, it is a primary source, but if it was created after that then it is a secondary source. A primary source may show attitudes or describe an experience whereas a secondary source is often a factual interpretation.
Author	Who is the author of the source? Think about the gender, age, social status and profession. For example, they could be a historian, a leader, an aristocrat, a soldier or a prisoner.
Material	Is the source written, oral or visual? It could be a newspaper, letter, diary, photograph, textbook, online blog or tweet, even statistics in the form of a graph or map.
Motive	Why did the author produce this source? Was it for official government use, a religious affiliation, the media, or personal reasons? A historian tries to establish the context of the source to help understand the perspective of the person who created it.
Intended audience	Who was the source produced for? Was the source for public or private use, was it for academics or the general public? Was it intended to be viewed, or was it intended to be private?
Tone	How is the information in the source expressed? How does it make you feel? Words to describe tone can include persuasive, critical, questioning, funny or reflective. Often primary sources are more emotional than secondary sources, which tend to be factual as they are written in hindsight.

Source 11

You could hear the shrieks of women, the wailing of babies and the shouts of men … Some were so terrified that they prayed for death. Many prayed to the gods for help, but even more were of the view that there were no gods left, and that the universe had been plunged into eternal darkness … We stood up every now and then to shake the ash off or we would have been crushed under its weight.

Translated extract of a letter to Tacitus from Pliny the Younger, *c.* 104 CE

Practise the skill

1 Copy the following table into your notebook. **Examine** Source 11 and complete the table.

ACRONYM	Source 11
D	
A	
M	
M	
I	
T	

Extend your understanding

1 Write a paragraph **analysing** the source using the DAMMIT acronym to help guide the structure of your response. See page 212 of 'The history toolkit' for more information on how to write a paragraph.

2 Imagine you are a tour guide in Pompeii today. **Create** a script including the important information you would tell tourists when visiting the town.

12.4 Key groups in ancient Roman society

In this topic, you will:

- identify the social structure of ancient Roman society
- distinguish between key social and political groups in ancient Rome.

The social hierarchy of ancient Rome was guided by a complex set of rules and customs. There were clear distinctions between rulers and those they ruled; between free-born people and slaves; between the wealthy and the poor; and between men and women. Arguably, the biggest distinction was made between those who were citizens and those who were not.

Romans could only acquire citizenship if their parents were both legally married and citizens themselves. Citizens had legal and social advantages over non-citizens, including the right to vote, own property, hold political positions and legal rights in a courtroom. Citizens could not be tortured or whipped, whereas non-citizens – particularly slaves – could be. As the empire expanded the proportion of non-citizens increased. In 64 BCE, the Roman writer Cicero said, 'This is Rome, a state formed by the gathering of nations.'

Source 1 outlines the social groups of ancient Rome in more detail.

Citizens

Patricians **(upper class)**
- were a small, elite group of wealthy landowners
- were descendants of ruling class of Rome
- only married other patricians
- held leadership positions; could interpret and veto the law
- did not take part in trade or commerce

Equites
- were high ranking military officials, e.g. knights and cavalry of Roman army
- were initially made up of patrician men, but over time wealthy plebeians who provided their own horse could also join
- were influential in politics and business

Plebeians **(middle/lower class)**
- comprised most of the population
- were considered lower class, with jobs such as shopkeeper, artisan, soldier or farmer
- some were property owners and took part in the law through a citizens' assembly; others were poor
- in 494 BCE, plebeians revolted against the patricians; over next 200 years, gained more rights including the right to marry a patrician and run for government positions

Non-citizens

Peregrinus **(foreigners)**
- were free men from outside Rome
- had some rights, but not those of citizens, e.g. could conduct business and marry citizens
- by second century CE, made up 80 per cent of the Empire's population
- were given full Roman citizenship in 212 CE

Liberti **(freed men)**
- were slaves who were set free or who paid for freedom
- had a restricted form of citizenship
- were obliged to keep working for their master, often taking the master's family name
- could run small shops or farms

Slaves
- had no rights
- were prisoners of war, foreigners or people sold by their families and bought as 'goods'
- by first century BCE, made up 30–40 per cent of population
- mostly worked on farms, in mines or building roads
- were treated cruelly and had a life expectancy of 17 years

Source 1 Social groups categorised into citizens and non-citizens

Source 2 Painting by Cesare Maccari, 1888, depicting Roman Senator Cicero accusing a fellow senator of plotting to assassinate several elected senate members

Quiz me!
A quick quiz on key groups in ancient Roman society

The political structure in ancient Rome

Rome's political system was an interesting mix of **republic** and a **democracy**, inspired by the Greeks. The Roman Republic lasted from 509–527 BCE and was ruled by the **Roman Senate**. The word 'senate' derives from the Latin word 'senex' and means 'board of old men'. Each year, two consuls were elected from the Senate to exercise power.

Plebeians could meet in democratic assemblies to have their say. As Rome grew, it was agreed that plebeians could elect representatives.

By the early first century BCE, the Senate had approximately 300 members. While the type of government and positions of power in Rome changed over time, the elite Roman Senate remained throughout.

republic
a system of government in which the people and their elected representatives (such as a president, politicians or senators) have power

democracy
a political system in which people hold the power, either directly or through representative democracy

Roman Senate
a group of officials (senators) with ruling power in ancient Rome

Worksheet
The Law of the Twelve Tables

12.4 CHECK YOUR LEARNING

Review and understand

1 Why did the Romans want a 'board of old men' to govern the people?

2 **Identify** three social groups from ancient Rome.

Apply and analyse

3 **Analyse** Source 2 using the DAMMIT acronym to help structure your answer (see page 211).

4 **Explain** what happened to the plebeians after 494 BCE.

Evaluate and create

5 In small groups **create** a dramatic play which involves some of the key groups in society or the rulers of ancient Rome. Some suggestions include:
- the life of a slave who becomes a *liberti* from their master
- an emperor ruling the country or perhaps a story to fit Source 2
- a plebeian who wants to marry a patrician
- a citizens' assembly discussing rights and matters which affected their daily life
- senators and judges working to advise the leader (king, consuls or emperor).

6 The Romans created many important laws. Research the *Law of the Twelve Tables* and find out what aspects of Roman life they covered. There is a worksheet on your obook pro to help you get started. **Create** a mind map of some of the main features and specific rules that it set out.

12.5 Role of women in ancient Rome

In this topic, you will:

- examine how the role of women changed in ancient Rome and how this change was influenced by the law
- consider the perspectives held towards women in ancient Rome.

Although women in Rome could technically be considered citizens, they had few rights. The main role of women in Roman society was to raise children and run the household. In general, most sources that remain from ancient Rome were written by men and reflect these beliefs. For example, a man reflecting upon the death of a mother in the second century BCE wrote: 'She gave birth to two sons … Her conversation was pleasant and she moved gracefully. She looked after the house and made the wool.'

In ancient Rome, the most important role of a woman was that of wife and mother. In fact, in 14 CE Emperor Augustus told his wife before passing, 'Always remember whose wife you have been.'

Roman families

The Laws of the Twelve Tables were created in 451 BCE. These laws clearly outlined the expected family structure and a woman's role within that.

A household in ancient Rome typically included parents, married and unmarried children, and slaves. The ***paterfamilias*** (Latin for 'father of the family') was the term given to the oldest male in the household who had power over his family. Under law, the paterfamilias had power to decide whether newborn children in his household lived or died, and who his daughters married. In fact, in the Roman Republic, the paterfamilias could legally kill his wife or daughter if she questioned his authority.

paterfamilias
a Latin word meaning 'father of the family'; male head of a household in ancient Rome

Daughters were in their father's custody until they were married, which could start as early as the age of 12. Marriage was often seen as a convenient way to

Source 3 An artist's impression of patrician ladies and a servant in ancient Rome

make an alliance with another family, especially amongst the patricians. Once married, women had to obey their husbands, who held guardianship over them in most aspects of their lives. Any property or money they brought to the marriage automatically belonged to their husbands.

Key skill worksheet
Communicating & reflecting: Women in ancient Rome

Changes to women's rights

The Punic Wars (see page 382) did much to change the lives of many women in Rome. With the men away fighting, many had to manage on their own (with their slaves). After these wars, the widows of soldiers often received large sums of money – similar to a war pension today. This further boosted their self-reliance, although it is important to note that at this time in history women were vulnerable. It was common practice for greedy men to go 'legacy-hunting' by befriending childless women in their old age. Their intention was to make a quick profit by inheriting a widow's wealth when she died.

Around the second century BCE, conditions of marriage for women in ancient Rome changed, giving women more financial advantages and social freedom. Wives could join their husbands at dinner parties, gladiator fights, chariot races and religious festivals, and regularly went to the public baths. Not all men were happy about this.

Many upper-class women soon achieved a new prosperity and social standing, which encouraged women to behave more confidently. This development worried Rome's ruler Augustus (63 BCE to 14 CE), who believed Rome would only be strong if its people were moral. As part of his reforms, he introduced strict laws to restrict women's behaviour. He banned them from public events and even had his own daughter, Julie, exiled. Under Augustus, a woman's freedom depended on how many children she had. If she had given birth to three children, she no longer required a male guardian. This was a reward to women in the hope of boosting the birth rate within Rome.

Think, pair, share
- Think about the laws Augustus introduced to restrict women's behaviour. Do these seem fair?
- Discuss your ideas with a partner.
- Share your thoughts with the class.

Understanding perspectives

'Perspective' refers to someone's point of view. This might include someone's social, religious or political points of view.

When reading primary sources, it is important to ask questions about who created the source and why. For example, primary sources about Roman women generally represent a male point of view. The Latin poet Juvenal wrote the following extract about women. Read Source 4 and think about the perspective in it. Practise analysing this source by answering the questions on the next page.

For more information on this key skill, refer to page 209 of 'The history toolkit'.

Source 4

> Better, however that your wife should be musical than that she should be rushing boldly about the entire city, attending mens meetings, talking with unflinching face … to Generals in their military cloaks … This same woman knows … what the Chinese and Thracians are after, what has passed between the stepmother and the stepson; … who loves whom… she picks up the latest rumours … and invents some herself: … how cities are tottering and lands subsiding, she tells to every one she meets at every street crossing.

A translated extract from *Satire VI* written by the Latin poet Juvenal, *c.* 115 CE

continued on next page

KEY SKILL
Analysing sources

continued from previous page

Practise the skill

1. **Identify** who wrote Source 4.
2. Using your knowledge of the social hierarchy in ancient Rome, **explain** how the author is likely to have viewed women.
3. In your own words, **summarise** what Source 4 is about. What do you think the purpose of this source is?
4. **Explain** how this source might have been written differently if it was written by a woman.

Source 5

> If you give women equal freedom with men, do you think this will make them easier to live with? Far from it! If women have equality, they will become men's masters.
>
> A translated extract from the writing of Livy, a Roman historian (59 BCE to 17 CE).

Source 6 The status of women in ancient Rome

Restrictions on women	Opportunities for women
Could not vote or own property	Had greater personal freedoms than the women of other ancient civilisations, such as ancient Greece
Had no legal control over their children	Were taught how to read and write
Had to be escorted by a male guardian in public	Could become highly respected figures
Most had a less formal education than boys	Some were able to work or run their own businesses, or helped their husbands with theirs
Had no active role in civic or political life	Could play an active role in preparing sons for civic life

Source 7 Cornelia Gracchus (190–100 BCE) was a trailblazer for women's independence. Refusing to remarry after her husband's death, she educated her sons independently, nurturing their political careers, and establishing a political discussion club. She was a virtuous mother-figure but also a strong-minded woman.

12.5 CHECK YOUR LEARNING

Review and understand

1. How did the *paterfamilias* influence the household in ancient Rome?
2. a **Describe** the appearance of the women depicted in Source 3.
   b The caption does not explain which women are the patricians and which is the servant. Look closely at the image and decide who you think are the patrician women and who you think is the servant. **Explain** how you made these decisions.

Apply and analyse

3. **Summarise** the point of view that Roman men appeared to hold towards women.
4. Read Source 5. With a partner, rewrite this quote in your own words. Share your responses with the class.

Evaluate and create

5. Think about the historical concept of continuity and change. Copy the table below and **compare** the role of women today to women in ancient Rome based on your own point of view.

	Continuity	Change
Participation in politics		
Social status		
Marriage		
Family life and children		
Education		
Employment		

12.6 Significant individual: Julius Caesar

In this topic, you will:

- » examine the historical context, early life and achievements of Julius Caesar
- » consider how Julius Caesar was seen by his contemporaries.

Julius Caesar was a gifted Roman general and politician, who increased Rome's territories and power (especially in western Europe) through various successful military campaigns. Caesar played a critical role in the transformation of the Roman Republic into the Roman Empire.

The early years

Caesar's father, Gaius Julius Caesar, was a ***quaestor*** (a financial officer) and governor. His mother, Aurelia Cotta, came from a politically influential family. As the son of a patrician, he would have received a good education and would have been expected to follow his father into a political career.

quaestor
the lowest ranking elected official; usually looked after public spending and saving

Caesar became the head of his family at 16 after his father's sudden death. Though still young, Caesar already knew that to succeed in Roman politics he needed to increase his personal wealth and know influential people. In 84 BCE, at the age of 18, he married Cornelia Cinilla, who came from a distinguished family. Unfortunately, Caesar and his family were considered to be enemies of Sulla, the dictator of Rome at the time. Caesar was forced to leave Rome to avoid being killed. While in exile, he joined the army, and for the next few years distinguished himself as a capable and courageous soldier.

praetor
an official who worked under the consuls; one praetor commanded the army while the other was a magistrate in the justice system

Caesar's rising popularity

On Sulla's death in 78 BCE, Caesar returned to Rome to build his political career. He quickly gained popularity amongst the plebeians by using his excellent oratory (public speaking) skills at citizen's assemblies, and also by bribing the right people. By 68 BCE, he was elected as a *quaestor*, then a ***praetor*** (an official who ran the law courts) and governor of the province of Spain.

THE REPUBLIC OF ROME AFTER CAESAR'S MILITARY CONQUESTS

Source 8 Source: Oxford University Press

On his return to Rome from Spain in 60 BCE, Caesar made a pact with two other leading political figures, Pompey and Crassus. They agreed to help get Caesar elected as a consul, which occurred in 59 BCE. After his one year as consul, Caesar became governor of the Roman province of Gaul (most of modern-day France). This marked the beginning of his military career. Caesar was considered a brilliant military commander who was popular with the people and his troops. His victories in Gaul and elsewhere added staggering amounts of new territory, slaves and wealth to Rome. While plebeians were overjoyed, the victory reduced the value of gold held by patricians in Rome.

Caesar's civil war

The Senate was now led by Pompey, who no longer supported Caesar. The rest of the patricians in the Senate began to worry about Caesar, as he was beginning to act without consulting them. In 49 BCE, he was ordered by the Senate to give up his command in Gaul, but he refused unless Pompey did the same.

No Roman general could bring his army into the home territory of Rome, so when Caesar marched his strong army across from Gaul into Rome, he declared, 'Let the die be cast' and prompted a civil war. Pompey fled to Egypt, where he hoped for protection as Caesar's pursuit continued. However, the boy king of Egypt, Ptolemy III, killed him, and his head was presented to Caesar upon his arrival in Egypt. Ptolemy had hoped to gain Caesar's favour by presenting the head of Pompey to Caesar, but Caesar was disgusted by the murder.

Source 9 Julius Caesar has been represented in popular culture for centuries, from Shakespearean plays to books to film productions.

Caesar and Cleopatra

King Ptolemy's older sister and co-ruler of Egypt, Queen Cleopatra, was more successful in winning Caesar's favour. They became romantically involved, and Caesar helped Cleopatra in her power struggle to gain the Egyptian throne for herself. Caesar and Cleopatra had a child, a boy named Caesarion, born in 47 BCE. The three of them returned that year to Rome to live. There, Caesar threw himself into reforms. He introduced a new currency and a new calendar (called the Julian calendar). He ordered that new Roman colonies be set up in Africa, Gaul and Greece, and started building what would become Rome's chief law courts – the Basilica Julia.

Caesar's death

In February 44 BCE, Caesar was appointed as 'dictator for life'. However, Senators feared his ambition and wanted the old Roman spirit to return. On 15 March in 44 BCE, a group of about 60 senators, which included some of his friends and former allies, stabbed Caesar 23 times when he entered the Senate House and killed him. Caesar's death led to the outbreak of a civil war in Rome that lasted for about 15 years. His death marked the end of the Roman Republic.

Key skill worksheet
Analysing cause & effect: Julius Caesar's death

Caesar's achievements

During his lifetime, Caesar held many important positions, including consul, tribune of the people, high commander of the army and high priest. He made new laws, reorganised the army and improved the way the Roman provinces were governed. On the new Julian calendar, the month of July was named in his honour.

Source 10 An artist's impression of the assassination of Caesar

Although he had many political enemies, Caesar was popular with the ordinary people. He spoke publicly to them, promising to solve problems such as rising crime, high taxes and unemployment. Caesar's famous words, 'Veni, vidi, vici' (I came, I saw, I conquered) emphasised how rapidly he could win a military battle and expand Rome's power. In 42 BCE, he was officially deified (made a god) and a temple was dedicated to him in Rome.

12.6 CHECK YOUR LEARNING

Review and understand

1 **Outline** why Caesar was seen as a threat to the Senate over time.

2 **Describe** the benefits of Caesar's victory in Gaul.

Apply and analyse

3 **Explain** why you think historians regard Julius Caesar as a significant person in history.

4 In your own opinion, what was the most defining moment of Caesar's career? Why?

Evaluate and create

5 Based on what you have learnt about Caesar, would you say he was a strong leader? **Justify** (give reasons for) your answer by:

  a creating a list of characteristics that you believe all good leaders have

  b deciding which of these characteristics Julius Caesar possessed.

6 **Create** a timeline of Caesar's life based on the dates and information in this topic.

Sequence this!
The life of Julius Caesar

12B
RICH TASK

Nero and the great fire of Rome

Quizlet
Revise the key terms you have learnt so far.

In 54 CE, Nero became the fifth emperor of Rome. During the early years of his reign he acted generously, reducing taxes and banning the death penalty. However, Nero's behaviour became reckless and angered the citizens of Rome. By 62 CE Roman senators suspected he was going insane and had killed both his mother and first wife. In the summer of 64 CE the Great Fire of Rome burnt down 70 per cent of the city over six days and left half the population homeless. Nero was not in Rome when the fire started; instead, he was at a countryside villa. Furious Romans wanted someone to blame and they turned on their emperor for neglecting them as they suffered. Desperate to shift the blame away from himself, Nero cast blame on the Christians, who were a religious minority at the time.

Two years later, Nero visited Greece for 15 months as Emperor. In his absence, revolts occurred throughout the empire, and upon his return in 68 CE the Senate condemned him to death. Nero fled Rome and took his own life later that year.

Despite Nero's reputation, primary sources suggest he tried to assist his people as they struggled in the wake of the fire. Roman historian, Tacitus, wrote that the rumours about Nero were probably based on the idea that he may have been in the countryside, completely unaware that a fire was raging in Rome:

Source 11 A bust of Emperor Nero

Source 12

Nero … did not return to Rome until the fire approached his house. It could not however be stopped from devouring the palace, the house, and everything around it. However, to relieve the people, driven out homeless as they were, he threw open to them the Campus Martius [a military training ground] and the public buildings of Agrippa, and even his own gardens; and raised temporary structures to receive the destitute multitude. Supplies of food were brought up from Ostia and the neighbouring towns, and the price of corn was reduced … These acts, though popular, produced no effect; since a rumour had gone forth everywhere that, at the very time when the city was in flames, the Emperor appeared on a private stage and sang …

Tacitus' account of Nero's action during the Great Fire of Rome

Emperor Nero's reign has not been remembered favourably. Instead, he has been remembered as a power-hungry and murderous tyrant. Over time, the phrase 'Nero fiddles while Rome burns' has become popular. It is used whenever someone – particularly a leader – is doing something unimportant during a state of emergency.

KEY SKILL
Communicating & reflecting

Writing an extended response

As a historian, you must look closely at sources and weigh up the evidence presented. From here you can then form your own opinion and make judgments about what may have happened in the past. This is known as an evaluation.

You will often be asked to put this opinion into writing. This can be done in an extended response, which might be a long paragraph or even an essay. Communicating how you have evaluated information and formed your own opinion is an important skill. You should always acknowledge various viewpoints or both sides of the debate before providing an overall opinion.

Follow these steps to write an extended response.

Step 1 **Think about the evidence.** What do the sources tell you? Do they provide a one-sided (biased) or balanced account? What is your opinion? You might like to discuss this with a friend to get a clearer idea before writing your response.

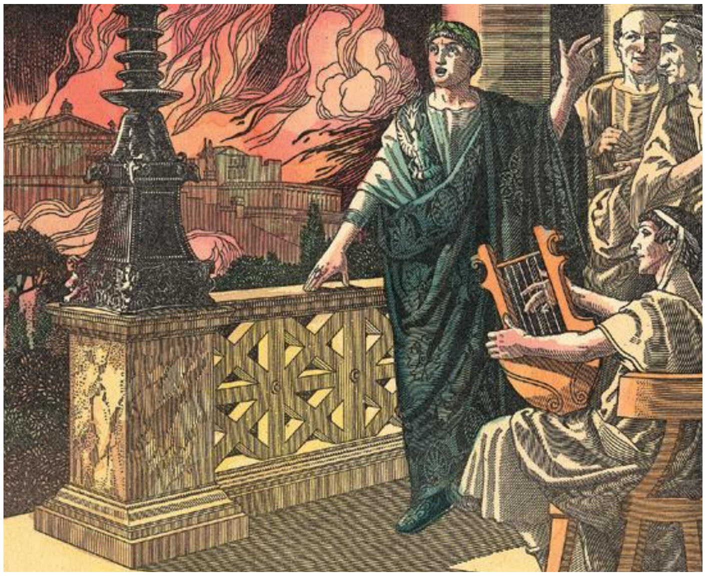
Step 2 **Set the scene with an introduction.** Set the scene by outlining the 5W's (who, what, when, where and why) of history. Then signpost the different arguments that will be discussed in your response.

Step 3 **Put your first argument forward.** The points you make in extended responses are known as 'arguments'. What is the first argument you will make? Be sure to use evidence from a source to back it up.

Step 4 **Show an alternative argument.** To avoid bias, your second argument should show a different perspective than your first. Use linking phrases such as 'however' or 'on the other hand' to help you switch from your first argument to this one. Once again, provide evidence to back this point up.

Step 5 **Give your own opinion in a conclusion.** Finish by explaining which argument you believe is the strongest and why. Sometimes your opinion might be based on a mix of both sides, or you might firmly be on one side. In your conclusion, you can also discuss whether you think information or evidence is missing.

For more information on this key skill, refer to page 213 of 'The history toolkit'.



Source 13 An artist's impression of Nero performing while Rome burns

Practise the skill

1 Following the steps above, write an extended response exploring whether you believe Emperor Nero's legendary bad reputation as a leader is accurate based on his actions.

Extend your understanding

1 In groups, **discuss** how Nero's actions would be seen during a similar disaster today, such as bushfires or floods.

2 Come together as a class and hold a debate on the topic: 'True leaders become most evident during times of crisis'.

12.7 Religion in ancient Rome

In this topic, you will:

» identify the religious beliefs, values and practices that the ancient Romans lived by.

deities
gods or goddesses

Quiz me!
A quick quiz on religion in ancient Rome

hearth
the Latin term for 'focus'; the hearth fire in the home was used for cooking food, heating water and as a gathering place for family

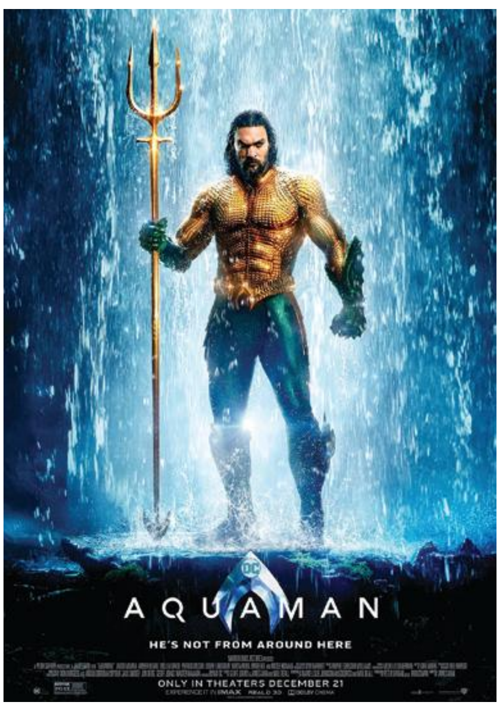
The Romans worshipped multiple gods and they firmly believed that these gods had direct influence over their daily lives. It is believed that the Romans adopted gods and **deities** from other cultures, such as Greece, Persia and Egypt. The Romans renamed 35 of these gods to fit the *Via Romana* (the Roman way).

To please the gods, the Romans held festivals in their honour and made offerings to them. Rituals and ceremonies were the most important part of Roman religious practice. For example, certain parts of sacrificed animals were burned as an offering to the gods. Many ancient Roman festivals align with prominent days in our modern calendar, such as Christmas, New Year, April Fools' Day and Valentine's Day.

Priests and vestal virgins

The *Pontifex Maximus* (Chief Priest) was elected to the role for life and oversaw the *pontifices* (priests). The *pontifices* did not provide spiritual advice, but instead were elected officials who worked for the government. Their main task was to maintain peace with the gods. They did this by planning and overseeing ceremonies, funerals and carrying out sacrifices on behalf of the city.

While religion was largely dominated by men in ancient Rome, there was an exclusive role for women known as 'vestal virgins'. Six noble young girls were chosen at the age of 10 to tend the sacred flame of Vesta, goddess of the **hearth**. This flame represented life, and it was believed that Rome would suffer and collapse if the flame were ever to go out. The girls would undergo 10 years of learning, 10 years of duties and 10 years instructing others. They lived secluded in a special house in the Roman Forum, and were only seen when tending the flame or assisting in ceremonies. Greatly respected and honoured, these women were allowed to return to society and marry after 30 years of service. However, most struggled to readjust to regular society.



Source 1 Roman mythology is still used in stories today. In the 2018 film *Aquaman*, Aquaman must retrieve the trident of Neptune, Roman god of the sea. In this poster for the film, he is holding the trident.

Roman temples

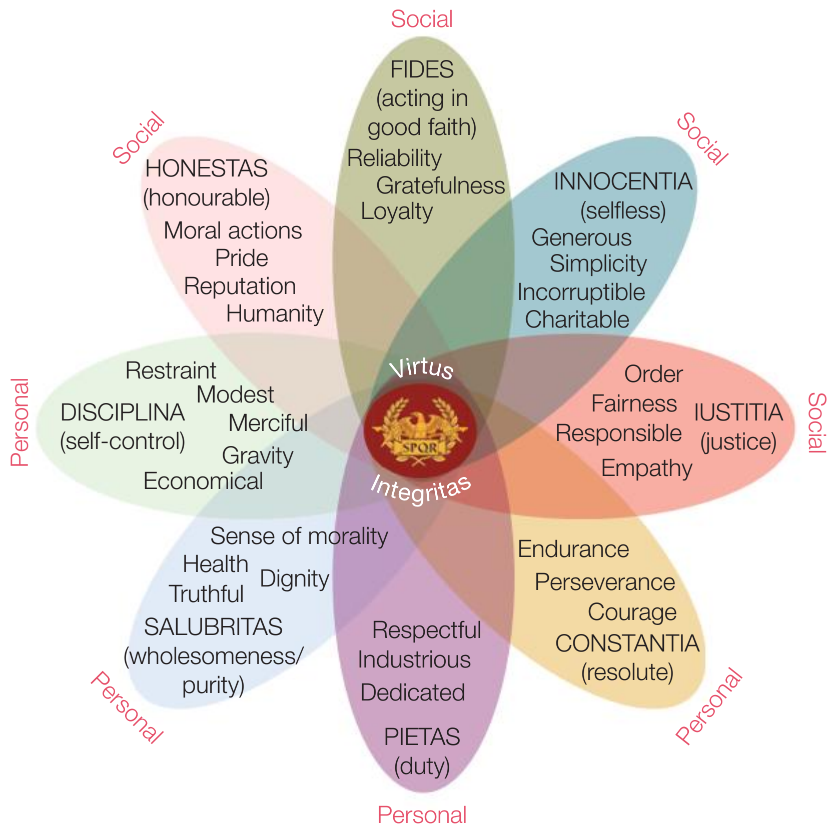
To this day, the ancient Romans' dedication to religion can be seen with the remains of temples scattered across the empire. It is estimated that 424 temples, 304 shrines, and 157 statues of the gods (eight gold, 64 ivory and 85 bronze) were erected in their honour. Temples were not just places of worship, but also acted as museums and libraries of precious objects such as artworks, gems and golden antiquities.

Christianity

The fact that Romans had traditionally worshipped many gods was the main reason why rulers such as Nero feared Christianity and its worship of one God. For about 300 years, Romans who converted to Christianity were often tortured or killed.

However, St Paul helped to spread Christianity's message throughout the empire. It appealed to the poor masses and slaves as the religion preached to help those most in need. The idea that everyone was treated equally under one god was a risk worth taking.

Despite the efforts of many Roman emperors, secret gatherings would occur in underground tombs with growing numbers. By 313 CE Christianity was legal and churches were built in Rome. By 380 CE, Emperor Theodosius made it Rome's official religion. Today, the traditions of Rome's early Christian church have gone on to influence the beliefs and practices of many people in the modern world. The Vatican (the seat of the Roman Catholic Church) and the Pope are located in Rome to this day.



Source 2 The core values that Ancient Romans aimed to live by

Roman values

The ancient Romans lived by a code of **values** that influenced their behaviours and attitudes in all aspects of their daily life (see Source 2). The Via Romana set certain expectations: for men, this was to uphold virtue (*virtus*) and for women, this was to strive for prudence and discretion. Every Roman was expected to practise these values at all levels of society, both personally and socially.

values
qualities of character that a society or community regards highly

In 63 BCE Cicero told the Roman Senate to 'Cling fast to *virtus*, I beg you men of Rome … All else is false and doubtful … only *virtus* stands firmly fixed, its roots run deep, it can never be shaken by any violence, never moved from its place.'

Worksheet
Roman deities

12.7 CHECK YOUR LEARNING

Review and understand

1 **Describe** how Romans kept the gods happy.

2 **Outline** why emperors changed their views towards Christianity over time.

Apply and analyse

3 **Explain** the role of a vestal virgin in your own words.

4 In your opinion why were values an important feature for a civilisation? **Explain** your answer using examples.

Evaluate and create

5 Working in small groups, **research** the gods and goddesses of ancient Rome. There is a worksheet on your obook pro to get you started. Each member should complete the table below for one deity.

Name of god	Role	Description of features and look	Festival celebrations

6 **Create** your own visual mind map, similar to Source 2, of four to eight key values you aim to live by each day.

12.8 Everyday life for ancient Romans

In this topic, you will:

» discover what daily life was like in the ancient Roman world.

Interactive
Roman housing

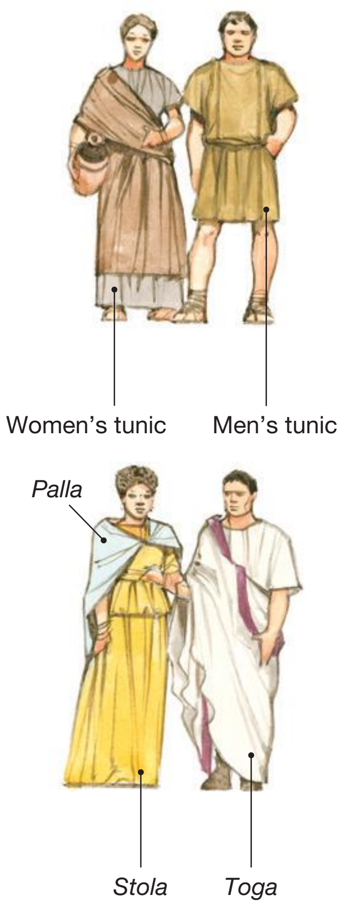
Everyday life in ancient Rome varied according to people's position in society – whether they were citizens or not, free-born people or slaves, wealthy or poor, male or female. The dominant role of men was shaped by the religious belief that women, children and slaves did not have souls.

Source 3 Ruins of Insula del'Ara Coeli in Rome; this is one of the few examples of an *insula* still remaining today.

Roman housing

Wealthy Romans lived very differently from the poor, who usually lived hard lives. In urban areas, the poor crammed into dark, tiny rooms in multi-storey apartment buildings called *insulae* (see Source 3). These blocks were usually poorly constructed at a rapid pace to make a quick profit and were often in danger of burning down or collapsing. The rooms were often smelly, without any heating or chimneys, and water carried in pots from wells. People walked to a public toilet where, instead of toilet paper, they shared a communal sponge that was washed out after each use.

In contrast, the wealthy lived very privileged lives. Many patrician families maintained homes in Rome (called *domus*), as well as spacious country estates known as villas. They often had private baths and courtyards, and were decorated with beautiful artworks, mosaics and marble statues.



Source 4 Clothing of Roman men and women

Fashion and grooming

The men and women of ancient Rome wore tunics (simple garments of various lengths, both with and without sleeves). Tunics were made from linen or wool and could be several different colours. Women's tunics were ankle length; men's were shorter. Tunics were the only form of clothing available to slaves.

Only male citizens could wear a toga (see Source 4). Togas consisted of around six metres of cloth that was wrapped around the body over a tunic. Togas were only worn in public, and the elite senators and emperor were the only citizens who wore the colour purple to signify royalty. This was an expensive colour to manufacture: it required thousands of snails and a lengthy chemical process to produce the dye.

Wealthy women wore *stola* (a garment similar to a toga) over their tunics. When in public they also wore a *palla* (cloak) and often covered their heads with a veil or part of the *palla* to mark their social status. They also often carried a parasol or fan of peacock feathers.

Both men and women often wore wigs made from the hair of slaves. Blond and red were popular hair colours. The clean-shaven 'short-back-and-sides' look for men became the fashion after the second century BCE. For women, hair was a major indicator of status. A natural or comfortable hairstyle was associated with the poor. Patrician women often wore curls, braids, golden hairnets and crystal hairpins. It took many maids to create an individual look for one patrician woman.

Wealthy women also spent time caring for their hair and skin. They lightened their complexions using chalk, and coloured their lips using mulberry juice. Jewellery was also worn by both men and women, but rich people never wore bracelets because they were similar to chains used on slaves.

Source 5 A fresco from Pompeii of a woman holding a stylus and a writing tablet

Education

Education was a privilege of the wealthy, and then usually only for boys. Girls did learn to read and write, but most of their training related to domestic skills such as spinning cloth and weaving. Teachers in the home were often educated slaves. Subjects studied typically included music, history, geography, astronomy, mathematics, reading and writing, along with Greek and Latin. They were also taught the Roman values (see Source 2 on page 365) that would guide their behaviour and attitude throughout their life.

Boys generally completed their schooling around the age of 16. Their 'graduation' was celebrated by putting on a new toga and going out to register on the census (an official count of the population) as a full Roman citizen. The occasion was a family celebration.

12.8 CHECK YOUR LEARNING

Review and understand

1 Choose five terms about everyday life in ancient Rome and **outline** what they mean.

2 **Describe** two aspects of daily life in ancient Rome that have changed today and two that have continued.

3 **Outline** the differences between togas and *stolas*.

Apply and analyse

4 **Examine** Source 5 closely.

a Identify the features which suggest this woman may have come from a wealthy family.

b Is this source a primary or secondary source? Explain your answer.

c How useful is this source in helping us understand women in ancient Rome?

Evaluate and create

5 **Create** a Venn diagram that shows the similarities and differences in everyday life between the rich and poor.

6 In pairs, **discuss** the continuities (similarities) and changes (differences) between education in ancient Rome and today. Share your answers with the class.

*

See, think, wonder

Look at Source 5.

- What do you see?
- What do you think?
- What do you wonder?

12.9 Roman baths

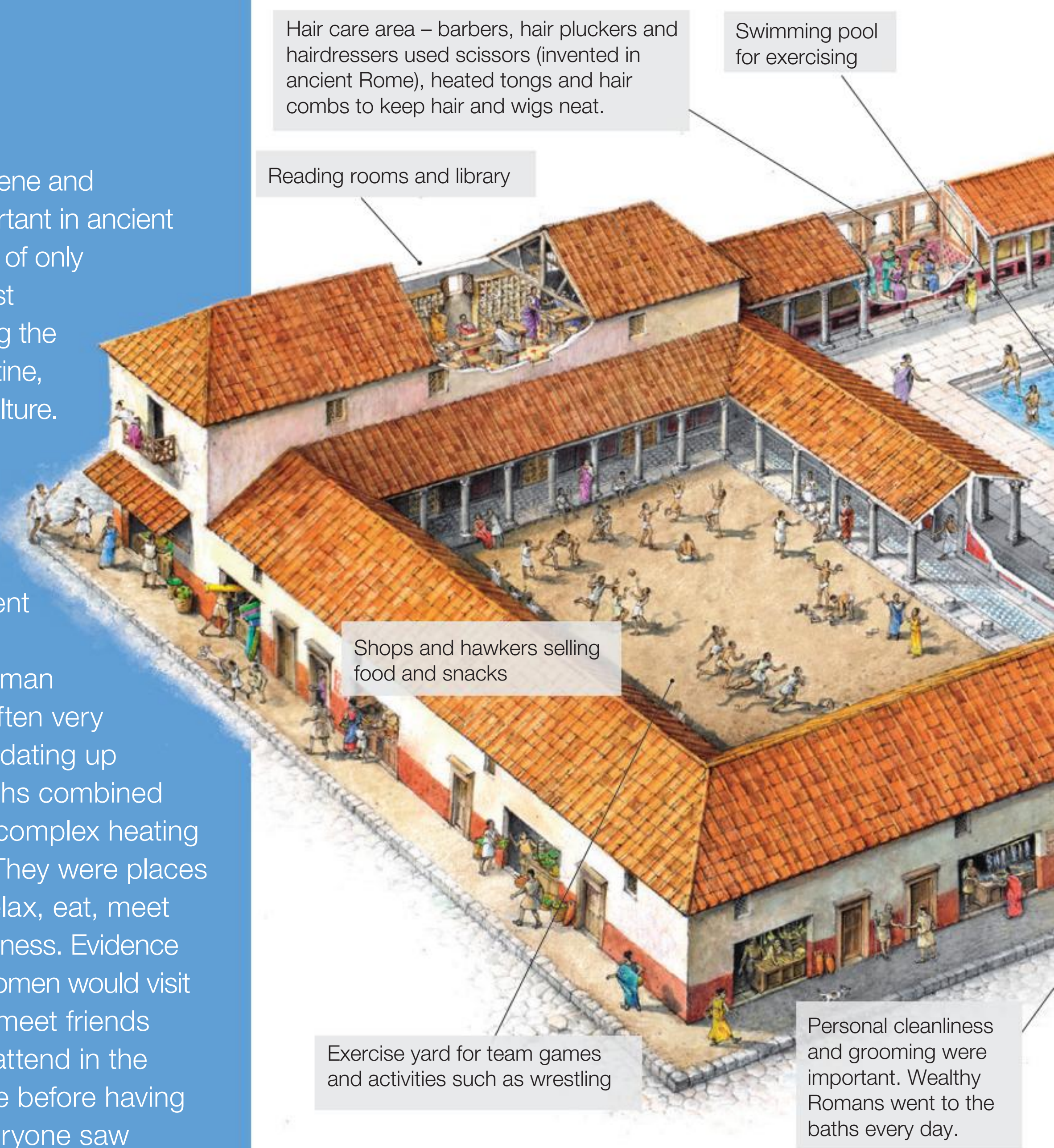
In this topic, you will:

» investigate the daily practices in ancient Rome, focusing on the Roman baths.

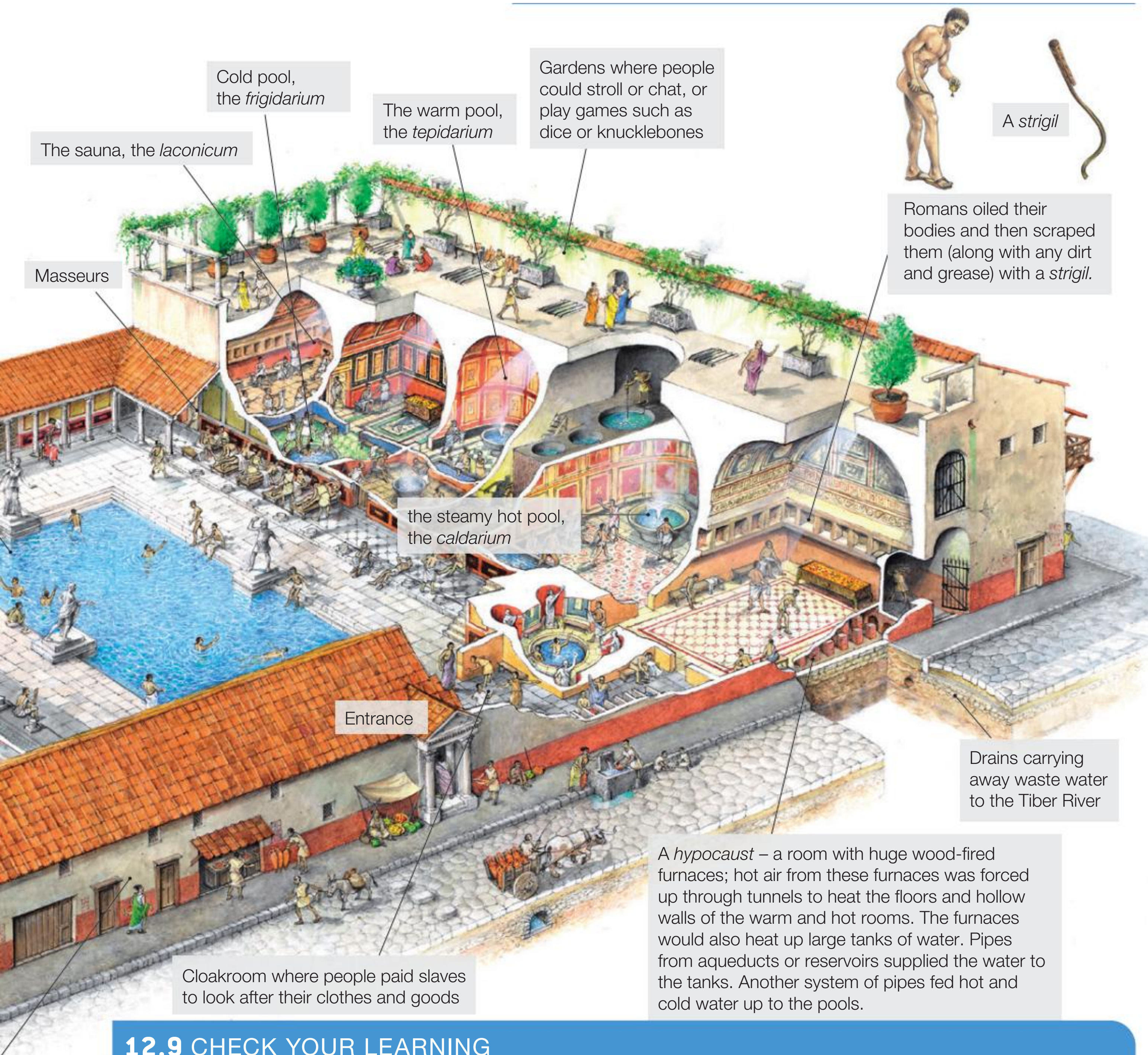
Personal cleanliness, hygiene and grooming were very important in ancient Rome. With a minimal fee of only one quadrans (the smallest coin denomination), visiting the baths became a daily routine, and part of the Roman culture. By the fourth century CE, there were 11 public baths and about 1000 private baths in Rome.

The public baths of ancient Rome were evidence of the advanced level of Roman technology. They were often very large facilities, accommodating up to 1600 bathers. The baths combined stately architecture with complex heating and plumbing systems. They were places to get clean as well as relax, eat, meet friends and conduct business. Evidence from Pompeii suggests women would visit in the morning, usually to meet friends and gossip. Men would attend in the afternoon and to exercise before having a bath. However, not everyone saw the bathhouses as places to get clean. Emperor Aurelius reflected in his personal journal that they were full of 'oil, sweat, dirt, filthy water, all things disgusting'.

Source 6 An artist's impression of a Roman public bath



Interactive
Roman baths



12.9 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** a *strigil*.

2 Why was a *hypocaust* such an important part of the Roman baths?

Apply and analyse

3 'The baths were the place to be in ancient Rome. Of course, people went there to wash, but that was almost beside the point!' In a short paragraph, **explain** what is meant by this statement, using at least two specific examples from Source 6.

Evaluate and create

4 Using the internet, **research** the usefulness of Roman baths as a source for investigating life in ancient Rome.

a List five areas of Roman life and culture that are better understood because archaeologists and historians have studied the ruins of Roman baths.

b Include references to show where you found your information. There is more information about how to reference on page 197 of 'The history toolkit'.

12.10 Public entertainment

In this topic, you will:

» investigate the daily practices in ancient Rome, focusing on public entertainment.

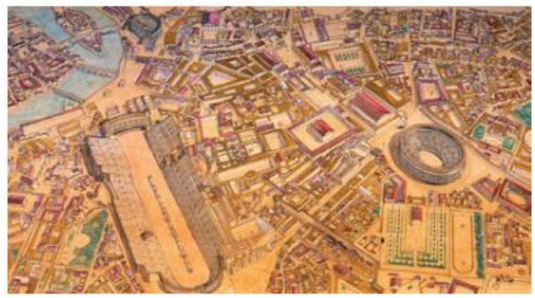
Quiz me!
A quick quiz on public entertainment in ancient Rome

Most ordinary Romans lived hard lives. At times, it was a source of envy and irritation for the poor to see how the rich lived and the privileges they enjoyed. To combat this and keep the peace, Roman rulers organised free entertainment for the common people. This ensured that they did not become restless and rebellious.

By the end of the first century BCE, entertainment was provided for the people on 159 days of each year in Rome. A day out at the Circus Maximus, which could seat close to 250 000 people, meant watching horse-drawn chariots thunder around the track some 610 metres long and 190 metres wide. Death and terrible injuries were common, but this was considered part of the fun. Roman writer Juvenal captured the atmosphere when he wrote: 'All Rome is in the Circus today. The roar that assails my eardrums … the races are fine for young men: they can cheer their fancy and bet at long odds.'

For those who could not handle the bloodthirsty entertainment, Roman **amphitheatres** also offered dramatic performances similar to those of the Greeks, including both tragedies and comedies. It was said by writers at the time that the people were kept happy and peaceful by two things – bread and circuses.

ampitheatres
ancient versions of today's football stadiums, where raised seating rose up around a flat central area where events or performances were held



Source 7 An artist's impression of the Circus Maximus

Gladiator games

Perhaps one of the most popular forms of ancient Roman entertainment were the gladiator games. The massive **Colosseum** in the heart of ancient Rome, was the place to go for gladiator fights (see Source 8). Romans flocked here to watch gladiators fight and kill animals or each other. Gladiators were forced to fight to the death.

Colosseum
a large amphitheatre built and used during the Roman Empire to stage gladiator fights and other forms of public entertainment

Most gladiators were unwilling participants. They were slaves, criminals or prisoners captured from around the empire. Popular gladiators who won many fights became famous in Rome and were treated in a similar way to sporting stars today. They were often granted their freedom after a time and became trainers of other gladiators.

Types of gladiators

In order to make fights interesting for the Roman audiences, there were several different types of gladiators. Most fought on foot. Others, such as the *equite*, fought on horseback. Some were heavily armoured, while others fought almost naked. Some gladiators were female. There were even 'clown' gladiators, known as the *andabatae*. Their helmets had no eye holes. They would be pushed towards each other, hacking wildly with their weapons, for the enjoyment of the crowd.

Source 8 An artist's impression of typical gladiator duels; pairs were typically matched to make the fight fair. One gladiator's advantage was the other's disadvantage.

Spartacus and the slave revolts

In 73–71 BCE, the gladiator Spartacus led an uprising of thousands of slaves. He escaped in 73 BCE with eight others. They seized weapons and made their way to another town, where their actions inspired other slaves to join them. The army, which made a base near Mt Vesuvius, is said to have reached 100 000 men. In the next two years, the slave army defeated four Roman armies and took control of parts of southern Italy. In 71 BCE at the Battle of the Silarius River, Roman forces defeated the slaves. Historians agree that Spartacus was killed in this battle. Over 6000 slaves were then crucified along the main road to Rome to serve as a warning to others.

In 60 CE, Greek historian, Diodorus Siculus, wrote about how the treatment of slaves contributed directly to the cause of the slave revolt: 'The Sicilians, being very rich and elegant in their manner of living, purchased large numbers of slaves. They ... branded them with marks on their bodies ... the hatred of the slaves burst forth one day ... without pre-arrangement, many thousands quickly gathered together to destroy their masters.'

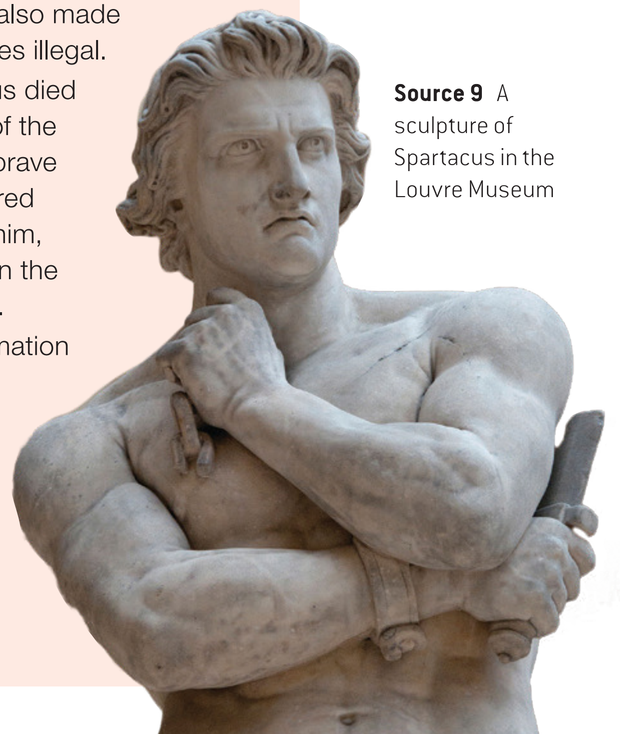
Directly following the **revolts**, many Romans treated their slaves less harshly than before out of fear that another revolt was coming. By 50 CE, the legal rights of slaves began to change and an act was created which made it legal for slaves to become freed men if they were abandoned or set free by their masters. This act also made the murder of slaves illegal.

While Spartacus died during the Battle of the Silarius River, his brave actions have inspired generations after him, including leaders in the French Revolution.

For more information on this key concept, refer to page 192 of 'The history toolkit'.

KEY CONCEPT
Cause & effect

revolts
protests against authority, especially that of a government, often involving violence



Source 9 A sculpture of Spartacus in the Louvre Museum

12.10 CHECK YOUR LEARNING

Review and understand

1 In your own words, **describe** the Circus Maximus.

Apply and analyse

2 **Compare** the atmosphere of the Circus Maximus, as described by Juvenal, to a sporting event you have attended.

3 The slave revolts had a significant impact on life in ancient Rome.
   a **Identify** two causes of the slave revolts in ancient Rome.
   b **Outline** one short-term and one long-term effect of these revolts.

4 **Analyse** the strategy of Roman rulers to provide free entertainment for common people. Do you think this was a good strategy, or could they have done something else to address the concerns of the people? Support your answer with specific examples.

Evaluate and create

5 Using the internet and library, **research** the different types of gladiators that fought for the entertainment of Roman crowds.
   a If you were forced to fight in the Colosseum in Rome, which of these gladiators would you choose to be?
   b Compare your choice with other students in your class. Which was the most popular choice? Why?

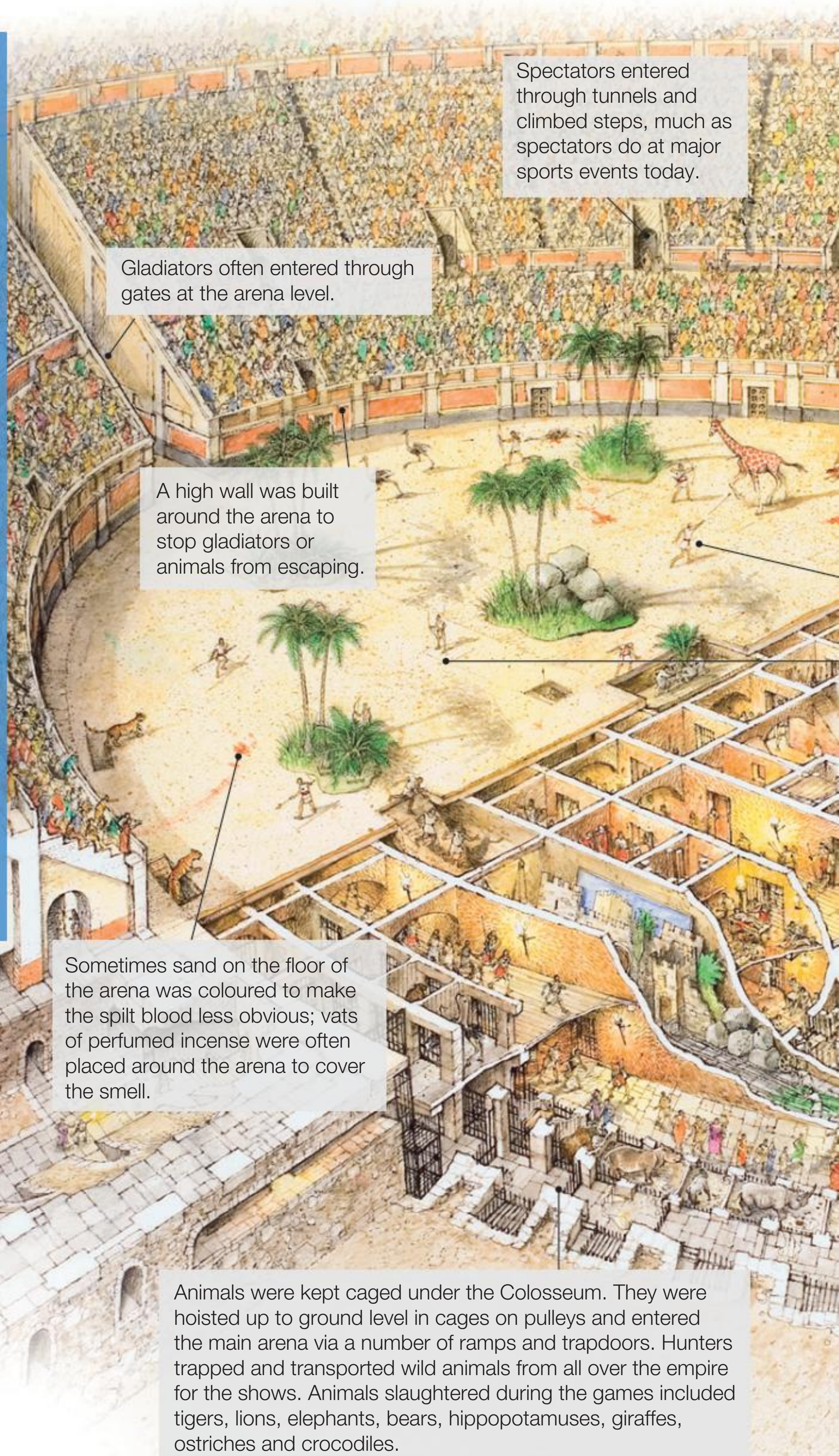
12.11 The Colosseum

In this topic, you will:

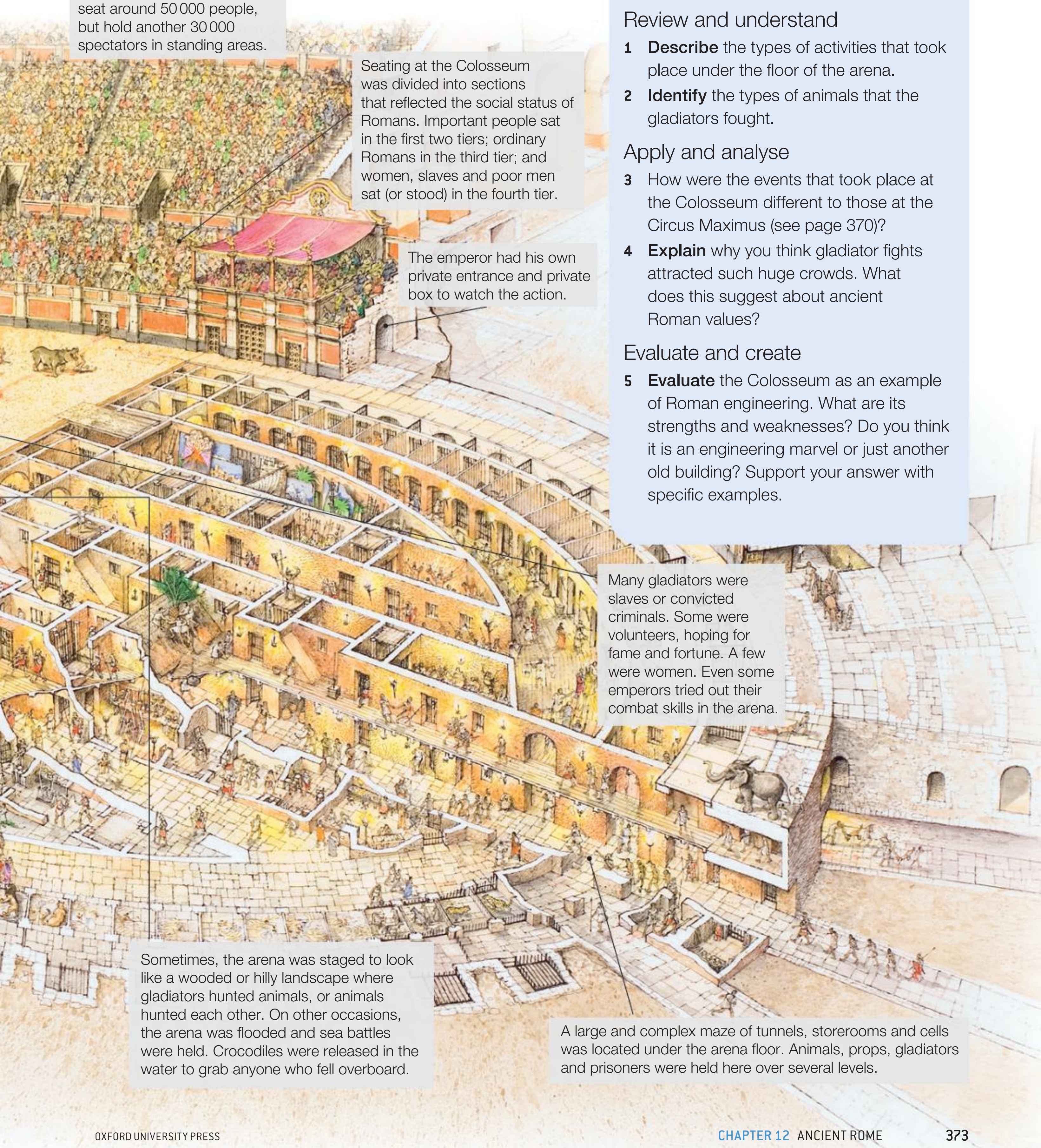
» explore the structure of the Colosseum.

The Colosseum building was started in 72 CE under Emperor Vespasian, and was completed in 80 CE. It could hold up to 80 000 people, and its external dimensions are longer and wider than Australia's largest stadium, the Melbourne Cricket Ground. It was built as a gift to the people. Upon opening, a celebration was held of 100 days of gladiatorial games. Over time the decorations, precious stones and metal clamps that held floors together were all pillaged and looted to make other buildings or weapons for wars during the Middle Ages. Today, the Colosseum hosts over 7.5 million visitors a year.

Interactive
The Colosseum



Source 10 An artist's impression of games being held at the Colosseum



The Colosseum could hold up to 80 000 people. It could seat around 50 000 people, but hold another 30 000 spectators in standing areas.

Seating at the Colosseum was divided into sections that reflected the social status of Romans. Important people sat in the first two tiers; ordinary Romans in the third tier; and women, slaves and poor men sat (or stood) in the fourth tier.

The emperor had his own private entrance and private box to watch the action.

Many gladiators were slaves or convicted criminals. Some were volunteers, hoping for fame and fortune. A few were women. Even some emperors tried out their combat skills in the arena.

Sometimes, the arena was staged to look like a wooded or hilly landscape where gladiators hunted animals, or animals hunted each other. On other occasions, the arena was flooded and sea battles were held. Crocodiles were released in the water to grab anyone who fell overboard.

A large and complex maze of tunnels, storerooms and cells was located under the arena floor. Animals, props, gladiators and prisoners were held here over several levels.

12.11 CHECK YOUR LEARNING

Review and understand

1 **Describe** the types of activities that took place under the floor of the arena.

2 **Identify** the types of animals that the gladiators fought.

Apply and analyse

3 How were the events that took place at the Colosseum different to those at the Circus Maximus (see page 370)?

4 **Explain** why you think gladiator fights attracted such huge crowds. What does this suggest about ancient Roman values?

Evaluate and create

5 **Evaluate** the Colosseum as an example of Roman engineering. What are its strengths and weaknesses? Do you think it is an engineering marvel or just another old building? Support your answer with specific examples.

12.12 Death and funerary customs in ancient Rome

In this topic, you will:

- understand the beliefs associated with death and funerary customs in ancient Rome.

A Roman funeral was an important ritual to mark the transition from life to death. Proper burial ceremonies were held to ensure evil spirits did not rise from the underworld, roam the Earth and haunt those left behind. Roman attitudes towards death were influenced by other civilisations and religions, which evolved over time as Rome conquered more territory.

The afterlife

Mythology

mythology
a series of beliefs that the ancient civilisations used to explain life and the natural world

Hades
the ancient Greek god of the Underworld; also the name of the Underworld itself – the place that the souls of people went when they died

A key influence on Roman beliefs about death was Greek **mythology**. Like the Greeks, many Romans believed that their souls were transported into the afterlife once they died. The souls of the dead went to the underworld, known as **Hades**. There were several sections in Hades. For example, wicked souls ended up in Tartarus – a place of everlasting torment and misery. The souls of the brave went to the Elysian Fields – a peaceful and happy place. Dead souls reached Hades by paying the ferryman, Charon, to row them across the River Styx.

Christianity

Christianity offered the Romans a new perspective on death. While mythology claimed that a heaven only existed for the gods and goddesses, Christianity promised people that if they were strong in faith, they may experience eternal life in Heaven. This was a much more appealing belief, and helped Christianity become adopted as the dominant religion by 391 CE.

Source 11 An artist's impression of the ferryman, Charon, rowing the soul of a dead Roman over the River Styx to Hades

The burial process

The ancient Romans regarded dead bodies as pollution, and those who tended to them as 'polluted'. Polluted people could not perform certain civic and religious duties until they had carried out purification rituals. This meant that funeral workers and executioners were constantly 'unclean'. As a result, they became social outcasts and had to live outside their cities and towns. Based on various ancient sources, we know that there were five distinct parts to the funeral ceremony (see Source 12).

STEP 1: PROCESSION	The corpse would be moved through the streets with a crowd of mourners. Wealthy families travelled at the back of the procession, while paid professional mourners were at the front. They would wail loudly, scratch their faces and rip out their hair as a display of grief. For poor families, a procession probably included only a flute player and the immediate family.
STEP 2: CREMATION OR BURIAL	Cremation was the main method for disposing of the dead. A person's belongings were often burned with their body, then the ashes were put in an urn and buried or placed in a tomb. At the end of the first century CE, burials became common practice.
STEP 3: EULOGY	The eulogy was offered to share the memories of the deceased. They were reserved for citizen men or elite women. An orator would stand upon the *rostra* (platform) to give a eulogy.
STEP 4: FEAST	The feast was not just an opportunity to eat, but an important ritual that marked the moment when the deceased could continue their journey to the underworld. This also meant that the family could move forward from their grief.
STEP 5: COMMEMORATION	Certain days were set aside each year to remember the dead, including the *Parentalia* festival in February, which honoured a family's ancestors. Families would gather around the tomb and make an offering to signify to the spirit in the underworld that their existence was not forgotten.

Source 12 The five stages of burial in ancient Rome

Sequence this!
Burial in ancient Rome

Graves and funeral clubs

Poor people in ancient Rome often belonged to funeral clubs called *collegia*. Membership gave Rome's poor some comfort that they would have the honour of a decent burial. While still alive, members would meet for a few glasses of wine while discussing their funeral arrangements. The ashes of members, after being placed in an urn, were often stored in one tomb. Each person had a pre-arranged spot for their remains.

Those who could not afford a burial plot or tomb were usually buried in a mass grave on the Esquiline Hill outside Rome. Typically, the corpses of the poor were carried there at night, often by slaves. Each corpse might be wrapped in cloth or covered with a sack before being placed in the grave. When the grave started to fill up with corpses, it was filled in with dirt. Mass graves were also used for Roman soldiers who died bravely in battle a long way from home.

Some people, though, did not receive the respect of even a 'bulk burial'. The corpses of outcasts, such as sex workers and people who took their own lives, were left out in the open for wild animals to eat.

Source 13 Romans often painted lifelike images of a person on their sarcophagus. This level of detail in artwork was not achieved again for at least 700 years.

The Law of the Twelve Tables (Source 14) outlined many changes to the funerary customs to reduce air pollution from cremations, looting of graves and constant noise from the frequent processions within the city. The death of an emperor was the one exception to these laws, as it was believed that when emperors died, they became gods rather than spirits. They were buried in the city with impressive commemorative monuments erected.

Source 14 Some of the Twelve Table laws implemented in 450 BCE regarding funerary customs in ancient Rome

Sacred Law, The Twelve Tables

- A dead person shall not be buried or burned in the city.
- Expenses of a funeral shall be limited to three mourners wearing veils and one mourner wearing an inexpensive purple tunic and ten flutists. ...
- Women shall not tear their cheeks or shall not make a sorrowful outcry on account of a funeral.
- A dead person's bones shall not be collected that one may make a second funeral. An exception is for death in battle and on foreign soil.
- Whoever wins a crown himself or by his property, by honor, or by valor, the crown is bestowed on him at his burial ...
- Gold shall not be added to a corpse. But if any one buries or burns a corpse that has gold dental work it shall be without prejudice.
- It is forbidden ... to build a new pyre or a burning mound nearer than sixty feet to another's building without the owner's consent.

I used to think, now I think

Reflect on your learning about ancient Roman beliefs on the afterlife and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

Quiz me!

A quick quiz on death and funerary customs in ancient Rome

12.12 CHECK YOUR LEARNING

Review and understand

1 **Describe** the Christian approach to death and the afterlife.

2 **Identify** the purpose of a funeral club.

Apply and analyse

3 a Copy this table into your notebook and complete it using Source 12 to help you.

Similarities in funerals today and ancient Rome	Differences in funerals today and ancient Rome

b Write a short paragraph exploring the continuity and change of the funeral service from ancient Rome to today.

4 Choose two of the laws outlined in Source 14 and **explain** why you think it was important to change each custom.

Evaluate and create

5 **Create** a Venn diagram showing the differences and similarities in funerary customs between rich and poor Romans.

12.13 Warfare in ancient Rome

In this topic, you will:

» consider how warfare and conflict affected everyday life in ancient Rome.

Military service was a part of life for Roman citizens. It was needed at first to help to increase Rome's territory and then to defend it. In fact, for a time the most important Roman god was Mars – son of Jupiter, and the god of war.

Through intense and disciplined training, Rome's army became very strong. They were known for their relentless attitude. Even if multiple battles were lost, Romans would continually come back to fight again until they had won the war. The high resilience and grit shown was reflected in the Roman virtue, *virtus*, and seen amongst the ruling class. Losing was simply not an option!

This changed, however, from around 250 CE. The Roman empire had incurred many debts to pay for the upkeep of the army and the impoverished population began to lose faith in the Via Romana values. This led to a breakdown in order and self-discipline within the army itself, which is one of the factors that contributed to the downfall of Rome's Western Empire.

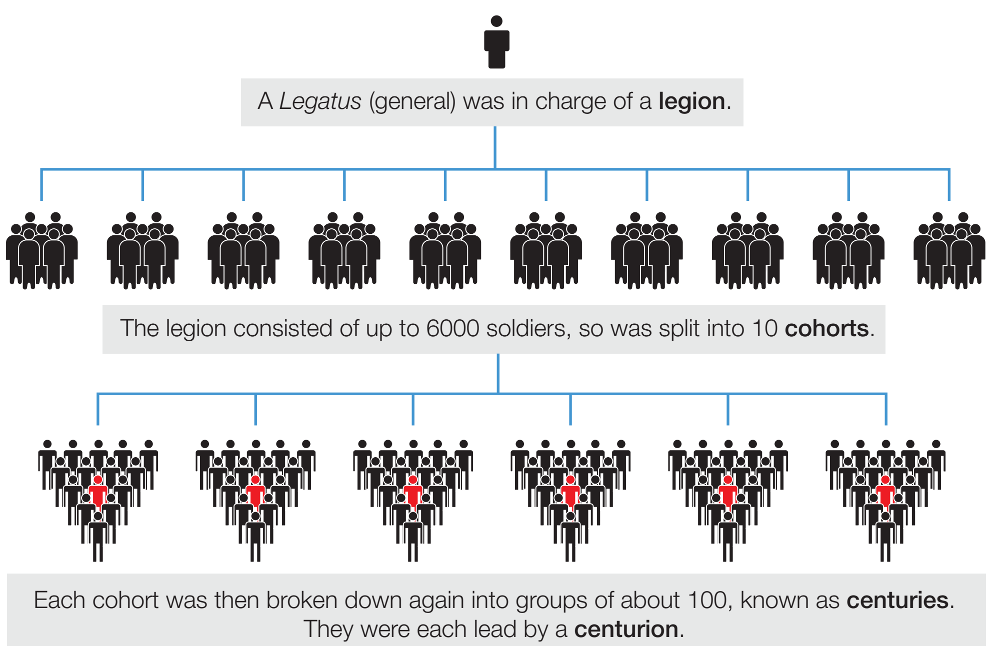
Early days

In the early days of the Republic, men had to be landowners before they could enter the army. Some were wealthy enough to own horses and buy armour and weapons. These men formed the cavalry. By 260 BCE, the army gained control of the country that we now know as Italy. As its territory grew, Rome needed a larger and more permanent army. Around 10 BCE, a Roman consul, Marius, declared that men no longer had to own land to join the army. Consequently, thousands of men (including the very poor) joined up.

legions
military units in the army of ancient Rome made up of 60 centuries (i.e. around 6000 soldiers); soldiers in a legion were called legionaries

The organisation of the army

The Roman army was a very disciplined organisation with a strict hierarchy (see Source 15). Roman soldiers were known as legionaries. The army itself was made up of around 30 **legions**, each of which was by a *legatus* (general).



Source 15 The structure of a Roman legion; the Roman army was made up of around 30 legions, each with this hierarchy.

Source 16 A Roman legionary in uniform

Roman soldiers in the second century BCE were organised for battle according to age. At the front were the young men, the spearmen. Behind them were the *principes*; these were soldiers in the prime of their lives. At the rear were the older soldiers.

A typical Roman foot soldier would be dressed in a red woollen tunic over which was worn body armour (see Source 16). The armour for the torso was made up of overlapping iron plates. They also wore a helmet, a scarf to protect against chafing from their helmet and armour, a belt with studded leather strips for groin protection, and leather sandals.

Their weapons generally consisted of a dagger, sword, javelin (spear) and a large shield called a scutum. The cavalry required a smaller round shield to ride on horseback. The symbol for the army, as seen on their shields, combined the wings of an eagle with thunderbolts to represent the king of the gods, Jupiter.

Siege warfare

Roman generals were highly skilled military strategists. One strategy employed by the Roman army to give an advantage over its enemies was siege warfare tactics. Siege warfare involved surrounding an enemy city and starving those inside into submission. It often involved slaughtering the enemy after they surrendered. A common approach was to build two parallel walls around the city. The inner wall was a barrier to stop food being brought into the city. The outer wall provided protection for the Roman troops in case warriors or supporters of those inside the city tried to attack.

The Romans had an extensive array of siege equipment, often adopted from other empires. They would further improve the design to make them easier to transport into battle.

Source 17 An artist's impression of Roman soldiers building a siege tower in readiness to lay siege to a city

Weapon	Description
Battering ram 	A structure on wheels that contained a long, suspended log encased in iron in order to breach the enemy gate
Siege tower 	A multistorey tower constructed on wheels to move towards city walls; archers would attack from the top level, while a battering ram was often placed on the lower level. It enabled soldiers to cross over the top of forts.
Catapult 	A larger engine that hurled stones from a long arm when it was suddenly released from tension
Scorpio 	A small catapult that was placed on higher ground and could fire with power and precision up to 100 metres, like a modern-day sniper weapon.
Onager 	A large slingshot which would fire projectiles long distances; it was used to break down walls or forts
Testudo 	A defensive manoeuvre that required soldiers to align their shields to create a boxed wall and protect them from enemy attack

Analyse this!
Weapons and armour in ancient Rome

Source 18 Siege equipment used by the ancient Roman army

12.13 CHECK YOUR LEARNING

Review and understand

1 **Describe** how the Roman army honoured the gods.

2 Give examples of why the Roman army was considered to be strong and relentless.

Apply and analyse

3 **Examine** Source 17. Using the information in Source 18, identify as many weapons and siege tactics as you can.

4 **Explain** how the Roman army gave a sense of leadership and teamwork to its legionaries. Use Source 15 to help you answer this question.

Evaluate and create

4 Plan a battleground set up for attacking an enemy fort. Annotate your diagram with reasons for the positioning of various soldiers and siege weapons.

5 **Evaluate** the Roman legionary uniform (as seen in Source 16) by answering the following questions:

a What were its strengths?

b What were its weaknesses?

c What is your overall opinion of it?

Use evidence to support your answers where you can.

12C

RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Pax Romana

Pax Romana is Latin for 'Roman Peace'. It is a common term used to describe a 200-year period of relative peace in Imperial Rome. Many classify Pax Romana as the time of the 'five good emperors', those being Nerva (reigned 96–98 CE), Trajan (98–117 CE), Hadrian (117–138 CE), Antoninus Pius (138–161 CE) and Marcus Aurelius (161–180 CE).

During this time, the empire expanded under a strong army, citizens felt secure under law and order, and the economy prospered as the empire's population grew to around 70 million people.

Many historians regard the Pax Romana as a high point in human history. With such peace came many developments in engineering, architecture, the arts, literature and entertainment. Historian Edward Gibbon coined the phrase 'Pax Romana'. In his book *The History of the Decline and Fall of the Roman Empire*, he writes:

Source 19 Edward Gibbon describing the era of Pax Romana

> … the tranquil and prosperous state of the empire was warmly felt and honestly confessed by the provincials as well as Romans … They affirm that, with the improvement of arts, the human species was visibly multiplied. They celebrate the increasing splendour of the cities, the beautiful face of the country, cultivated and adorned like an immense garden; and the long festival of peace, which was enjoyed by so many nations.

Source 20 This carving is from the Altar of Ara Pacis showing the Goddess of Peace, Pax.

KEY SKILL
Sequencing events

Plotting events on a timeline

Timelines are a very important tool for historians. They allow the reader to easily identify what happened when, and how much time went by between events.

Follow these steps when creating a timeline:

Step 1 Determine the type of timeline required, i.e. horizontal or vertical.

Step 2 Establish the total time span you need to cover with your timeline. Consider:
- the starting date of the timeline
- the end date of the timeline.

Step 3 Enter the most significant dates on the timeline and provide key facts and information about the events that took place on each date. Be sure your written text is clear and concise.

Step 4 Make sure each event date is entered chronologically (in order) from left to right (for horizontal timelines) or top to bottom (for vertical timelines).

For more information on this key skill, refer to page 198 of 'The history toolkit'.

Practise the skill

1 Follow the steps provided to **create** a timeline of the five good emperors of Rome. The dates that you need are available in the text on the previous page.

Extend your understanding

1 Using the internet, conduct some **research** to create a timeline of key events and achievements during Pax Romana (27–180 CE). Your timeline should include a range of dates covering various facets of society from the following list:
- the period of reign for the five good emperors during Pax Romana
- four key buildings erected during Pax Romana; for example, the Pantheon, Colosseum, Trajan's Column, Hadrian's Wall, Temple of Peace, and so on
- three public bathhouses erected; these could include Thermae Etrusci, Baths of Nero, Baths of Titus, Baths of Domitian or the Baths of Trajan
- two famous literary works during Pax Romana; this was called the Silver Age of Latin Literature
- one aqueduct or other engineering project completed during this time.

2 Why do you think this peaceful period brought economic prosperity to all Romans? Use Sources 19 and 20 to help you answer.

3 Imagine what it would have been like to live during Pax Romana. Write a letter or diary entry describing your week based on what you have learnt about daily life in Rome. Think about your social status, gender, employment, leisure and entertainment activities. Refer to page 209 of 'The history toolkit' for more information on empathy.

Source 21 The Pantheon temple in Rome was constructed during the reign of Emperor Hadrian. It is an architectural marvel, with a 43-metre-diameter concrete dome roof and Roman columns reaching 12 metres tall.

12.14 Change through conflict

In this topic, you will:

» explore the causes and effects of ancient Rome's contact and conflict with other societies.

Punic Wars

Carthage was a port city located on the north African coastline of the Mediterranean Sea, which was an ideal location for trade. After many centuries of peaceful co-existence with Rome, Carthage was threatened as the Romans advanced towards Sicily (a strategically located island under Carthage's control). As a result, the Punic Wars broke out – three wars that spanned almost 120 years from 264 to 146 BCE and were fought on land and sea. Triumph in these wars eventually gave Rome total control of the Mediterranean Sea.

First Punic War

Lasting from 264 to 241 BCE, the First Punic War had many battles, victories and stalemates over 20 years. There was huge loss of life on both sides. Battles occurred on the island of Sicily, in north Africa and at sea.

The Roman campaign was funded by wealthy patricians, which contributed greatly to their victory. Sicily became the first foreign province of the Roman Empire, and Carthage was forced to pay Rome 3200 talents of silver over the next decade.

Second Punic War

The Second Punic War was fought between 219 and 202 BCE. Carthage was now led by Hannibal, whose father had suffered defeat in the First Punic War. In 218 BCE, his army embarked on a 2000-kilometre-long journey to descend upon Rome. Starting in modern-day Spain, the Carthaginian army traversed along the northern Mediterranean coastline, crossing rivers, mountains and even the Alps during winter (see Source 1).

Hannibal's forces were made up of 38000 soldiers, a further 8000 horsemen and 37 elephants. His army had initial success defeating the Romans in southern Italy, but ultimately, the Roman forces claimed victory once again.

Source 1 An artist's impression of Hannibal's troops crossing the Alps

Third Punic War

The Third Punic War lasted only three years and resulted in the destruction of Carthage. The Roman Senate decided it was time to conquer Carthage; at that time Senator Cato would end every speech at the Senate by saying, 'Carthage must be destroyed'.

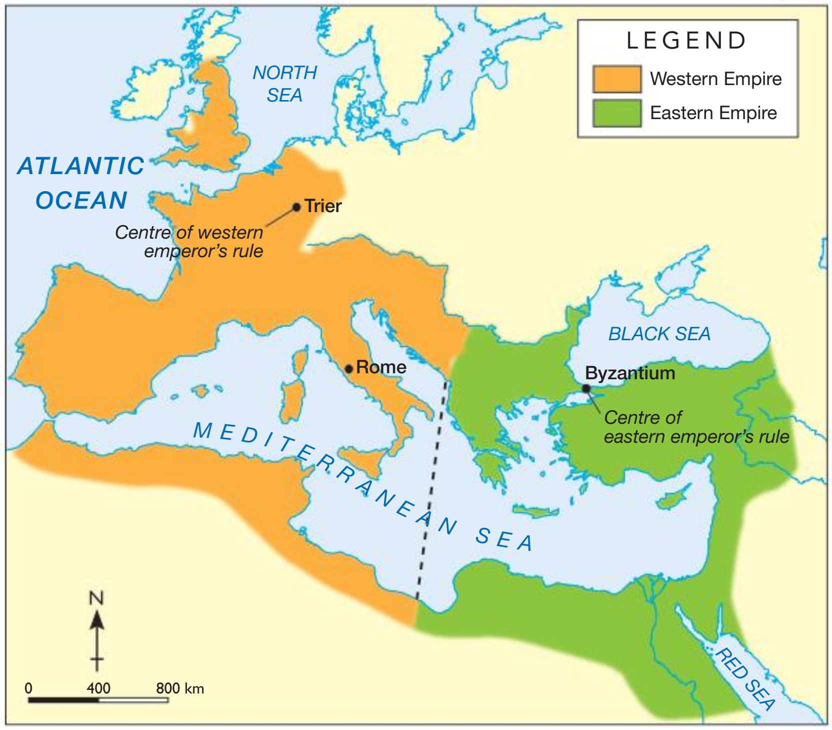
The Romans either killed or enslaved the population of Carthage and secured the western side of the Mediterranean for themselves. Rome controlled the African coastline by 146 BCE, greatly increasing its territory.

Barbarian invasions

After many further conquests around the Mediterranean and beyond, the Roman Empire reached its peak early in the second century CE. As the empire grew, it became too large to govern properly.

There was growing corruption in the army and economic problems back home. Instead of focusing on protecting their borders, Roman armies began fighting each other. As a result, many outside invaders were able to enter Rome and wreak havoc. These invaders included the Huns, Goths, Franks, Vandals and Saxons. The Romans referred to these people collectively as 'barbarians' because they lived outside the borders of the Empire.

WESTERN AND EASTERN EMPIRES OF ANCIENT ROME



Source 2 Source: Oxford University Press

Emperor Diocletian decided to split the Empire in 284 CE (see Source 2), hoping that it would make the empire easier to manage.

The Western Empire only became weaker. The barbarian invasions continued until, eventually, the Goths took over Rome in 476 CE. This is known as the Fall of Rome, and the time at which Rome entered a period in history known as the Dark Ages.

The eastern half of the Roman Empire received a new name – the Byzantine Empire. The Byzantine Empire lasted for another 1000 years.

Sequence this!
Conflict in ancient Rome

12.14 CHECK YOUR LEARNING

Review and understand

1 **List** the main dates and events of the Punic Wars.

2 **Describe** the characteristics of Hannibal's journey to Rome that make it legendary and impressive.

Apply and analyse

3 Using Source 2 and the world map in the back of your book, **determine** which modern countries became part of ancient Rome after the Punic Wars.

Evaluate and create

4 Wars can have a huge impact on the civilian population. Working in groups, **create** a mind map with three branches coming out from the centre concept titled, 'Changes to daily life during war times'. The three branches should be titled economic factors, social factors, and political factors. Brainstorm the effects a war can have on the home front and organise your thoughts under a specific factor on your mind map.

5 Imagine you are a solider in Hannibal's army on its 2000-kilometre march towards Rome. Write a letter that describes where you are marching and the conditions you are experiencing.

12.15 Change through trade

In this topic, you will:

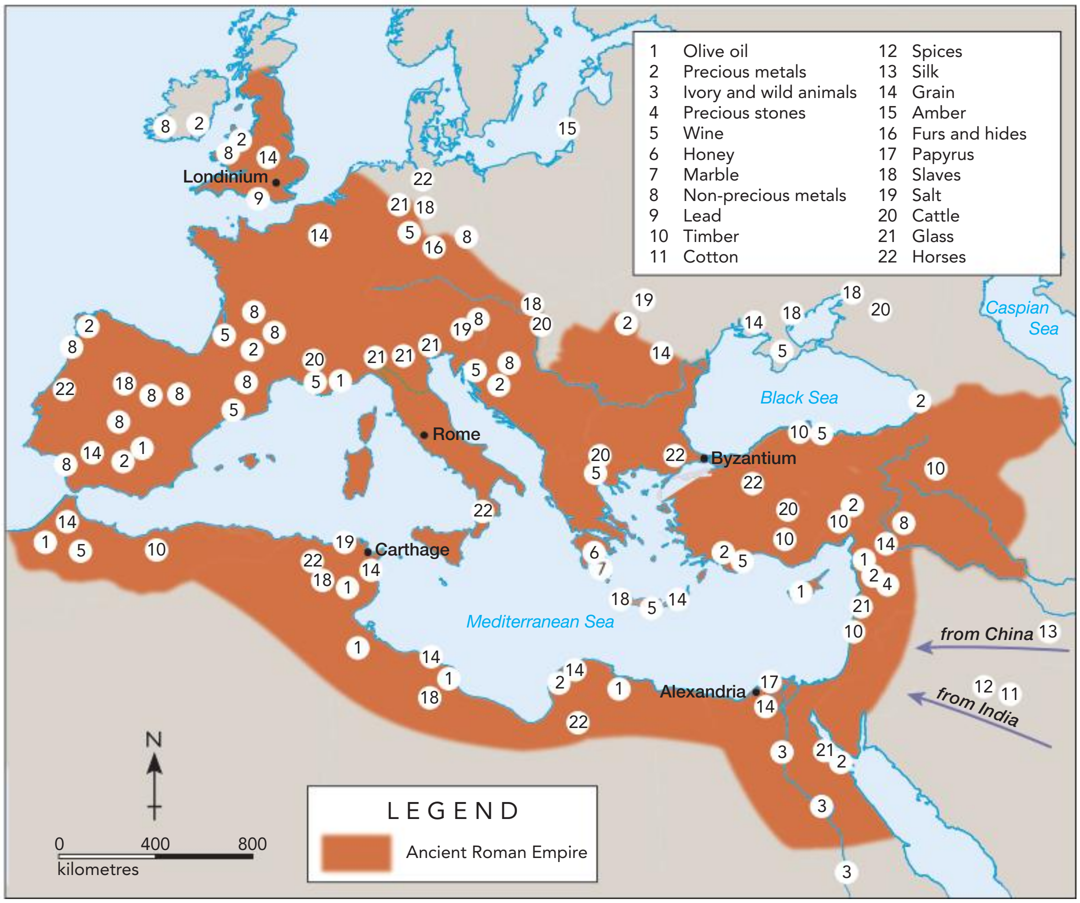
» explore the cause and effects of ancient Rome's contact and trade with other societies.

Trade was vital to ancient Rome's development from a small farming settlement to a massive empire. With their prosperous farming economy, the Romans were able to **export** food and produce while also **importing** new products as the empire grew. Trade also encouraged change in society by bringing the Romans into contact with different kinds of people, who introduced new ideas about religion, new fashions and new processes and skills to the empire.

export
the selling and transporting of goods to another country

importing
bringing in a product or service to one country from another

COMMON ROMAN IMPORTS



Source 3

Source: Oxford University Press

Ancient Rome's trading empire

The peak era of Roman trade was between the second century BCE and second century CE, as the highest number of recorded workers were involved in different jobs in trading. This included the people who produced the food, those who transported it from place to place, and those who sold it. Jobs in trade were generally considered suitable for the middle and lower classes, not for the elite patricians.

Around 167 BCE, Rome seized control of Spanish gold and silver mines which boosted the republic's treasury. Historian Diodorus of Sicily wrote in 70 CE that this land possessed 'the most abundant and most excellent known source of silver, and to the workers of silver it returns great revenues.' As the empire prospered, so did its people – the Senate reduced taxes for the Romans because of this discovery. With access to these mines, coins became used as a common form of currency within Rome. It was Julius Caesar who first ordered his portrait be displayed on coins.

Source 4 The wreathed head of Caesar on a Roman coin

Trade with the East

In addition to trade by sea, the Romans also traded by land. Having expanded the empire into Egypt in 30 BCE, the Romans inherited access to trade with China and India through the **Silk Road**. The Silk Road was a series of trade routes that stretched from China to the eastern shores of the Mediterranean Sea, and provided some of the first economic, cultural and religious interactions between the East and the West.

Merchants travelled across the Silk Road, using donkeys, camels and oxen to carry their goods. A silk trade boomed between China and Rome. Silk became so popular that the Senate tried to ban it – in part, due to the economic impact of money being spent *outside* of the Roman economy, but also because it was not a modest fabric for women to wear!

Rome exported glass, golden cloths and rugs to China, however trade became increasingly difficult as the Parthian Empire (located in modern-day Turkey, Afghanistan and western Pakistan) blocked trade routes in an effort to maintain control and profit between the Roman and the Chinese empires.

Silk Road
a trade route stretching west from China to the Mediterranean Sea; the main route by which silk was introduced to the West

Source 5 The first clearly documented visit from China in Rome, written during the reign of Emperor Augustus, around 20 BCE, by the Roman historian, Florus

> *In truth, it needed but to look at their complexion to see that they were people of another world than ours.*

12.15 CHECK YOUR LEARNING

Review and understand

1 Using the world map at the back of your book, **identify** the modern countries from which ancient Rome once imported the following: marble, ivory, timber, horses.

Apply and analyse

2 **Examine** Source 3.
  a **List** three metals, three foods and three clothing items that Rome imported.
  b What are some ways that these goods might have been used by the Romans? How might these have changed people's lifestyles?

3 'The Silk Road is considered by many historians as one of the most significant achievements in the history of world civilisation.' Write a paragraph (150 to 200 words) to **explain** why you think this is the case. Use evidence from this topic to support your answer.

Evaluate and create

4 **Research** 'Constantinople and the great chain' and discover why its location was ideal for a port and trade.

Quiz me!
A quick quiz on how Rome experienced change through trade

12D RICH TASK

Tacitus: a Roman historian

Quizlet

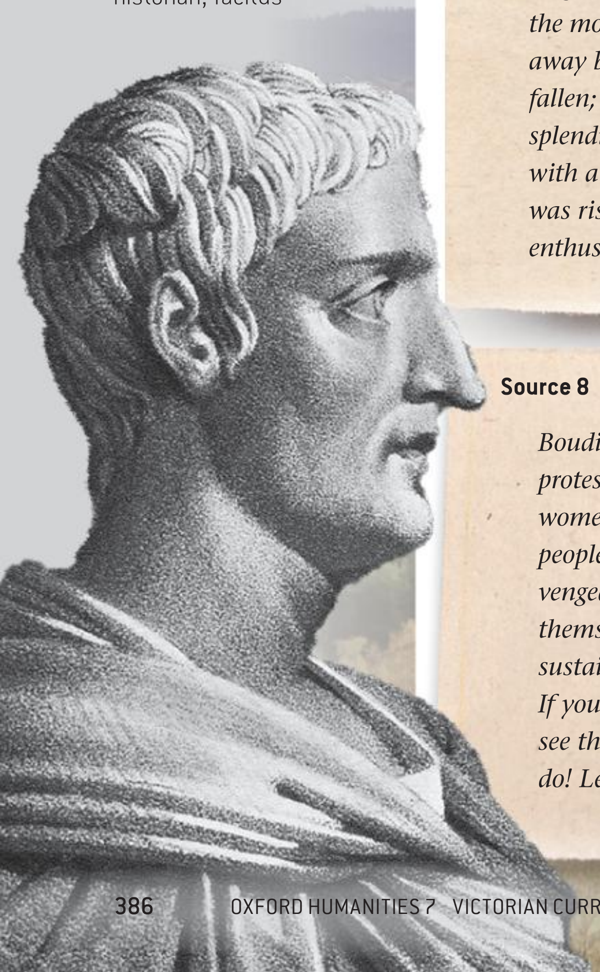
Revise the key terms you have learnt so far.

Publius Cornelius Tacitus was a Roman senator, consul and historian who lived from 56 to 117 CE. He wrote many historical works that described life in Rome through his eyes.

His peers would criticise him for not boasting enough about Rome. However, Tacitus wrote Rome as he saw it portraying the ‘inglorious … petty trifles’ of the Republic. In doing so, he, created a series of primary sources that historians today agree provide an honest account of life in Rome.

In Sources 7 and 8, Tacitus describes how two key leaders spoke to their troops before battles that occurred in Roman Britain. In the first extract, Tacitus writes to commemorate (remember) his father-in-law Gnaeus Julius Agricola, a Roman general who led the conquest against the Celts in modern-day England. In the second extract, Tacitus gives his account of the Celtic Queen Boudicca summoning her people to avenge the Roman occupation of Britain. Both were written by Tacitus, many years after the actual events.

Source 6 Portrait of the historian, Tacitus



Source 7

Agricola, who, though his troop were in high spirits and could scarcely be kept within the entrenchments, still thought it right to encourage them, spoke as follows:

‘… As it is, look back upon your former honours, question your own eyes … Of all the Britons these are the most confirmed runaways, and this is why they have survived so long. Just as when the huntsmen penetrates the forest and the thicket [thick bushes], all the most courageous animals rush out upon him, while the timid and feeble are scared away by the very sound of his approach, so the bravest of the Britons have long since fallen; and the rest are a mere crowd of spiritless cowards … that you might achieve in it a splendid and memorable victory. Put an end to campaigns; crown your fifty years’ service with a glorious day ...’ While Agricola was speaking, the ardour [eagerness] of the soldiers was rising to its height, and the close of his speech was followed by a great outburst of enthusiasm. In a moment, they flew to arms.

Tacitus, *Life of Gnaeus Julius Agricola* (98 CE)

Source 8

Boudicca, with her daughters before her in a chariot, went up to tribe after tribe, protesting that it was indeed usual for Britons to fight under the leadership of women. ‘It is not as a woman descended from noble ancestry, but as one of the people that I am avenging lost freedom … heaven is on the side of a righteous vengeance; a legion which dared to fight has perished; the rest are hiding themselves in their camp, or are thinking anxiously of flight. They will not sustain … the shout of so many thousands, much less our charge and our blows. If you weigh well the strength of the armies, and the causes of the war, you will see that in this battle you must conquer or die. That is what I, a woman, plan to do! Let the men live in slavery if they will."

Tacitus, *The Annals of Imperial Rome* (118 CE)

KEY SKILL
Analysing sources

Understanding purpose, perspectives and empathy

Purpose

Most primary sources are created for specific purposes; for example, a letter might be intended to share news with a friend, and a statue might be created as a gift to the gods. Even factual secondary sources, such as a history website or documentary, can have another purpose, such as to make money or entertain. Therefore, we need to be able to interpret the perspective or attitude presented in a source, and then decide whether it is useful and relevant.

Ask yourself:

- Why was the source written or produced?
  - Are there personal motives?
  - Are there political reasons?
  - Is it propaganda?
- How was it written or produced?
  - Does it give a particular point of view?
  - Does it give a detached, balanced account?
  - Is it biased either for or against the issue?

Perspectives and empathy

Primary sources are often useful in conveying the perspective or point of view of someone living at the time. Such information enables us to develop empathy for what it would have been like to live during the time being studied. When we can put ourselves in someone else's shoes, we can then form our own perspective.

Step 1 Identify the purpose of the source. Why was the source written or produced?

Step 2 Identify how the source has been produced. Is it written or perhaps an artwork that has been created?

Step 3 Look for the perspective in this source. Does the author bring in both sides, or is it more one-sided? Would you consider it to be biased?

Step 4 Using empathy, consider how the author may have been feeling at the time of writing. Is the creator of the source detached or emotional?

For more information on this key skill, refer to page 205 of 'The history toolkit'.

Practise the skill

1 Using the steps above, **analyse** the perspective in Sources 7 and 8. Make sure you follow all steps for both sources.

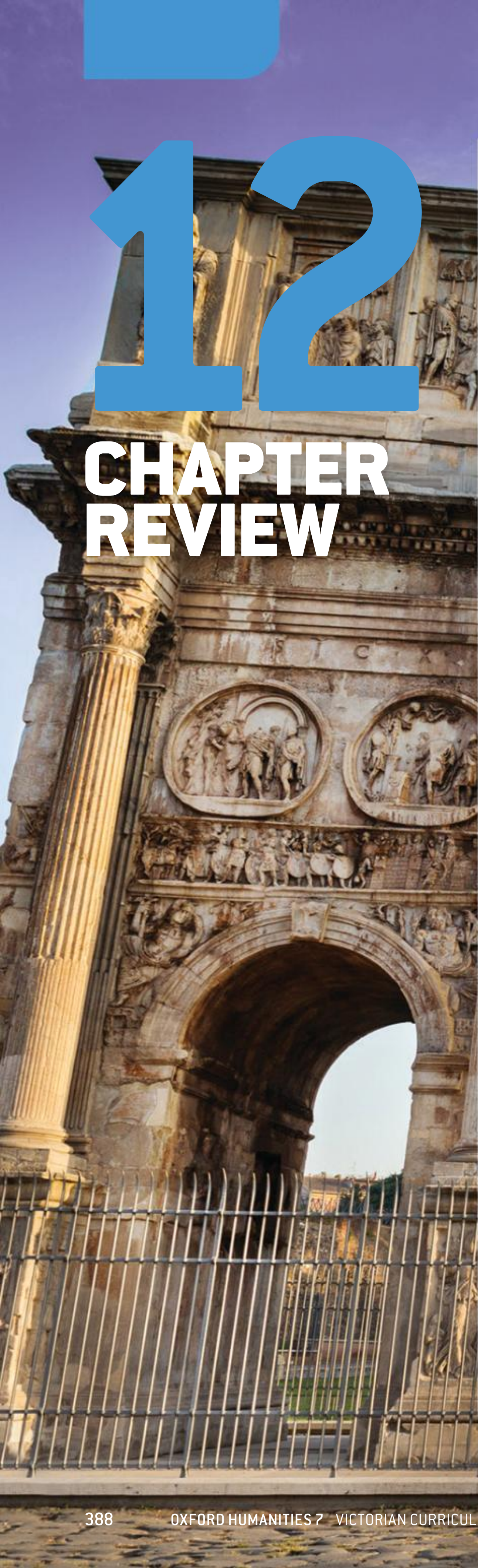
Extend your understanding

1 **a** **Create** a list of pros and cons about historians who wrote at the time. What are the strengths and weaknesses of being there at the time and providing an eyewitness account?

b **Create** another pros and cons list about a historian who writes secondary sources.

2 Using the DAMMIT acronym (see page 353), write a paragraph **analysing** either Source 7 or 8.

Source 9 Queen Boudicca led an uprising against the Roman occupation of Britain.



12 CHAPTER REVIEW

Review questions

12A How did the physical features of Rome influence its development?

1 **Explain** why the location of Rome's initial settlement was ideal for protecting and growing a population. (3 marks)

2 The Romans were very successful road builders. **Explain** why this was an advantage in the expansion of the Empire. (3 marks)

3 **Analyse** the significance of Rome's position in the Mediterranean Sea on its development as an Empire. (4 marks)

(Total: 10 marks)

12B What shaped the roles of key groups in ancient Rome?

1 **Identify** two important roles of the Roman Senate. (2 marks)

2 **Distinguish between** slaves and patricians as social classes in ancient Rome. Use at least two examples to support your answer. (4 marks)

3 'The differences between males and females had more impact on daily life in Rome than the differences between citizens and non-citizens.' Do you agree or disagree with this statement? Write a short paragraph to explain your position. (4 marks)

(Total: 10 marks)

12C How did beliefs, values and practices influence ancient Rome?

1 Which value was the most important to the Roman army? Why do you think this? (1 mark)

2 **Explain** how Christianity gained popularity in ancient Rome. (3 marks)

3 Do you agree that Romans 'lived life to the max'? **Justify** (give reasons for) your answer. (6 marks)

(Total: 10 marks)

12D How did ancient Rome change and develop?

1 **Identify** the leader of Carthage in the Second Punic War. (1 mark)

2 **Explain** the advantages and disadvantages of trading on the Silk Road for the Roman economy. (3 marks)

3 **Discuss** two examples of change in ancient Rome that resulted from the Punic Wars. (6 marks)

(Total: 10 marks)

Review activity

Read this extract from a letter by Roman philospher Seneca and answer the questions.

A lively bathhouse

Source 10

I have lodgings right over a bathing establishment. So picture to yourself the assortment of sounds, which are strong enough to make me hate my very powers of hearing! When the stronger gentleman, for example, is exercising himself by swinging leaden [heavy] weights; when he is working hard, or else pretends to be working hard, I can hear him grunt; and whenever he releases his imprisoned breath, I can hear him panting in wheezy and high-pitched tones. Or perhaps I notice some lazy fellow, content with a cheap rubdown, and hear the crack of the pummelling hand on his shoulder, varying in sound according as the hand is laid on flat or hollow. Then, perhaps, a professional comes along, shouting out the score; that is the finishing touch. Add to this the arrest of a pickpocket, the racket of the man who always likes to hear his own voice in the bathroom, or those who plunge into the swimming-tank with unconscionable noise and splashing … imagine the hair-plucker with his penetrating, shrill voice, – to attract more attention … never holding his tongue except when he is plucking the armpits and making his victim yell instead. Then the cakeseller with his varied cries, the sausageman, the confectioner, and all the vendors of food hawking their wares, each with his own distinctive intonation.

Roman philospher Seneca (3 BCE–65 CE), *Letter 56*

1 **Identify** whether Source 10 is a primary or secondary source. (1 mark)

Source 11 Roman baths can still be seen in the modern-day city of Bath in England.

2 Do you think the author of Source 10 might have had a different perspective on bathhouses if he had not lived above one? **Explain** why you think this. (3 marks)

3 Based on the information gathered from Source 10, **describe** the atmosphere of the bathhouse. (2 marks)

4 The concept of continuity and change is important to history, as it helps us understand that some things stay the same while others change. **Compare** the various aspects of the bathhouse to similar businesses or places we may visit today. What is similar and what has changed? (4 marks)

5 **Discuss** how useful Source 10 is in understanding the experience of the Roman bathhouse. Do you think it is accurate? What other evidence could help you understand what the bathhouse was like? Provide examples to support your opinion. (6 marks)

6 **Analyse** Source 10 using the DAMMIT acronym. In your response, provide examples from the source and from what you have learnt about ancient Rome. (4 marks)

(Total: 20 marks)

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Key skill worksheet
Communicating & reflecting: Chapter 12

Quizlet
Play a game of Quizlet on Ancient Rome.

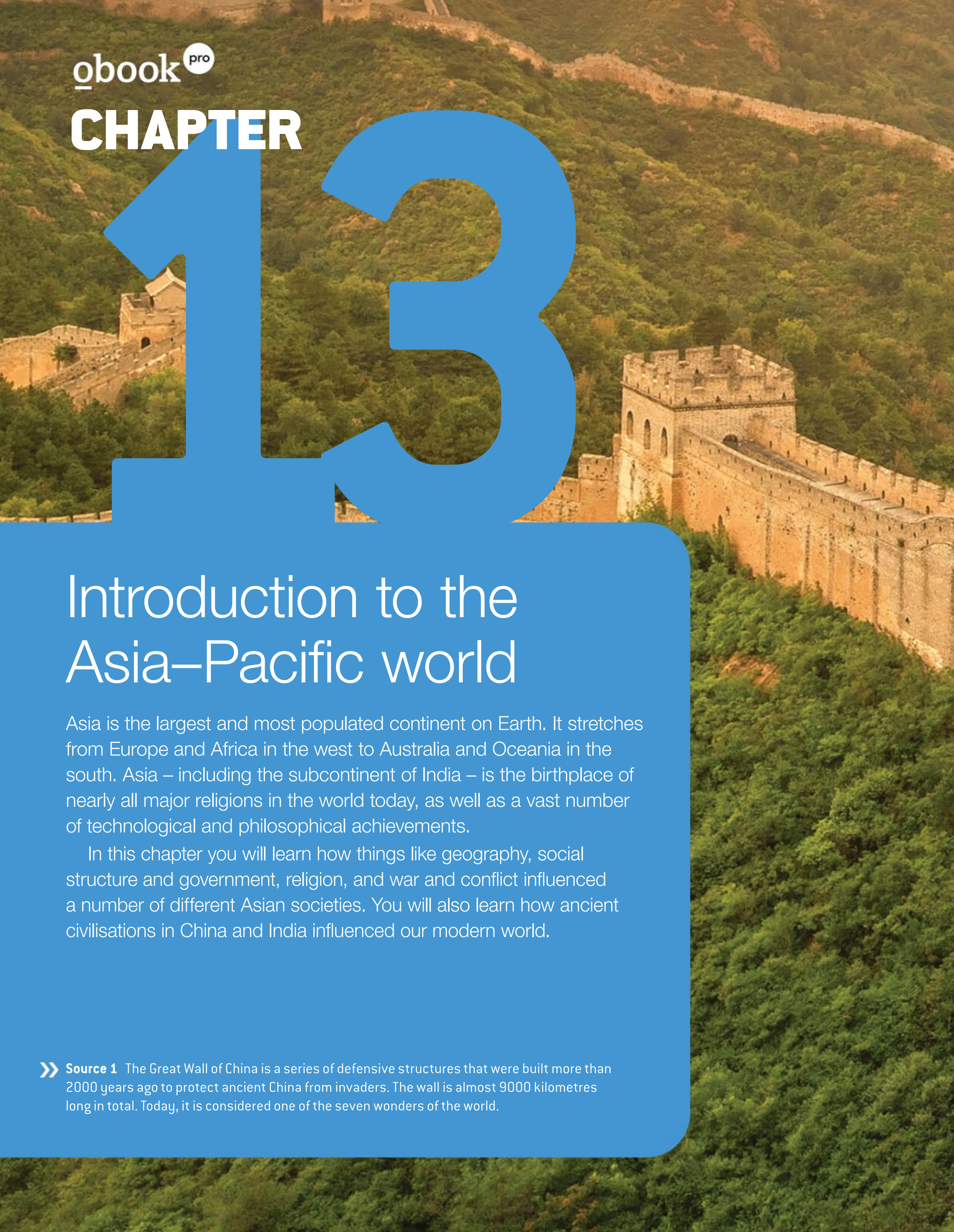
Chapter review quiz
Chapter 12

CHAPTER 13

Introduction to the Asia–Pacific world

Asia is the largest and most populated continent on Earth. It stretches from Europe and Africa in the west to Australia and Oceania in the south. Asia – including the subcontinent of India – is the birthplace of nearly all major religions in the world today, as well as a vast number of technological and philosophical achievements.

In this chapter you will learn how things like geography, social structure and government, religion, and war and conflict influenced a number of different Asian societies. You will also learn how ancient civilisations in China and India influenced our modern world.



Source 1 The Great Wall of China is a series of defensive structures that were built more than 2000 years ago to protect ancient China from invaders. The wall is almost 9000 kilometres long in total. Today, it is considered one of the seven wonders of the world.

13A
Where and when did ancient societies in Asia develop?

13B
What were the key features of ancient societies in Asia?

13C
How did ancient societies in Asia influence our modern world?

The Asia–Pacific world

This unit offers a choice of two topics:

- Ancient India
- Ancient China.

You must choose *at least one* of these topics for study.

13.1 The where and when of the Asian world

In this topic, you will:

» explore when and where the ancient civilisations of the Asia–Pacific world developed.

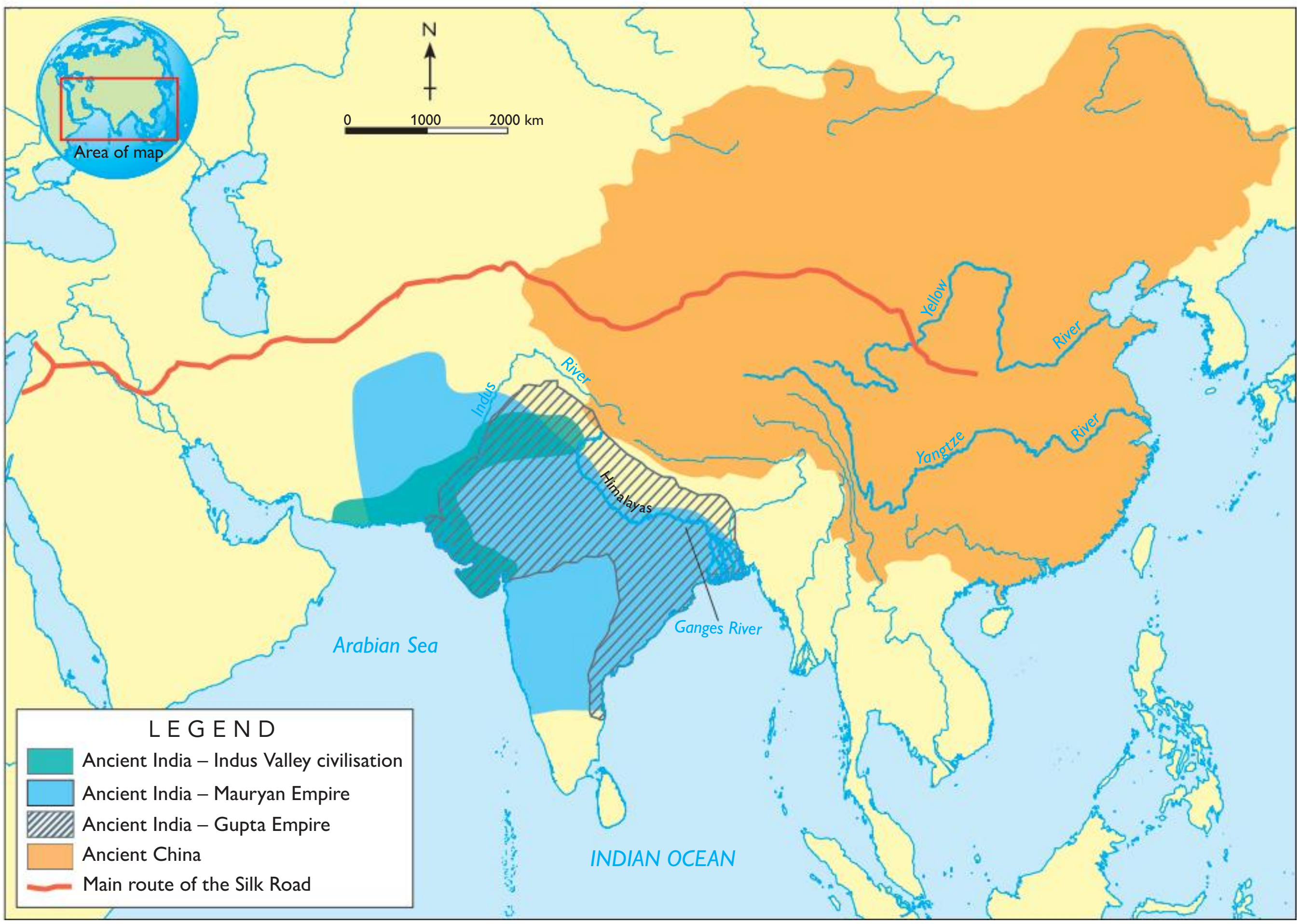
Some of the most significant ancient civilisations developed on the continent we now know as Asia. They included ancient India and ancient China.

In this unit you will be studying one of these ancient civilisations in detail. To get a better understanding of how and why your chosen civilisation developed, it helps to look at some of the factors they had in common and how their development was linked.

Source 1 shows the location and size of these ancient civilisations and provides some key information about each of them. The timeline (Source 2) also shows the dates for each of the civilisations shown here. Note the dates for each civilisation as you are looking at the map – not all of them existed in the same time periods. Some flourished and then disappeared, only to later become part of another civilisation. This was the case with the Indus Valley civilisation in India, which became part of the Mauryan Empire.

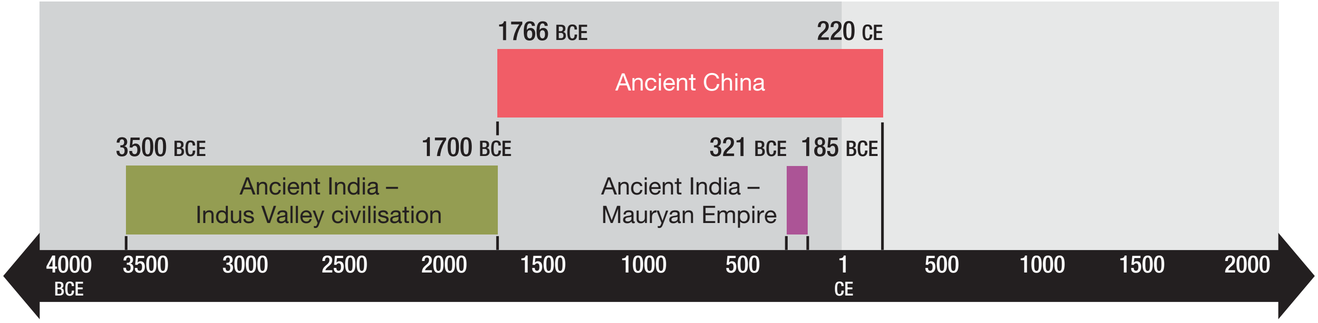
Quiz me!
A quick quiz on the where and when of the Asian world

ASIA–PACIFIC WORLD: KEY CIVILISATIONS



Source 1

Source: Oxford University Press



Source 2 A timeline showing the rise and fall of ancient civilisations

ANCIENT INDIA (3500–185 BCE)

Civilisation in India began in the Indus Valley in 3500 BCE. For much of its history, ancient India was a collection of separate regions and kingdoms, some of which were at war with one another. At different times, some of these were ruled as part of dynasties or empires; this included the Mauryan Empire, a civilisation that rose and fell in just 120 years.

Source 3 The Great Stupa, in central India

dynasties
periods of rule by members of the same family who come to power one after the other

empires
groups of countries and/or areas, often with different languages and cultures, that are ruled by a central power or leader (known as an emperor or empress)

ANCIENT CHINA (1766 BCE–220 CE)

Ancient China was ruled for 3600 years by dynasties. The last dynasty – the Qing – ended in 1912. Chinese society was one of the earliest in the world to establish towns and cities. It also contributed important technological developments to the rest of the world, such as gunpowder and printing.

Source 4 The Great Wall of China

13.1 CHECK YOUR LEARNING

Review and understand

1 Use Sources 1 and 2 to order the ancient civilisations in Asia by size and by length of time they existed.

2 **Identify** the first civilisation in India and state where it began.

3 Ancient China was ruled by dynasties. In your own words, **define** the term dynasties.

13.2 Key features of the Asian world

In this topic, you will:

» outline the key features of the ancient Asia–Pacific world, including physical features, social structure, art, religion and conflict.

Physical features

For a long time, ancient societies in the West knew very little about civilisations in Asia, such as China and India. In China's case, a large part of this was due to its geography. The largest ocean on Earth (the Pacific) lies to its east, dense forests to the south, the world's tallest mountains (the Himalayas) to the west, and large deserts to the north-west. All of these physical features made China difficult to reach. In the third century BCE, the Great Wall of China was constructed as a final barrier to would-be invaders at its northern border.

Source 1 The Yangtze River in Yunnan Province, southern China

Chinese society was based on agriculture in the fertile plains of its two major rivers, the Yellow River and the Yangtze River. China's large area means it has very different climates in different regions.

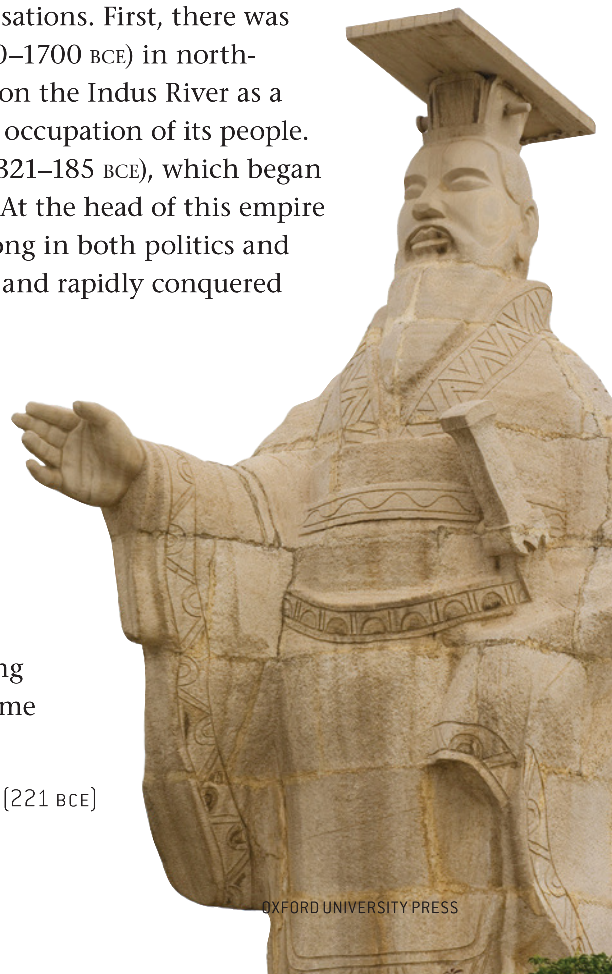
India's geography was also influential in shaping its history. To the north, deserts and the Himalayas provided a natural barrier. There was plenty of fertile land for people to settle, including coastal regions, plains and river valleys. Trade was made possible by the region's rivers. They provided transport routes to the coast, where goods could be traded with other countries.

These physical features were important for the development of two separate civilisations. First, there was the Indus Valley civilisation (*c.* 3500–1700 BCE) in north-western India. This civilisation relied on the Indus River as a major transport route for trade – a major occupation of its people. Much later, there was the Mauryan Empire (321–185 BCE), which began near the Ganges River in the north-east of India. At the head of this empire was the Mauryan Dynasty, whose rulers were strong in both politics and warfare. They formed ancient India's first empire and rapidly conquered most of the Indian subcontinent.

Much of India is very hot throughout the year, and monsoonal rains mean it is wet for months at a time. These conditions influenced architecture, clothing and food.

Social structure and government

China was governed under ruling dynasties (ruling families) for much of its history. The emperors came from powerful, wealthy families, and passed the



Source 2 A statue of Qin Shi Huang, the first emperor of China (221 BCE)

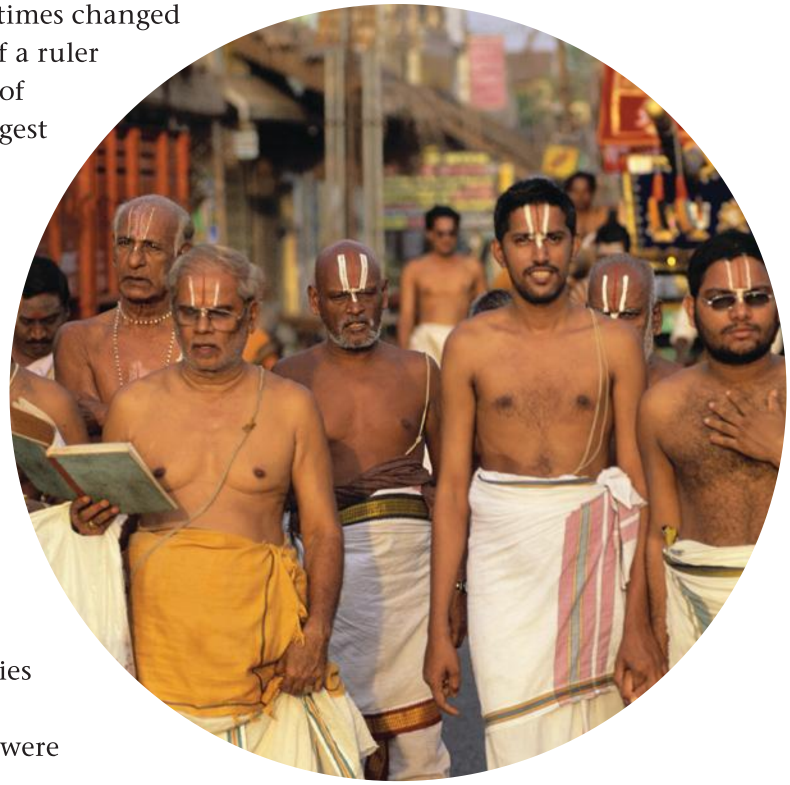
leadership down to their children. Dynasties sometimes changed after a power struggle between rival families, or if a ruler became very unpopular with the people because of floods or famine. The Han Dynasty ruled the longest – nearly four centuries.

China had a strict social **hierarchy**. Rulers, scholars and nobles made up the wealthy and powerful group at the top of the hierarchy. Farmers and then merchants were below them. Like women in other ancient societies, Chinese women had a lower status than men and had few freedoms. Their life was mostly restricted to the home.

Like China, India also had a strict social hierarchy. India's hierarchy was part of the Hindu religion. This hierarchy was known as a caste system, which divided people into social groups that determined their status, responsibilities and privileges. There were four main castes, with Brahmins at the top. Outside the caste hierarchy were the Untouchables, who were the most deprived group in Indian society. People were born into a caste or group and could not move into a different one. This social hierarchy dominated people's lives – it determined their jobs, whom they could marry and whom they could socialise with.

As in many other ancient civilisations, slaves were an important source of labour in ancient India. Unlike in the Mediterranean, slaves in India were usually not prisoners of war. Many were brought to India by traders, or were made slaves as punishment for crimes they committed. Slaves had some rights in India and were theoretically protected by laws. People were rarely slaves for life.

Unlike in many other ancient societies, women in ancient India seem to have had a similar status to men. They were active in society, were educated, and were respected by men. With the arrival of Islam and Christianity, the status of women began to change, and they were increasingly socially repressed.



Source 3 A procession of modern-day Brahmins, the highest caste in Indian society

Source 4 A ceramic figure of a woman from the Indus Valley civilisation in India; women had a similar status to men.

hierarchy
a way of organising things (or people) from top down in order of importance or significance; ancient societies had strict hierarchies with a ruler at the top and peasants at the bottom

Source 5 A bronze figure of a maidservant holding an oil lamp, made in the Western Han Dynasty in 172 BCE

Cultural evidence

A great part of what we know about ancient civilisations comes from cultural evidence. This evidence includes artefacts such as paintings, sculpture and pottery. Cultural evidence is also present in iconography. This term refers to the content of art – how civilisations used pictures and symbols to represent their ideas and way of life.

Written records provide probably the strongest cultural evidence of all. Not all ancient societies produced a system of writing, but scripts did develop in China and India. Very few people in ancient societies could read or write. Those who could do so usually belonged to the more privileged groups in the social hierarchy.

Art, iconography and pottery

Chinese art changed with different dynasties, and the materials used differed somewhat from those in the Western world. For example, decorative objects were first made from metal, ivory or jade (an ornamental green stone). Later, the Chinese created lacquered boxes and developed porcelain. Chinese paintings depicted nature, such as animals, trees and water, using distinctive brushstrokes. They were sometimes painted on silk cloth.

In ancient India, paintings and sculptures mostly related to Hindu symbolism (religious subjects). They often depicted gods and legends. As with Chinese art, Indian art changed over time as it was influenced by different rulers and foreign ideas.

Writing

The Chinese script is the world's oldest writing system still in use today. It began, like many other scripts, with characters that looked like tiny pictures. Over time, these became more stylised. There are tens of thousands of characters, although Chinese people today only use an average of 5000 characters. Most Chinese words consist of one or two characters, sometimes three. Each character represents a syllable. Chinese characters were traditionally drawn with a brush. The size of the brush tip, the type of ink and the brush pressure all influence the look of the script. Calligraphy – the art of handwriting – is still taught in Chinese schools today.

Various scripts developed in ancient India. The first was in the Indus Valley civilisation, around 2600 BCE.

Source 6 Calligraphy brushes, ink and the Chinese character for 'double happiness'

The script has still not been deciphered by historians. Later, different scripts developed. These were used for royal and religious texts as well as for administrative purposes.


Source 7 An example of Indus Valley script

Religion

The people of ancient China worshipped their ancestors as well as gods and goddesses. Chinese **deities**, like those of ancient Mediterranean societies, were believed to control the forces of nature. China had a number of organised religions. Taoism focused on the spiritual struggle between the yin (female) and yang (male) forces of the world. Buddhism was brought to China from India in the first century CE and focused on a pathway to spiritual meaning and enlightenment. Confucianism was also a significant influence on Chinese beliefs, but was not a religion. It was more a system that governed how people behaved. It was developed by the famous Chinese philosopher Confucius (see Source 9).

deities
gods and goddesses


Source 8 A statue of Buddha in India


Source 9 An artist's impression of Confucius

Quiz me!
A quick quiz on key features of the Asian world

Ancient Indian society was dominated by religion and superstition. Ancient Indians had deities, but also believed in other supernatural beings. From about 1500 BCE, the Aryan people began to move into the Indian subcontinent, bringing Hinduism with them. This became the major religion in India. Hinduism had multiple gods and, like Buddhists, Hindus believed in **reincarnation**. Buddhism was also a major religion in India. It was founded by a wealthy Indian prince in the fifth century BCE and was an established religion in India before it spread into China.

reincarnation
the process of being born again; to live life again in another body (human or animal)

Source 10 Sculptures of members of the Han cavalry with their spears and chariots

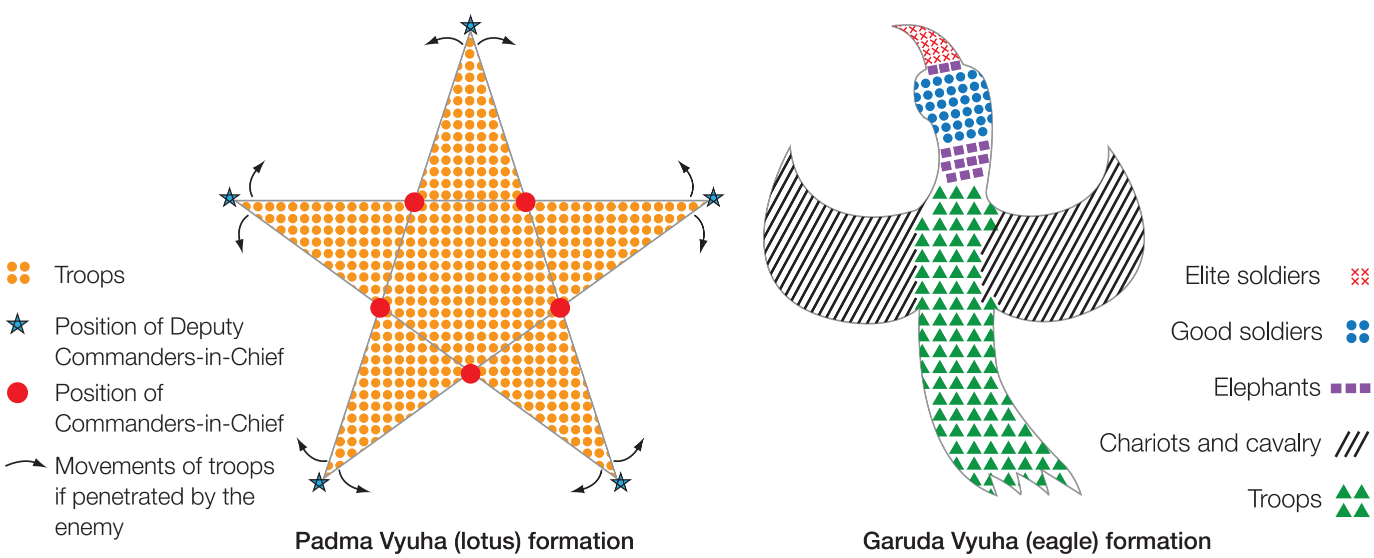
Source 11 The Great Wall was built to protect China from invasions.

War and conflict

China did not have a permanent professional army until relatively late in its history, during the Han Dynasty (206 BCE–220 CE). China was united in 221 BCE; before this, each region had its own fighting force, and these regions would fight with each other to gain power. Their armies were usually made up of ordinary men. During the Han Dynasty, however, all able-bodied men were forced to enlist.

The Chinese used a range of tactics and equipment to fight and these changed over time. Early on, chariots were important, but these were gradually replaced by cavalry (soldiers on horses). Some Chinese dynasties used large armies of foot soldiers. The permanent army established under the Han Dynasty allowed China to combat tribes of invading barbarians to the north, known as the Mongols.

Throughout its history India fought many invaders, and different kingdoms within India also went to war with one another. Kings therefore built strong armies. The Ksatriyas, people from the



Source 12 Two army formations used in ancient India

warrior caste, made up these armies. The army under the Mauryan Empire was strong enough to unite most of the country. At the time, the Mauryan army was one of the biggest in the world. Like the ancient Roman army, the Mauryan army had a highly organised structure and hierarchy. Indian armies used elaborate battle formations, and they were the first to use elephants in battle. They also had foot soldiers, cavalry and chariots.

One of India's invaders was Alexander the Great. Having conquered Greece and Egypt, he invaded India in 326 BCE and took over territories in the Indus Valley region. Soon afterwards, the Mauryan Empire was established.

Source 13 An artist's impression of Alexander the Great defeating the Indian army, complete with battle elephants, at the battle at Hydaspes River in 326 BCE

13.2 CHECK YOUR LEARNING

Review and understand

1. **Identify** the mountain range that influenced the development of both ancient China and ancient India.
2. Ancient India had two separate civilisations. What were they called?
3. **Describe** one similarity of the social structures in ancient China and ancient India.

Apply and analyse

4. **Explain** what was unusual about the status of women in ancient India.

Evaluate and create

5. **Propose** (put forward) ideas about how India and China may have developed differently if they had not been surrounded by natural barriers.

13.3 Legacies of the Asian world

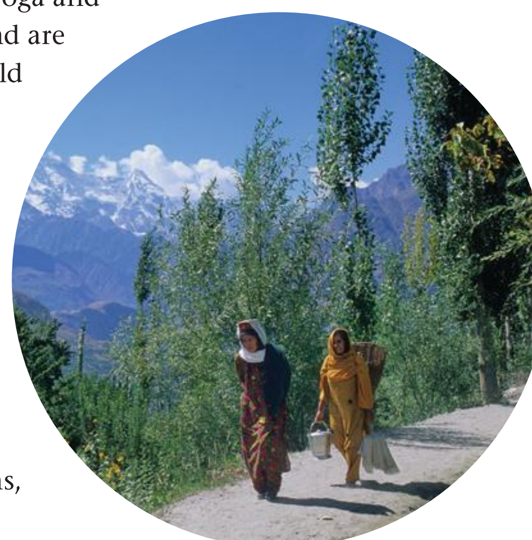
In this topic, you will:

» explore how ancient societies have influenced the way we live today, including belief systems and science and technology.

Ancient Chinese and Indian practices and beliefs have influenced other societies around the world. Even in today's societies, we can easily identify some of the lasting effects of these ancient Asian civilisations.

Belief systems

The belief systems of ancient China and India are influential to this day. These belief systems include religion as well as other less formal beliefs. Hinduism and Buddhism, which originated in ancient India, are major world religions today. Some of the principles of those religions have had a wider impact, such as the principle of not harming living beings. This influenced Mahatma Gandhi's passive resistance in India's struggle for independence from Britain in the twentieth century, and Martin Luther King Jr's peaceful quest for civil rights in the United States in the 1960s. Yoga and meditation grew out of ancient Indian belief systems and are commonly practised in many countries around the world today.



Ancient Chinese religious beliefs significantly influenced religion and belief in ancient Japan. The principles of Confucianism also continue to be important in modern China.

See, think, wonder *

Look at Source 1.
- What do you see?
- What do you think?
- What do you wonder?

Science and technology

Ancient China and India made important contributions to mathematics and other areas of knowledge. As was the case with the Greeks and Romans, mathematics was important to the design of religious buildings in India. The first use of the decimal system, which is the basis of modern mathematics, is credited to fifth-century Indian astronomer and mathematician Aryabhata. The Chinese were also advanced mathematicians and independently developed many mathematical systems that were later adopted by Western civilisations.

Source 1 Our system of Arabic numerals is founded on a numeric system developed in India.

Many inventions that were crucial to the development of the modern world arose in China. The ancient Chinese developed printing, using flat wooden blocks carved so that

Source 2 **Top:** A woman practising yoga, which originated in ancient India. **Middle:** Without gunpowder – invented by the ancient Chinese – we would not have fireworks today. **Bottom:** A section of the Silk Road in the Hunza Valley of northern Pakistan

the character to be printed stood above the rest of the block. Magnetic compasses, which became very important for navigation, were invented in China *c.* 250 BCE.

Gunpowder was invented by a Chinese scientist in 850 CE and became a powerful weapon in warfare. Silk cloth was also invented in China and helped it to become a very wealthy country.

The Silk Road

Ancient China and India also influenced the societies and cultures of other civilisations through the establishment of the **Silk Road** (see Source 1 on page 13.2). European powers developed trading routes with China and India in order to gain access to spices and silk to sell at home. When trade opened, ideas, beliefs and inventions from Asia were brought to Europe.

Much exploration of the world was prompted by a desire to find new trading routes with China and India. For example, Italian navigator Christopher Columbus reached the Americas when he was trying to find a new way to get to India. This is why the islands in the Caribbean are called the West Indies. Thus, the ancient world in Asia also indirectly caused enormous changes to areas that were colonised by European powers looking for better trading routes with Asia.

Silk Road
a trade route stretching west from China to the Mediterranean Sea; the main way in which silk was introduced to the West

Quiz me!
A quick quiz on legacies of the Asian world

13.3 CHECK YOUR LEARNING

Review and understand

1 **Identify** when and where gunpowder was invented.

2 **Describe** how developments in mathematics in ancient China and India have influenced the modern world.

Apply and analyse

3 What was the Silk Road? **Explain** why it was important to the development of the modern world.

Evaluate and create

4 **Discuss** how ancient Chinese society has influenced the rest of the world.

5 Copy the table below into your notebook. Fill in the blanks to show how different religions and belief systems from ancient China and India have influenced the development of our modern world. Using the internet, **research** more information to help you. The first example has been done for you.

Civilisation	Religion or belief system	How this religion or belief system influenced society in ancient times	How this religion or belief system has influenced the modern world
China	Confucianism	• A system of behaviours by which people lived their lives (similar to laws)	• The philosophies of Confucius are still taught around the world. There are 465 Confucius Institutes in 123 countries. • Confucianism still influences Chinese society today in areas like politics, education and law.
China			
India			
India			

CHAPTER 14

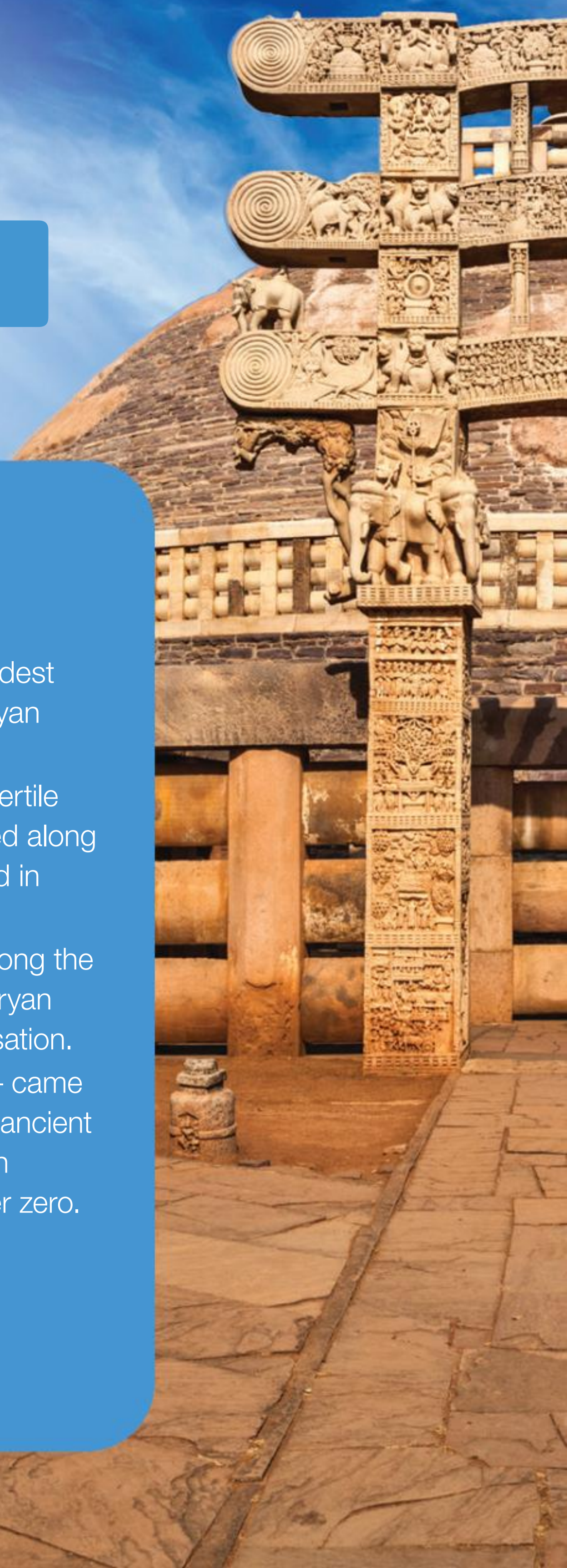
Ancient India

Modern-day India can trace its beginnings back to two of the oldest civilisations on Earth – the Indus Valley civilisation and the Mauryan Empire.

The Indus Valley civilisation began from around 3500 BCE in a fertile river valley in north-west India. Here, well-planned cities developed along the banks of the Indus River, while people across Europe still lived in primitive huts.

Much later, around 321 BCE, the Mauryan Empire developed along the banks of India's holiest river, the Ganges. Inscriptions left by Mauryan kings have given historians a unique insight into this ancient civilisation.

Two of the world's major religions – Hinduism and Buddhism – came into being as a result of these ancient civilisations. The people of ancient India are also believed to have begun the development of modern mathematics, and were the first to use the concept of the number zero.



Source 1 The Great Stupa is in the town of Sanchi in central India. It was built by Emperor Ashoka in the third century BCE during the rule of the Mauryan Empire. A stupa is a dome-shaped building that contains relics (religious artefacts). This image shows the detail and craftsmanship used by the ancient Indian people who constructed the stupa.

14A
How did physical features influence the development of ancient India?

14B
What shaped the roles of key groups in ancient India?

14C
How did beliefs, values, contacts and conflicts influence life in ancient India?

14.1 Ancient India: a timeline

The remains of the Great Bath in Mohenjo-Daro, the largest city of the Indus Valley (or Harappan) civilisation; it is thought to have been a centre for the ritual bathing.

1800
The Aryan people begin to arrive in the Indus Valley from Central Asia.

The Hindu god Vishnu's four arms indicate that he is everywhere and all powerful.

563
Siddhartha Gautama (later known as Buddha), the founder of Buddhism, is born.

3500 BCE — 2000 — 1750 — 750 — 500

3500 BCE
Emergence of the Indus Valley (or Harappan) civilisation

1700
The Indus Valley (or Harappan) civilisation has largely ended.

800
Production of the Vedas, the sacred writings of Hinduism

500
The Persians invade the Indus Valley and make it part of their empire.

14.1 CHECK YOUR LEARNING

Review and understand

1 **Identify** what the sacred writings of Hinduism are called.

2 **Identify** the religion that is associated with Siddhartha Gautama.

Apply and analyse

3 Use the timeline to **calculate** how many years in total the Mauryan Empire lasted.

Evaluate and create

4 Select two individuals that feature on the timeline. Use the internet to **research** the significance of these individuals to ancient India. Complete a chart for each person, with the following headings.

Name	Born	Died	Key life events	Significance to ancient India

Remember to include references to show where you found your information.

327
Alexander the Great crosses the Indus River, intent on invasion.

321
A northern king, Chandragupta Maurya, founds the Mauryan Empire.

269
Ashoka Maurya, Chandragupta Maurya's grandson, becomes emperor of the Mauryan Empire.

250
Ashoka sends missionaries across Asia to spread Buddhist beliefs.

232
Death of Emperor Ashoka

185
Mauryan Empire ends, marking the start of a 500-year period of small kingdoms.

50
The first Buddhist stupa (religious building) constructed at Sanchi in India – it becomes known as the Great Stupa.

320
Beginning of the Gupta Empire, a period in which the arts and sciences flourish

470
Birth of Aryabhata, the first in a long line of great Indian astronomers and mathematicians

550 CE
End of Gupta Empire

250 | 1 CE | 500 | 750 CE

The four lions on Ashoka's stone pillar at Sarnath; they are now the official symbol of the modern Republic of India.

An artist's impression of invading Huns (a rival civilisation from the west) who helped bring an end to the Gupta Empire

Part of a stone relief from Great Stupa at Sanchi Bhopal, India

Sequence this!
Events in ancient India

Source 1 A timeline of some key events in ancient India

14.2 Landscape and climate

In this topic, you will:

» explore how the physical features and climate of ancient India influenced its development.

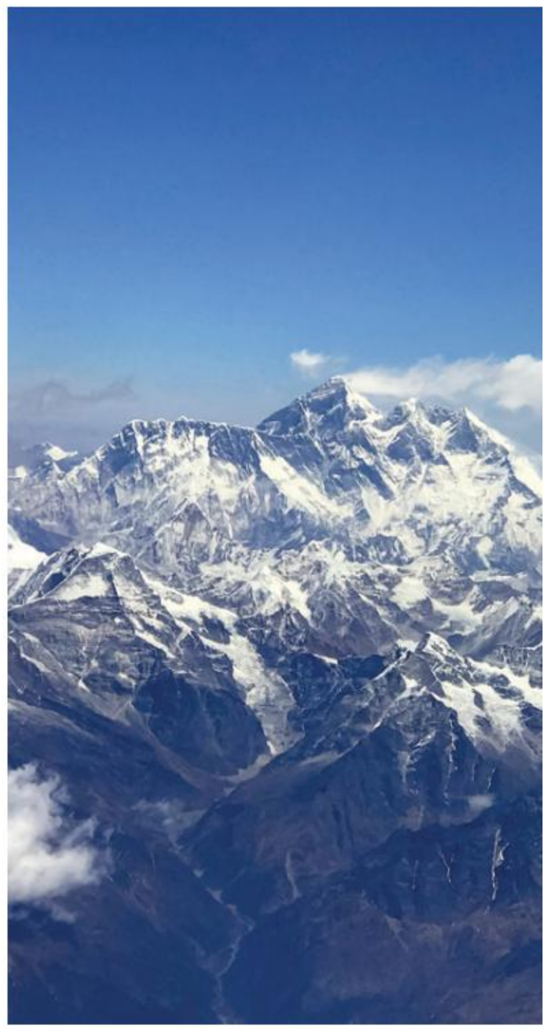
India's physical features and climate have helped to shape its history. Like most major civilisations across the ancient world, the earliest settlements in India developed in river valleys. The Indus Valley, a vast flood plain, became the location of many of ancient India's earliest and largest communities (see Source 4). The Indus River lies in the north-west of the subcontinent, in modern-day Pakistan. It begins high in the Himalayas and flows south 3180 kilometres to the Arabian Sea.

The Thar Desert lies to the south-east of the Indus River, providing a natural barrier and protecting settlements from invaders. Further south, a large **plateau** called the Deccan Plateau makes up the majority of India's southern region. The flat land of the Deccan Plateau is good for farming and animal grazing.

plateau
an area of flat high ground

THE INDIAN SUBCONTINENT

Source 2 Source: Oxford University Press



Source 3 Part of the Himalayas poking through the clouds; the mountain range, which separates India from China to the north, contains 90 of the 100 highest peaks on Earth.

The Deccan Plateau slopes down to the Indian Ocean in the west and the Bay of Bengal in the east. This extensive coastline was ideal for sea trade (see Source 2).

India is a warm to very hot place year-round. Temperatures as high as 49°C have been recorded in some places, especially between March and June. The heavy monsoon rains typically arrive in June, with rain then falling most of the time until September. Most of the year's rainfall is during these few months, and India's agriculture relies on monsoon rains arriving before its fields and crops dry up in the hot, dry months leading up to the monsoon. During the monsoon months, farmers store water supplies so they can irrigate crops during the rest of the year.

Explore it!
A virtual field trip to the Indus River

14.2 CHECK YOUR LEARNING

Review and understand

1. **Identify** the four important physical features that shaped the history of the Indian subcontinent.
2. **Describe** the problems that a severe monsoon might cause for a settlement.

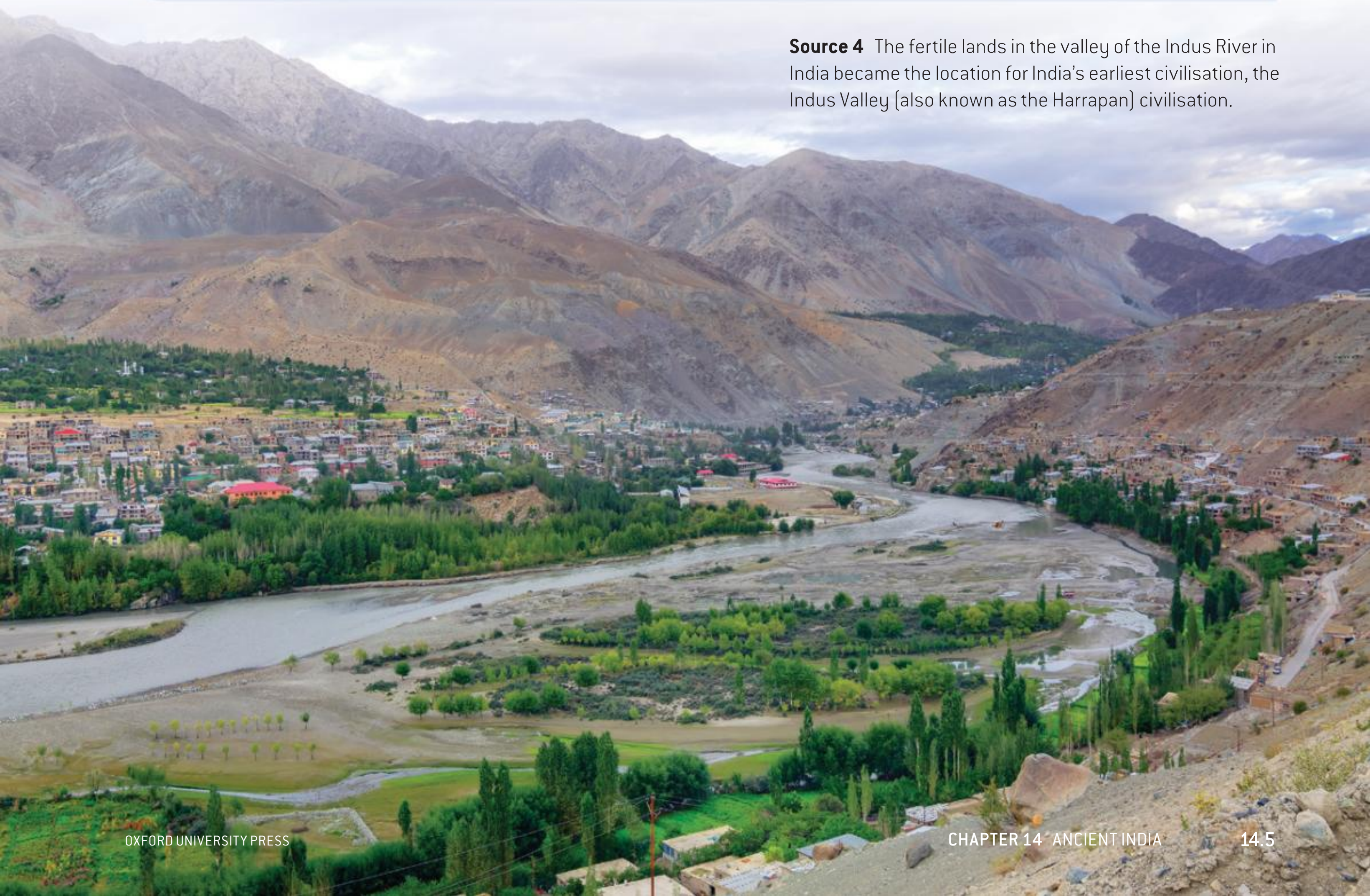
Apply and analyse

3. For each of the features you identified in question 1, **explain** how they may have influenced decisions about early human settlements and lifestyles.

Evaluate and create

4. a **Create** a photo montage of the physical features of India, using the internet to find the images. Be sure to include captions with each image.
   b Write a sentence about how each physical feature affected ancient India.

   Remember to include references to show where you found your photos and information.



Source 4 The fertile lands in the valley of the Indus River in India became the location for India's earliest civilisation, the Indus Valley (also known as the Harrapan) civilisation.

14.3 Ancient India's earliest civilisation

In this topic, you will:

- describe the time period, size and extent of ancient India's earliest civilisation.

The earliest civilisation to be established in ancient India is often referred to as the Indus Valley civilisation. It takes its name from the Indus River around which it developed. Knowledge of this civilisation came to light with the discovery of its second largest city, Harappa. Some historians also refer to it as the Harappan civilisation for this reason.

The Indus Valley (Harappan) civilisation developed from early farming communities that depended on the river waters for irrigation. Wheat and barley were their staple crops and rice was also grown. It lasted from about 3500 to 1700 BCE, but it was at its greatest power and size from about 2600 to 1900 BCE.

The discoveries of Harappa and Mohenjo-Doro

stupa
a religious structure built to house Buddhist relics

seals
engraved stamps

Countries in the West first came to know of an early Indian civilisation through the writings of a British army soldier named James Lewis. He had come upon the ruins of Harappa in 1826 while travelling an area that is now the Punjab region of Pakistan. By the time the archaeologist Sir Alexander Cunningham visited the site in 1873, many of the walls and buildings of Harappa had disappeared. British engineers had taken the bricks from the ancient ruins to use for the building of a railway line.

For many years, there was little archaeological interest in the site. This changed in 1919 when Indian archaeologist R.D. Banerji investigated an ancient Buddhist **stupa** about 500 kilometres south of Harappa. Banerji noticed that the stupa was surrounded by mounds of crumbling bricks. He began digging and found, among other things, three soapstone **seals**. These seals were similar to one that had previously been found at Harappa, and were engraved with the same unknown writing that could not be decoded. Banerji had stumbled across the remains of the other great city from the Indus Valley civilisation – Mohenjo-Daro.

INDUS VALLEY CIVILISATION

Source 5 Source: Oxford University Press

Extent of the civilisation

Since the 1920s, archaeologists have located more than 1050 Indus Valley sites, which have been confirmed by their distinctive architecture and stone seals. Dockyards, grain storehouses, warehouses, brick platforms and protective walls have been found in almost all these settlements. Most are beside rivers, though some were found on the ancient seacoast and adjacent islands. These discoveries confirm the importance of rivers and coastlines in the choice of early human settlements in this region.

Trade

The Indus Valley settlements were well located for what seems to have been the people's main occupation: trade. Rivers provided transport routes to the coast, from where goods could be shipped to other lands.

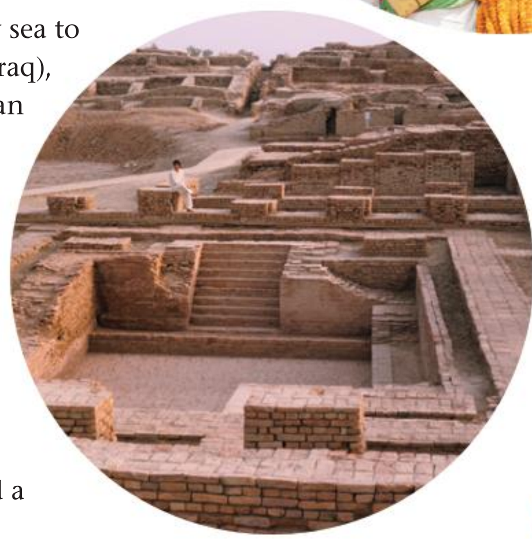
Beads made from a reddish-orange semi-precious stone called carnelian have been found in the Mesopotamian city of Ur and in Oman (on the Arabian Peninsula), where pottery and bronze weapons of Indus design have also been found.

At Lothal, near the mouth of the Indus River, archaeologists have found a huge dredged canal and dock, indicating that it was an important port.

Indus Valley merchants also had links by sea to the Tigris–Euphrates delta (in modern-day Iraq), and by land with parts of today's Afghanistan and Iran and other parts of India. About a dozen Indus Valley seals have been found at sites in Iraq and Iran.

Weights (for measuring purposes) are among the artefacts that have been excavated in Indus Valley settlements. The Indus Valley people are believed to be among the first to develop a system of uniform weights and measures. These finds add to the evidence that the civilisation had a strong and widespread trade.

Source 6 The market is still a busy economy in India today. In this image, a flower market in Kolkata is bustling with people.



Source 7 The ruins of Mohenjo-Daro

Quiz me!
A quick quiz on ancient India's earliest civilisation

14.3 CHECK YOUR LEARNING

Review and understand

1 **Describe** how the ruins of Harappa and Mohenjo-Daro were discovered.

2 **Identify** the modern-day countries where the Indus Valley (Harappan) civilisation was located. Use the world map in the back of your book to help.

Apply and analyse

3 Select three sources from the text or from your own research and **explain** how these sources provide evidence about the achievements of the Indus Valley (Harappan) civilisation.

Evaluate and create

4 Ancient India was located about halfway between the ancient societies of the Mediterranean and Asian worlds, which was particularly significant once the Silk Road became a major trade route between East and West. Use the internet to research the Silk Road, and **create** a map showing this route.

*** I used to think, now I think**

Reflect on your learning about India's earliest civilisation and complete the following sentences.

- I used to think …
- Now I think …

What has changed your understanding?

14A

RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Daily life in the Indus Valley civilisation

The most common, and in some ways most puzzling, archaeological finds from the Indus Valley civilisation are numerous seals made from soapstone. These seals may have been used to stamp trade goods or other property to show ownership. To this day, the inscriptions on these seals remain undeciphered. The animal most commonly found on the seals is thought to be a unicorn (others say it is a rhinoceros). About a dozen Indus Valley seals have been excavated from sites as far away as Iraq and Iran. Studying these seals closely in order to gather valuable historical evidence uses an important skill for all historians.

The most distinctive single object found at Mohenjo-Daro is a stone sculpture known as the 'Priest-King' (see Source 11), despite the fact there is no supporting evidence that the figure represents either a priest or king. The sculpture, found in 1927, is only 18 centimetres tall. The figure wears a headband and has a similar band on his right arm. His upper lip is shaved and his beard is combed. His eyes are deeply cut into the stone, and some archaeologists think there may have been a carved shell set into them. He is wearing a cloak decorated with a three-leafed design called a trefoil. The trefoils were once coloured red.

Source 8 Ancient ruins overlooking part of the fertile Indus Valley

Source 9 Some of the seals have a symbol called a swastika engraved on them, such as this example from Mohenjo-Daro.

Source 10 A seal from the ruins of Mohenjo-Daro thought to feature a unicorn

KEY SKILL
Analysing sources

Analysing visual sources

Analysing historical sources is an important skill to develop. When analysing photographs, paintings, artworks or historical objects such as stone carvings, it is useful to follow these steps:

Step 1 Check the composition of the work.

What is shown in the scene and why? How do we know what is happening? Is the entire scene or work shown, or just a section of it?

Step 2 Identify any important figures.

Who is shown in the scene and why? How many figures are there? Are they depicted as individuals or are they all the same? Are any figures larger than others and why might they be shown this way?

Step 3 Look closely at the background.

Does the background provide information about where the action is happening? Is the setting clearly shown? Are there any other decorations?

Step 4 Look for small details.

Are there any small details hidden in the scene? Examine clothing, tools, weapons, animals, buildings and other objects.

Step 5 Look for anything unusual.

Are there any elements in the scene that are confusing (either because they are new to you or because they do not fit your understanding of the period)? Make a note of these and research them further using other primary or secondary sources.

Step 6 Try to identify attitudes, personal points of view or bias.

When analysing a scene or work of art, keep in mind that it may not necessarily be an accurate representation of what actually happened. Remember that while a particular artwork or representation might show common people, it was almost certainly commissioned (ordered and paid for) by someone with money (such as a king or nobleman) who may have been interested in making things look a certain way for their own interests.

For more information on this key skill, see page 205 of 'The history toolkit'.

Practise the skill

1 Source 10 is a picture of one of the seals found among the ruins of Mohenjo-Daro. Your task is to **analyse** the source, using the steps and questions described above.

Extend your understanding

1 Conduct **research** on the swastika symbol (see Source 9) to discover its different uses and meanings over time. For example, swastikas have been found in religious buildings and temples; two Canadian ice-hockey teams in the early 20th century used swastikas on their uniforms; and Adolf Hitler's Nazi party adopted the symbol in the 1930s. Write a 250-word report, with pictures, to summarise your findings. Explain why the swastika is now regarded as offensive by many people.

Source 11 The 'Priest-King' of Mohenjo-Daro

14.4 The social structure of ancient India

In this topic, you will:

- examine the social structure of society in ancient India
- distinguish between key social groups in ancient India.

caste system
a strict hierarchy (class system) used to organise society

Key skill worksheet
Determining historical significance: Understanding the significance of the Vedic people

Indo-Europeans (commonly known as Aryans, or Vedic people) moved into northern India from about 1800 BCE. They produced four religious manuscripts called the Vedas, which became the holy books of Hinduism. The Vedas were written from around 1500 to 500 BCE, so this period became known as the Vedic period.

The caste system

During the Vedic period, the concept of a **caste system** developed within Hinduism, dividing society into groups. The caste system in India enforced rigid limits on a person's life, dictating their responsibilities and privileges within society. The caste you were born into determined the sort of life you would lead, including the job you did, the person you married, and the people you socialised and ate with. People could not change their caste. There was no 'social mobility' such as we have now, where you may be born poor but still become rich and famous.

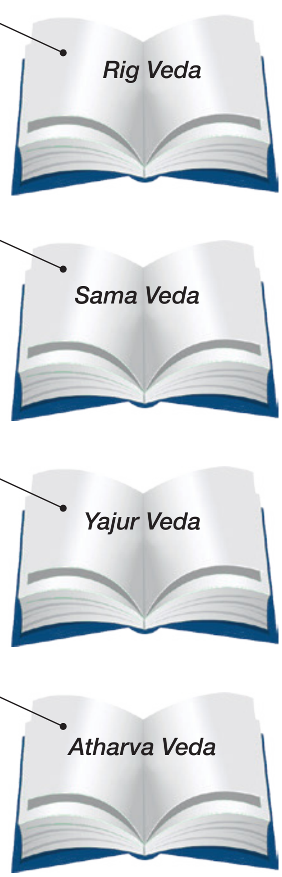
There were four main castes or *varnas* (and many sub-castes within each). Each caste was seen as an essential part of society. All were important, with each serving a needed role. The first three – Brahmins, Kshatriyas and Vaishyas – were the so-called 'twice born'. This was because children took part in a 'rebirth' ceremony around the age of 12, when they came of age. The fourth caste, the Shudras, did not have these spiritual privileges. Below these castes were the Untouchables, who had no rights or privileges.

The oldest of the four Vedas (perhaps written as far back as 14 000 years ago); it consists of hymns (or *mantras*). The four Hindhu castes are described in this text.

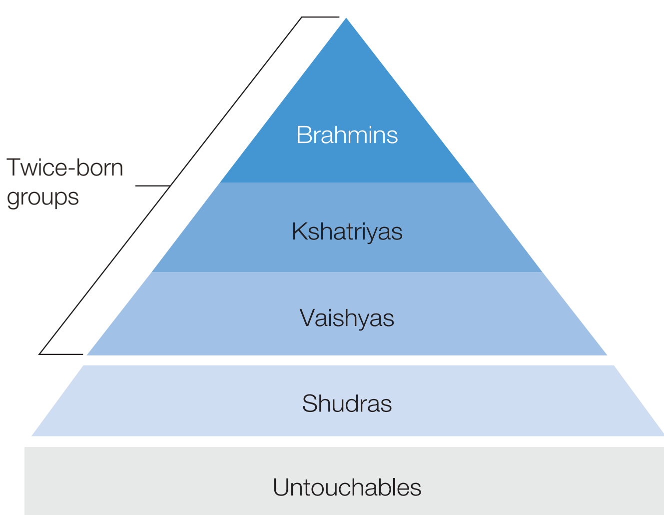
A collection of melodies mainly related to the hymns or songs in the *Rig Veda*

A collection of chants to be spoken by priests at set times when going about their religious rituals

A book of charms and spells; its language is less complex than that in other Vedas. It also provides more insights into the day-to-day life of the society than the other three texts.

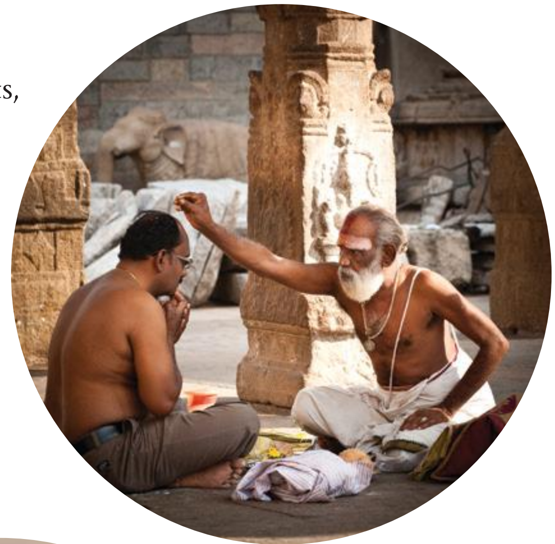


Source 1 The four Vedas



Source 2 The caste system in ancient India

Brahmins



The Brahmins were the most privileged caste. They were the priests, teachers and performers of the religious rituals. They alone memorised and passed on teachings from the Vedas. They even exerted authority over the powerful tribal chiefs. Brahmins were expected to lead a religious, intellectual and saintly life, and develop all ideal qualities, especially honesty, integrity, cleanliness, purity, austerity, knowledge and wisdom. They were not expected to accept paid employment but could receive gifts. Although Brahmins were meant to live simply, relying on donations from others, they sometimes came to possess large estates and large sums of money. Legally, Brahmins could not be sentenced to death, nor receive torture or physical punishment. They also did not have to pay taxes.

Source 3 A Brahmin performs a religious ritual in a Hindu temple.

Kshatriyas

Kshatriyas were the noble caste. They were the leaders and protectors of society. They served as kings, warriors and tribal chiefs. Their responsibilities included the protection of citizens from harm, especially women, children, Brahmins and the elderly. They also had an obligation to protect cows.

In times of war, they were expected to be the first into battle and never to flee the battlefield. As leaders, they were to ensure that the citizens performed their duties; they also enforced law and order, and collected taxes from the main tax-paying caste, the Vaishyas. Spiritually, they were to advance their own spiritual awareness by knowing the scriptures and by taking counsel from the Brahmins.

Traditionally, only men from the Kshatriya class undertook military training. Reforms in modern India have allowed other castes to join the military. However, the majority of the Indian army is still made up of soldiers from the Kshatriya caste.

Source 4 These Indian soldiers on parade are members of the Kshatriya caste.

Vaishyas

Vaishyas were the farmers and merchants. Economically they were the most productive of all the castes. Eventually they became the business class and could become very wealthy. Their original function was to work and earn money to support the Brahmin and Kshatriya castes above them. As a result, they paid high taxes. Though lower than the Brahmins and the Kshatriyas in the social order, they retained certain spiritual privileges and could perform some rituals and rites of passage.

Source 5 Merchants such as this man are members of the Vaishya caste.

Source 6 These Shudra caste men are employed to work in a factory belonging to a merchant from the Vaishya caste.

Shudras

The Shudras were the workers, and it was their duty to serve the other three castes. They were the only section of society allowed to accept employment from members of the other castes. The Shudras paid taxes, though these were not as high as those paid by the Vaishyas. Although theirs was a life of labouring for others, it was not necessarily an unbearable existence. Employers from the Vaishya caste were obliged to supply a worker with tools, and workers for wealthy landlords were paid a regular wage.

Source 7 Dalit women working as corn threshers on a farm in northern India

Untouchables

At the very bottom of society were the group of people who came to be known as the 'Untouchables'. In modern India the name Dalit is used for this group. Untouchables included all those who did not fit into the four castes already described. These might include nomadic people, foreigners, non-Hindus and so on. It also included most of the poor. These were the people who did the work that the other castes regarded as polluting. Hence, they could not be 'touched'. Today, there are more than 160 million Dalits in India.

Untouchables had no rights or privileges. Neither, generally, were they shown compassion, even in the face of great suffering and injustice. A Dalit writer, Omprakash Valmiki, recently reported that, in the past, Untouchables found to be memorising Hindu sacred texts might have hot melted lead poured into their ears.

Jobs for Untouchables

Other castes saw Untouchables as being too 'impure' to touch. They did the jobs that were despised or considered spiritually unclean. They cleaned toilets and scrubbed out sewers, swept roads, scavenged through rubbish, removed dead animals from public places, carried out the most menial farm work and handled corpses. They could not live normal lives in a village or share public facilities such as wells, ponds and temples.

Source 8 Working in a sewer in Kolkata; Hindu beliefs used to require that such work be carried out by people from the 'Untouchable' caste.

Daily life for Untouchables

Untouchables lived (as Dalits generally still do) in housing separated from the housing of the other castes. They typically dressed in clothes taken from people who had died, ate only from cracked bowls and dishes and, for jewellery, used only objects made of iron. They could not wear shoes or remain seated in the presence of someone from a higher caste. The penalty for a Brahmin who killed an Untouchable was the same as for killing a dog.

Hardships for Untouchables

Even today, Dalits can be tortured, killed or humiliated for something that they did not do. (It might be something a family member did.) Complaints by Dalits against such treatments are rarely investigated. In 2020 a Dalit woman was allegedly raped (sexually assaulted) and murdered by a group of dominant-caste men in Hathras district in Uttar Pradesh, and cremated by the Uttar Pradesh police without her family's consent. The accused men were only arrested after nationwide protests.

Many Untouchable girls in the past were forced, at a young age, to become *devadasis* (or so-called 'servants of god'). They were never allowed to marry.

Untouchables had to avoid 'polluting' members of other castes. They had to go out of their way to avoid any kind of physical contact (in extreme cases, even with someone's shadow), or being seen by a caste member. For instance, if an upper-caste member accidentally looked at an Untouchable, it was considered they had been defiled and they had to carry out purification rites. This involved bathing their eyes with perfumed water and not having food or drink for the rest of the day. It may also have included washing places where an Untouchable had stood or walked. Sometimes it involved religious ceremonies.

Quiz me!
A quick quiz on the social structure of ancient India

14.4 CHECK YOUR LEARNING

Review and understand

1 **Outline** the chief responsibilities of the Brahmin, Kshatriya and Vaishya castes.

2 In your own words, **define** the term 'twice born'.

Apply and analyse

3 **Suggest** how the caste system would have influenced the design of towns and cities in ancient India.

4 Identify the term that is now used instead of 'Untouchables'. **Suggest** why you think the term has changed.

Evaluate and create

5 Australia does not have a formal caste system as ancient India did. Do you think we have similar divisions in our society, even if they are not formalised? **Discuss** in small groups and record the group's thoughts, giving examples to support your views.

14.5 Other key groups in Indian society

In this topic, you will:

- distinguish between key social groups in ancient India, including women and slaves.

Slaves

Written sources, such as the Sanskrit Laws of Manu (first century BCE), confirm that there was slavery in ancient India, and there were certainly slaves during the Mauryan Empire. Slavery in ancient India did not operate in the same way as it did in ancient Greece and Rome. Most slaves in India appear to have been acquired by other means than as prisoners of war. Many were brought to India by traders.

Slavery was also a punishment for certain crimes. Some people even chose to become slaves to pay off a debt. Unlike in many other cultures, if a man chose to be a slave his family could still remain free.

Being a slave in India seems to have rarely been a life sentence. Some slaves worked in mines.

Most appear to have worked as domestic servants, probably having a better life than the Untouchables. This was because slavery was governed (at least officially) by laws.

The rights of slaves

- Could be paid for their work
- Could occasionally have a break from their work
- Were protected by laws against being raped, whipped around the head, or ordered to remove human waste – a master could be fined for such behaviours
- Could buy back their freedom
- Might be voluntarily released by the master
- A woman could go free if made pregnant by the master; if a boy was born, he was recognised as the legal son of the master

Source 9 Some of the rights thought to have belonged to slaves in ancient India

Women

Most historians think that women enjoyed much the same status as men in ancient India. It is thought they played an active role in society, especially during the Vedic period. It seems they were educated, and respected by men for their spiritual and intellectual abilities. They could marry anyone they chose (as women, not young girls) and have a say in what happened in the family.

This position was probably supported by aspects of religious belief. Women were seen by Hindus as the human form of the goddess Shakti, the 'Great Divine Mother' (see Source 10). The creative power of Shakti was seen to be most evident when women produced children.

Source 10 A shrine to Shakti, surrounded by offerings

Changes in the status of women

The status of women described here seems to have been common during India's ancient period. However, things seem to have changed for women. Women began to lose their earlier independence and become more socially repressed by men. Their former social status began to decrease. Some of the restrictions that started to be placed on women as India moved out of its ancient period are outlined in Source 11.

Quiz me!
A quick quiz on other key groups in Indian society

Restrictions placed on women

- Girls began to be forced into marriage as 'child brides'.
- Daughters were not valued, except to do work around the house.
- Men began having more than one wife.
- Widows were treated (at least for a time) as social outcasts.
- The practice of *sati* emerged, where wives whose husbands were cremated were sometimes burned alive with them.
- Women were restricted from voicing public opinions.

Source 11 Some of the restrictions placed on Indian women

Source 12 Although such practices have been forbidden by law for half a century, child marriages still take place in India. Here, a girl aged 7, her head covered with a veil, is going through the ceremony of an arranged marriage to a 6-year-old boy.

14.5 CHECK YOUR LEARNING

Review and understand

1 **Identify** two rights that slaves in ancient India are thought to have had.

2 **Identify** two restrictions placed on Indian women as they become more socially repressed.

Apply and analyse

3 Why do you think it was better to be a slave than an Untouchable in ancient India?

4 **Distinguish between** the status of slaves and the status of women in ancient India. Use two examples in your answer. Remember, when you distinguish between two things you must talk about how they are different.

5 **Compare** the experiences of women and that of slaves in ancient India. Remember, when you compare two things you must talk about how they are similar and how they are different.

6 **Explain** some ways in which religion (of any type) influenced the role and status of women in Indian society.

Evaluate and create

7 Write a speech arguing why the later restrictions on women in ancient India should be addressed. **Justify** (give reasons for) your position. Once finished, deliver your speech to the class.

Source 13 A painting found in the Ajanta Caves depicts noble women listening to an announcement from Ashoka.

14B RICH TASK

Quizlet

Revise the key terms you have learnt so far.

Untouchables

Being born as an Untouchable in ancient India meant having a harsh life and being seen as a worthless human. This continues unofficially in many parts of India today, despite the fact that the status of 'Untouchable' was banned in 1950. At the time, the constitution of the newly formed Republic of India declared that all its citizens had equal status.

Both Siddhartha Gautama (who became the Buddha) and Mahavira (who founded the religion Jainism) were concerned about the way Untouchables were treated. So was the political activist Mahatma Gandhi (1869–1948).

More recently, Dalits themselves have been speaking out and demanding their rights. Dalit writers, such as Valmiki, are raising international awareness of the treatment Dalits endure. In 1997, a man named K.R. Narayanan was elected as President of India. Ten years later, K.G. Balakrishnan was sworn in as India's Chief Justice. Both men are Dalits, and the first of their social class to hold such offices in India. Despite advances, there are still examples of crimes and discrimination against Dalits (see Sources 15 and 16).

Source 15

The sins of Girdharilal Maurya are many, his attackers insisted. He has bad karma. Why else would he be born an Untouchable, if not to pay for his past lives? He is a leatherworker, working with animal skins makes him unclean, someone to avoid and revile. And his unseemly prosperity is a sin. Who does this Untouchable think he is, buying a small plot of land outside the village? Then he dared speak up, to the police, demanding to use the new village well. He got what Untouchables deserve. One night, while Maurya was away, eight men from the higher Rajput caste came to his farm. They stole his tractor, beat his wife and daughter, and burned down his house. The message was clear: Stay at the bottom where you belong.

Source: *The punishment of Girdharilal Maurya (c. 2003),* National Geographic online news

Source 16

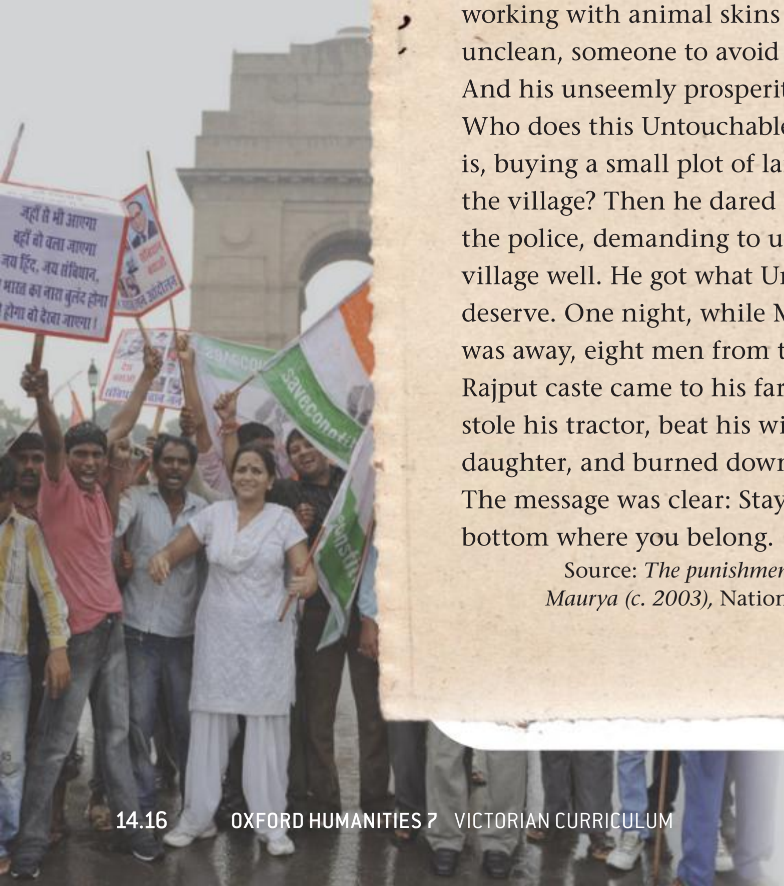
... an organisation called Video Volunteers ... are now preparing to file a lawsuit in the Supreme Court and ask the government to take steps to stop untouchability practices.

The ... lawsuit [is] based on video evidence gathered by Dalits themselves.

The short clips that come from all over India include a man who complains that a local barber refuses to cut his hair, a group of children who are forced to eat lunch separately from their classmates and women who walk for hours to fetch water because they are not allowed to use the public tap in their village.

None of the footage on its own is particularly dramatic, but the persistent, systematic discrimination that it documents is deeply disturbing.

Source: *India's Dalits still fighting untouchability* (*c.* 2012) from *BBC News online*



Source 14 A protest march by Dalits in Mumbai

KEY SKILL
Analysing sources

Identifying and analysing perspectives

Primary and secondary sources reflect and represent many different perspectives, points of view, attitudes and values. People who create sources are influenced by their gender, age, family and cultural background, education, religion, values and political beliefs, their life experiences and the time in which they live. Historians must consider a range of perspectives in their investigations, allowing more voices to be heard and a more complete picture to be formed. Identifying and analysing the perspectives of different people is a very important historical skill. To do this, you need to understand the factors that shaped people's lives and actions in the past.

Follow these steps when applying this skill:

Step 1 Identify the historical issue around which there may be different opinions or interpretations.

Step 2 List the various groups and people who may have been involved in or affected by this issue.

Step 3 Identify their roles or positions in society.

Step 4 Locate some primary sources that provide evidence about their opinions on the issue.

Step 5 Analyse each source, using the following questions as a guide:

- Why was the source written or produced?
- Who was the intended audience of the source? Was it meant for one person's eyes or for the public? How does that affect the source?
- What was the author's message or argument? Is the message explicit, or are there implicit messages as well? What can the author's choice of words tell you? What does the author choose not to talk about?
- How does the author try to get the message across? Do they give a detached, balanced account, or is it biased for or against the issue?
- Compared to today, what relevant circumstances and experiences were different for the author of the source in the past? Some examples might include religion, economy, family life and technology. How do you think these factors and experiences influenced their thoughts and actions?

For more information on this key skill, see page 205 of 'The history toolkit'.

Practise the skill

1 Consider Sources 15 and 16. In pairs or small groups, use the steps above to:

a **Identify** the perspectives being portrayed.

b **Analyse** these perspectives.

Extend your understanding

1 Conduct some **research** to find primary source documents illustrating the perspectives of groups or individuals when K.R. Narayanan, a Dalit, was elected as President of India in 1997. Write a short report summarising how his appointment was received.

14.6 Religious beliefs and practices

In this topic, you will:

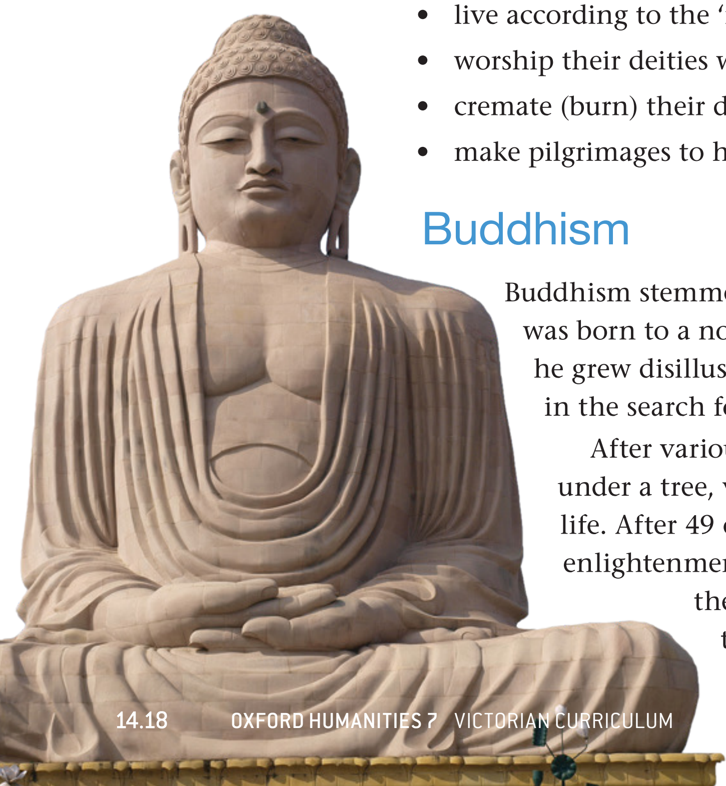
» investigate the religious beliefs, values and practices that people lived by in ancient India.

Watch it!
A video and quiz on the Ganges River

deities
gods or goddesses

reincarnation
the process of being born again; to live life again in another body (human or animal)

Source 1 The religion of Buddhism traces its roots back to ancient India. It is based on the life and teachings of Siddhartha Gautama, who later became known as Buddha.



Three major religions originated in ancient India – Hinduism, Buddhism and Jainism. Over centuries, Hinduism and Buddhism developed into major world religions, while across the Indian subcontinent Hinduism and Jainism have established themselves as the most significant religions. Buddhism has declined in popularity in India but has flourished elsewhere in South-East Asia.

Hinduism

Hinduism is the oldest major religion in the world. According to religious scholars, Hinduism originated 5000 or more years ago, before the arrival of the Aryans (Indo-Europeans). The Aryans both influenced, and were influenced by, the religious practices of the original Indus Valley peoples who were known as the 'Hindus'. As well as developing the Sanskrit language, the Indo-Aryans created a body of literature called the Vedas based on hymns and other sacred poems from their gods (see page 14.10). Over time, the Vedas became the most sacred texts in Hinduism and now form the basis of the Hindu faith.

Hindus believe in an original being, Brahman, who takes the form of many other **deities**. The three most important are Brahma (the creator of life), Vishnu (the preserver) and Shiva (the destroyer). The elephant-headed Ganesha, protector of the home and family, is another important deity.

Hindus also believe in **reincarnation**. Each re-lived life 'pays the price' for wrongdoings in the previous life, but also improves on the one before. Eventually, the person becomes one with the Brahman.

Hindu beliefs require followers to:

- live according to the 'rules' of the caste system (see page 14.10)
- worship their deities with offerings made to gods in temples and holy places
- cremate (burn) their dead, rather than bury them
- make pilgrimages to holy places such as the Ganges River (see Source 2).

Buddhism

Buddhism stemmed from the life and teachings of Siddhartha Gautama. He was born to a noble family around 563 BCE in modern-day Nepal. Over time, he grew disillusioned with his privileged life and left to pursue a simple life in the search for truth.

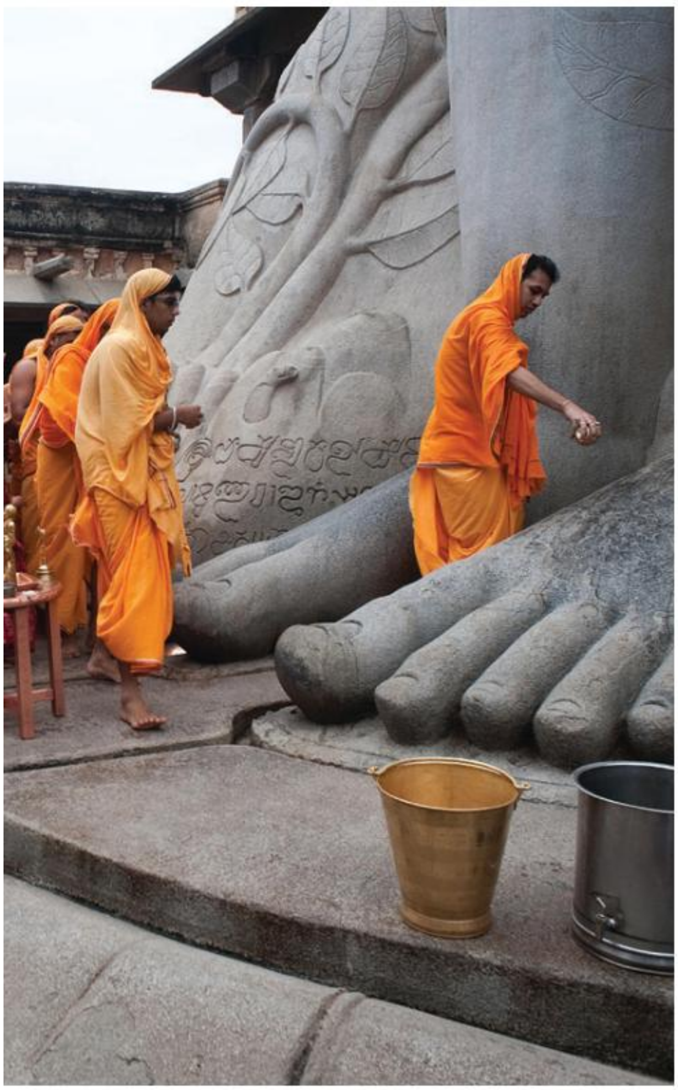
After various experiences, including nearly starving to death, he sat under a tree, vowing to stay there until he had found the truth about life. After 49 days of meditation he is said to have reached a state of enlightenment or nirvana. Believers say he was the first to break out of the cycle of reincarnation, and to be freed from the suffering that goes with it.

Buddhists do not worship deities. Instead they strive for a deeper insight into the true nature of life, with a focus on personal spiritual development. Buddhism teaches that greed, bloodshed and violence can never make people happy. The way to find peace of mind is through honest work, truthfulness, kindness and respect for the lives of all creatures, both human and animal.

Source 2 Hindu pilgrims bathing in India's holiest river, the Ganges

Jainism

Jainism developed as an offshoot of Hinduism and teaches that one should do no harm to any living thing. Jains, like Hindus, believe in karma, which teaches that the effects of a person's actions determine his or her destiny in the next life – that no repentance can save someone and no god can forgive or forget past actions.



Source 3 Jain pilgrims travel to the giant statue of Gomateshwara, one of the main spiritual leaders in Jainism. Located in the south of India, this is the largest statue carved from a single block in the entire world.

14.6 CHECK YOUR LEARNING

Review and understand

1 **Identify** the world's oldest major religion.

2 What is one belief that Hinduism and Jainism have in common?

Apply and analyse

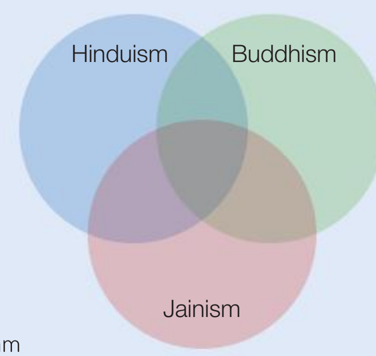
3 **Explain** how you think the beliefs of each religion would have affected the lifestyles of people in ancient India.

4 a Copy and complete the Venn diagram in Source 4 to **determine** (decide) what these religions have in common.

b Write a short paragraph to **compare** Hinduism with either Buddhism or Jainism. Remember, when you compare two things you must talk about how they are similar and how they are different.

Evaluate and create

5 **Create** a new deity. Sketch their appearance (use labels and stick figures if you want). Describe this deity's role. List the ways your deity would have affected the lives of ancient Indians.



Source 4 Venn diagram

14.7 Everyday life in ancient India

In this topic, you will:

» discover what daily life was like in ancient India.

Daily experiences of people in ancient India depended on their position in the caste system, whether they were male or female, and where they lived.

Housing

The cities of the Indus Valley civilisation were enclosed within high brick walls. This provided populations with some protection against attack from outsiders. Houses and streets were well planned in an ordered grid pattern.

Homes of the rich

The houses of the rich in ancient India were typically several storeys high with whitewashed walls. There would also be a private garden. Often a small stream ran through it, allowing families to carry out the daily ritual washings (for religious reasons). The private life of the family centred on this garden. Herbs were grown there to help treat any illnesses.

Rooms were separated by hanging mats or tapestries. Floors were laid with polished tiles. Each day, rooms were perfumed by incense and fragrant flowers. Furniture was typically elegant and varied. In the master bedroom, there might be a soft bed with a white bedspread and a decorated canopy above, as well as tables, chairs and baskets of flower garlands to wear.

Source 5 Inside a modern home in India; this style of housing is still typical for a poor family in India.

Homes of the poor

Living conditions were much more basic for poor people, especially those living in outlying towns and villages. Their houses were usually single-storey, with walls covered with a mix of lime, dirt and cow manure. Floors were beaten dirt, and there might be only one window. Furniture was non-existent or extremely sparse. There were no chairs; people sat or squatted on the ground. There may have been a bed with a wooden or bamboo frame. Domestic utensils were restricted to pots of various sizes.

Source 6 A wedding in an Indian village today continues old traditions. The bride is washed in front of a sacred Mahuwa tree, known as the 'tree of life'. The tree provides edible fruit, wood, oil (pressed from seeds), flowers, fertiliser (seed husks) and alcohol (made from fermented flowers).

Marriage

Men in India's Vedic period typically had one wife and there were no child brides. Young people seem to have been free then to marry any person they chose, as long as they had parental agreement.

Marriages gradually became more structured, placing more restrictions on people, especially on women. Brides were married at younger ages. Some religious texts permitted the marriage of girls as young as eight, while others preferred the girl to be at least 12 years old.

Marriage evolved to become a matter that was planned over a long period. Sometimes the families arranged things directly; other times, the services of matchmakers (*ghataka*) were used. **Astrologers** were consulted to find the best time for the wedding. The father of the bride was obliged to supply a **dowry** or wedding gift to the family of the groom.

Households

After marriage, the new bride cut all ties with her birth family and became part of her husband's household and *gotra* (family line). The household into which she moved was an extended family, with grandparents, uncles, aunts and other relatives living together under the authority of the head of the household. The numbers were increased by the developing practice of **polygamy**, where men would have more than one wife.

Polygamy was permitted for all castes but was practised mainly by the Kshatriyas (nobles). Its main purpose was to ensure that a son would be produced who would preserve the *gotra*. Custom required that a man should wait eight to 12 years before taking a second wife. This was seen to be a sufficient time to wait for his first wife to bear him a son.

astrologers
people who study the stars and planets to work out their effect on human affairs

dowry
money and/or property that, in some societies, a wife or her family must pay to her husband when they get married

polygamy
marriage to more than one person at the same time

Food and diet

In ancient times, Indus Valley populations would have eaten the grain crops they grew (for example, rice, lentils and wheat) and the meat of the animals they herded (such as sheep, pigs, cattle and goats). Diets changed over time, often for religious reasons. It become more common not to eat meat in the Mauryan Empire, because animal sacrifice had become less common under Emperor Ashoka, who had converted to Buddhism. By the time of the Gupta Empire, the cow had become sacred and Hindus did not eat beef at all. Much later, with the arrival of Islam, pork also became a forbidden food for many.

Clothing and jewellery

Cotton was grown Indus Valley farmers. Fabric made from cotton was cool to wear in India's climate. It was used to make the *saris* (the Sanskrit word for 'cloth') worn by women, and the *dhoti* worn by men. Both these garments were a single piece of cloth wound in different ways around the body. Men wound the *dhoti* between their legs to form loose pants. Some men also wrapped fabric around their head to form turbans.

Source 7 A single piece of cloth is wound in different ways to form a *dhoti* (worn by men) and a *sari* (worn by women).

Saris later became vibrantly coloured garments, especially for young women; for wealthy women, they were often made from richly decorated silk. Typically, lots of jewellery was worn by those who could afford it.

Education

During the Indus Valley (Harappan) civilisation, formal education was limited to the upper castes. Education focused on the Sanskrit language and religious training, such

Source 8 Young Indian women dressed in traditional saris

as learning the Vedas and ritual practices. Traditionally, students lived and studied with their teacher, or *guru*, in a forest location away from towns, called an *ashram*. Education started as young as eight years, depending on a child's intellectual abilities. Upper-caste women were educated during the Indus Valley (Harappan) civilisation, and ancient Hindu scriptures provide evidence of women scholars who were teachers and took part in philosophical debates.

The sons of traders and merchants would be taught reading, writing and basic arithmetic in village schools, using their local dialect. Other boys and girls from the lower castes – the workers and farmers – would not have received any formal schooling.

Source 9 A group of men perform the Upanayana or Sacred Thread ceremony in Mumbai. In ancient times, it marked the start of an upper-caste boy's formal education.

Quiz me!
A quick quiz on everyday life in ancient India

14.7 CHECK YOUR LEARNING

Review and understand

1 **Outline** why the diets of ancient Indian people changed over time.

2 Which groups in society received an education, and which did not?

3 **Identify** the caste (type of group or class) that most commonly practised polygamy. Suggest a possible reason for this.

Apply and analyse

4 **Compare** marriage and family life in ancient India with that of modern Australia. Make sure you look at similarities and differences.

5 **Explain** why cotton was used to make *saris* and *dhoti* in ancient India.

Evaluate and create

6 Using the internet, **research** the role of cows in Hinduism. Create a poster explaining why cows are sacred to Hindus. Remember to include references to show where you found your information.

7 Based on information in the text, **create** a sketch of what you think an inside room of the home of a wealthy person in ancient India might have looked like.

Source 10 A student recites from the Vedas.

14.8 Warfare

In this topic, you will:

» consider how warfare and conflict affected everyday life in ancient India.

India's two epic stories, the *Ramayana* and the *Mahabharata* (created about 2300 years ago), both mention warfare. In these texts, war is viewed as an ethical 'fight for what is right', planned and executed with great skill. A carefully balanced mix of foot soldiers, cavalry, chariot troops and elephant troops helped to ensure this. This four-part mix was called the *Caturangabala*, very similar to the name of the Indian game of chess: *Caturanga*.

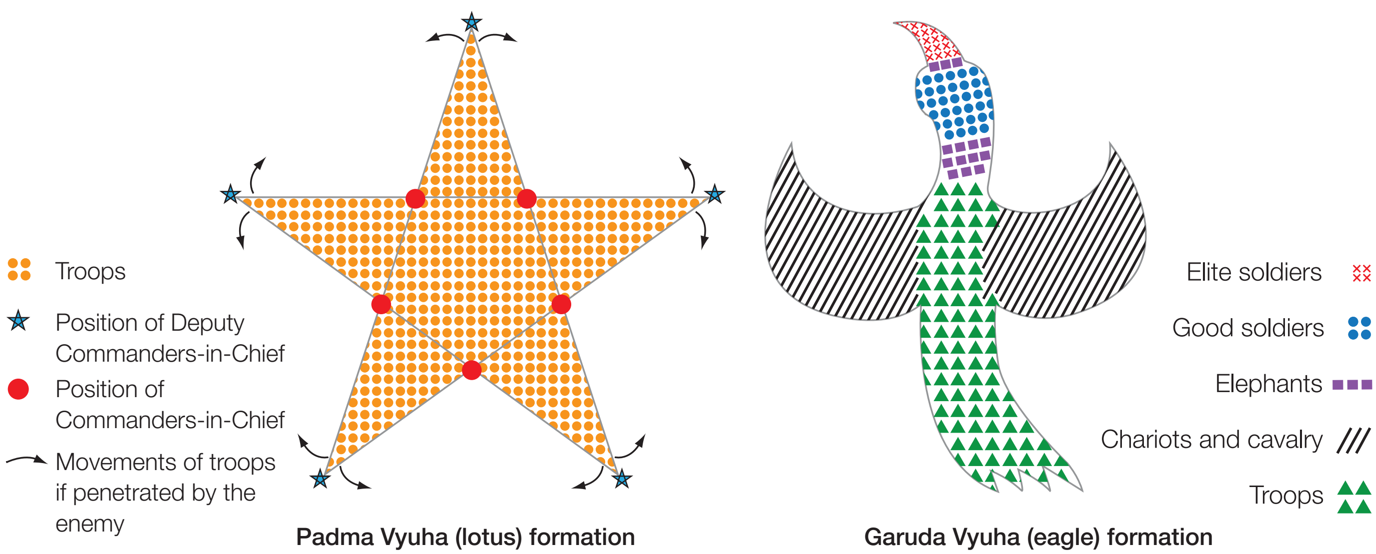
Throughout its history, India has fought many invaders. There has also been much internal conflict between warring kingdoms. Hence, there was a recognised need for a king to have a strong, stable army. This is where the warrior caste, Kshatriyas, fulfilled their role. It was not until the Mauryan Empire, though, that there was an army strong enough in India to unite much of the country.

Source 11 An artist's impression of Alexander the Great defeating the Indian army of King Porus (and his elephant troops) at the battle of Hydaspes River in 326 BCE

Armies and strategies

The armies of India were among the first in the ancient world to fight using battle plans. They did not charge at the enemy in a random fashion, weapons drawn. Rather, they were arranged on the battlefield in quite elaborate ways. There were many battle formations used; two are shown in Source 12.

The Mauryan army was one of the biggest in the ancient world at that time. Each of its 10 large units, called *ani kini*, was made up of increasingly smaller fighting units (see Source 13).



Source 12 Two army formations used in ancient India

A typical battle

An Indian king was a member of the Kshatriya caste and, by definition, a warrior. The aim of a king in ancient India was not only to keep his territory intact but also to increase it through conquest. When an army marched off to battle, it was followed by a long train of supply wagons, drawn by oxen.

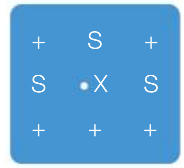
The battle was fought in accordance with established customs and rules. The day chosen for the battle was usually preceded by a week of prayers in which the king participated. Fighting began only when the omens were favourable. The enemy was warned that a battle was about to start.

The battle typically began at daybreak, with the elephants plodding forward close together, providing cover for the infantry behind them. The king usually rode in the centre of the rearguard and the charge was sounded by conch shells, gongs and war drums. If particular fighting formations had been prearranged (see Source 12), these were put in place.

By common consent, fighting stopped at nightfall and was resumed at daybreak. These events were marked by the call of instruments. After the battle, the corpses from the day's fighting were heaped on a series of funeral pyres (usually a wooden structure used to burn bodies), one for each caste among the slain.

After a victory, a king would typically:

- recite, before anything else, a hymn of thanksgiving to the gods, and distribute offerings to the Brahmins
- supervise the distribution of all the goods taken in the war, which included the enemy's women
- restore the defeated king to his throne, provided that he promised loyalty and support in return for mercy
- negotiate what was to be done with prisoners. Usually, they were made slaves for one year in the service of the conquering king.



= *Patti*

• = 1 elephant
X = 1 chariot
+ = foot soldier
S = cavalry

3 *Patti*	=	1 *Senamukha*
3 *Senamukha*	=	1 *Gulma*
3 *Gulma*	=	1 *Gama*
3 *Gama*	=	1 *Vahini*
3 *Vahini*	=	1 *Pratana*
3 *Pratana*	=	1 *Camu*
3 *Camu*	=	1 *Ani Kini*
210 *Ani Kini*	=	1 *Aksauhini*

Source 13 Some battle units of the army in ancient India

Analyse this!
Armies and strategies in ancient India

14.8 CHECK YOUR LEARNING

Review and understand

1 **Identify** what the four-part mix was.

Apply and analyse

2 Some soldiers in the Indian army did not wear metal armour. **Suggest** some advantages and disadvantages of this on the battlefield.

3 Look closely at Source 11. Comment on King Poros' use of elephants at the Battle of Hydaspes River. Do you think this was an effective strategy? **Explain** your answer.

Evaluate and create

4 Examine the two army formations illustrated in Source 12. Remembering the four parts of the army of ancient India, draw a labelled sketch to show how you think one of the following other army formations was arranged: *Mala vyhua* (garland formation), *Makara vyhua* (fish formation), *Kurma vyhua* (turtle formation) *or Vajra vyhua* (thunderbolt formation). **Propose** (put forward) to a partner why you think your formation will work as a battle tactic.

14.9 Death and funeral customs

In this topic, you will:

» explore the beliefs associated with death and funerary customs in ancient India.

Customs related to death and funerals in ancient India were influenced by people's beliefs and traditions. Source 14 shows what usually happened when a Hindu man died in ancient India. Some of these rituals are still part of Hindu funerals in India today.

A period of mourning followed the funeral. For 10 days, after having a purifying bath, the relatives of the dead person did not work, nor permit anyone to work on their behalf. They did not have sex during this period (as they were 'polluted'). On the eleventh day after the funeral, the dead man's bones were collected from the ashes of the fireplace (now all picked clean by birds). They were placed in an urn, which was then buried in a cemetery or immersed in a holy river.

A ceremonial meal usually followed, after which the family gave gifts to the poor. Offerings were also made to the dead man (where his remains had been buried or placed in the river) so his soul would not linger in the world of the living as a ghost.

When close to death, the man was placed on the ground.

↓

After death, professional undertakers cut the man's hair, beard, body hair and nails. They rubbed the body with perfumed oils and dressed it in new garments.

↓

Professional mourners were hired to surround the corpse, wailing and crying while beating their chests and tearing at their hair.

↓

The funeral procession moved to where the body would be cremated. The procession was followed by a cow chosen to be sacrificed.

↓

The widow of the dead man was helped onto the pyre (a heap of wood for burning). She lay down by the side of her dead husband for a while before being helped off.

↓

The priest placed sacred objects that belonged to the dead man next to his corpse, while relatives placed offerings on the pyre. The priest killed the cow and arranged its vital organs on the body.

↓

Three fires were built around the pyre:
- at the north-west corner
- at the south-west corner
- at the south-east corner.

The nearest relative of the dead man (usually the eldest son) then lit the pyre.

↓

The priest watched the pyre carefully to see which flames reached the corpse first because this would indicate the dead man's fortunes. It was a sign of supremely good fortune if flames from all three fires reached the corpse at the same time.

Source 14 Typical procedures for the funeral of a Hindu man in ancient India

Source 15 A Hindu funeral in progress; the pile of wood is known as a pyre.

Sati

Around 400 CE, the practice of *sati* began to spread. The widow chose, or was forced, to be burned alive with her dead husband. By doing this, she was greatly respected as a pure woman and declared a 'true wife'. It was believed that her agonising death ensured that she, her husband and seven generations of her family would all go straight to heaven.

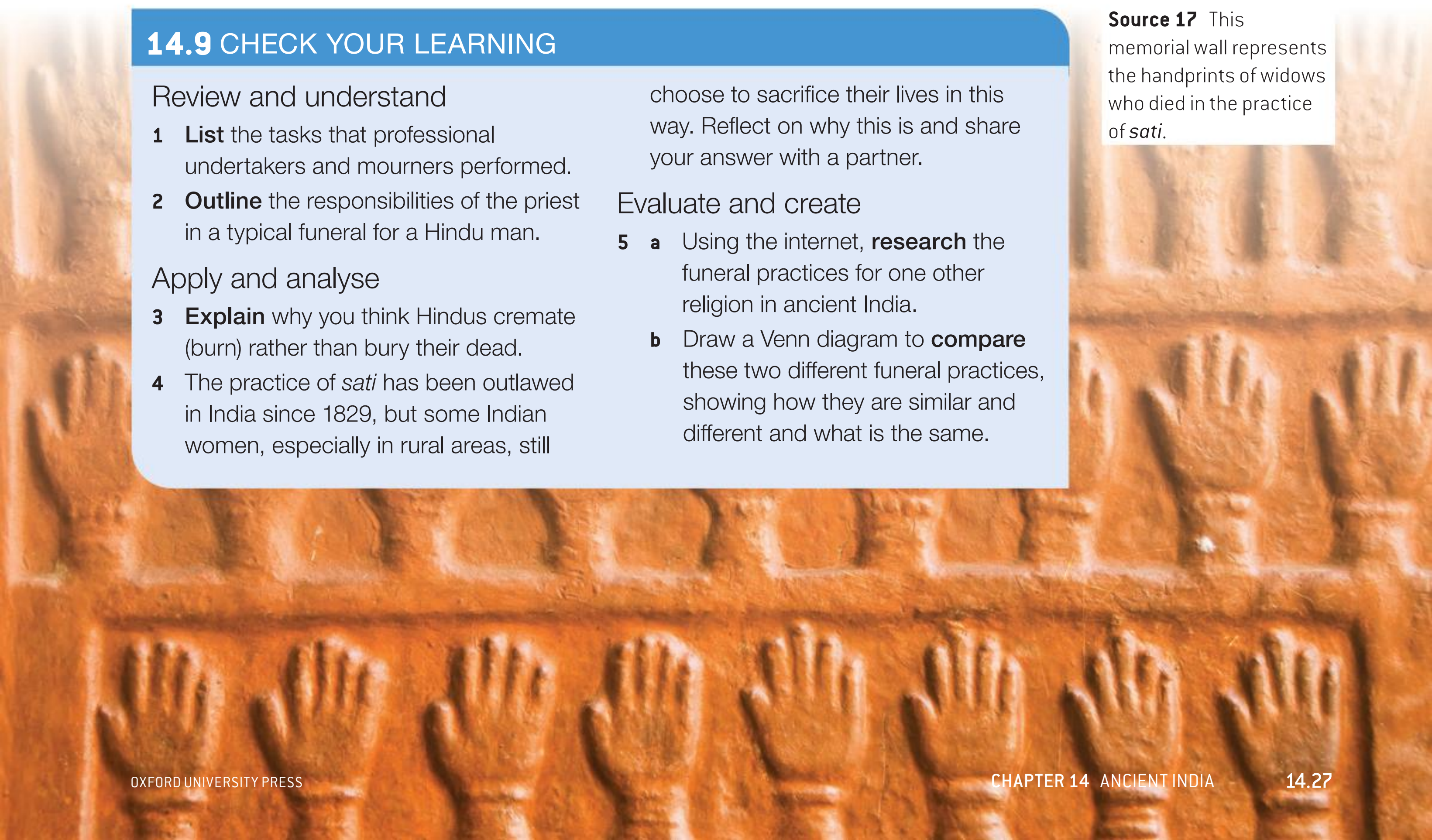
Source 16 A nineteenth-century artist's impression of a wife burning with her dead husband on his funeral pyre – a practice known as *sati*

See, think, wonder

Look at Source 16.

- What do you see?
- What do you think?
- What do you wonder?

Quiz me!
A quick quiz on death and funeral customs in ancient India



Source 17 This memorial wall represents the handprints of widows who died in the practice of *sati*.

14.9 CHECK YOUR LEARNING

Review and understand

1 **List** the tasks that professional undertakers and mourners performed.

2 **Outline** the responsibilities of the priest in a typical funeral for a Hindu man.

Apply and analyse

3 **Explain** why you think Hindus cremate (burn) rather than bury their dead.

4 The practice of *sati* has been outlawed in India since 1829, but some Indian women, especially in rural areas, still choose to sacrifice their lives in this way. Reflect on why this is and share your answer with a partner.

Evaluate and create

5 a Using the internet, **research** the funeral practices for one other religion in ancient India.

b Draw a Venn diagram to **compare** these two different funeral practices, showing how they are similar and different and what is the same.

14.10 Change through conflict

In this topic, you will:

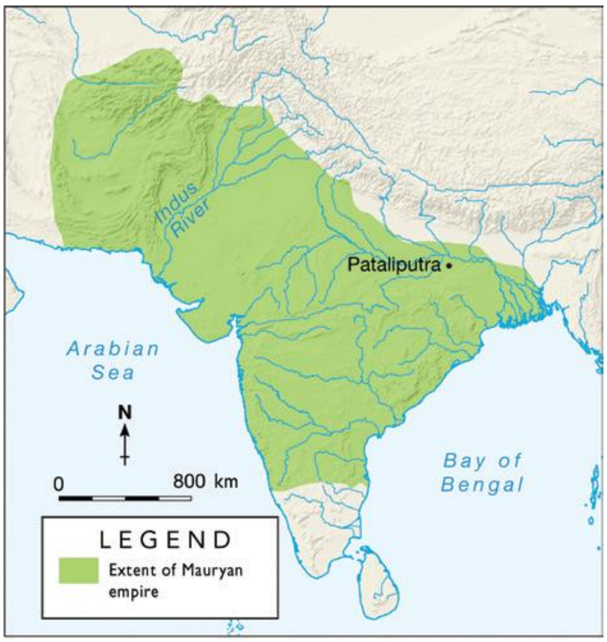
» examine the causes and effects of India's contact and conflict with other societies.

The Aryans established control across much of India's north about 3500 years ago, before extending their influence into the Ganges River Valley. Among their many achievements, these Indo-Aryans produced the language and script of Sanskrit, from which comes Hindi, one of the official languages of modern India. They also created a literature based on the hymns and other sacred poems to their gods. Over time these were written down in Sanskrit and were called the Vedas.

The fertile Indus Valley was also attractive territory to other civilisations. The Persians made it part of their empire around 500 BCE, but did not hold it for long. Later, the Indus Valley and surrounding regions became part of the Hellenistic Empire under Alexander the Great in 326 BCE following the defeat of the Indian king, Porus.

Two great Indian empires then emerged during ancient times. India's first empire – the Mauryan Empire – was established in 321 BCE by its conquering king, Chandragupta Maurya. A later king, Ashoka (Chandragupta's grandson), changed the face of India, first through war, and then by peaceful means.

THE MAURYAN EMPIRE



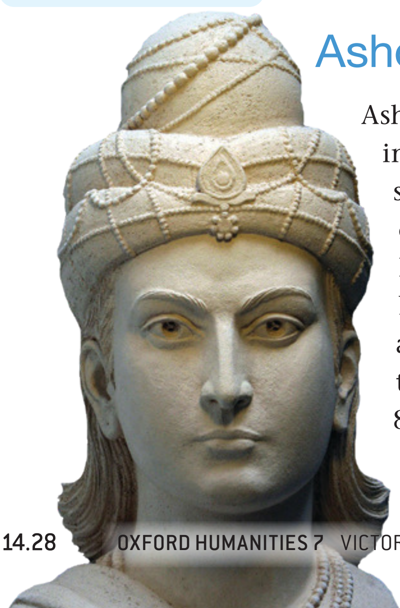
Source 18 Source: Oxford University Press

Quiz me!
A quick quiz on change through conflict in ancient India

Mauryan Empire

By the time Ashoka came to power in 269 BCE, a large part of the Indian subcontinent was under Mauryan control. The exception was Kalinga (now the Indian state of Odisha) on the east coast. In 261 BCE, Ashoka led a lengthy campaign against the people of Kalinga, which ended in a victory for the Mauryan Empire. However, he was horrified at the devastation he had caused. He recorded how 150 000 Kalingan people had been carried away as prisoners, 100 000 had been killed, and many times that number had died as a result of the war. He vowed never to wage war again and turned to the newer religion of Buddhism for his inspiration and guidance. As a result, Buddhism became the empire's official religion in 260 BCE.

Ashoka and the spread of Buddhism



Ashoka wanted the teachings of Buddhism to be spread beyond their birthplace in northern India. He sent Buddhist missionaries to various parts of the subcontinent and beyond to carry the teachings of Buddhism and win people over to this new faith. Missionary expeditions were sent to Tibet, southern India, Burma and Sri Lanka. The mission to Sri Lanka was led by Prince Mahinda, Ashoka's son, and was the most successful of all. Prince Mahinda and the king of Sri Lanka, King Tissa, converted almost all of the inhabitants to Buddhism and built spectacular monuments. Altogether, Ashoka built 84 000 stupas across the Mauryan Empire.

Source 19 An artist's impression of Ashoka, third ruler of the Mauryan Empire

Although Buddhism later declined in popularity in India, the descendants of missionaries sent to Sri Lanka by Ashoka carried Buddhism to Burma and Thailand. From there, it spread to the islands of modern-day Indonesia, Cambodia and Vietnam and travelled overland through central Asia to China, Korea and, finally, Japan. There are thought to now be close to 400 million Buddhists in the world, mostly in South-East Asia. That is a significant consequence of Ashoka's conversion.

Source 20 A huge rock carving of a reclining Buddha in Polonnaruwa, Sri Lanka

Ashoka's *dhamma*

Perhaps the most significant aspect of Ashoka's reign was his effort to convey to his people his ideas about how life should be lived. These ideas were known as his *dhamma*. The word came from the Sanskrit word *dharma*, which means the universal law, or righteousness. In Buddhism, it was used for the teachings of the Buddha, but Ashoka gave the word a wider meaning beyond religious matters to include questions of ethics (morals) and social behaviour.

Ashoka asked people to be tolerant of each other. This meant that people should be considerate of slaves and servants, respect teachers, obey parents, be generous towards friends and relatives, show concern for all living beings, and refrain from killing or behaving violently. For leaders such as himself, this meant renouncing war and conquest. This teaching of non-violence also extended to the treatment of animals. Ashoka set up hospitals for animals as well as for people. To convey his ideas to his people, Ashoka had edicts (similar to instructions or laws) inscribed in stone throughout the empire.

Source 21 The remains of a pillar built by Ashoka showing engraved edicts

End of the Mauryan Empire

Ashoka ruled for 37 years and died in 232 BCE. His policy of *dhamma* was not completely successful, as social and religious tensions throughout the empire continued. Decline set in and the empire broke down when the last of the Mauryan kings, Brihadratha, was assassinated in 185 BCE.

Key skill worksheet
Identifying continuity and change: Exploring changes in the Mauryan Empire

14.10 CHECK YOUR LEARNING

Review and understand

1 In your own words, **describe** the concept of *dhamma*.

2 What were Ashoka's edicts?

Apply and analyse

3 **Explain** how and why the campaign to control Kalinga changed Ashoka.

4 Using Source 18 and the world map in the back of your book, **determine** (decide) the extent of the Mauryan Empire and what countries it would encompass today.

5 'The fertile Indus Valley was also attractive territory to other civilisations.' **Explain** what this statement means and why it would be so.

Evaluate and create

6 'The death of Ashoka contributed to the downfall of the Mauryan Empire.' **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? Write a response explaining your position.

7 **Create** a poster or PowerPoint presentation that shows Ashoka's contribution to ancient India.

14.11 Change through trade

In this topic, you will:

» examine the causes and effects of India's contact and trade with other societies.

Analyse this!
A Record of Buddhistic Kingdoms

The Gupta Empire

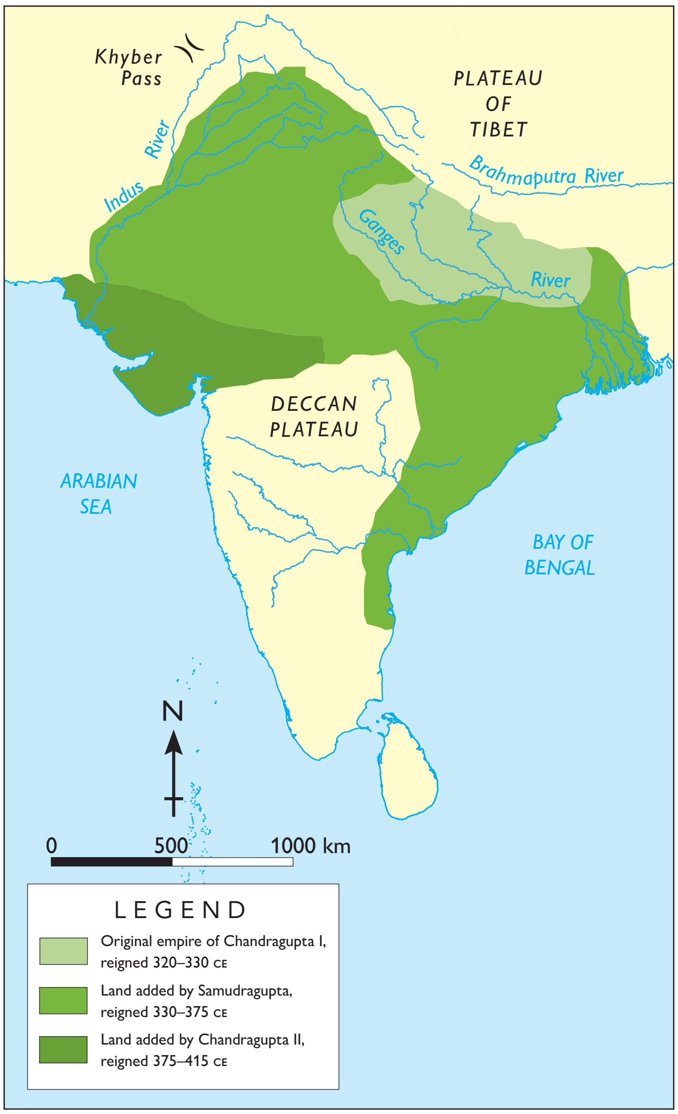
Over 100 years after the end of the Mauryan Empire, ancient Indian civilisation was to reach new heights – this time under the rule of the Gupta Empire (*c.* 320–480 CE). The Gupta Empire was founded by Chandragupta I, and although the reigns of the five Gupta emperors lasted only about 150 years, they oversaw great changes and advances in many fields. This was a period when Indian arts and sciences flourished. Great Indian writings took on their final form at this time, including the Sanskrit epic tales that are still central to Indian literature, culture and society today.

Trade also flourished, with close contacts formed not only with Asian neighbours but also with the Roman Empire in the west. Ancient India's geographical location – roughly midway along the Silk Road between China and the Mediterranean societies of Rome, Greece and Egypt – also helped to develop exchanges of goods, ideas and religions.

During the Gupta Empire, Buddhism was replaced by Hinduism as the official state religion. Despite this change, followers of Buddhism, Hinduism and Jainism coexisted peacefully and exchanged ideas.

The Gupta rulers were followers of the Hindu god Vishnu, but they were generous towards Buddhist monasteries and universities. They encouraged the works of Buddhists and Jains. Today, Buddhist sculptures carved into rock faces and paintings on temple caves from this time are evidence of this.

THE GUPTA EMPIRE



Source 22 Source: Oxford University Press

Source 23 This curvy route along the Silk Road was one of many that enabled trade and expansion for the people of ancient India. Pictured here is a route that linked India with China.

Source 24

[In this land] … the people are numerous and happy; they have not to register their households, or attend to any magistrates and their rules; only those who cultivate the royal land have to pay [a portion of] the gain from it. If they want to go, they go; if they want to stay on they stay. The king governs without decapitalisation or [other] corporal punishments. Criminals are simply fined, lightly or heavily, according to the circumstances [of each case]. Even in the cases or repeated attempts at wicked rebellion, they only have their right hands cut off … Throughout the whole country the people do not kill any living creature, nor drink intoxicating liquor, nor eat onions or garlic … they do not keep pigs and fowls, and do not sell live cattle; in the markets there are no butchers' shops and no dealers in intoxicating drink.

The Heads of the Vaishya families … establish in the cities houses for dispensing charity and medicines. All the poor and destitute in the country, orphans, widowers, and childless men, maimed people and cripples, and all who are diseases, go to those houses, and are provided with every kind of help, and doctors examine their disease. They get the food and medicines which their cases require, and are made to feel at ease.

From *A Record of Buddhistic Kingdoms*, by Fa-hsien, trans. James Legge, 1886

Ancient Indian society during the Gupta Empire

A Chinese Buddhist monk named Fa Hsien provided evidence of Indian society during the Gupta Empire. Fa Hsien toured the Gupta Empire to collect copies of Buddhist scriptures and his writings (394–414 CE) were first translated by French scholars in the nineteenth century.

Tensions and divisions in Indian society appeared under the rule of the last Gupta ruler, Kumara Gupta, and the invading Huns ultimately ended what remained of the empire's unity. By the mid-sixth century CE, India was again ruled as a number of small kingdoms.

Source 25 An artist's impression of invading Huns who helped to end the Gupta Empire

14.11 CHECK YOUR LEARNING

Review and understand

1 **Identify** the length of time that the Gupta Empire lasted.

2 a **Identify** three changes that occurred during the Gupta Empire.

b **Rank** these in order of significance, and give reasons for your answer.

Apply and analyse

3 **Explain** how the Gupta kings treated people with different religious beliefs. What evidence shows this?

4 **Analyse** the link between India's geographical location and its flourishing trade during the Gupta Empire. Remember, when you analyse something you must break it down into smaller parts and explain how they relate to each other.

Evaluate and create

5 Using Source 24, **discuss** the legal system and health system available to Indian people living in the Gupta Empire.

14C RICH TASK

Quizlet

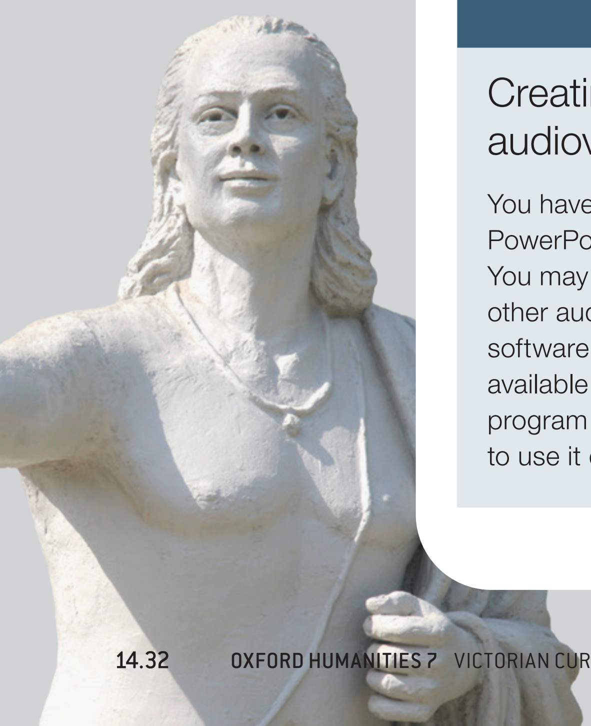
Revise the key terms you have learnt so far.

Legacy of ancient India

Ancient India has left many legacies for our modern world. As we have already seen, it was where Hinduism and Buddhism began. Ancient India also gave the world unique forms of architecture, art, music and dance – and a distinctive cuisine. In addition, the people of ancient India made astonishing advances in the fields of science and mathematics.

Source 28 Ancient followers of Buddhism and Hinduism gave the world magnificent examples of religious architecture such as the temple at Ellora, built during the Gupta Empire.

Source 27 Our system of Arabic numerals is founded on a numeral system developed in ancient India.



Source 26 A statue of the Indian astronomer and mathematician, Aryabhata; he described the Earth as a sphere, rotating on its own axis and revolving around the Sun. This explained day and night and the seasons of the year.

KEY SKILL
Communicating & reflecting

Creating and delivering an audiovisual presentation

You have probably created several PowerPoint presentations already. You may have also tried out some other audiovisual presentation software, such as Prezi, which is freely available on the internet. Whichever program you choose, it is important to use it effectively and avoid some common problems with these types of presentations. Use the following steps to help you avoid these mistakes.

Step 1 Design your presentation.

- Plan your presentation carefully so it has a clear beginning, middle and end.
- Make sure you present the content in a clear, concise dot-point form *not* as large slabs of text.

- Do not fill up your PowerPoint with lots of random pictures that are not related to the content. Make sure each visual is accompanied by a caption that explains why it is relevant to the presentation.
- A common mistake is to have objects and text moving on the screen in a way that just distracts the audience. Use graphics, sounds, video, animations and transitions only if they add value to the point being made, not just because you think they will look or sound good.
- Use a design that ensures your audience can clearly see and read the slides. Make sure there is enough contrast between the text colour and the background colour on the slide, and make sure your font size is large enough.

Step 2 Deliver your presentation.

- When delivering a PowerPoint presentation to an audience, don't just read out the text on each slide. Instead, talk in a way that develops and expands on the points. Carefully plan in advance what you are going to say during each slide. Record this plan on cue cards, and refer to these cards during your speech to remind you of what to say.
- One thing at a time! At any moment, what is on the screen should be the thing you are talking about. Your audience will quickly read every slide as soon as it is displayed. If there are four points on the slide, they will have read all four points while you are still talking about the first point. Plan your presentation so just one new point is displayed at any given moment. Navigate to the next point only when you are ready to talk about the next point.
- Speak clearly – not too fast, not too slow. Vary your tone and pitch to make your presentation more interesting.
- Make eye contact with different members of your audience. Do not just look down at your cue cards.

For more information on this key skill, see page 213 of 'The history toolkit'.

Practise the skill

1 **Research**, prepare and present an audiovisual presentation about a legacy from ancient India. Use the following questions to structure your presentation.

 a Who invented it?

 b When was it invented?

 c How did it work?

 d Why was it significant?

 Your presentation should be well researched and based on relevant and reliable sources.

Extend your understanding

1 As you listen to the presentations of your classmates, complete the peer assessment table below. Ask your teacher to photocopy several copies so that you can complete one for each presentation you listen to.

Document
Peer assessment

2 Give each classmate your completed peer assessment. Collect the peer assessments that your classmates completed as they listened to your presentation.

Name of presenter:		Name of person completing peer assessment:
Component of presentation	**What did the presenter do well?**	**What could the presenter improve on?**
PowerPoint design		
Oral presentation		

 Read their feedback and then complete a short self-assessment by responding to the following questions:

- What did I do well in my PowerPoint design?
- What could I improve in my PowerPoint design?
- What did I do well in my oral presentation?
- What could I improve in my oral presentation?

14 CHAPTER REVIEW

Review questions

14A How did physical features influence the development of ancient India?

1 **Identify** four physical features that shaped the history of the Indian subcontinent. (4 marks)

2 **Summarise** the importance of the monsoon rains in ancient India. (3 marks)

3 **Explain** the importance of geography and location of the Indus Valley in enabling trade with other places. (3 marks)

(Total: 10 marks)

14B What shaped the roles of key groups in ancient India?

1 **List** the social classes that made up the caste system in ancient India. (1 mark)

2 **Explain** why historians believe that for a time, women enjoyed the same status as men in ancient India. (3 marks)

3 **Discuss** the importance of religion in ancient India. Be sure to discuss all three main religions. (6 marks)

(Total: 10 marks)

14C How did beliefs, values, contacts and conflicts influence life in ancient India?

1 **Identify** one belief that Hinduism, Buddhism and Jainism have in common. (1 mark)

2 **Explain** why the diets of ancient Indians changed over time. (3 marks)

3 'Ancient India advanced greatly under the Gupta Empire.' Do you agree with this statement? **Justify** (give reasons for) your answer. (6 marks)

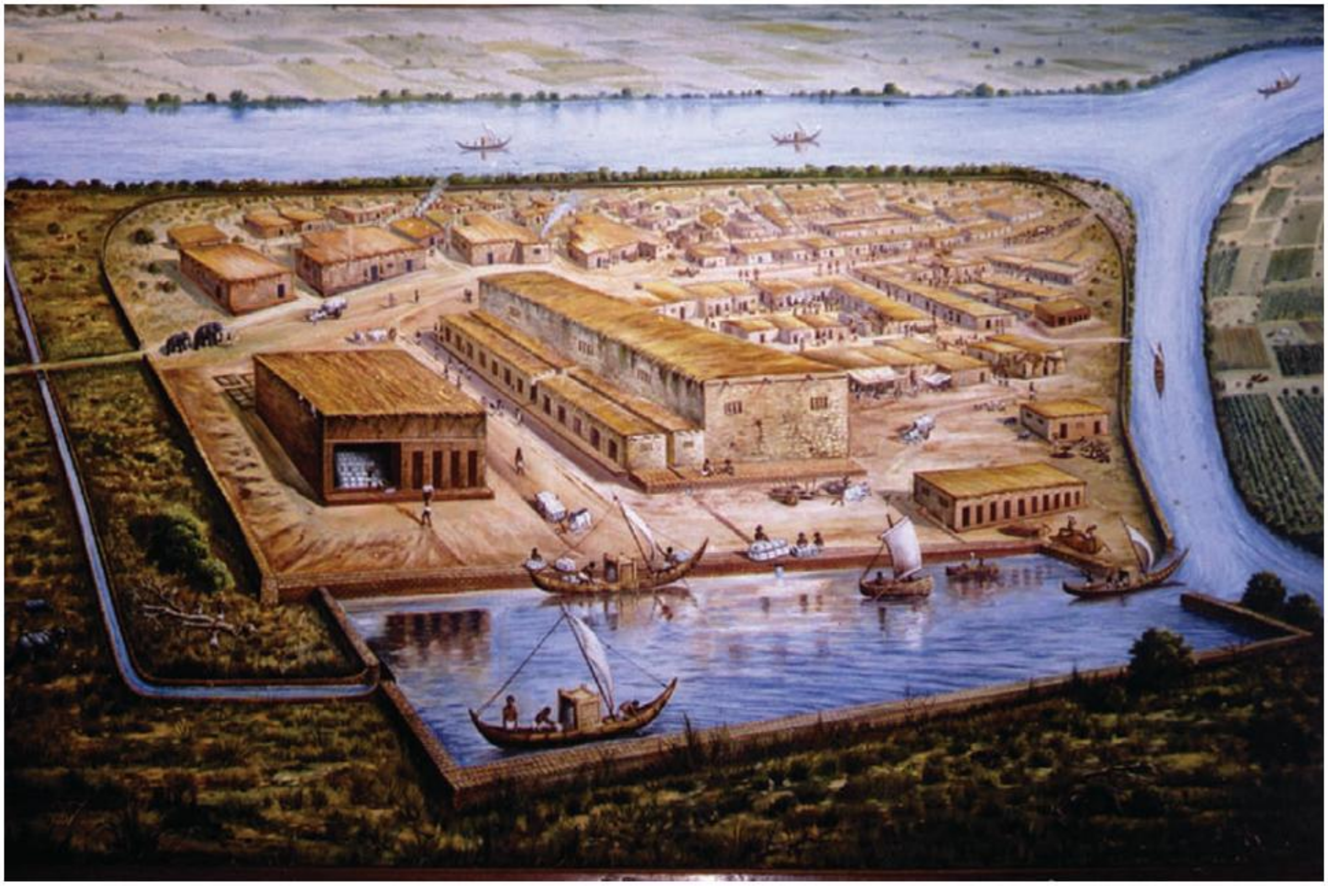
(Total: 10 marks)

Source 29 Inside the great Stupa at Sanchi is a collection of Buddhist monuments.

Review activity

Examine Source 30 and answer the following questions.

Indus Valley merchants



Source 30 Artist's impression of Indus Valley merchants

1 **Identify** whether Source 30 is a primary or secondary source. Why do you think this? (2 marks)

2 Based on the source, **suggest** how trade was carried out in the Indus Valley. (4 marks)

3 The concept of continuity and change is important to history, as it helps us understand that some things stay the same while others change. **Compare** the various aspects of the trading process to similar businesses or places we may visit today. What is similar and what has changed? (4 marks)

4 **Evaluate** how useful this source is to understanding the trading system of ancient Indians. Do you think it is accurate? What other evidence could help you understand the way trade was conducted in ancient India? (10 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 14

Key skill worksheet
Communicating & reflecting: Chapter 14

Quizlet
Play a game of Quizlet on Ancient India.

Chapter review quiz
Chapter 14

CHAPTER 15

Ancient China

Ancient China is a civilisation characterised by its rich and distinctive culture. Isolated from the rest of the world, the Chinese collectively forged their own destiny. By 4000 BCE, their modest farming regions had grown into large settlements. Their disciplined approach to life and their strong work ethic respected the social order and valued the role of education. They believed in the forces of nature and living a balanced, harmonious life. While internal conflicts occurred when various kingdoms fought to assert their rule, the ancient Chinese did not glorify war. The establishment of the Silk Road provided an opportunity to make contact with other civilisations, and through trade, the traditions and legacies of ancient China were discovered by other parts of the world. Ancient China became a large and powerful civilisation and its significance remains strong to this day.

Source 1 Hundreds of terracotta warriors were found in the tomb of Emperor Qin Shi Huang of the Qin Dynasty.

15A
How did the physical features of ancient China influence its development?

15B
What shaped the roles of key groups in ancient China?

15C
How did beliefs, values and practices influence life in ancient China?

15D
How did contacts and conflicts with other people change ancient China?

15.1 Ancient China: a timeline

Pronunciation guide	
Chinese name	**English pronunciation**
Qin	chin
Qin Shi Huang	chin sheh hwang
Qing	ching
Sui	sway
Wu Zhao	woo jow
Zhou	joe

c. 2000 BCE
Possible start of Xia Dynasty, China's first dynasty – ending in c. 1600 BCE

c. 1700
The use of bronze commences in China. It is widely used for ceremonial vessels and spiritual relics.

c. 1600
Start of Shang Dynasty, during which a system of writing emerged and large cities were built – ending in 1122 BCE

c. 1046
Start of Zhou Dynasty, China's longest-ruling dynasty – ending in 221 BCE

c. 600
The use of cast iron begins in China, improving the strength of farming tools and military weapons.

c. 563
Siddhartha Gautama (later known as Buddha) is born; his teachings will form the basis of Buddhism.

551
Chinese philosopher, teacher and author Confucius is born.

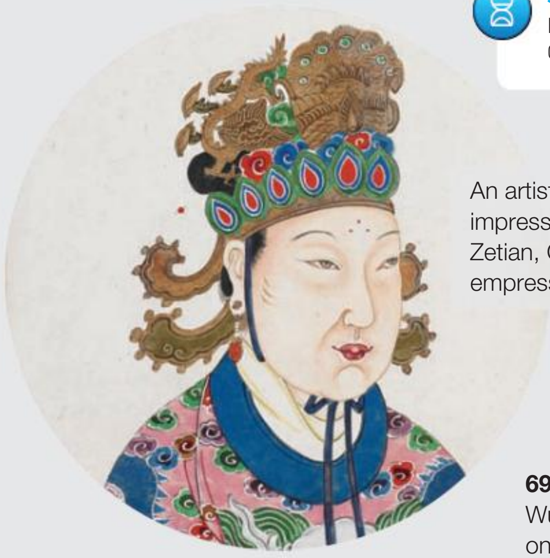
2400 BCE | 2200 | 2000 | 1800 | 1600 | 1000 | 600


Archaeological site of Erlitou, the possible capital of the Xia Dynasty


Statue commemorating Confucius, whose teachings are still relevant today

Source 1 A timeline of significant events in ancient China

Sequence this!
Events in ancient China



An artist's impression of Wu Zetian, China's only empress

481
Start of Warring States period lasting around 260 years, in which there will be almost constant conflict between different Chinese states fighting for power and control

221
Start of Qin Dynasty and rule of China's first emperor, Qin Shi Huang – ending in 206 BCE

220
Qin Shi Huang begins work to join up and extend a number of separate mud-brick defences built by lords during the Zhou Dynasty. This will become one of the strongest defensive structures ever built – the Great Wall of China.

206
Start of Han Dynasty, during which time China's bureaucracy expands and strengthens – ending in 220 CE

140
The sixth Han emperor, Wu Di, commences rule. He will be best known for expanding Chinese territory – under his rule, China doubles in size, making it larger than the Roman Empire.

***c.* 100**
The manufacture of steel begins in China.

400 | 200 | 1 CE | 200 | 400 | 600 | 800 CE

220
The Han Dynasty ends and the empire is divided into the three kingdoms of Wei, Shu and Wu, which fight each other for control of China for 60 years.

581
Start of Sui Dynasty – ending in 618 CE

618
Start of Tang dynasty, known as the Golden Age of arts and culture – ending in 907 CE

690 CE
Wu Zetian becomes the only woman in the history of China to rule as Empress Regent, she forms her own dynasty, the Zhou, interrupting the Tang Dynasty for 15 years.

15.1 CHECK YOUR LEARNING

Review and understand

1 **Identify** when the Warring States period occurred. What happened during this period?

2 **Identify** the first emperor of China. What was the world-famous structure he was responsible for?

3 **Identify** the technological innovations listed on the timeline. How may they have been used?

15.2 Physical features of ancient China

In this topic, you will:

» outline how the physical features of ancient China influenced its development.

Ancient China was located on the eastern side of the Asian continent. The dawn of ancient Chinese civilisation dates back to early farming practices in 4000 BCE. Its growth was supported by physical features of the land including long rivers, huge mountain ranges and a mild climate.

Ancient China was geographically isolated from other civilisations of the time. Without outside influence, it was able to grow and remain strong for 2000 years. The ancient Chinese people considered China to be the 'centre of civilisation' or 'Middle Kingdom', surrounded by barbarians.

Today China has the largest population in the world with approximately 1.45 billion people.

nomadic
belonging to a community that moves with its animals from place to place

Source 2 China's natural borders and protection

TO THE EAST →	The Pacific Ocean, which provided access to travel by sea as well as a natural coastal protection against others
TO THE SOUTH ↓	The dense tropical rainforests of modern-day Burma, Laos and Vietnam, which were nearly impossible for others to travel through by foot
TO THE SOUTH-WEST ↙	The Himalayan mountain range provided the highest physical barrier in the world; with its extreme climate and high altitude, the Himalayas were an excellent shield from others
TO THE NORTH-WEST ↖	The harsh cold deserts such as the Gobi Desert, as well as grasslands that could only support a nomadic lifestyle

Natural boundaries

Due to a variety of physical features, ancient China was a well-protected civilisation. On all sides, China was bordered by natural protection (see Source 2).

China's northern border was the least well-protected by natural geographical barriers. The Mongols – tribal warriors who lived as nomads – would often raid cities in northern China. To protect China from these attacks, work began on a huge defensive structure in 220 BCE: the Great Wall of China (see Source 3).

Rivers and climate

China has two major river systems – the Yellow River and the Yangtze River. The early people of China settled along these two rivers. Different settlements were ruled by individual kings. The rivers provided the settlements with fresh water, food and transportation.

Source 3 A section of China's Great Wall showing some of the steep mountain terrain

Source 4 This is part of a map of the Yellow River, measuring 12 metres in length, on display at the Metropolitan Museum of Art in New York City. It was drawn in 1690 CE and reflects a high level of accuracy in surveying and cartography. The plain and the loess soil are quite distinctive across the landscape.

The Yellow River

The Yellow River, also called the Huang He River, is where the first settlements were founded. It is the sixth-largest river in the world, measuring 5464 kilometres in length. This river flowed across a plain and it flooded each spring, creating fertile yellow soil called loess. This river system was ideal for growing millet (a type of grain), for fishing, and for grazing sheep and cattle. It was also a fresh water resource for the people living nearby. The climate in this area was generally dry with very cold winters. The early people referred to the Yellow River as 'China's Sorrow' because the annual flood caused significant damage to villages located on the low riverbanks. Over time water management practices such as canals, terraces and stone **embankments** were created to control the river's flow.

Explore it!
A virtual field trip to China

embankments
walls or banks of stone or earth made to keep water back

The Yangtze River

The Yangtze River is in the south of China. It is the third-largest river in the world (6380 kilometres long) and is very wide. This made it a very difficult river to cross, so there were many times in the history of ancient China where it operated as a political boundary between northern and southern China.

This area experienced more rainfall than the north. It was the first area in the world where rice was grown in large paddy fields. Some historians suggest that this could have been even before 5000 BCE. Rice was a highly nutritious food and could support a greater population using the same area of land as millet.

Farmers gradually migrated south as the area supported a variety of crops, boosting its economy and increasing farmers' wealth.

15.2 CHECK YOUR LEARNING

Review and understand

1 **Identify** the name given to the Yellow (or Huang He) River by the Chinese people. Why did they call it this?

2 Why were farmers attracted to the Yangtze River valley?

Apply and analyse

3 a Create a list of the strengths of China's physical features.

b Create a list of the weaknesses of China's physical features.

Evaluate and create

4 Which of China's surrounding barriers (natural and built) do you think would have posed the greatest challenge for an invading force? **Justify** (give reasons for) your opinion. Suggest what an invading force might have had to do to overcome this obstacle.

15A
RICH TASK

Quizlet
Revise the key terms you have learnt so far.

China's physical features

China is the third-largest country in the world, with a land area of about 9.6 million square kilometres. Close to 70% of its land surface consists of rugged mountains, plateaus and hills. The other 30% is made up of river basins and lowland plains, which is where most of the Chinese people settled.

KEY SKILL
Analysing cause & effect

Analysing a map in history

The concept of cause and effect helps us understand how events develop, and how they have consequences or flow-on effects. The physical features of ancient China influenced the location and development of farming land and cities. For example, the locations of mountains and deserts as well as the need to be close to water led to decisions on where settlements could begin. Many settled on the low riverbanks by the Yellow River, which was prone to flooding. The effect of this is that the Chinese people had to develop ways of managing and preventing flood damage in the future.

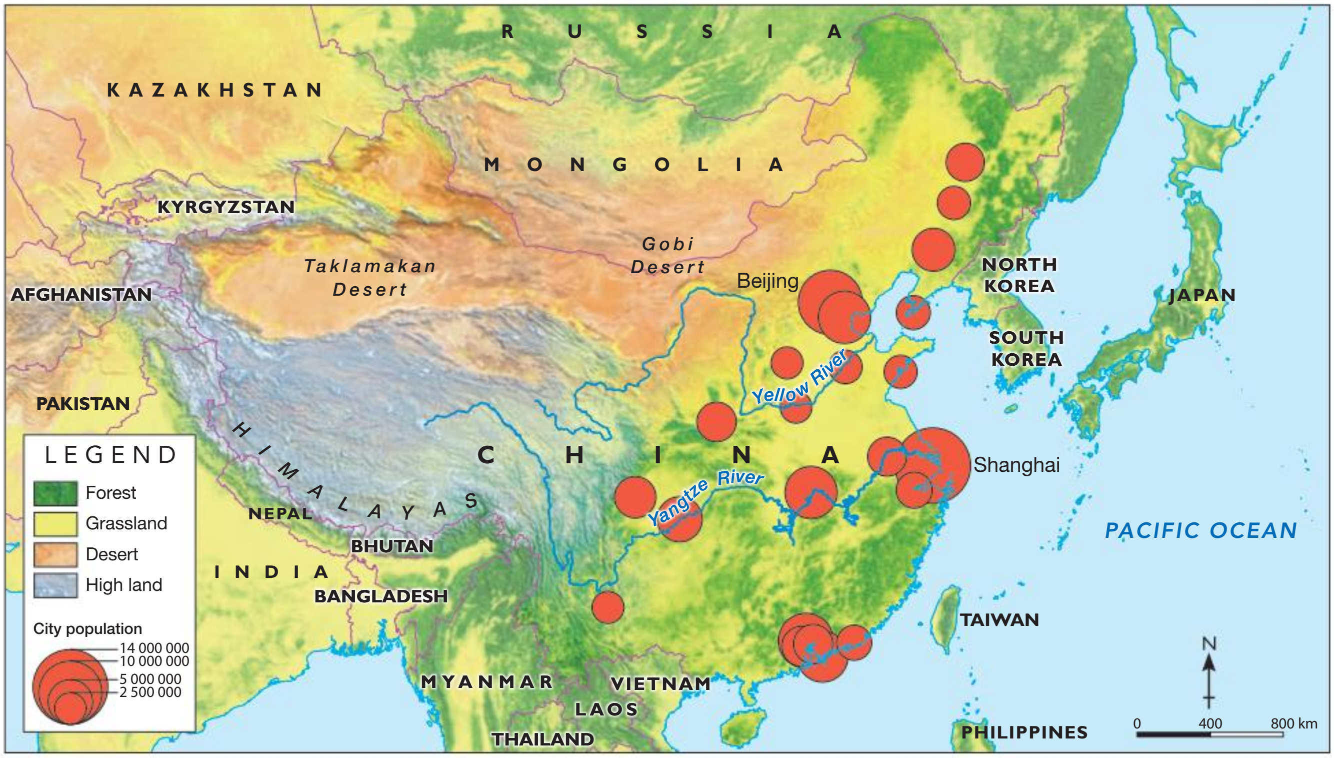
Maps are geographical representations of all or part of the Earth's surface. They are an important source of primary information for historical inquiries.

Use the list below to help you understand and analyse the information provided on maps.

- **Orientation** – It is convention for cartographers (map makers) to place a north point on maps. This helps the reader to work out position and direction.
- **Title** – Like a newspaper headline, the title of a map should tell the reader 'what', 'where' and 'when' about the map. The date should help the reader fit the map into its proper chronological period.
- **Legend** – This is a key that explains the symbols used by the cartographer. To visualise reality, you need to be able to convert various shapes, colours and textures into the features they represent.
- **Scale** – This is the proportion of map to the ground. It helps the reader to judge actual distances. Scale is most often shown as a linear measure (for example, 1 centimetre on the map represents 100 kilometres of actual distance).
- **Grid** – Maps often show parallels of latitude and meridians of longitude, so that the area can be placed in its proper geographic location on the globe.

For more information on this key skill, refer to page 16 of 'The geography toolkit'.

PHYSICAL FEATURES OF PRESENT-DAY EAST ASIA, INCLUDING CHINA



Source 5

Source: Oxford University Press

Practise the skill

1 Look carefully at Source 5 and use the legend to **identify** the different landscapes and physical features of modern-day China. Then answer the following questions, recording your observations in point form.

- **a** Consider the different landscapes and physical features shown on the map. How many are there? Which of these features act as natural barriers?
- **b** Which areas would have been the best sites for farming in ancient China? Why?
- **c** Do you think the areas of cropland today would be the same or different from those in ancient China? **Explain** your answer.
- **d** **Determine** (decide) which geographical feature you think was most influential in the development of ancient Chinese society. Why do you think this?

2 Using the information you have gathered in question 1, write a short paragraph (150 words) to **explain** the causes and effects that various physical features had on ancient China. How have they influenced settlement patterns and borders?

Extend your understanding

1 **Create** your own map of East Asia.

- **a** In your notebook, copy (or trace) the main elements of the map in Source 5. Include the main countries and their borders, major rivers, deserts and mountains. Make sure you also include BOLTSS – border, orientation, legend, title, scale and source.
- **b** Use an atlas or an online map to locate the Great Wall of China. Think of an appropriate symbol or legend to represent this feature, and then add it to your map.

2 Look again at Source 5. Start at any point on the Chinese border. Extend a ruler from this point, in any direction, to another point on China's border. This represents the journey you will travel.

- **a** In order, list all the physical features and landscapes you will cross as part of your journey. **Research** further if you need to.
- **b** Which feature do you think will represent the greatest challenge, and why?

15.3 Political structure of ancient China

In this topic, you will:

» examine how the changing political leadership of ancient China affected its development.

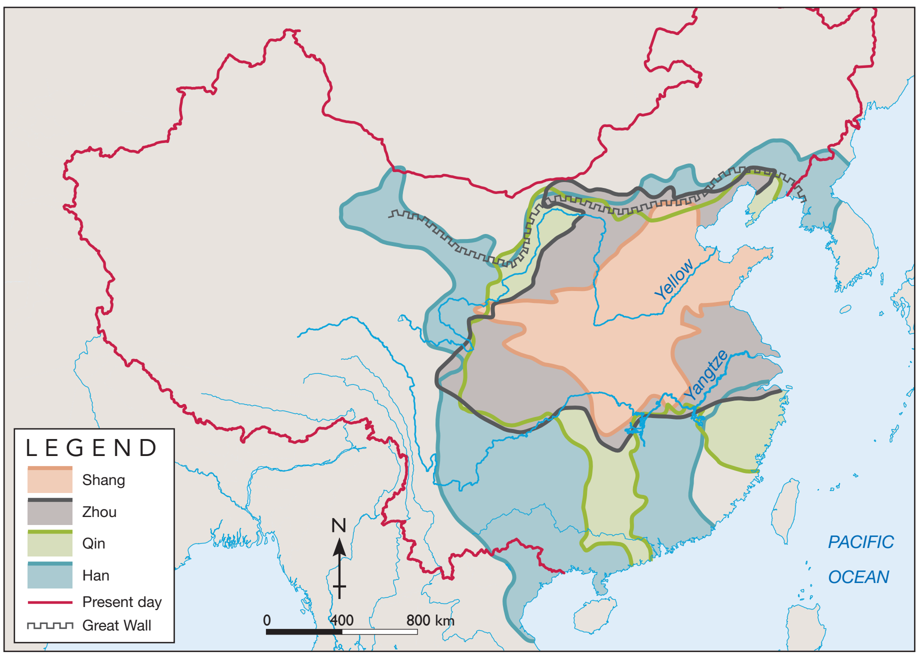
The rise of dynasties

Around 5000 years ago, the Yangshao culture were the dominant peoples around northern China. They were an early farming culture, who spread out along the banks of the Yellow River. Over time, ruling families (known as **dynasties**) emerged from this group. The head of the family was called the king or emperor and would rule the land. When the ruler died, the eldest son would usually take over.

dynasties
periods of rule by members of the same family who come to power one after the other

The Chinese people believed that these rulers had been chosen and blessed by the gods. Many dynasties fell after losing a battle with another rival family. Each dynasty expanded the size of ancient China in these early years, reaching half the land size of modern-day China (see Source 1).

CHINA: EXPANDING TERRITORIES OF EARLY DYNASTIES



Source 1 Source: Oxford University Press

Shang Dynasty (*c.* 1766–1122 BCE)

The Shang kingdom was established at the base of the mountains along the Yellow River in northern China. This area had fertile farming land and metal deposits that were mined to develop tools, artworks, religious artefacts, and weapons. Their discovery of and ability to mine bronze marked the beginning of the Bronze Age in China.

Over time, more walled cities were developed south of the Yellow River and the Shang Dynasty built palaces, elaborate burial sites and bronze statues.

The Shang followed an early form of **feudalism** whereby the king had several lords or chiefs to help oversee the farming population outside of the walled cities. These lords ruled their own smaller kingdoms. They would tax the population in order to fund more construction.

feudalism
a social system that existed in Europe and Asia in which people were given land and protection by a lord, and had to work and fight for him in return

The Shang Dynasty were also strong fighters, making and using chariots in battle against their opponents. Lords from the smaller kingdoms provided armies to protect the king as a sign of loyalty.

Map it!
Early Chinese dynasties

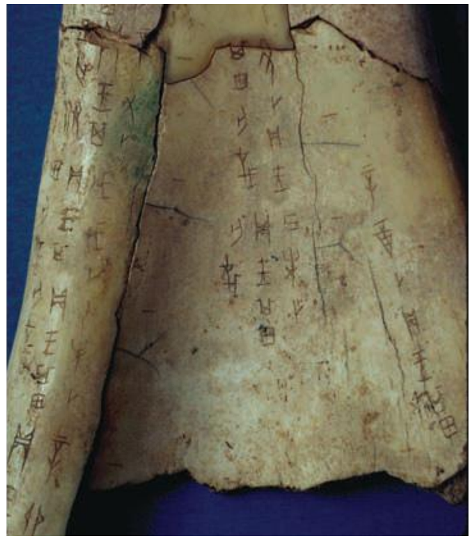
Historians mainly found evidence of the Shang Dynasty from oracle bones (see Source 2). These relics show us that the Shang used a written script or language, similar to that used in China today.

Zhou Dynasty (*c.* 1046–256 BCE)

The Zhou kingdom was originally part of the Shang Dynasty. However, in 1045 BCE the head of the Zhou family sent his army to defeat the Shang army at the battle of Muye.

King Wu Wang established a new dynasty and moved the capital from Erlitou to the Wei Valley. The Zhou Dynasty strengthened the feudal system and expanded their territory, connecting with native peoples in the Yangtze Valley. They mastered the use of bronze and introduced cast iron around 600 BCE, which improved the durability of tools and weapons (see Source 3).

Up until 771 BCE, this dynasty lived quite peacefully. However, over the next 200 years the king of the Zhou lost control. Many lords began to fight with leaders of other states over territory. The Chinese philosopher Confucius lived during this time and was disheartened by the conflict. He taught people about living together in peace, and these teachings had a lasting impact on Chinese culture.



Source 2 A cracked oracle bone discovered in China; oracle bones were used to predict the future with questions such as, 'Will we win the war?' or 'Will I have a son?' They have provided historians with information about the Shang Dynasty.

By 481 BCE, the Zhou Dynasty was in a state of constant warfare known as the 'warring states' period. Eventually, around 150 small states were merged into seven large states: Chu, Han, Qi, Qin, Wei, Yan and Zhao. After 260 years of conflict, the Qin kingdom conquered all other warring states and established the Qin Dynasty in 221 BCE.

*
Think, pair, share
- Think about the usefulness of oracle bones as a primary source of evidence. What new information might be gained from studying them?
- Discuss your ideas with a partner.
- Share your ideas with the class.

Qin Dynasty (221–206 BCE)

The name China originates from the word 'Qin'. This dynasty established the first empire in China, with the leader Qin Shi Huang known as the first emperor of China.

Emperor Qin established an **imperial** capital city in his home kingdom, located in the modern-day Xi'an area. This was different to the feudal system that had been operating in China up until this point, as it meant that Qin was the one leader that ruled over everyone.

imperial
belonging or relating to an empire or the person or country that rules it

The Qin Dynasty now controlled a large area of land incorporating both rivers and a large population. To control society, Qin introduced a concept called 'legalism'. It was based on the idea that people were naturally selfish and short-sighted, and needed laws to keep them in control. In order to maintain an obedient population, Qin imposed strict punishments using his powerful army. Han Fei, an **official** for the emperor, wrote a book about legalism explaining that 'hardly ten men of true integrity and good faith can be found today ... therefore the way of the enlightened ruler is to unify the laws … to lay down firm policies instead of longing for men of good faith.'

official
a person who is in a position of authority in a large organisation

The Qin Dynasty pioneered many things, including writing script, developing a currency, and using weights and measures. They also built a network of roads and canals to improve trade. The Great Wall of China was built under Emperor Qin, who ordered it to be built to prevent against attacks from the nomads in the north.

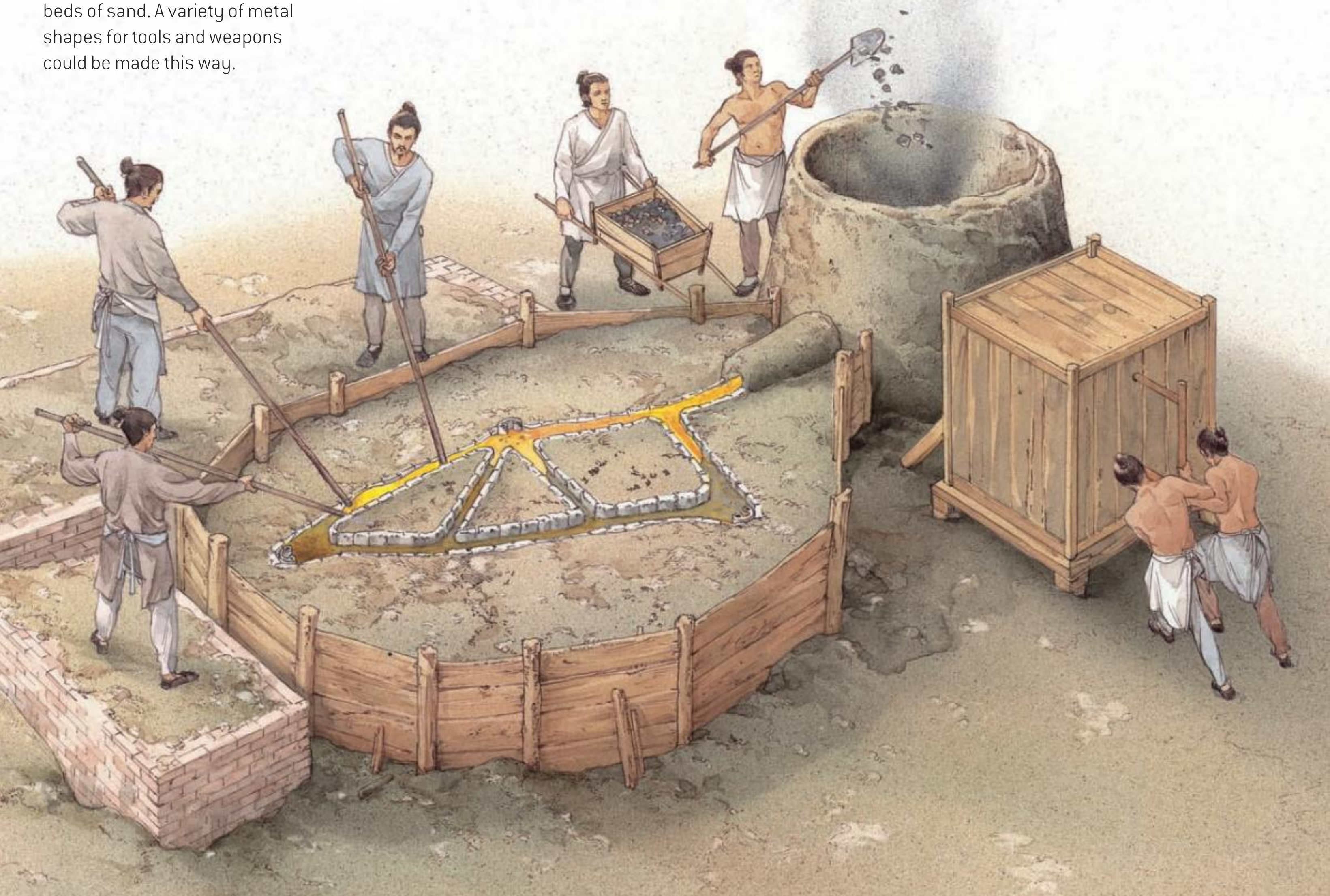
After Qin's death in 210 BCE, rebellions occurred throughout the empire. The Chinese people wanted to remove the harsh rules of legalism that Qin had put in place. Eventually, after eight years of warring, a peasant named Liu Bang led an army to defeat the Qin forces, and he founded the Han Dynasty.

Han Dynasty (206 BCE–220 CE)

The Han Dynasty lasted more than 400 years. Its founder, Emperor Gaozu (formerly Liu Bang), gained support from the people by removing the harsh laws of Emperor Qin.

To maintain control, Gaozu allocated kingdoms in eastern China to his supporters and he focused on ruling the western regions where border attacks were more likely. He looked after the people by lowering taxes and making legalism more bearable.

Source 3 An artist's impression of the manufacture of cast iron in ancient China; molten iron was poured into moulds dug into beds of sand. A variety of metal shapes for tools and weapons could be made this way.



Under Gaozu's rule, China experienced a long period of peace. This allowed the empire to focus on other things, such as developing large cities and establishing the Silk Road (see page 430 for more information). The population also grew in this time. A **census** conducted in 2 CE tells us that China had the largest population in the world at the time, with 57.5 million people.

Under the Han Dynasty, emperors followed the teachings of Confucius and promoted men within the government based on their talent and skills, rather than their family ranking. Emperor Wu Di ruled for 54 years (140–87 BCE) and worked alongside his scholars to establish a university. The Han Dynasty also set guidelines on a 'proper' lifestyle, outlining suitable material possessions dependent on your social rank. For example, clothing was an important symbol of a person's prestige.

However, by the third century CE the threat of invading nomads placed a great deal of pressure on the Han Dynasty. The government had to focus on protecting the borders, which was very costly as it involved supporting a growing army. With the population continuing to grow, there was less available farmland for people to work on, and many peasants could not afford to buy food or pay taxes. The army suffered from many rebellions, which weakened the Han Dynasty. China then divided into smaller regions with many ruling families.

Source 4 Emperor Wu Di of the Han Dynasty (r. 140–87 BCE), attended by two courtiers (attendants)

census
an official count or survey of something, especially a country's population

15.3 CHECK YOUR LEARNING

Review and understand

1 Who was Liu Bang?

2 Study Source 4. **Describe** what may have been 'proper' clothing attire for an emperor such as Wu Di.

Apply and analyse

3 **Explain** how feudalism worked to control the population in the Shang Dynasty.

4 **Explain** the concept of legalism in the Qin Dynasty.

5 Consider how dynasties usually began and ended in ancient China. **Explain** the common link and how it contributed to the end of many dynasties.

Evaluate and create

6 Write a paragraph to **discuss** which dynasty you would have preferred to live in and why. In your answer, also explain why you did not choose the other dynasties.

Quiz me!
A quick quiz on the political structure of ancient China

15.4 Key groups in ancient Chinese society

In this topic, you will:

- examine the social structure of ancient Chinese society
- outline key social groups in ancient China.

Source 5 An artist's impression of the Chinese philosopher, Confucius

Ancient Chinese society was based on a strict social **hierarchy**. Everyone had their place and by maintaining it, they could live together in harmony. This was reinforced by the Chinese philosopher Confucius, who taught people to show **deference** and obedience towards those with a higher rank or older age. Within each social class it was expected that a person's selfish desires would come second after what was good for the group.

hierarchy
a way of organising things (or people) from top down in order of importance or significance; ancient societies had strict hierarchies with a ruler at the top and peasants at the bottom

deference
behaviour that shows that you respect somebody or something

scholar
a person who knows a lot about a particular subject because they have studied it in detail

The emperor and imperial family

The emperor ruled over all of society and had the power to enforce people's obedience. Owning all the land, he was also responsible for protecting them and was expected to uphold his title by behaving in a respectable manner.

The emperor and his family lived in luxurious palaces, and enjoyed food, treasures and silk garments. They drank tea or rice wine, and were entertained by watching dancers and musicians or playing board games.

The *shi* – nobles, officials and scholars

The *shi* were an elite class who made up 1% of the population. They managed government administrative duties, legal matters, tax collection and advised the Emperor.

Under each dynasty, this class grew as more officials were needed to support the growing population. To become a civil servant, a man required a recommendation from a noble. By 124 BCE, men also had to pass a difficult exam and hold a university degree to become an official.

The *shi* also enjoyed leisure and entertainment. Liu Shen, son of Han Emperor Ching, once said, 'A proper Lord should spend his day listening to music and delighting himself with beautiful sounds.'

Source 6 The *shi* were often adorned with elaborate jewellery made from gold, bronze or iron such as this belt buckle.

The *nong* – farmers

About 90% of the ancient Chinese population were farmers. They were often poor and lived a hard life, struggling to keep fertile land and pay taxes. However, they were recognised as being valuable for providing food and income to the country.

Farmers wore simple clothes and lived in small mud huts with straw roofs. They ate grains, rice, beans or vegetables and sometimes fish. They used communal wells for water, cooked outdoors and had poor sanitation.

Quiz me!
A quick quiz on key groups in ancient Chinese society

The *gong* – artisans and craftspeople

The *gong* were highly skilled labourers who had usually mastered their craft over many generations within the family. They were generally poor, but some did make a profit from running their own business or working for the government.

This group included people who produced textiles, pottery, artworks and jewellery as well as builders, carpenters, painters and architects. Successful and skilled artisans could employ apprentices and additional workers. Despite being lower on the social hierarchy than farmers, artisans earned more than them.

The *shang* – merchants and traders

The *shang* class consisted of shopkeepers, bankers, sellers and traders who usually lived in towns and provided goods and services. They were wealthy, but were considered the lowest social class in ancient China. People believed that they did not contribute to the good of the whole society but only worked for their own gain.

The *shi* believed that the government should not be concerned with money, which meant the *shang* were unable to apply for government jobs and were placed at the bottom of the social hierarchy. Despite this, as trade increased throughout the empire, the *shang* could become very wealthy.

Slaves in ancient China

Roughly 1% of the population in ancient China was made up of slaves. Slaves were either born into slavery, sold into slavery or captured during war.

While they often worked on farmland, they did not receive the same respect as the *nong*. Slaves were also used to build roads and notably built the Great Wall of China. When their master died, they too would be killed in order to serve their master after death. The Qin Dynasty was especially ruthless towards slaves, which led to other dynasties discouraging the use of slavery.

Source 7 The social hierarchy of ancient China and the key social groups within it

15.4 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** 'social hierarchy'.
2. **Identify** the hobbies of the emperor and the *shi*.

Apply and analyse

3. **Explain** why farmers and officials were both highly respected in ancient China.

Evaluate and create

4. In small groups, **create** a role play for the class about some aspect of life in ancient China that clearly shows the roles and responsibilities of different social groups.
5. Is Source 7 a reliable source? What type of source is it, and what are its strengths and weaknesses?

15.5 Women in ancient China

In this topic, you will:

- explore attitudes towards women in ancient Chinese society
- examine the changing role of women.

Source 8 An artist's impression of Wu Zetian

Women in ancient China were lower than men in the social hierarchy. They were expected to do what their fathers and husbands said. In general, families preferred male children and considered the birth of a girl to be a sign of bad luck.

Women were rarely educated, although wealthy women might receive some education. Poorer women typically cooked, cleaned, wove cloth, raised the many children they were expected to have, and helped on the land if they were married to farmers.

Marriage

Key skill worksheet
Analysing cause & effect: Foot binding

Women obeyed their fathers, brothers, husbands and sons. Their father decided when and who they would marry. Once married, women had to live with their husband's family, and please them by producing many sons.

Marriage was not based on love or affection. Instead, the bride's family would pay a **dowry** to the husband's family. Belonging to a household was a necessary form of survival because women had no way to independently make money. The financial burden of the dowry was another reason why people wanted their babies to be born male.

dowry
money and/or property that, in some societies, a wife or her family must pay to her husband when they get married

KEY CONCEPT
Cause & effect

Foot binding

In ancient China, girls' feet were bound because tiny feet improved a woman's social status – and hence the status of her family. For a time, bound feet were essential for a 'good' marriage. Tiny feet were considered beautiful and were thought to make a woman walk in a more feminine fashion. The practice began among the wealthy but became more widespread. A poor girl might have her feet bound to improve her family's social prospects.

Bones in a girl's feet were broken and the feet were tightly strapped until she was fully grown. The U-shaped foot had all its toes except the big toe curled under the sole. The foot might only be 10 centimetres long.

The effect of foot binding was to inflict great pain on a woman and leave her with lifelong disabilities. Walking more than a few metres was impossible. Poor women with bound feet had no choice but to work, so often did so on their hands and knees. Foot binding also made women dependent on their husbands and families, as they could not go very far beyond their home on their own.

For more information on this key concept, refer to page 192 of 'The history toolkit'.

Source 9 This shoe was once worn by a wealthy Chinese woman.

Men outnumbered women in ancient China. For every three women, there were five men. **Polygamy** gained popularity, especially amongst the *shi*.

The age of marriage was thirteen. Despite Confucius suggesting women should marry at age 20, the government reduced the age to boost the population for a larger workforce. Historians suggest that another reason for keeping the age of marriage at 13 was because life expectancy only ranged between 22 and 35 years.

polygamy
marriage to more than one person at the same time

concubine
a woman who lives with a man, often in addition to his wife, but who is less important than they are

Empress Wu

Confucius argued that a woman in leadership would be as unnatural as having a 'hen crow like a rooster at daybreak'. Despite this, one woman named Wu Zetian did break through the rigid social structure to become the only empress of China.

Born in 624 CE during the Tang Dynasty, Wu Zetian came from a noble family and received an education. By the age of 13, Emperor Tai Tsung and his son, the future Emperor Gaozong, had noticed her for her intelligence, beauty and wit.

Wu Zetian was recruited as a **concubine** and gave birth to two sons and a daughter. Over time, Wu Zetian gained the trust of Emperor Gaozong, who removed his first wife to remarry her.

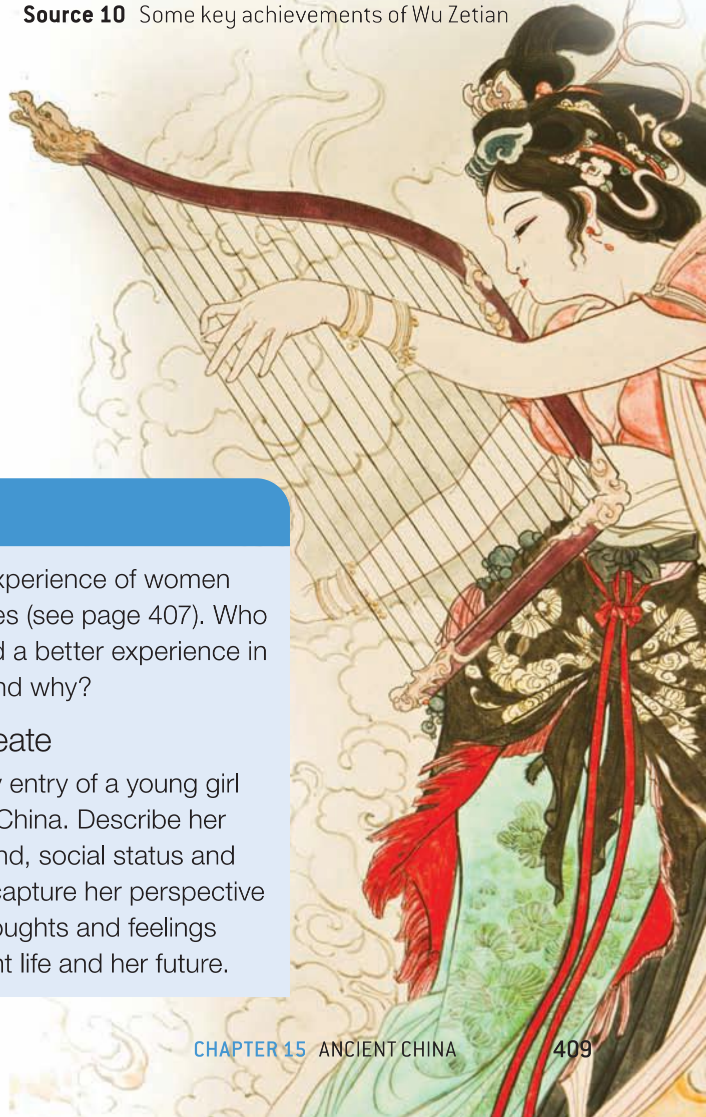
In 660 CE, Gaozong had a stroke, so Wu Zetian took over many of his duties because she had the experience and skills to do so. After allowing her sons to both rule as emperors, by 690 CE Wu Zetian decided to stop being the 'power behind the throne' and crowned herself empress and set up her own dynasty.

As empress, she challenged the traditional views towards women. She made many key achievements during her rule (outlined in Source 10). Empress Wu died in 705 CE, at the age of 80, after controlling the empire for almost half a century.

Wu Zetian's key achievements

- Introduced labour-saving techniques such as improved irrigation schemes to increase farming productivity
- Reduced taxes for farmers as an incentive to increase food production
- Introduced a system of workplace promotion based on merit, not social position or wealth
- Promoted the role of women as active contributors to society
- Established Buddhism as the preferred state religion and built many Buddhist temples

Source 10 Some key achievements of Wu Zetian



15.5 CHECK YOUR LEARNING

Review and understand

1 **Identify** three ways in which women were treated less favourably than men in ancient China.

2 Give one reason why girls were married at such a young age.

Apply and analyse

3 Write a paragraph to **summarise** why Empress Wu Zetian is considered a historically significant figure.

4 **Compare** the experience of women with that of slaves (see page 407). Who do you think had a better experience in ancient China and why?

Evaluate and create

5 **Create** the diary entry of a young girl living in ancient China. Describe her family background, social status and daily life. Try to capture her perspective and possible thoughts and feelings about her current life and her future.

15.6 Significant individual: Qin Shi Huang

In this topic, you will:

» examine the historical context, early life and achievements of Qin Shi Huang.

Source 11 An artist's impression of Qin Shi Huang, painted during the nineteenth century

regent
a person who acts as head of state if the true ruler is too young, too ill or missing

autocrat
a person who rules with unlimited authority

standardised
to have made objects or activities of the same type have the same features or qualities

Early life

As a child, Qin Shi Huang was known as Ying Zheng. He was born in the state of Qin in north-western China in 259 BCE. At the age of 13 he was formally declared the king of Qin, which at the time was the most powerful of all the Chinese states. As a child, Zheng ruled Qin with the help of a **regent**.

In 238 BCE, at the age of 21, Zheng took power in his own right. During the Warring States period, Zheng used the military strategy and force of his generals and troops, along with espionage and bribery, to ultimately overpower all the other six kingdoms (see Source 12). By the time he had taken control and united these states in 221 BCE, he was 38 years old. The victory unified a country that had been divided by wars between rival kingdoms for 260 years and created a unified empire. In the same year, Ying Zheng declared himself China's first emperor and changed his name to 'Qin Shi Huang', meaning 'first magnificent god of the Qin'.

Source 12 The Seven Warring States during the Zhou dynasty; the Qin state was very large and had conquered all other states by 221 BCE.

The empire's new government

To strengthen his hold over his new empire, Qin Shi Huang divided the conquered states into 36 prefectures (administrative divisions), each with a governor in charge who answered to him. He forced the nobles who had ruled over the states to live near his imperial court at the capital, Xianyang. There he could watch over and control them.

Qin Shi Huang did much to organise, unify and protect the new empire. He was an **autocrat** but a very clever manager. Before Qin Shi Huang, the feudal system allowed each state to have its own code of laws. Qin Shi Huang set up one code for all of China called legalism (see page 403), which **standardised** everyday life. He also built good roads connecting the provinces to his capital. The code of laws and system of roads helped to keep the empire united. Qin Shi Huang even planned and began work building the Great Wall of China.

Qin Shi Huang's iron rule

Despite his many positive achievements, Qin Shi Huang was also a very fierce leader who was feared by his people. He took steps to prevent rebellion in his empire. Believing that knowledge about the past was dangerous, as were ideas that encouraged free and independent thinking, he banned the teachings of Confucius. He ordered books and writing that did not support his ideas to be burned. Scholars found reading the works of Confucius were killed or enslaved. About 460 scholars were buried alive for the crime of owning banned books.

Qin Shi Huang also taxed the people heavily and forced them to serve in the army and work on his projects. Punishment for crime became much more formal across the state and was often ruthless. Slaves were also treated poorly.

Such behaviours eventually angered his people. Qin Shi Huang began to fear he would be killed. Perhaps because of this, he became more isolated and more obsessed with his death. Emperor Qin believed he could empty his inner self and allow the forces of the universe to freely act through him. He began to drink substances that he hoped would give him eternal life, such as mercury, which we now know is poisonous.

He died while on a journey during a hot summer in 210 BCE. He was buried in an elaborate tomb, prepared for him during his life. He was 'protected' by an army of over 7000 life-size terracotta soldiers, horses and chariots.

Analyse this!
Qin Shi Huang

Qin Shi Huang's key achievements

- Introduced a common currency, common weights and measures, and a common language throughout China (based on the same 3000 characters)
- Built grand public buildings and palaces
- Made significant progress on the planning and construction of the Great Wall of China
- Built a network of canals and bridges to connect the provinces
- Ordered carts to be built with the same wheel axle width in order to make travelling on roads within the empire easier

Source 13 A selection of Qin Shi Huang's key achievements during his reign

Think, pair, share

- Think about the achievements of Qin Shi Huang. Do they justify his harsh treatment of the people?
- Discuss your ideas with a partner.
- Share your thoughts with the class.

15.6 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'autocrat'.

2 **Outline** the method used by Qin Shi Huang to control his new empire.

3 **Describe** how the painting in Source 12 shows the power of Qin Shi Huang.

Apply and analyse

4 **Explain** which of Qin Shi Huang's key achievements you believe was most important and why.

Evaluate and create

5 **Create** a feature article or front-page newspaper report which summarises why the leadership of Qin Shi Huang is considered historically significant in your opinion. Choose a headline for your article highlighting your point of view about the emperor.

6 **Evaluate** Qin Shi Huang's strict way of ruling. What are its strengths and weaknesses? Do you think it was an effective way to rule? Explain your answer using examples.

15B RICH TASK

A woman's place

Quizlet

Revise the key terms you have learnt so far.

Although women were low in the social hierarchy of ancient China, there are sources that show a different perspective. The first female historian, Ban Zhao (*c.* 45–120 CE), give us another insight into women of the time. Unlike most women, Ban Zhao received an education which enabled her to mingle in politics at the Emperor's Court.

Despite being married at age 14, Ban Zhao's husband died soon after their marriage, leaving her a widow. She then became a teacher and writer for the Emperor's family. Her most famous book, *Lessons for Women*, outlined how women should behave in society. Male scholars at the time disagreed with some of her writing. For instance, Ban Zhao insisted girls should be educated and that they must 'think of themselves last in all situations'.

Source 14 An artist's impression of Ban Zhao

KEY SKILL
Analysing sources

Understanding perspectives

A perspective is a way of thinking about something. Historical sources often convey the creator's perspective about an issue or event. When studying a topic, historians aim to understand a wide variety of perspectives to form a balanced opinion.

There are three key elements to look for in a source when analysing a perspective (see Source 15). For visual sources you look for parts of an image that express a perspective, whereas for written sources it is best to annotate, highlight or colour code the source text according to each element. Source 16 provides an annotated example.

For more information on this key skill, refer to page 209 of 'The history toolkit'.

What to look for	Explanation
Context	Context is the situation in which the source was produced. What background information do you have about the creator of the source and their society at the time?
Opinions	Ask yourself: what opinions are expressed in the source? Sources can show a bias when they convey strong thoughts or feelings which are one sided. If the source is written, ask yourself which specific words or phrases show the writer's attitudes and feelings. This is called emotive language as it causes people to feel strong emotions. Visual sources can also make you feel strongly.
Inferences	An inference is an indirect message or perspective that is implied (hinted at) in the source but not outright stated. People do not always spell out what they are thinking. The reader needs to use clues in the text to 'read between the lines' and infer meanings. The creator's attitude towards something can usually be inferred by what is written and how it is expressed.

Source 15 The three things to look for when analysing perspective

Opinions: shown through emotive language

[Women] are ignorant and by nature unclever. I was favoured because of my ancestry, and, relying on the teachings of governess … at fourteen I clutched dustbasket and broom [as a young wife] … Let a woman retire late to bed, but ride early to her duties … Let her not refuse to perform domestic duties whether easy or difficult. Let a woman be composed in demeanour … Let her live in purity and quietness [of spirit] and keep watch over herself. Let her not love gossip and silly laughter. Let her bear contempt; let her even endure when others speak or do evil to her. Always let her seem to tremble and to fear … If a husband does not control his wife, then he loses his authority. If a wife does not serve her husband, then … [the natural order] are neglected and destroyed.

Inference: she was from a noble family

Context: she was educated and married at 14

Inference: repetition suggests an indirect message regarding the many rules placed on women

Source 16 Annotated excerpt from Ban Zhao's *Lessons for Women*, c. 106 CE

The following primary sources provide us with a range of evidence about the perspectives held towards women in ancient China.

Source 17 A poem written by Fu Hsuan in the third century CE

Bitter it is to have a woman's shape!
It would be hard to name a thing more base.
If it's a son born to the hearth and home
He comes to earth as if he's heaven sent,
Heroic heart and will, like the Four Seas,
To face ten thousand leagues of wind and dust!
To breed a girl is something no one wants,
She's not a treasure to her family.

Source 18 Words of Emperor Gaozu, father of Princess Pingyang, after her death in 623 CE; recorded in Chinese literature

The band would be playing military music. The Princess personally beat the drums and rose in righteous rebellion to help me establish the dynasty. How can she be treated as an ordinary woman?... As you know, the princess mustered an army that helped us overthrow the Sui dynasty. She participated in many battles, and her help was decisive in founding the Tang dynasty. She was no ordinary woman.

Practise the skill

1 Read Sources 17 and 18 and **analyse** the perspective of each creator using the table below to collate your information:

	Context	Opinions	Inferences
Source 17			
Source 18			

2 For each source, **summarise** the perspective of the writer towards the role of women in one or two sentences.

3 Which source do you think shows the most bias? **Explain** why and provide examples of some emotive language used.

4 **Compare** the perspectives described in Sources 17 and 18 to views held in society today. Write a paragraph reflecting on what is similar and what has changed.

Extend your understanding

1 **Research** a significant ancient Chinese woman and explain why she is considered historically significant. Present your information in a suitable manner. Log onto your obook pro to see a list of possible women to research.

Worksheet
Sources 17 and 18 are available as printable documents on your obook pro. Print them out so that you can highlight and annotate them.

15.7 Religion in ancient China

In this topic, you will:

» investigate the religious beliefs, values and practices that the ancient Chinese people lived by.

ancestors
people in your family who lived a long time ago

The people in ancient China held a variety of different religious beliefs, values and traditions. For thousands of years, they worshipped gods, **ancestors** and spirits. The Chinese people believed that the gods controlled the forces of nature. When a natural disaster like a flood occurred, they saw it as a sign that the gods were unhappy. Therefore, to please the gods the Chinese people established many rituals and festivals to honour them.

The ancient Chinese people had three main belief systems. These were Confucianism, Taoism and Buddhism. Together, these were known as the Three Teachings. While some emperors favoured only one belief system, others believed it was possible to follow all three within one day!

Source 1 A Qing Dynasty print showing Confucius presenting Gautama Buddha to the philosopher Lao-Tzu

Confucianism

self-cultivation
the development of one's mind or capacities through one's own efforts

Confucius (*c.* 551–479 BCE) was a highly respected philosopher born during the Warring States period. His fear was that this conflict would tear China apart. He developed a set of ideas, called Confucianism, that he thought would help. Confucianism was not a religion but a code of behaviour. However, it was encouraged by many dynasties as a 'religion' for all men to study.

The goal of Confucianism was to pursue **self-cultivation** to become a *junzi* ('gentleman' or 'superior being'). Confucius believed that all people could become a *junzi*, not just members of the noble class. He told people to obey their ruler and honour their ancestors. He promoted rituals and ceremonies, whether it be a sacrifice or celebration, as important processes that developed empathy. Today this is often referred to as mindfulness. Confucius died in 479 BCE, but his students kept his teachings alive. Eventually Confucianism spread throughout much of Asia. Today, people in China celebrate his birthday as Teacher's Day. Many of his sayings are known all around the world.

Source 2

- Do not do unto others, what you would not want others to do to you.
- If you make a mistake and do not correct it, that is called a mistake.
- Do not plan the policies of an office you do not hold.
- Exemplary persons do not promote others because of what they say, nor do they reject what is said because of who says it.
- Exemplary persons are steadfast in the face of adversity, while petty persons are engulfed by it.
- Never give a sword to a man who can't dance.

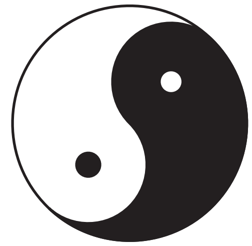
Excerpts from *The Analects of Confucius*, *c.* 400 BCE

Taoism

Taoism (or Daoism) began with the teachings of Lao-Tzu (600–531 BCE). Lao-Tzu believed that, to live forever, people had to become one with the life force (the Tao or 'the Way'). This effort required constant change to balance within oneself the yin (female) and yang (male) forces that he believed made up everything in the world. Two things helped this spiritual struggle. The first was meditating, usually at shrines built in beautiful natural spots. The second was exercise, such as kung fu and t'ai chi.

Yin and yang are seen as two equal but opposite forces that together control the world. They have to be in balance. The yin includes things that are cold, closed, dark and still; the yang, things that are hot, open, bright and active.

Today we still see both the meditation and exercise aspects of Taoism reflected in the lifestyle of many Chinese people. Taoists believe in a simple life where people do not need to argue or be persuaded, but instead just be themselves.



Source 3 The yin–yang symbol; yin and yang are concepts central to many branches of classical Chinese philosophy and spiritualism, including Taoism, Confucianism and Buddhism.

Source 4 The teachings of Yoda in Star Wars and the phrase, 'May the force be with you' are often compared to Taoism.

Watch it!
A video and quiz on Confucius

Buddhism

Travellers from India brought Buddhism to China during the first century CE, via the Silk Road. By the middle of the fifth century CE, it was the state religion in China. It was begun by a wealthy Indian prince, Siddhartha Gautama, who was born around 563 BCE. He was upset by the suffering and poverty he saw as a young man, so he turned his back on his inherited wealth to search for more spiritual meaning. He called this process looking for 'the truth'.

The state of nirvana (in Buddhism, the final spiritual state) he sought was one where there was no more hurt or pain. A person who reached it, as he did, became one with the universe, or Buddha, which means 'the enlightened one'. That person was then freed from all the bad things about being human, such as wanting to kill, cheat or lie. To reach nirvana, a person might have to be **reincarnated** many times. Each life lived, with its unique experiences, taught the person more.

reincarnated
the process of being born again; to live life again in another body (human or animal)

KEY CONCEPT
Significance

Key skill worksheet
Determining historical significance: Chinese New Year

Dragons and festivals

The dragon was a legendary creature in Chinese mythology. It was a powerful symbol of strength. Emperors often wore clothes with dragon symbols embroidered on them. The dragon was often depicted in precious jewellery and carved from jade.

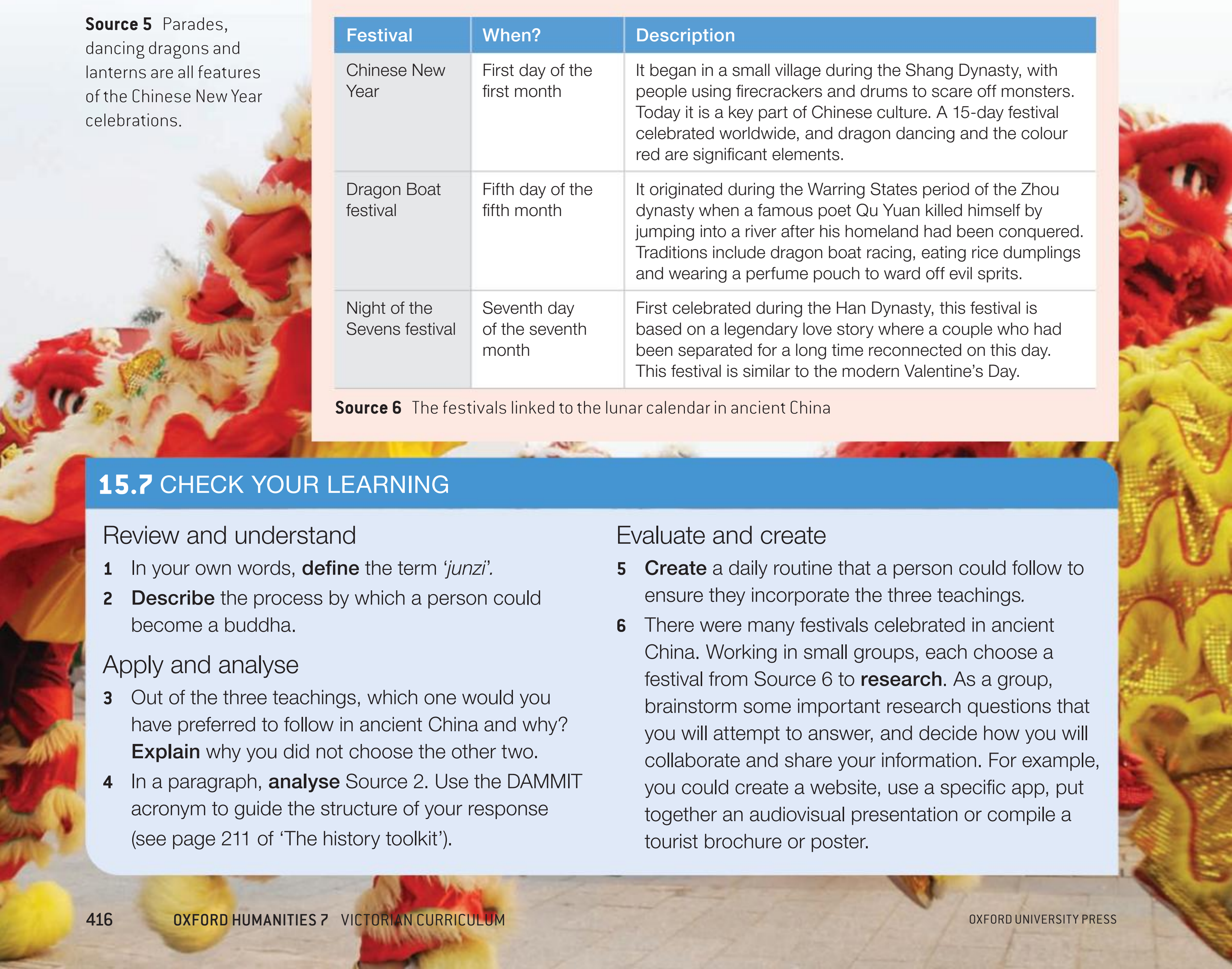
People also believed the dragon had control over water, rainfall and floods.

Ancient Chinese mythology followed a unique lunar calendar. The Chinese Zodiac of twelve animals was based on astrology and helped people to count the years, months, days and hours in a calendar. It was officially recognised during the Han Dynasty. The lunar calendar showed the order of the animals and was used to determine a person's birth year. Each animal held a meaning and certain characteristic which may help or hinder you throughout life. The year of the dragon is considered to be the luckiest year for a baby to be born into.

The Chinese celebrated a number of national festivals, many of which were linked to particular days in the lunar calendar.

Many Chinese festivals based on the calendar are still celebrated today (see Source 6).

For more information on this key concept, refer to page 193 of 'The history toolkit'.



Source 5 Parades, dancing dragons and lanterns are all features of the Chinese New Year celebrations.

Festival	When?	Description
Chinese New Year	First day of the first month	It began in a small village during the Shang Dynasty, with people using firecrackers and drums to scare off monsters. Today it is a key part of Chinese culture. A 15-day festival celebrated worldwide, and dragon dancing and the colour red are significant elements.
Dragon Boat festival	Fifth day of the fifth month	It originated during the Warring States period of the Zhou dynasty when a famous poet Qu Yuan killed himself by jumping into a river after his homeland had been conquered. Traditions include dragon boat racing, eating rice dumplings and wearing a perfume pouch to ward off evil sprits.
Night of the Sevens festival	Seventh day of the seventh month	First celebrated during the Han Dynasty, this festival is based on a legendary love story where a couple who had been separated for a long time reconnected on this day. This festival is similar to the modern Valentine's Day.

Source 6 The festivals linked to the lunar calendar in ancient China

15.7 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** the term *'junzi'*.

2 **Describe** the process by which a person could become a buddha.

Apply and analyse

3 Out of the three teachings, which one would you have preferred to follow in ancient China and why? **Explain** why you did not choose the other two.

4 In a paragraph, **analyse** Source 2. Use the DAMMIT acronym to guide the structure of your response (see page 211 of 'The history toolkit').

Evaluate and create

5 **Create** a daily routine that a person could follow to ensure they incorporate the three teachings.

6 There were many festivals celebrated in ancient China. Working in small groups, each choose a festival from Source 6 to **research**. As a group, brainstorm some important research questions that you will attempt to answer, and decide how you will collaborate and share your information. For example, you could create a website, use a specific app, put together an audiovisual presentation or compile a tourist brochure or poster.

15.8 Everyday life

In this topic, you will:

» discover what daily life was like in ancient China.

Confucian philosophy heavily influenced the daily lives and values of the Chinese people, especially from the Han Dynasty (206 BCE–220 CE) onwards. Confucius believed that China's people were all members of a big family. They should behave towards each other and towards their ruler as would be expected in a family. This meant being respectful, moral, fair, obedient, courteous and self-disciplined.

Family life

In ancient China, it was important to be a good person and good family member. Families preferred to have sons, rather than daughters. Sons were highly valued in ancient China as they carried on the family name. Men often had a few wives to make sure they had many male **heirs**. Eventually, the eldest son would become the head of the family.

heirs
people who have the legal right to receive somebody's property, money or title when that person dies

The family unit had its own hierarchy. The oldest man in the family set all the rules. He could not be challenged. The most important relationship was the one between a father and his son. The son was to follow the teachings of his father and obey him, never doing anything that would displease him. If they earned money, sons would give all their earnings to their parents. This same level of respect and devotion was also expected between younger and older brothers, husbands and wives, and even friends.

KEY CONCEPT
Evidence

Very old noodles

About 2000 BCE, an earthquake devastated the small village of Laija in the Yangtze River valley. Its remains were buried with ash, sediment and dirt. When excavating this village, archaeologists were surprised to find what they believed was a very old meal. It had been preserved in an upturned bowl. Scientific analysis confirmed what scholars expected – proof that these were very old noodles! It also confirmed that the noodles were made from millet.

For more information on this key concept, refer to page 193 of 'The history toolkit'.

Source 7 These noodles, discovered in the Yangtze River valley, are 4000 years old.

Source 8

- In education there should be no class distinctions.
- Learning without due reflection leads to perplexity.
- To learn something and rehearse it constantly, is this indeed not a pleasure?
- To be fond of learning is to be near to knowledge. To practice with vigour is to be near to magnanimity.
- To one who is not eager I do not reveal anything, nor do I explain anything to one who is not communicative.
- Walking along with three people, my teacher is sure to be among them. I choose what is good in them and follow it and what is not good and change it.
- At fifteen, my heart was set upon learning; at thirty, I had become established … at seventy, I could follow my heart's desires without transgressing the line.

Excerpts from *The Analects of Confucius*, *c.* 400 BCE

Education

Typically, only boys were educated. A boy's education was linked to his social status. Wealthy families made sure their son received a good education.

They would learn to read and write, compose essays and poetry, and spend hours memorising Confucius' teachings. This prepared them for the rigorous tests to become a scholar, with a new life as a government official if they passed.

Confucius believed education was the first step to being a better person. He warned against simply memorising facts, instead wanting the learner to act on their knowledge. He believed his main advantage in life was that he possessed a love of learning (see Source 8).

Despite this, girls were not normally educated. It was not until later, in the sixth century BCE, that Buddhist temples established schools for girls and boys. Much later, during the Ming Dynasty, many women from wealthy households learnt to read and write.

Achieving life balance

The ancient Chinese people believed that their lifestyle needed to follow the harmony and balance upheld by the Three Teachings (see page 414). Tea drinking, *feng shui* and martial arts were all elements to achieve this balanced lifestyle and are still practised widely today.

Source 9 A Taoist priest making tea

Tea drinking

Tea has been drunk in China for over 2000 years. It was first drunk as a medicine or a stimulant. During the Tang Dynasty (*c.* 618–908 CE), it became more of a social tradition – a formal way of relaxing and mixing with others.

Feng shui

Feng shui means 'wind and water' in Chinese. The practices of *feng shui* developed from the Chinese belief that people should plan their living spaces in harmony with the energy of the natural world (including the **cosmos**).

Good *feng shui* meant placing settlements and buildings so they faced a particular way (for good energy). It also meant arranging things, such as furniture and mirrors, in a particular way within rooms. In ancient times, this arrangement was believed to protect against evil spirits.

Today, good *feng shui* is said to promote good health, prosperity in business and happy relationships. Many people today consult experts to find out how to design their houses and furnish their rooms for good *feng shui*.

cosmos
the universe

Source 10 A competitor at the Wushu championships in China, 2006, demonstrating kung fu skills

Martial arts

The martial arts (called Wushu) began in ancient China. At first, it was a type of self-defence practised by its soldiers. It has since become a unique part of China's culture, and its various forms are now also practised by many people around the world.

Kung fu is the code of skills from which a great many styles of martial arts, such as karate, have developed. It is perfected only with years of intense practice, study, meditation and self-discipline. A kung fu master learns to use the ch'i, described as the energy force of the universal power. This gives someone who is small and slight the ability to smash through a pile of bricks with a bare hand or a head. It also gives masters great athletic ability.

Quiz me!
A quick quiz on everyday life in ancient China

15.8 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** the term '*feng shui*'.
2. **Describe** why having a son was so important to a family.

Apply and analyse

3. In your own words, **summarise** the key points raised by Confucius in Source 8.
4. **Describe** a typical week in the life of a teenage boy living in ancient China. Think about their activities, thoughts and feelings during this time.

Evaluate and create

5. Using the concept of continuity and change, **create** a table describing what features of the ancient Chinese lifestyle are the same in today's world and what has changed.

15.9 Death and funeral customs

In this topic, you will:

» explore the beliefs associated with death and funeral customs in ancient China.

The ancient Chinese worshipped their ancestors with great respect. To live a prosperous and happy life, a person's descendants would follow strict burial practices after the person died. They would also honour them with gifts and festivals. Families feared that a dead person's spirit may become angry and bring bad luck to them if they were not honoured properly, and remembered fondly.

Source 11 In 1968 the tomb of Han royals, Liu Sheng and Dou Wan, were discovered. They died around 100 BCE and were buried with nearly 300 objects and 12 horses. This jade burial suit contains 2156 jade pieces and 703 grams of gold thread.

Burial practices

According to Buddhism, the souls of the dead remained on earth to protect their descendants. As such, graves were their home on earth. Funerals were therefore important ceremonies that honoured and brought peace to the dead. People were often buried with many objects for the afterlife including food, pottery, clothing, mirrors and weapons.

Still today, the Qingming Festival is a day of sacrifice to the ancestors. Held in early April each year, families pray for protection and good luck from their ancestors. Traditions on this day include cleaning tombs or grave sites, flying kites, planting trees and only eating cold food. It is an important celebration, taken very seriously by families.

Jade

Jade (nephrite) was the most precious stone in ancient China. The ancient Chinese referred to it as the essence of heaven and earth because it was excavated from mountains (up high near heaven) and riverbeds (representing the earth).

Jade was particularly used for ritual objects and burials. A very hard stone, it was considered indestructible. For this reason, people buried it with members of their family, believing that it would provide them with immortality in the afterlife and stop the body decomposing.

Tombs and mausoleums

mausoleums special buildings made to hold the dead body of an important person or the dead bodies of a family

Historians believe that 65 per cent of the relics from ancient China have been unearthed from burial sites. Wealthy families and officials were often buried in elaborate **mausoleums** (tombs) with precious objects made from jade, gold, silver and bronze. These mausoleums may even have furniture or chariots placed inside them.

Sometimes, when the head of a family died, any of their childless wives or servants were buried with them.

Grave robbing became a popular practice in ancient China because of the riches that were buried with the dead.

The tomb and mummy of Xin Zhui

The best-preserved **mummy** in the world was found in China in 1971 (see Source 12). It was so well preserved that doctors were able to conduct an autopsy (a medical examination of a corpse) to find out how the woman died.

The woman, Xin Zhui, had been married to a wealthy Han ruler. She died from a heart attack about 2200 years ago at approximately 50 years of age. She was 158 centimetres tall and overweight. When found, her skin was soft, her hair was completely intact, and her limbs were flexible. The blood in her veins was still red. Her body had been wrapped in many layers of silk after being dipped in a liquid that still puzzles scientists today.

Her tomb was extremely well constructed and protected. It had not been robbed and still contained about 1000 items. These included lacquerware (objects such as combs and vases), silks, musical instruments and many containers of food (many types of meat, as well as grains, eggs and fruits). There were also 162 small-scale wooden servants to serve her in the afterlife.

mummy
a body of a human or an animal that has been mummified

Source 12 The mummified remains of a wealthy Chinese woman, Xin Zhui, born in 100 BCE during the Han Dynasty

See, think, wonder
Look at Source 12.
- What do you see?
- What do you think?
- What do you wonder?

Quiz me!
A quick quiz on death and funeral customs in ancient China

15.9 CHECK YOUR LEARNING

Review and understand

1 **Identify** why the Chinese people believed it was important to remember and honour their ancestors.

2 **Outline** three interesting facts about the mummy of Xin Zhui.

Apply and analyse

3 **Explain** why jade was significant in ancient China.

4 **Analyse** the usefulness of burial sites as important sources in history. What makes them useful to historians?

Evaluate and create

5 **Research** the tomb of Lady Fu Hao and summarise what this site has been able to tell historians based on the primary source evidence uncovered.

15.10 The terracotta warriors

In this topic, you will:

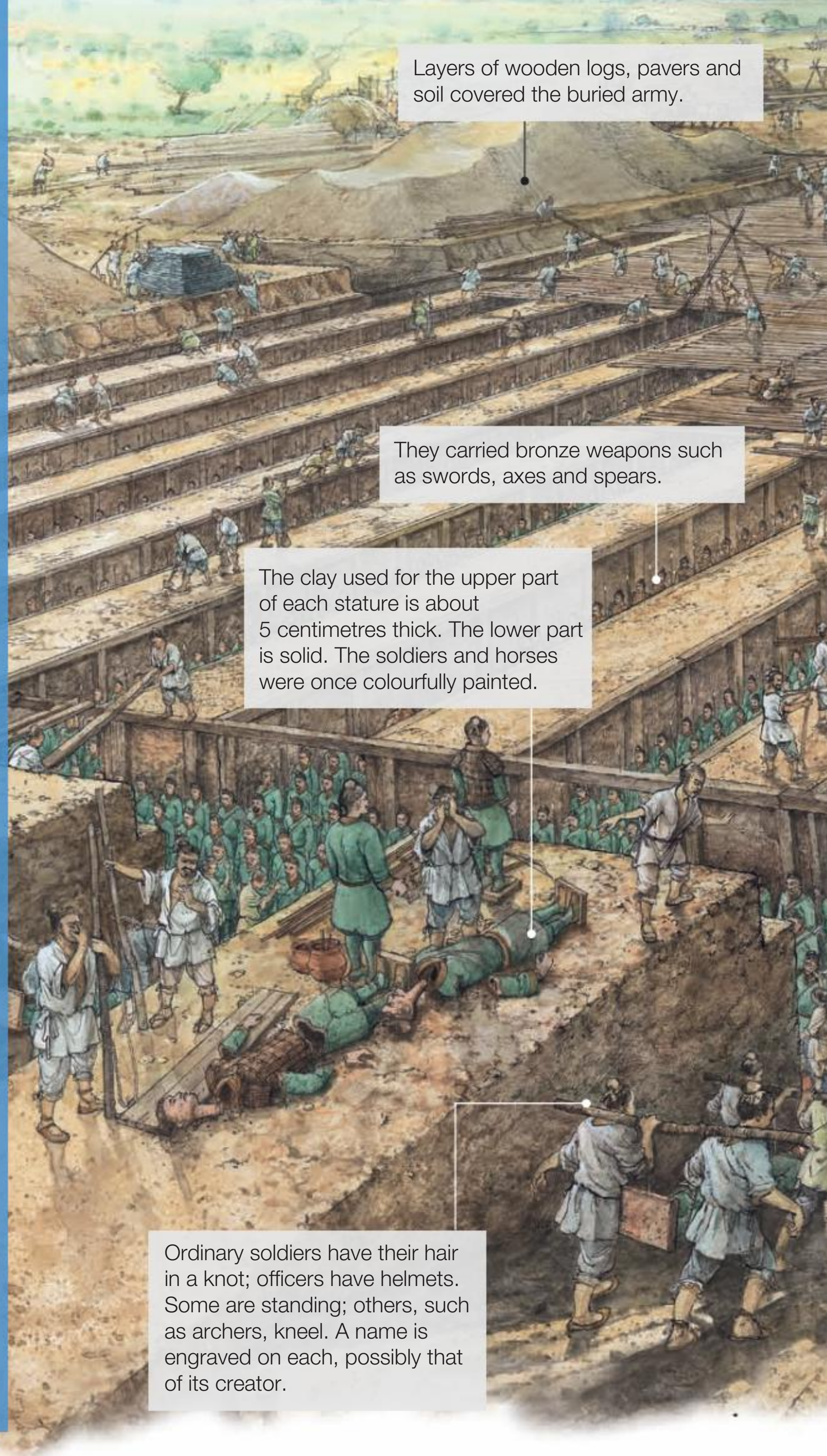
» investigate the site of the terracotta warriors.

Qin Shi Huang built an underground mausoleum for himself in what is now the modern-day city of Xian. The tomb lay undiscovered until 1974. Farmers stumbled upon it when they were digging a well. Archaeologists excavated the area to reveal a large pit of around 8000 life-sized soldiers made from terracotta, a type of fired clay. Another four pits have since been uncovered. The site covers more than 10 square kilometres and has still not been fully excavated.

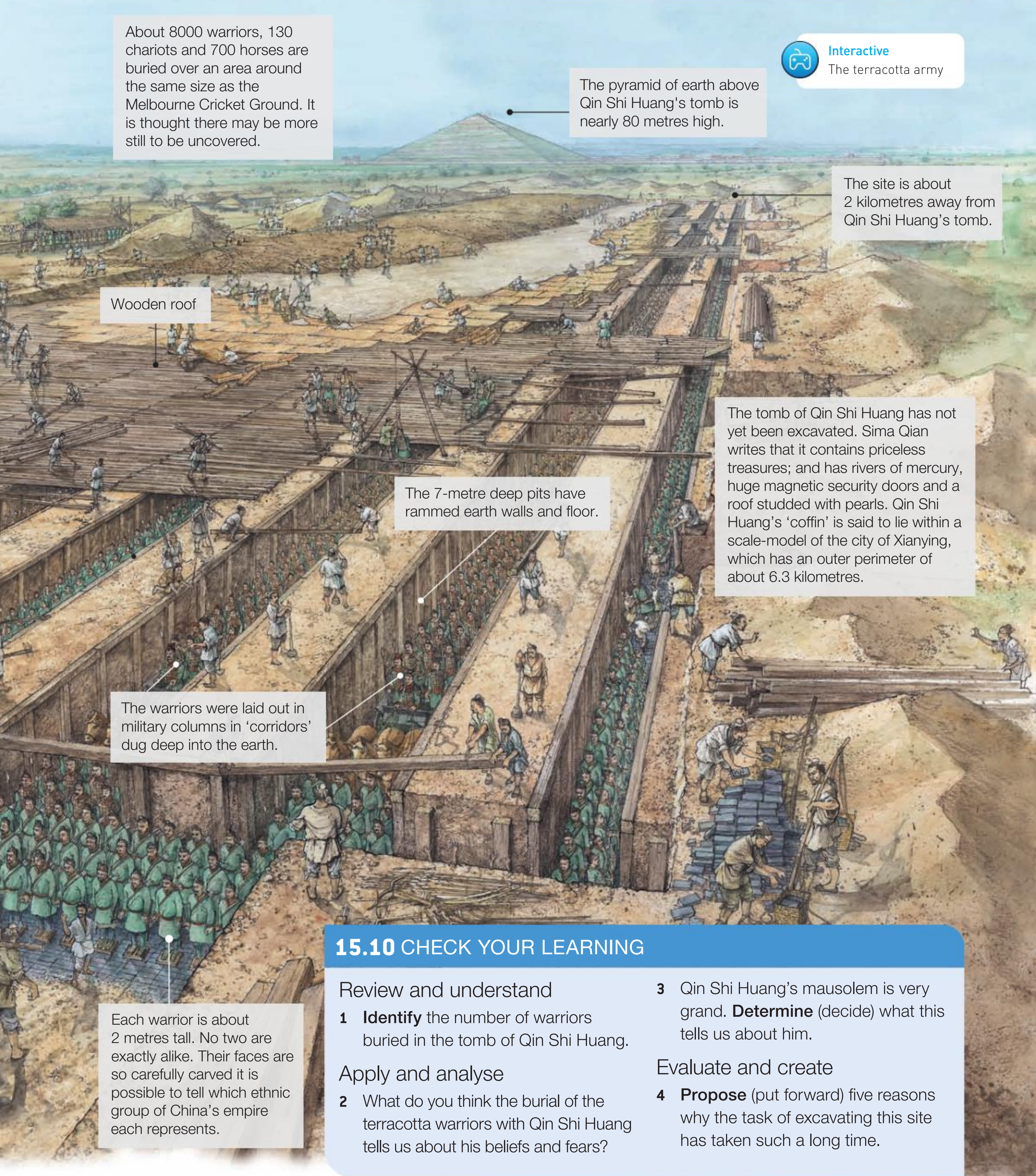
As well as the terracotta army, the site was full of priceless treasures made from bronze, including bronze-lined walls. It included the bodies of many cavalry men, soldiers and a few government officials. Historians suggest that up to 700 000 tomb workers may have been buried with Qin Shi Huang to make sure the tomb remained secret.

The actual burial tomb of Qin Shi Huang is about 5 kilometres away (seen as a pyramid shape in the distance). In 2005, the area around his tomb was found to have high readings for mercury. This raised safety concerns, which stopped any future excavations.

Source 13 An artist's impression of Emperor's Qin Shi Huang's terracotta warriors



Interactive
The terracotta army



15.10 CHECK YOUR LEARNING

Review and understand

1 **Identify** the number of warriors buried in the tomb of Qin Shi Huang.

Apply and analyse

2 What do you think the burial of the terracotta warriors with Qin Shi Huang tells us about his beliefs and fears?

3 Qin Shi Huang's mausolem is very grand. **Determine** (decide) what this tells us about him.

Evaluate and create

4 **Propose** (put forward) five reasons why the task of excavating this site has taken such a long time.

15C
RICH TASK

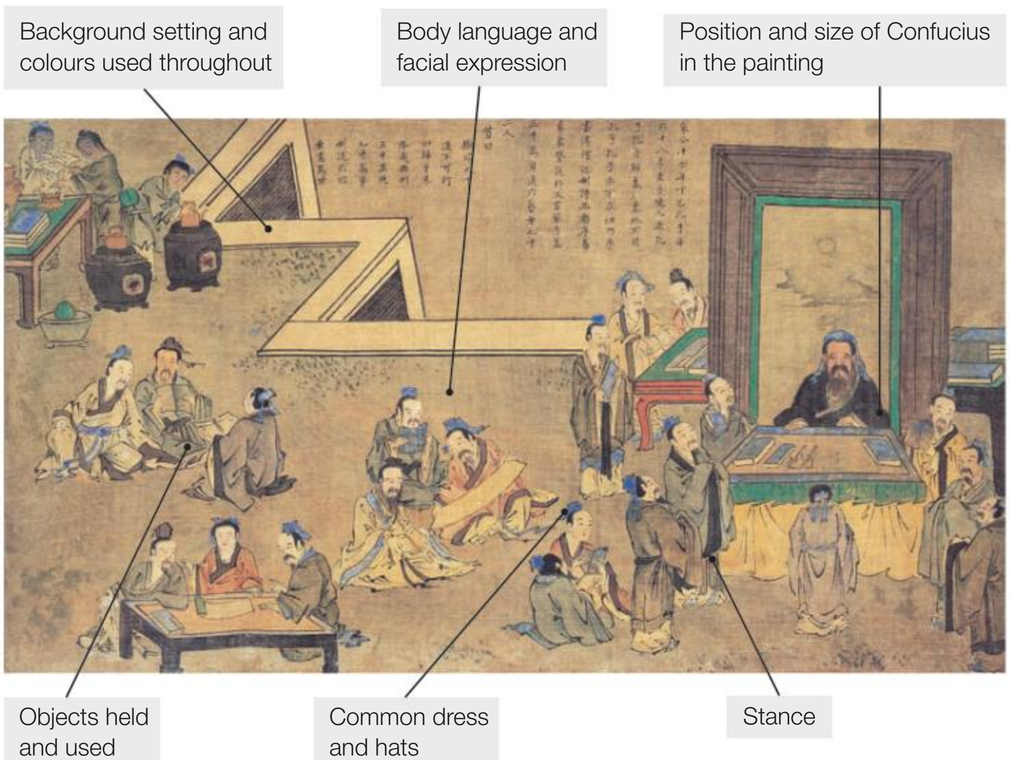
The original influencer

Although he never held the position of emperor, Confucius' teachings significantly influenced the ancient Chinese people. He taught about an ideal way of living in society. As his ideas spread, people heard them and wanted to follow.

Confucius is, therefore, one of the original influencers. We know influencers from social media, where they can speak directly to their followers and spread their ideas. Just like Confucius, their values and ideas are not enforceable by law, but they do spread to people, drive conversations and set trends.

Quizlet

Revise the key terms you have learnt so far.



Source 14 An eighteenth-century painting of Confucius teaching students poetry, calligraphy, rites and music; it is said that Confucius had 3000 students.

KEY SKILL
Analysing sources

Identifying features in visual sources

You may have heard of the phrase 'a picture is worth a thousand words', but what exactly are those words? When you are presented with a visual source, it is important to identify what features show the creator's perspective or message.

Some of the important things to look for in any visual source are outlined in the table below. Source 14 has been annotated to provide an example of how to interpret an image.

For more information on this key skill, refer to page 205 of 'The history toolkit'.

Source 15 What to look for in a visual source

What to look for	Questions to ask yourself
First impressions	At first glance, what captures your attention? Where is your eye drawn? Also make sure you read the caption for any clues.
People: their clothing, body language and facial expression	Are there any people or figures in the source? If so, what are they wearing? This can tell us a lot about their social status or role in society. What about their body language and facial expression? Perhaps they are natural and relaxed, or maybe tense and formal. Do they seem to be feeling a positive or negative emotion?
Position, size and quantity	How are people positioned in the image? Are they placed higher, lower or as equals; bigger or smaller; in the foreground or background of the image? How many of them are there? Is there a crowd? If so, how much of the image do they take up?
Objects and symbols	What objects are being held in the image? Perhaps they are not being used but are placed nearby. Are these objects symbolic? For example, holding a pen or book suggests the person is educated.
Scenery, environment and structures	Where is the image set? How is the environment shown by the artist? What about the human-made structures? Does the architecture tell you anything about the time and period of the setting?

Practise the skill

1. **Examine** Source 14. Use the annotations to help identify the various features in the image. Create a dot point list to explain the relevance of each feature.
2. In your own words, **summarise** the overall message that the artist of Source 14 is trying to convey.
3. **Explain** how Source 14 shows the influence of Confucius.

Extend your understanding

1. a. Use the internet to locate two visual sources from ancient China. Copy and paste the images into a new document.
   b. Annotate each source and highlight any features and their meaning. Ask yourself the questions in Source 15 to help guide your annotations.
   c. In a short paragraph, **analyse** each source using the DAMMIT acronym to assist the structure of your response (see 211 of 'The history toolkit'). Remember to include references to show where you found your information.

15.11 Change through conflict

In this topic, you will:

» explore the causes and effects of ancient China's contact and conflict with other societies.

Conflict helped to shape the political and social structure of ancient China. It also led to many important inventions. Generally, the ancient Chinese people did not encourage relentless violence like the ancient Romans or Greeks. This is largely because Confucianism promoted peace and harmony.

Conflicts were prompted by internal tensions and foreign threats. Internally, conflict marked the beginning and end of China's dynasties, and the regimes that each introduced.

The army

The first permanent army in ancient China was not formed until the Han Dynasty (206 BCE–220 CE). During this dynasty, China was often at war, enlarging its empire and engaging in fights with northern tribes. Han rulers required all able-bodied men between the ages of 23 and 56 to enlist in the army for two years. They were also expected to serve again if there was a military emergency such as an uprising or an attack.

conscripted
when somebody is ordered by law to join the armed forces

Mostly farmers were **conscripted** to the army, boosting its numbers to hundreds of thousands. These farmer-soldiers were not trained. For some, the only exposure they had to battle skills and tactics was what they learnt 'on the job' when called up. Soldiers did not receive pay, but they were fed and given weapons and a uniform.

Generally, the people of China were not keen on war. During wartime, taxes were raised significantly and farms were often plundered by troops.

Battle tactics and weapons

During the Shang Dynasty (1766–1122 BCE), battles were fought mainly using chariots. Ancient records tell us that farmers had to plough their fields so that chariot wheels could easily cross farmland in the event of a battle.

Source 1 Painting showing the arrangement of military units; flags were used by each division. A red bird symbolised the vanguard (frontline), a green dragon was the left wing, a white tiger represented the right wing, black tortoise was the rear guard and the Great Bear represented the commander and bodyguards.

Later, the cavalry and armed foot soldiers played a greater role. By the late fourth century BCE, the cavalry was the strongest component of the army. Fighting on horseback was greatly helped by the Chinese invention of the stirrup around 350 CE. It enabled riders to sit more securely on a fast-moving horse while using their weapons.

Source 2 A crossbow during the Qin Dynasty

Analyse this!
Battle tactics and weapons in ancient China

Inventions

Early weapons, including spears and daggers, were typically made of bronze, then later, made of iron. Weapons made from bronze included battle axes, spears, swords and halberds (spears combined with axe blades).

The crossbow was invented in ancient China and used 2500 years ago (see Source 2). It was the most distinctive feature of Chinese warfare, with the sword appearing much later. It fired bolts (metal arrows) with great force up to 200 metres. It had enough speed and force to penetrate armour. Over centuries, it became lighter, and could be cocked with one hand. They also developed **artillery** versions, which were mounted on a swivel base.

The kite was another Chinese invention, first used about 2500 years ago. Some early kites were made to spy on the enemy or to send messages.

artillery
large, heavy guns which are often moved on wheels

Source 3 Infantry units during the Han dynasty included a spearman, swordsman and crossbowman.

Armour

The first armour of Chinese soldiers was made from wood or bamboo. Later, small overlapping pieces of leather or iron were joined together with fabric ties or metal studs. This made upper-body armour both sturdy and flexible. Helmets were also worn by soldiers from the Han Dynasty onwards.

15.11 CHECK YOUR LEARNING

Review and understand

1 What were the views of the Chinese people on warfare and conflict?

2 **Identify** the group of people who made up most of the army.

Apply and analyse

3 **Examine** Source 3, looking particularly at the soldier's armour. Draw labelled sketches to show how it could be modified with materials available during ancient times to provide more protection.

Evaluate and create

4 **Evaluate** the strengths and weaknesses of ancient Chinese warfare. Which element of warfare do you consider most valuable and why?

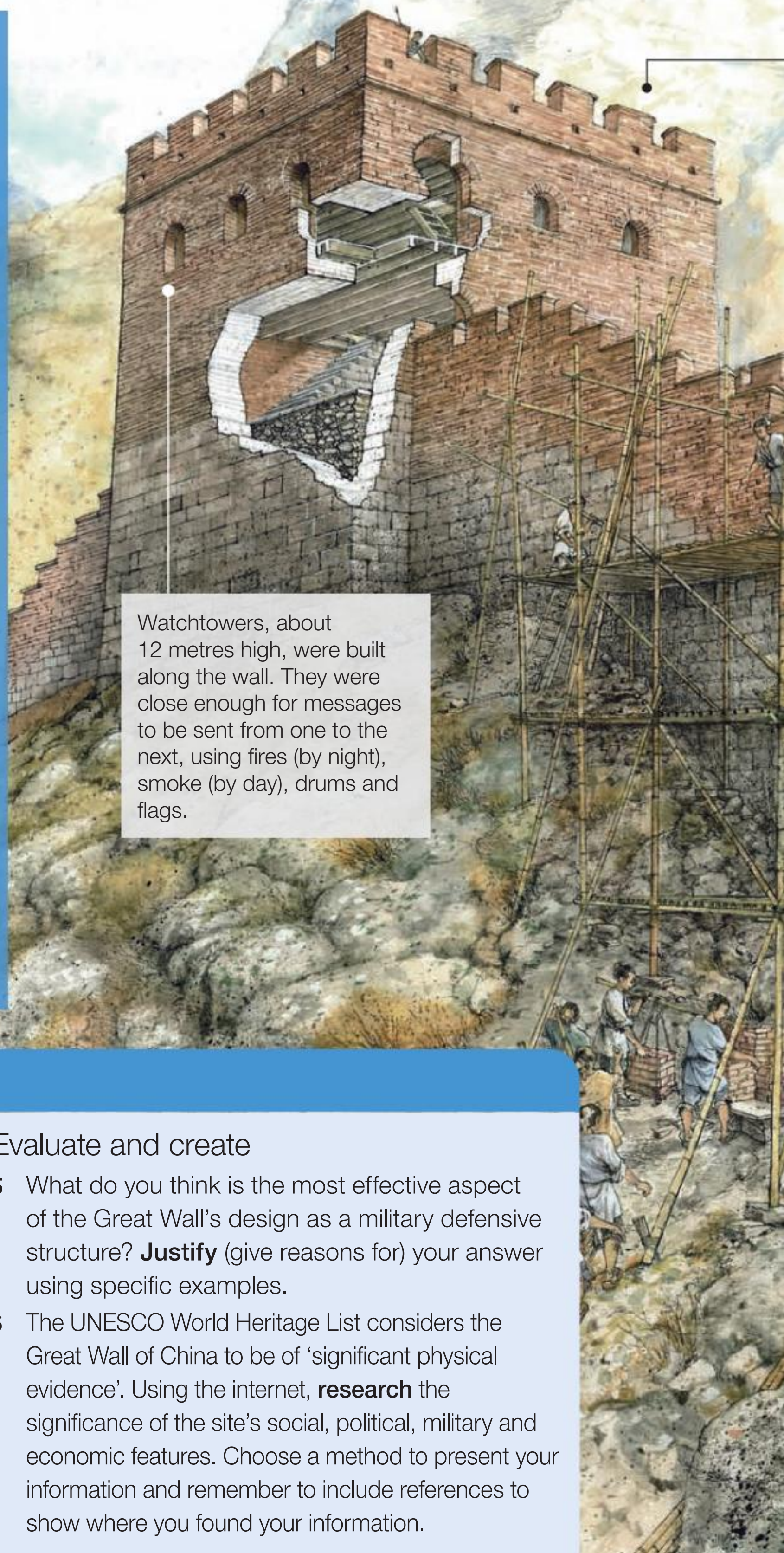
5 'Without conflict, the ancient Chinese people would not have created some of the greatest inventions.' **Discuss** this statement with a partner. The best discussions always consider different viewpoints.

15.12 The Great Wall of China

In this topic, you will:

» investigate the site of the Great Wall of China.

One of the strongest defensive structures ever built is the Great Wall of China. It started out as a number of separate mud-brick walls built during the Zhou Dynasty. Qin Shi Huang began the task of joining these walls and extending them in 220 BCE. This was needed to keep out invading tribes from the north (known as Mongols). Mongols lived in a harsh environment. Unable to produce enough crops to support their population, Mongols raided towns and settlements in China to plunder food and riches. The structure we see today was largely completed during the Ming Dynasty (1368–1644 CE). That was when the watchtowers and cannons were added.



Watchtowers, about 12 metres high, were built along the wall. They were close enough for messages to be sent from one to the next, using fires (by night), smoke (by day), drums and flags.

15.12 CHECK YOUR LEARNING

Review and understand

1 **Identify** the actual length of the Great Wall of China.

2 **Describe** what was used to fill the internal sections of the Great Wall.

Apply and analyse

3 **Explain** how the creation of the Great Wall is an example of China changing through conflict.

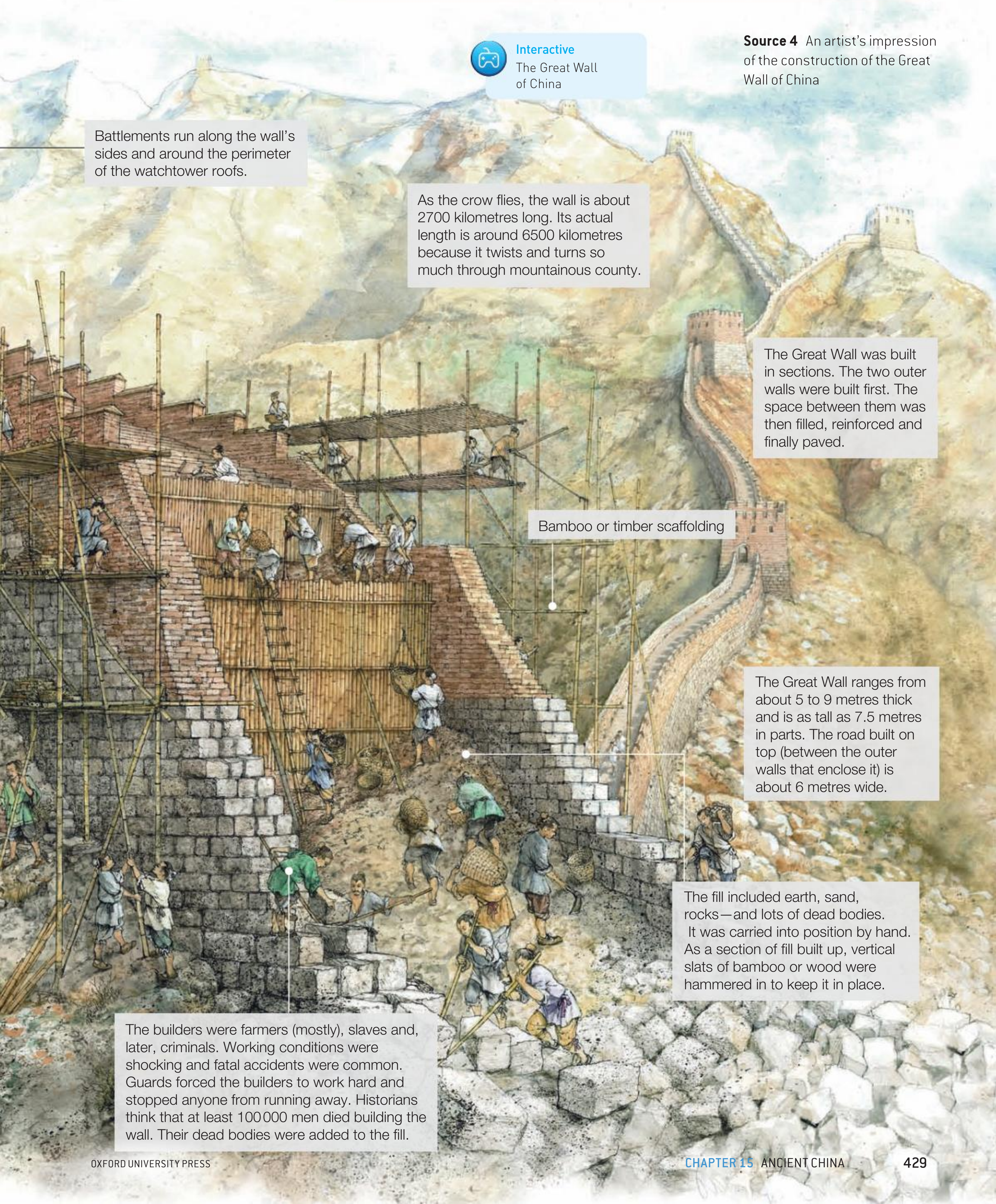
4 The Mongols were skilled archers and rode on horseback. **Analyse** the Great Wall's ability to protect against these two elements of attack.

Evaluate and create

5 What do you think is the most effective aspect of the Great Wall's design as a military defensive structure? **Justify** (give reasons for) your answer using specific examples.

6 The UNESCO World Heritage List considers the Great Wall of China to be of 'significant physical evidence'. Using the internet, **research** the significance of the site's social, political, military and economic features. Choose a method to present your information and remember to include references to show where you found your information.

Interactive
The Great Wall of China



Source 4 An artist's impression of the construction of the Great Wall of China

15.13 Change through trade

In this topic, you will:

» explore the causes and effects of ancient China's contact and trade with other societies.

Ancient China's isolation from other civilisations meant that trade only occurred inside the region for a long time. The Chinese people were strong and resilient to hardship because they relied on their own natural resources for survival. Trade beyond China's borders did not begin until the Han Dynasty.

The Silk Road

In 138 BCE, Han Emperor Wu Di sent his army general Zhang Qian on a mission to form an **alliance** with traders along the western border. Along the way, Zhang Qian was captured by the Xiongnu tribe and held captive for 10 years. When he finally escaped, Zhang Qian returned home and told the emperor about cultures and customs that, until then, China had never heard of.

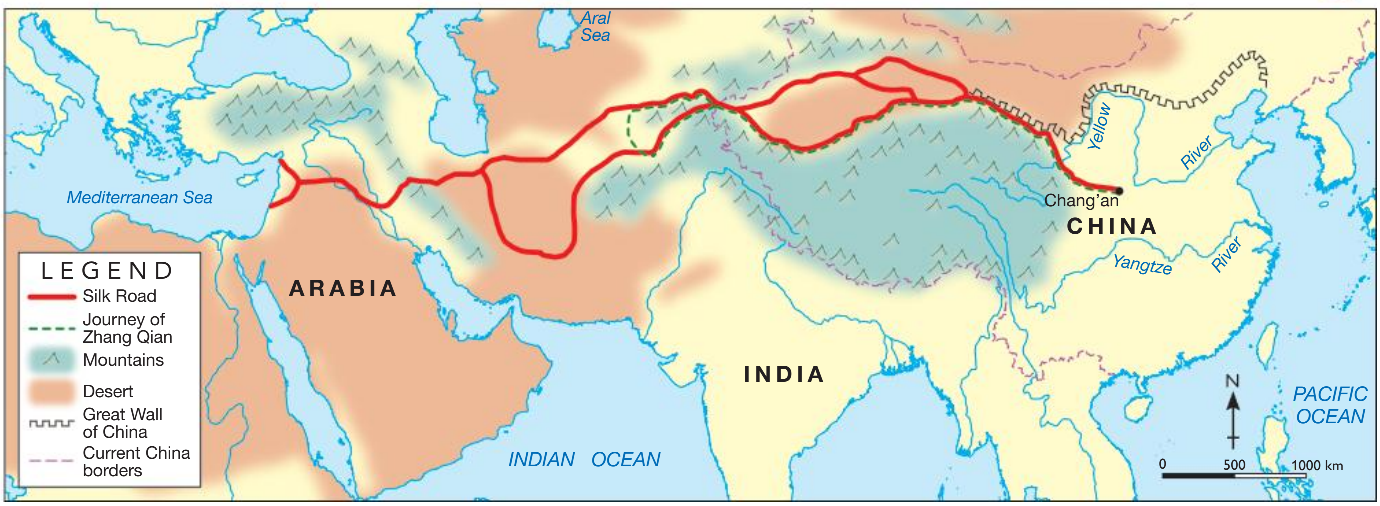
alliance
an agreement between countries or political parties to work together in order to achieve something that they all want

This news prompted Wu Di to send further missions west, along the same path that Zhang Qian had taken. The Chinese discovered that there was a strong demand for silk from other communities along this path. This is how the trade route became known as the Silk Road.

The Silk Road was a 6400-kilometre route crossing through modern Central Asia and the Middle East, reaching the Mediterranean Sea (see Source 5). It included connecting paths to other places such as India and became an important trade route for many empires.

Map it!
The Silk Road

SILK ROAD TRADE ROUTE



Source 5 Source: Oxford University Press

Merchants moved goods back and forth through the harsh terrain using long lines of camels, known as caravans. It was not an easy journey – they crossed mountains, cold deserts and hot deserts.

Travellers set up rest stops near water sources to survive the journey. These stops were placed within a day's travel of each other as concerns grew that **bandits** would raid the caravans travelling the Silk Road.

bandits
a member of an armed group of thieves who attack travellers

Silk

Silk was ancient China's most important trade product. For a long time, only the Chinese knew how to make it. It is spun from the cocoons of silkworms, which feed on mulberry leaves. It became highly prized, particularly by the ancient Romans, who exchanged large amounts of gold for it. It was such a valuable resource to the Chinese that people were executed if caught stealing silkworm eggs or cocoons.

Trade in silk and other goods boosted the economies of societies involved and exposed them to new products.

Transfer of ideas, goods and disease

The Silk Road also became very important for the spread of new technologies, religions and philosophies to other societies between the East (eastern Asia) and the West (then the Mediterranean world). Many of the inventions and discoveries of the ancient Chinese were shared by Silk Road traders. For example, China's silk-making secrets were passed to the West this way. China also benefited from the introduction of new metalworking technologies.

Travellers along the Silk Road were exposed to many different cultures. That is how Buddhism was introduced to China. Unfortunately, this trade route was also the means by which terrible diseases such as the bubonic plague were spread to new populations.

The Silk Road trade routes were a significant factor in the development of civilisations in ancient China, India, Persia, Europe and Arabia. Trade along the Silk Road boomed, and new cities, towns and forts sprang up along the way.

Source 6 A medieval atlas showing the caravans travelling the Silk Road

Source 7 Some of the goods that were traded and exchanged between ancient China and other societies along the Silk Road

15.13 CHECK YOUR LEARNING

Review and understand

1 **Outline** the steps that led to the beginnings of the Silk Road.

2 **Identify** the modern countries through which the main routes of the Silk Road pass. Use the world map at the back of this book to help you.

3 **Describe** what caravans were and what they were used for.

Apply and analyse

4 **Summarise** the cause and effect of ancient China's trade with other societies.

Evaluate and create

5 In groups, **create** a travel journal that records what Chinese merchants travelling from Central Asia to the Mediterranean Sea might have seen and done while on the Silk Road. Include sketches and photographs of places and things you see on your journey.

15D RICH TASK

The influence of farming

Quizlet

Revise the key terms you have learnt so far.

Farming was a vital industry in the development of ancient China.

As the earliest known rice farmers, the ancient Chinese developed irrigation techniques to make sure their paddy fields flooded properly. They also created bronze and iron tools, such as shovels, knives and ploughs, which improved efficiency.

The large-scale Dujiangyan irrigation system was built in 256 BCE and is considered a unique irrigation innovation. Another innovation was the Grand Canal, on which construction began in the fifth century BCE. The Grand Canal became the backbone of the empire's transport and communication system. It was vital for transporting farming produce from the fields to the cities, as well as messages from one region to another.

Source 8

> Many of the political and social changes that can be observed over the course of the … Warring States period are closely related to changes in agricultural practices and technologies … a science of agriculture came into existence, and men whose technological skills in farming were of practical value came to enjoy privileged status as teachers …
>
> Historian Dr Robert Eno, Indiana University

KEY SKILL
Asking questions & conducting research

Generating historical inquiry questions

One of the first and most important steps in conducting a historical inquiry is to generate key questions. These questions will direct your research.

Usually, historians generate one broad, overarching question for their inquiry, for example: How did farming innovations influence the development of ancient China? After that, they generate more specific questions. In history, the 5Ws and H refer to the most common questions asked: who, what, when, where, why and how. A proper inquiry will require a mixture of:

- closed or simple questions (such as 'When did event X take place?'). This includes the questions starting with who, what, when and where.
- open or probing questions (for example, 'Why did event X take place?'). This includes questions starting with why and how.
- questions that relate to the historical concepts (for example, 'Which perspective has the strongest evidence?' or 'What other sources might be needed?').

The first step in generating questions is to create a table (see Source 9) and brainstorm all the things you know (in short statements) in one column. In the second column, generate a related question that will help to deepen or build your understanding. Remember to include a mix of the three question types described above.

For more information on this key skill, refer to page 195 of 'The history toolkit'.

Source 9 An example of a brainstorming table

Overarching inquiry question:	
What I already know	**Questions to help me deepen or build my understanding**
Point 1	Questions related to point 1
Point 2	Questions related to point 2

Practise the skill

Follow these steps to generate a range of questions related to the overarching historical inquiry question: 'How did farming innovations influence the development of ancient China?'

Step 1 Copy the table below into your notebook.

Step 2 In the first column, list what you already know from reading the passage about farming innovations.

Step 3 Generate related questions that will help to build your understanding. Include a mix of closed and open questions, as well as questions that relate to the historical concepts: chronology, cause and effect, continuity and change, significance and evidence.

The first few have been done for you:

Overarching question: How did farming innovations influence the development of ancient China?	
What I already know	**Questions to deepen my understanding**
Rice was an important crop in ancient China	Where did they grow rice? (closed or simple question) How did they irrigate the paddy fields? (open or probing question)
The Iron Age improved a farmer's output	How did iron change farming techniques? (question based on a historical concept)

Extend your understanding

1 **Research** the following farming innovations of ancient China:
- Two small-scale inventions, such as the iron plough, oxen plough, dragon backbone chain pump, waterwheel, wheelbarrow or well.
- One large-scale project such as terraced hills, building canals or an irrigation project like the Dujiangyan irrigation system.

2 As part of your research, **compare** farming innovations during ancient China to similar tools, objects or projects used in the modern day. Present this information using a Venn diagram.

3 Based on your research, form a conclusion that answers the overarching question, 'How did farming innovations influence the development of ancient China?' Answer the question clearly by providing your own opinion, backed up by your research. In your answer, include a reference to Source 8.

4 a Present your information as a report, poster or a presentation. Organise your research under each of your inquiry questions or use sub-headings.
  b Include any diagrams or images with captions and annotations.
  c Present a conclusion that addresses the overarching question.

15 CHAPTER REVIEW

Review questions

15A How did the physical features of ancient China influence its development?

1 **Describe** the climate of the two river valleys in ancient China. (2 marks)

2 **Outline** one advantage of the location of ancient China's first settlement. (2 marks)

3 Which physical feature was more influential on the development of ancient China over time – mountainous areas or farming land? **Justify** (give reasons for) your answer. (6 marks)

(Total: 10 marks)

15B What shaped the roles of key groups in ancient China?

1 **Compare** the lives of rich and poor women in ancient China, noting the similarities and differences. (4 marks)

2 **Discuss** three changes that occurred during Emperor Qin Shi Huang's leadership. Which one had the greatest impact on China? (6 marks)

(Total: 10 marks)

15C How did beliefs, values and practices influence life in ancient China?

1 **List** the three main belief systems in ancient China. (1 mark)

2 **Explain** the concept of yin and yang. (3 marks)

3 'Being educated in ancient China could change your life.' Do you agree with this statement? **Justify** (give reasons for) your answer. (6 marks)

(Total: 10 marks)

15D How did contacts and conflicts with other people change ancient China?

1 **Identify** the main reason for building the Great Wall of China. (1 mark)

2 **Outline** three changes or developments that occurred in the battle tactics and weapons used by the ancient Chinese. (3 marks)

3 **Discuss** the political cause that led to the development of the Silk Road. What social and economic effects did this have on ancient Chinese society? Use examples in your answer. (6 marks)

(Total: 10 marks)

Review activity

Examine the sources, then answer the following questions.

Analysing sources

Source 10 A Tang Dynasty painting

Source 11

The Tang dynasty … was the golden age of Chinese culture ... one of the greatest … periods in the development of music, song, and dance during Chinese history. Its law code … served as the basis for the law codes of premodern Japan, Korea, and Vietnam. The dynasty was the first to compile a national [medical book]. Both printing … and gunpowder – developments that profoundly affected the emergence of the modern world – were invented during the period. The Tang was the golden age of Buddhism. The religion attracted large numbers … amassed immense wealth, and exerted great influence at court. Finally, tea became the national drink during the dynasty.

Excerpt from the book *China's Golden Age: Everyday Life in the Tang Dynasty*, by historian Charles Benn, 2004.

1 **Identify** whether Sources 10 and 11 are primary or secondary sources. (1 mark)

2 A legacy is something that exists today because of traditions, events or actions that occurred in the past. **List** three legacies mentioned in Source 11. (1 mark)

3 **Explain** how the sources enhance your understanding of the following:
   - a leisure activities in ancient China
   - b the importance of education. (6 marks)

4 Which class of ancient Chinese society is depicted in Source 10? What other evidence is needed to gain a more accurate understanding of daily life for all who lived during the Tang Dynasty? (4 marks)

5 **Analyse** the perspective (values, attitudes and beliefs) of each source. Provide an example from each source. Remember, when you analyse something you must break it down into smaller parts and explain how they relate to each other. (8 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

Student book questions Chapter 15

Key skill worksheet Communicating & reflecting: Chapter 15

Quizlet Play a game of Quizlet on Ancient China.

Chapter review quiz Chapter 15


nab
Henry Bucks
Established 1890
HCF
OMEGA
3

PART 3

Economics and business

Skills

Chapter 16 The economics and business toolkit 438

Economics and business

Chapter 17 Economic choices 446
Chapter 18 Finance and consumers 462

CHAPTER 16

The economics and business toolkit

Economics is the study of how people choose to use the limited resources on Earth to satisfy their needs and wants. Studying economics helps us understand how the world really works. Many people assume that economics is simply about money and business, but this is only one part of what economics explores. As much as anything, economics is the study of human behaviour – how people interact with one another locally and globally. Today, more than ever before, it is useful to have an understanding of economics and business skills. These skills will help you make good decisions and avoid unnecessary risks.

Source 1 While economic growth is often measured with money, it is really about improving our quality of life through smart decisions about how to use our resources.

16A
What are the economics and business skills?

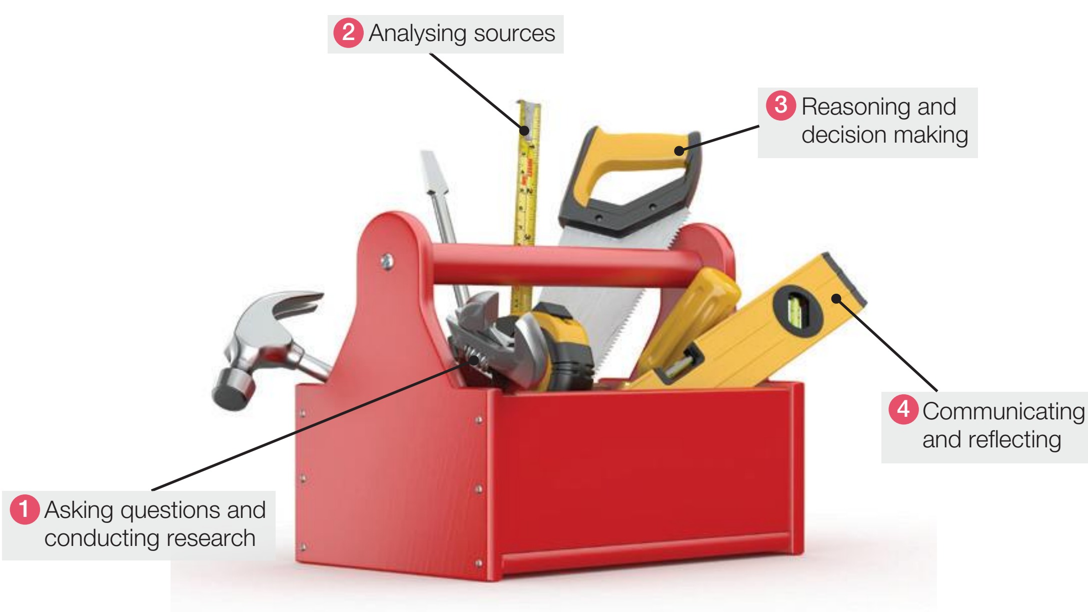
16.1 Economics and business skills

Economics and business students learn to generate questions, interpret information, make decisions and argue their point of view through studying real-life examples. Economics and business students also learn through experiences when they are provided with an opportunity to be innovative, show leadership and practise making business decisions.

Studying economics and business requires you to ask a range of questions and analyse information to find out more about a topic. You will learn to develop questions and gather data and information from a range of sources. You will interpret data to identify trends and relationships. You will learn to find the best solutions to economic and business problems by evaluating alternatives and weighing up the costs and benefits. You will make decisions and communicate your conclusions.

Each of the skills you will learn is shown below. It might help you to think of each of these skills as tools in a toolkit.

1. Asking questions and conducting research
2. Analysing sources
3. Reasoning and decision making
4. Communicating and reflecting



Source 1 Economists use several different skills. Each of these skills is like a tool in a toolkit.

16.2 Asking questions and conducting research

Developing questions

Economics and business students ask questions. They seek out real-life economic and business cases and try to learn from and avoid mistakes made in the past. They also check facts and look at the arguments for and against a certain issue before reaching their own conclusions. When economics and business students state their opinions, they support them with evidence such as statistics, cases from the past, quotes from what others have said and sound reasoning.

Source 2 shows how a hairdressing business could start asking questions and conducting research to work out if it should change its opening hours

Source 2 A guide for planning the direction of an economic or business inquiry

Key question	Information needed	Possible sources of information
Is it a good idea, in response to customer demand, for local hairdressing salon Top Tangles to extend its opening hours to Sunday mornings?	• How much would it cost the business to open on Sundays from 9 am to 12 noon? • Are current employees willing and available to work on Sundays? • What is the expected increase in income from extending the opening hours? • Do other hairdressing businesses in the area open on Sunday mornings? • How will increased opening hours affect the hairdressing salon's public image and popularity?	• Survey past and current customers of the salon about the idea. • Seek wider feedback from potential customers about appointment time preferences. • Contact staff to discuss possibility of increased hours and availability. • Check the weekend opening hours of competing salons by browsing websites and social media pages.

Gathering data and information

Economics and business students gather information from a range of sources. These can take many different forms, from written records in books or online, to live video and audio recordings. Some examples of sources include economic journals, newspaper articles, letters, government department or business websites, tweets, blogs or Facebook posts, cartoons and interviews.

Locating a range of relevant sources is a valuable skill, which usually involves several different research methods, such as:

- using online search engines, such as Google
- following social media, such as Facebook and Twitter
- looking at newspaper and magazine articles in print or online
- contacting local businesses or asking people with expertise in the subject
- speaking with other class members or family members to gain an insight into their views on a particular issue.

Check your learning
Log onto your obook pro to complete the questions for topic 16.2.

16.3 Analysing sources

Interpreting data

Source 3 Information gathered from customer surveys can be used to make decisions about the future of a business.

Data can be displayed in different ways. For example, a source of data might appear as:

- a graph
- a graphic representation, such as a chart or infographic
- a statistical table
- a case study
- an interview
- a questionnaire or survey
- a simulation game.

Sometimes you will be looking at sources created by others, other times you will represent data from your own investigation. Whatever the case, it is your job to then interpret the data by identifying any trends, patterns or relationships in the information.

Identifying trends and patterns in data is an important step in any economics and business investigation, as it will help you identify the cause of a problem or event and its likely outcome or effects.

For example, Andy collected data on a phone company's advertising expenses. His data showed that the more money the company spent on advertising, the more phones they sold. Andy also recorded the number of complaints the phone company employees received during this time. He found that the amount of money the company spent on advertising seemed to have no effect on the number of complaints. This means Andy was able to identify that:

- there was a relationship between advertising and phones sold
- there was no relationship between advertising and the number of complaints received.

Economics is not a pure science. There are a lot of different theories and approaches to economics, which means there are often several different answers to the same problem. It is quite common to see two reputable economists have completely different opinions on a topic or issue. For instance, another economist may collect different data or find different trends and think that Andy is wrong and that there is a link between advertising and complaints. Many issues require us to weigh up different points of view, while keeping an open mind.

For more information on this key skill, refer to the Key skill boxes in Chapter 17 (pages 452 and 454).

Check your learning
Log onto your obook pro to complete the questions for topic 16.3.

16.4 Reasoning and decision making

Evaluating alternatives

In most situations there is more than one way to make the right economic decision, to find the best solution or to solve a problem. An economics and business student carefully considers all the circumstances related to the issue and considers the different options that are available. They evaluate, or weigh up, the costs and benefits of each alternative. They will then make a rational decision that they believe will lead to the best outcome.

See the Key Skill box on page 444 to practise the skill of reasoning and decision making.

Applying strategies to resolve economics and business issues

Reading about economics or business in your textbook or using online resources can only teach you so much. Applying knowledge to a real business situation is a valuable experience and there are a number of ways you can do this:

Source 4 Talking to someone from a local business in your community can be a great way to apply the economic and business theories you have learnt to familiar situations.

- talking to someone in business about their experiences to see whether the theory you have learnt applies in real life
- observing the world around you; when you next go shopping, think about some of the things you have been studying, such as customer services, competition, marketing techniques and types of businesses
- trying to come up with your own innovative business idea and discussing it with others
- taking part in simulation games or role-playing as a chance to improve your skills and put what you have learnt into practice.

For more information on this key skill, refer to the Key skill boxes in Chapter 17 (17A Rich Task, page 452) and Chapter 18 (18B Rich Task, page 472).

KEY SKILL
Reasoning & decision making

Evaluating pros and cons

To make a good economic decision, we consider our options and weigh up the costs and benefits of each to choose the option that is best for us. This type of evaluation is called a cost–benefit analysis.

Before looking at the different options, you must first do some work to find out more about the issue or topic. This can be done using the following steps.

Step 1 Read through different sources of information or speak to people with related experience and find out what experts say about the topic or what people have done in a similar situation.

Step 2 Make your own notes as you learn and write down any interesting facts, statistics or other information that will help you to explore the different options.

Step 3 Next to each option write the advantages and disadvantages, or costs and benefits.

Step 4 Get rid of the options where there are more disadvantages than advantages, or where the benefit is small compared to the disadvantages.

Step 5 Concentrate on the strongest options and either decide which one is best or do further research before choosing the best option for you.

Practise the skill

Read the following case study and answer the questions that follow to decide what Amelia should do.

Amelia is a 17-year-old student in her final year of high school. She has been offered a casual position working on Saturdays at her local bookshop. She is weighing up her options to see whether she has the time to take the job, or if it will have too much of an impact on her studies. Amelia has considered the benefits (the pros), as well as the costs (the cons) below, to help her to make the best choice.

PROS

- She would like a job so she can earn income to save up for an iPad.
- She loves books and has always wanted to work in a bookshop, and the experience may help her future employment opportunities.
- A break from studying once a week would be good for her mental health.

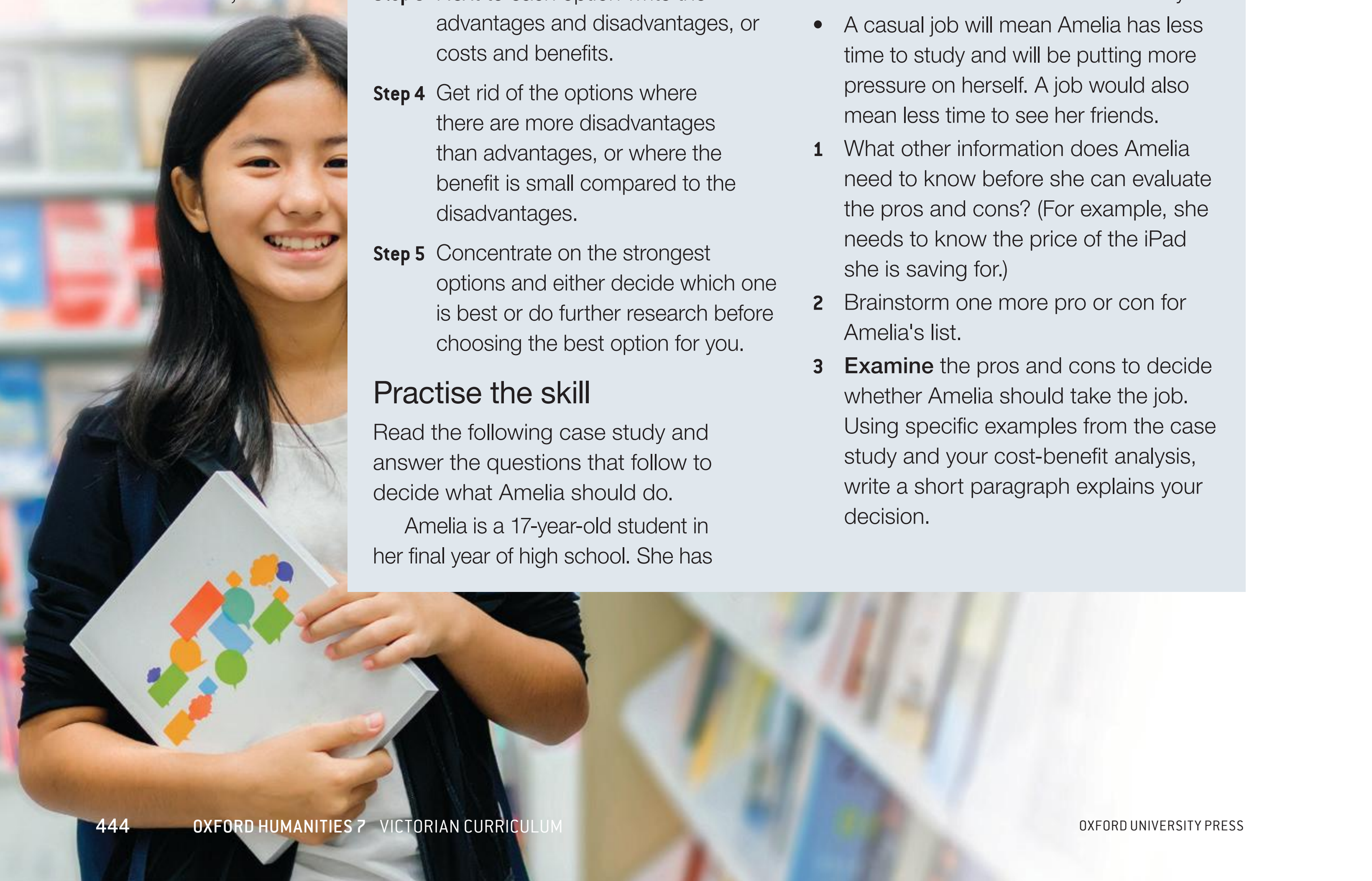
CONS

- Working hard on her schoolwork and succeeding in her final year of school is Amelia's top priority so she can get into the course she wants to at university.
- A casual job will mean Amelia has less time to study and will be putting more pressure on herself. A job would also mean less time to see her friends.

1 What other information does Amelia need to know before she can evaluate the pros and cons? (For example, she needs to know the price of the iPad she is saving for.)
2 Brainstorm one more pro or con for Amelia's list.
3 **Examine** the pros and cons to decide whether Amelia should take the job. Using specific examples from the case study and your cost-benefit analysis, write a short paragraph explains your decision.

Check your learning
Log onto your obook pro to complete the questions for topic 16.4.

Source 5 A cost–benefit analysis helps Amelia decide whether or not to take on a casual job.



16.5 Communicating and reflecting

Using economics and business terminology

Quizlet

Become familiar with economics and business terms by reviewing them on Quizlet.

In every subject, there is a common language that is used. Source 7 lists and defines some commonly used terms in economics and business; additional terms can also be found in the glossary at the end of this book and are defined throughout the chapters. Make sure you use the appropriate terms when you discuss any conclusions you have come to (whether you are discussing these in writing, or in a speech or debate).

Source 6 Some useful economics and business terms

Term	Definition
business	organisation involved in commercial, industrial or professional operations
consumers	people who buy things to use
cost–benefit analysis	estimating what will need to be paid (costs) and possible profits (benefits) derived from a business proposal
economics	the study of how people and society choose to use limited resources to satisfy their needs and wants
interest	the amount of money a person has to pay the lender in addition to the original amount borrowed
investing	putting money into shares, property or other financial schemes in the hope of making a profit
market	where buyers and sellers interact to exchange money for goods and services
opportunity cost	what we miss out on when making a choice
producers	people or businesses who make and sell goods and services for a profit

Reflecting on the consequences of decisions

After you have gathered and analysed data, and made and communicated your decisions based on this research, it is a good idea to reflect on your decisions. Reflecting on your decisions means asking:

- What have been the effects of this decision?
- What might have been the effects of other (alternative) decisions?
- What do I know now, that I did not know before?
- Why was my decision still the best decision – or, why wasn't it the best decision?

Sometimes, a certain amount of time needs to pass before you can understand the consequences of your decisions. By reflecting on economics and business decisions you have made in the past, you can learn for the future.

For more information on this key skill, refer to the Key skill box in Chapter 17 (page 450).

Check your learning

Log onto your obook pro to complete the questions for topic 16.5.

CHAPTER 17

Economic choices

Economics is all about choices. People are faced with choices every day. Should we walk to school or take the bus? What should we eat for lunch? Similarly, businesses also need to make choices, such as what goods or services they will provide, while governments need to decide how to spend taxpayers' money. When investigating each of these choices, consumers, businesses or governments need to consider the potential consequences. Whatever choice they make, they will miss out on the alternatives they did not choose. As economists, we look at how to choose the alternative that will bring the greatest benefits as well as the consequences of the actions we choose to make.

Source 1 Shopping in a supermarket is an example of the economic choices made by consumers to purchase the products that will benefit them.

17A
How do individuals and businesses make economic choices?

17B
How do businesses respond to consumer demand?

17.1 Making choices

In this topic, you will:

- identify the difference between a need and a want
- explain the problem of relative scarcity.

Source 1 While many people feel that they need a smartwatch, in economic terms, a smartwatch is considered a want.

Making economic choices is quite tricky for consumers. This is because we have a wide range of **needs** and **wants**. Generally speaking, a rational person aims to make choices that will fulfil their basic needs for survival, such as food, water and shelter. They also consider what will bring them the most satisfaction, such as owning a new smartwatch. The desires that are not necessary for survival are called wants. While this may seem rather simple, distinguishing between the two can be a very important part of making economic decisions.

needs
things that we physically cannot survive without, including food, water and shelter

wants
things that we desire but can survive without

Distinguishing needs from wants

While you may feel like you need a smartwatch, it is not something that is necessary for your survival. In our society, there are many pressures that make people feel that items they want are actually items they need.

This kind of pressure can come from businesses. The goal of a business is to make a **profit** for its owners. Businesses make profit by producing goods or services for consumers to buy and they will find clever ways of persuading you that you need their products. They develop flashy advertisements to display on billboards, television and radio. They also pay celebrities to promote their products in movies and magazines. Even without realising it, the average Australian sees thousands of advertisements a day, all of which are trying to influence them to buy a product.

Sometimes we feel pressure from our peers to buy a product. If everybody else has the latest smartphone and we do not, we might feel like a social outcast. Without these pressures, we would be less likely to buy the product. This would allow us to consider spending our money on something else that may bring us more satisfaction. For example, we could have saved our money for a rainy day, or even donated it to those in need. Whatever you decide to do with your money, make sure that it is a rational decision that is most likely to give you the greatest satisfaction in the long run.

Watch it!
A video and quiz on Apple product hysteria

profit
the amount of money a business earns after taking away its expenses

Source 2 Businesses often pay celebrities to promote their products. Tennis champion Ash Barty promotes Fila sportswear, Jaguar cars and Vegemite.

Relative scarcity

Another problem caused by our wants is known as **relative scarcity**. Relative scarcity happens because our wants are unlimited, but the **resources** required to fulfil them are limited. This causes damage to the natural environment, which is certainly essential to our survival.

Our wants are unlimited in the sense that as soon as one want is satisfied, another appears. For example, a person who has already acquired a house, food, water, basic clothing and has money left over will buy an item that will make their life easier, such as a car. That person may later decide to buy a bag, designer jeans, a new car, a new smartphone, and the list goes on. People's wants can never be completely satisfied because as soon as we buy one of these items, we desire another.

relative scarcity
the problem that arises because our wants are unlimited, but the natural resources we use to fulfil them are limited

resources
natural or manufactured materials that can be used to produce goods and services

factors of production
economic resources that are divided into four categories: land, labour, capital and enterprise

employees
people who work for a business

Factors of production

Resources are limited and these resources are also known as **factors of production**. These are items required for the production of goods and services, and include:

- land – natural resources that businesses use such as water, land or animal populations, such as fish
- labour – the **employees** and their skills that are needed to produce and sell goods and services
- capital – money, equipment, buildings or any other items the business needs to produce goods or services
- enterprise – a business's ability to put land, labour and capital together to create goods and services.

Source 3 Our unlimited wants use up the world's limited natural resources, and often damage the environment through pollution and waste.

17.1 CHECK YOUR LEARNING

Review and understand

1 **Identify** the difference between a need and a want.

Apply and analyse

2 **Explain** the problem of relative scarcity.

3 **Classify** each of the following items as a need or a want:

a car
b hairdryer
c clean drinking water
d pens and pencils
e designer jeans
f computer
g house.

Evaluate and create

4 Factors of production are key to the production of goods and services. **Create** a table to list two examples of each of the four factors of production (land, labour, capital and enterprise) that might be needed in the production of a smartwatch.

	Example 1	Example 2
Land		
Labour		
Capital		
Enterprise		

17.2 Opportunity cost

In this topic, you will:

» examine the theory of opportunity cost.

Costs of factors of production

Source 4 Businesses make decisions about what to produce based on what is most profitable.

When setting prices for a good or service, businesses must think about how much it will cost to produce these things. The resources needed for the production of goods and services are known as factors of production, and include land, labour, capital and enterprise.

For some businesses, the cost of producing goods and services can be very expensive. For example, businesses that manufacture cars can have very high production costs. They must purchase and maintain expensive equipment and machinery to assemble materials or parts of the car. The materials required to make a car can also be expensive for a car manufacturer to produce or purchase from other businesses. These resources are combined or put together in a factory, which costs money to buy or rent. The cars are then shipped or transported to the place that will sell them, which also requires resources to complete. The cost of production is one of the main reasons why we cannot buy a car for $20 and why items that are expensive to produce are also expensive to buy.

A business also needs to make choices between the different products it can produce. The item that a business has decided to not produce is known as the **opportunity cost**.

I used to think, now I think

Reflect on your learning about how businesses set prices and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

opportunity cost
what we miss out on when making a choice

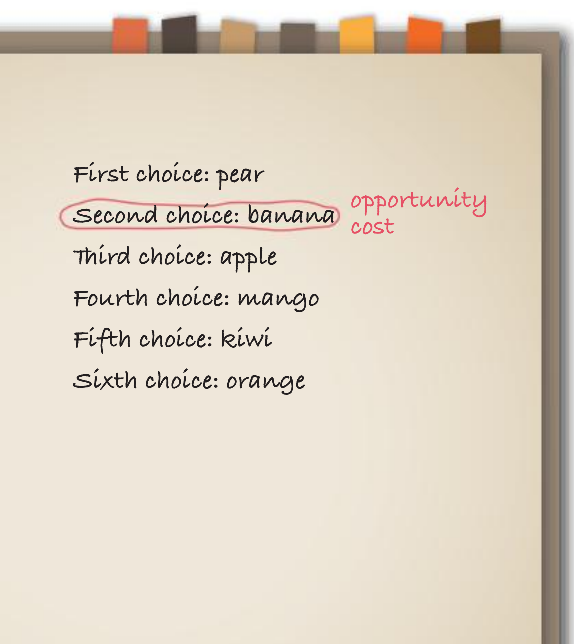
Opportunity cost

When setting prices, businesses must make many decisions. A business tries to create products or provide services that will earn the greatest profit. For example, a clothing business has to decide whether to produce shirts or pants. It will work out the costs of producing both items, as well as the selling price of each. The profit is calculated by taking away the cost from the selling price.

Even though the pants sell for a higher price, they cost more to produce. When a business has more than one option available, the opportunity cost is what it misses out on by not taking the next best option. The clothing business will choose to produce shirts, meaning that its opportunity cost will be the lost production of pants. Businesses must analyse the costs and benefits of each option in this way when making an important decision.

Understanding opportunity cost helps us put things into perspective. It makes us carefully consider what we miss out on as well as what we gain.

Source 5 The opportunity cost of selecting your first choice (a pear) is your second choice (a banana).



Source 6 Calculating profit to identify opportunity cost for a business (Profit = Selling price – Cost to produce)

	Selling price	Cost to produce	Profit
Shirts	20	10	10
Pants	30	25	5

Using a model

Models are often used in economics to illustrate the meaning of a concept. The Production Possibilities Frontier (PPF) model can be used to analyse the idea of opportunity cost and relative scarcity. This arises when a business needs to make a decision about which products or how much to produce given its available resources and level of technology.

Case study

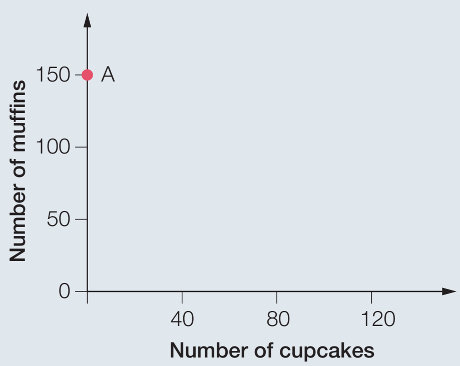
Jacinta is a baker who needs to decide how much to produce given the amount of flour and machinery she has. The table in Source 7 shows how many muffins and cupcakes Jacinta is able to produce per hour at each of the four production points: A, B, C and D. Each point refers to how many muffins and cupcakes Jacinta is able to produce with a certain amount of flour and machinery per hour.

For example, at Point A, she could produce 150 muffins and zero cupcakes. However, if she would like to produce some cupcakes, she could produce at Point B where she would need to reduce her production of muffins from 150 to 100 in order to increase her production of cupcakes from zero to 40. The reason Jacinta would have to give up producing some muffins in order to produce more cupcakes is because she has a fixed amount of flour and machinery. The opportunity cost of Jacinta moving from Point A to B is 50 muffins.

Jacinta's resources are relatively scarce, which is why she needs to decide exactly how many of each item she would like to produce.

Practise the skill

1. Copy Source 8 onto graph paper.
2. Plot each of the production points. Point A has been done as an example and labelled 'A'. Remember to label the three other points: B, C and D.
3. Once you have four points, draw a line to connect them. You have just drawn your first economics model!
4. Look at Source 7.
   a. **List** the opportunity cost of making more muffins.
   b. **Calculate** the opportunity cost of increasing the production of cupcakes from Point B to Point C.



Source 8 Base graph of Jacinta's PPF

KEY SKILL
Communicating & reflecting

Quiz me!
A quick quiz on opportunity cost

Source 7 The number of muffins and cupcakes Jacinta can produce per hour

	Muffins	Cupcakes
Point A	150	0
Point B	100	40
Point C	50	80
Point D	0	120

17.2 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** 'opportunity cost'.
2. **Identify** two factors that influence a business's decision to set a price.

Apply and analyse

3. The manager of a clothing factory has received a phone call from their supplier. The supplier says that the material they would normally sell to the clothing factory for shirts has run out. As a substitute, the supplier offers material for dresses. The clothing factory must choose whether to produce dresses or pants. Using the table below, **calculate** the profit. Which product is the opportunity cost?

	Selling price	Cost to produce	Profit
Dresses	25	25	
Pants	30	25	5

17A RICH TASK

Costs and benefits

Quizlet
Revise the key terms you have learnt so far.

Every day we are faced with countless choices. While some of these choices can be quite easy to make, others require a lot more thought. In situations where the answer is not so obvious, we might be tempted to go with our instincts or even flip a coin, but as economists we know better. Economists analyse the costs and benefits that each option has to offer before deciding on what to do. One way of doing this is by writing up a list of pros and cons.

KEY SKILL
Reasoning & decision making

Making a list of pros and cons

The purpose of a pros and cons list is to help us evaluate the choices and come to a rational decision. The pros represent the benefits of the choice we are considering, while the cons represent the negatives of that same choice. You can refer to Source 10 to see what a finished pros and cons list might look like.

Step 1 Come up with a choice that you will consider the pros and cons for and write it as the main heading of your list.

Step 2 Rule up a T-chart with the heading 'pros' on the left, and 'cons' on the right.

Step 3 Carefully consider all the benefits of choosing the option you are considering and list them under the 'pros' section of the T-chart.

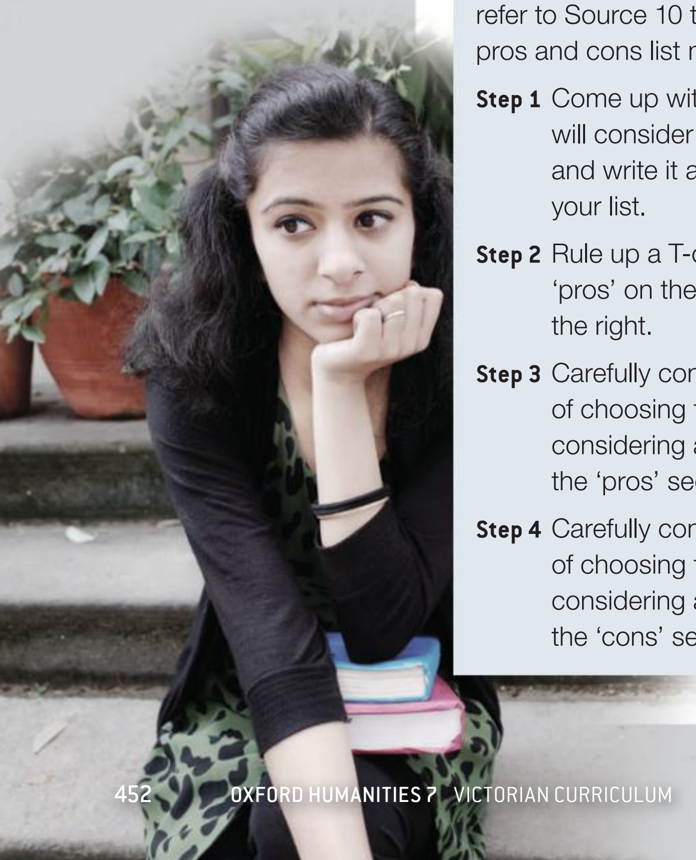
Step 4 Carefully consider all the negatives of choosing the option you are considering and list them under the 'cons' section of the T-chart. Be sure to include in this section all the things that you miss out on from the next best option (the opportunity cost).

Step 5 Some pros and cons are more important than others so we need to give them weighting. Although this can be tricky, find the least important factor out of all the pros and cons you have listed and write the number 1 next to it.

Step 6 Compared to the least important factor, how much more important are all the other factors? Write a number that shows how much more important they are to you next to each pro and con.

Step 7 Add up the numbers in each column to show a total for pros and a total for cons. If the pros outweigh the cons then the choice is likely to be a good one. If the cons add up to a higher number than the pros, then the other option seems to be more appealing.

Source 9 A dilemma is a situation where a difficult decision has to be made.



Whether or not to create a Facebook account

Pros		Cons	
Get to speak to friends that I don't see regularly.	2	Facebook can be really addictive and time consuming, which takes away from my time to study and play sport.	4
Get to share my photos with friends.	1	People sometimes bully other people on Facebook.	2
Can read peoples posts when I'm bored.	1	I don't really know who has access to the information I put on Facebook.	1
I feel like I am missing out if I don't have one.	2		
TOTAL PROS	6	TOTAL CONS	7

Although it was a tough decision, I decided not to make a Facebook account for the time being. Maybe when I'm a little older I might view the pros and cons differently.

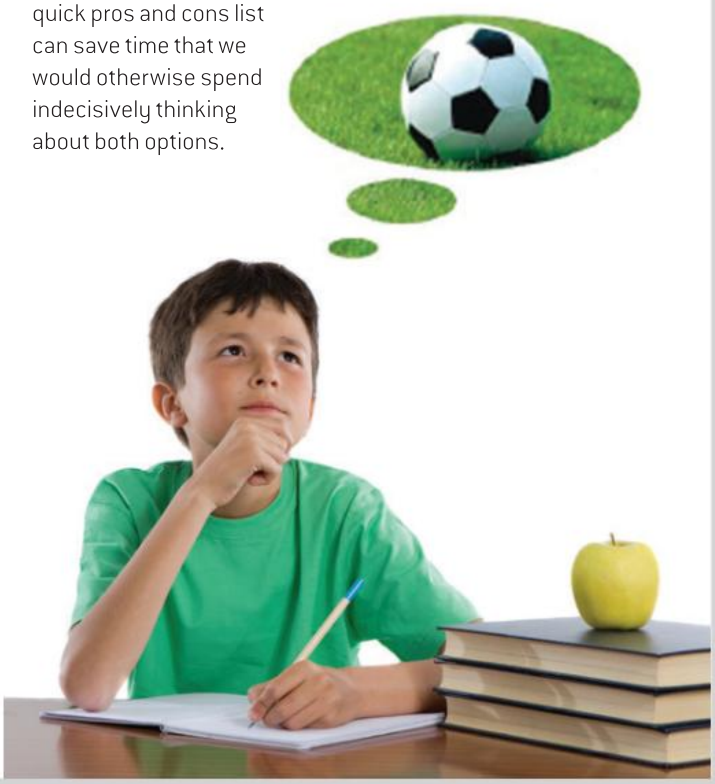
Source 10 Pros and cons of creating a Facebook account

Practise the skill

1 Read the following scenario:

You get home from school and after having a quick snack, you open your books to start studying for an economics test you have the next day. Five minutes into your study, you get a text message. All your friends from school are going to the park to play soccer. You absolutely love soccer and hate studying, but you know your parents will be disappointed if you do poorly on the test. They always say, 'If you want to go to university, you have to get better results in school!'

Create a list of the pros and cons of playing soccer versus studying to help you decide what to do.



Source 11 Making a quick pros and cons list can save time that we would otherwise spend indecisively thinking about both options.

Extend your understanding

1 **Compare** your pros and cons list to that of the person next to you; discuss why your answers might be different.

2 **Create** a pros and cons list for another tough decision that you have had to make or will have to make in the future.

17.3 Markets

In this topic, you will:

- analyse two different types of markets
- examine real estate prices in Victoria.

When we need or want **goods and services**, we generally buy them. This is what makes us consumers or buyers. For this to be possible, producers or sellers have to make and sell these things, which they do for a **profit**. A market is where buyers and sellers interact with each other to exchange things of value. Usually, consumers pay money to producers in return for goods such as food or clothing and services such as a visit to the dentist or a Netflix subscription.

An economic market exists for anything that can be bought and sold.

Source 1 Most people pay a real estate agent to help them sell their house.

The labour market

The labour market is where workers sell their skills, knowledge and effort to **employers**. In return for their labour, the employer pays the workers a **wage**. This is how most people in our society earn an income. In Australia, wages for most jobs are higher than in other parts of the world. This is one of the reasons why so many people consider Australia to be the 'lucky country'.

There are laws that aim to stop employers treating their workers unfairly. There are also laws that require employers to maintain safe working environments for their **employees**. One of the government's goals is to improve the lives of ordinary Australians by creating jobs that provide them with an adequate income. Labour prices, such as the **minimum wage**, differ in countries around the world.

The housing market

The housing market is where houses and apartments are bought and sold. Houses and apartments satisfy people's basic need for shelter, and so most Australians want the security of owning their own home. For those who can afford it, it is possible to own multiple houses or apartments, which can also be a way of making money. This is because houses or apartments can be bought and then **leased** out to a **tenant** in exchange for rent. In this way, the owner of the property, also known as the **landlord**, can earn a profit. However, as more people invest in houses or apartments, the prices increase, making it more difficult for many people to afford their own homes.

For most people today, the only way to buy a home is to take out a huge loan (a mortgage) from a bank and to slowly repay the loan over a long period of time (for example, 30 years). Banks make a profit by charging people **interest** on the money it lends them.

goods and services
goods are physical things (e.g. food and clothing), while services are things people do for us (e.g. cutting our hair)

profit
the amount of money a business earns after taking away its expenses

employers
businesses that employ workers to produce goods and services

wage
the amount of money that a worker is paid based on the work they do

employees
people who work for a business

minimum wage
the lowest amount of money that a worker can be paid; it is usually an amount for each hour worked

leased
a contract that allows a person to use a property for a period of time, usually in exchange for rent (money)

tenant
a person who pays rent in exchange for living in a house owned by someone else

landlord
the owner of a house who leases it out to a tenant in exchange for rent

Analysing house prices

The key skill of analysing involves interpreting information, evidence and data. Through analysing data, you can identify and explain any relationships and trends in the topics you are studying.

House and apartment prices vary across Victoria. Have you have wondered how much your home cost, or how much a home costs in an area that you would like to live in when you are older? House and apartment prices depend on various factors such as accessibility to transport networks, proximity to recreational areas such as a beach or park, and the distance to schools and hospitals.

Information about house and apartment prices can be easily found online. Real estate websites list the prices of houses and apartments for sale or for rent. You can see the prices of houses or apartments that have sold in a particular area, and also get an idea of the value of a property.

Practise the skill

Imagine you are an adult and have been working for a few years. You feel ready to buy your first home.

1. Identify the suburb or area in which you would like to live.
2. Visit a real estate website and search for a house or apartment you would like to buy in Victoria.
3. On the real estate website, look for information about the prices in that suburb of similar houses or apartments that have sold in the past few years.
4. Analyse the data you have found. How have house or apartment prices varied in that suburb over the last few years, or in the suburbs directly next to it? Why is this the case?
5. As a class, discuss the prices of your chosen homes. Identify whether these vary greatly.

For more information on this key skill, refer to page 442 of 'The economics and business toolkit'.

KEY SKILL
Analysing sources

interest
the cost of borrowing money from a bank; a person has to pay the bank interest on top of the original amount borrowed from the bank

Key skill worksheet
Asking questions & conducting research: Why do house prices increase?

17.3 CHECK YOUR LEARNING

Review and understand

1. **Identify** what is exchanged on the labour market.
2. **Describe** how a landlord earns income from houses.

Apply and analyse

3. **Explain** how you think not having a job would affect the way a person lives.
4. Look at the home you wanted to buy in the Key skill: Analysing sources box above. How much was the home? Imagine you took out a 30-year mortgage and bought the home. Use the Commonwealth Bank's online home loan repayment calculator to **calculate** how much interest you would pay.

Weblink
Commonwealth Bank home loan repayment calculator

Source 2 Houses and apartments near cities are often more expensive than houses and apartments further away.

17.4 Supply and demand

In this topic, you will:

» develop an understanding of supply and demand.

Buyers and sellers in the marketplace are heavily influenced by price. Prices can be influenced by many factors, such as the availability of a product, the popularity of a product, and the state of the economy. These are example of **market forces**, which are changes in supply and demand that affect the prices people are willing to pay or accept for goods and services.

market forces
changes in supply and demand that affect how much people are willing to pay for or sell goods and services

Price mechanisms

The way price can affect the supply and demand of goods and services is known as the **price mechanism**. Price mechanisms affect the way consumers and producers respond to and influence each other in a market.

price mechanism
the way price can affect the supply and demand of goods and services

Demand

Demand refers to the amount of a particular good or service that consumers will buy at a particular price. Consumers want to pay as little as possible for goods or services. This way, they will have more money left over to buy other goods and services. If prices go up, consumers are less likely to buy. When prices are reduced, consumers are more likely to purchase a good or service. This is known as the **law of demand**, where a larger quantity is demanded when prices drop.

law of demand
when prices rise, the quantity demanded decreases and when prices fall, the quantity demanded increases

Imagine that the price of blueberry muffins at the school cafeteria went down to 50 cents. Students would flock to the cafeteria to buy the cheap muffins before they sold out. However, if the price of those same muffins went up to $5, very few muffins would be sold.

The law of demand states that as the price of blueberry muffins increases, the quantity of muffins demanded will decrease. Similarly, as the price of muffins decreases, the quantity of muffins demanded will increase.

Source 3 This table shows how many blueberry muffins would be purchased for particular selling prices.

Price of a blueberry muffin ($)	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
Quantity of muffins demanded	190	170	150	130	110	90	70	50	30	10

Graph it!
Supply and demand

Supply

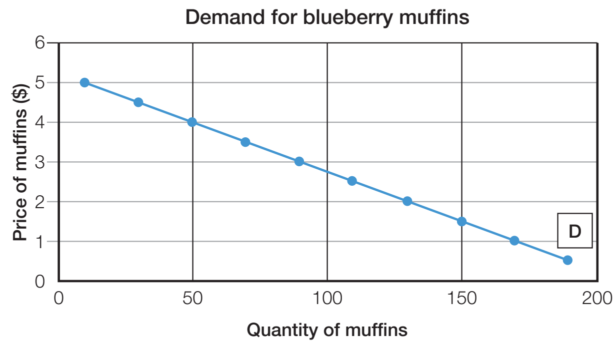
While consumers are more willing to buy goods and services if they are cheaper, producers are more willing to supply goods and services if they can sell them for a higher price. This is because selling goods and services for a higher price earns the producer greater profits. The **law of supply** states that the higher the price of a product, the higher the quantity of the product that producers will want to make and sell. Source 6 shows the prices of blueberry muffins and how many muffins a baker may be willing to sell at each price.

law of supply
the higher the price that a good or service can be sold, the higher the quantity that producers are willing to supply

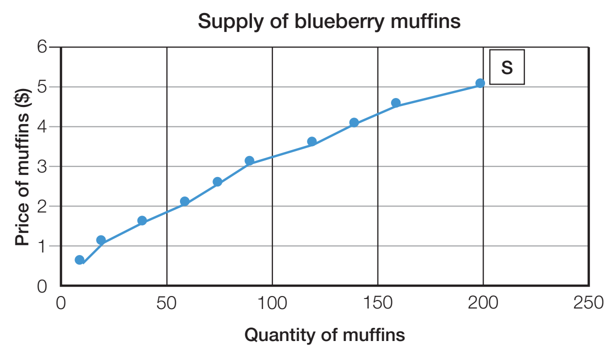
For example, bakers produce the goods they believe will sell for a high enough price to earn a profit. There is no point in baking blueberry muffins if no one will buy them at a price that covers the bakers' costs (such as the price of flour) and earns a profit.

Source 4 This table demonstrates how many blueberry muffins a baker is willing to make if they can sell them at each given price.

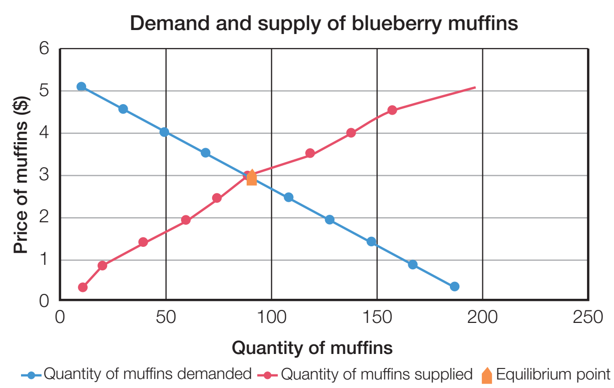
Price of a blueberry muffin ($)	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
Quantity of muffins supplied	10	20	40	60	75	90	120	140	160	200



Source 5 The demand for blueberry muffins; this graph shows the values in Source 3, with the price of muffins on the vertical axis and the quantity of muffins on the horizontal axis. Each price and quantity point has been added to the graph, then the points have been connected to form the demand curve. The curve is labelled 'D', which shows it is a demand curve. (Note that in economics, the connection of points is called a 'curve', but it may in fact be a straight line.) By graphing the values, we can see how the demand for muffins increases as the price decreases.



Source 6 The supply of blueberry muffins; this graph shows the values in Source 4, with the price of muffins on the vertical axis and the quantity of muffins on the horizontal axis. Each price and quantity point has been added to the graph, then the points have been connected to form the supply curve. The curve is labelled with 'S', which shows it is a supply curve. By graphing the values, we can see how a baker might be willing to increase the quantity of muffins they supply as the price of the muffins increases.



Source 7 The demand and supply of blueberry muffins. We can graph both the demand and supply curves in one diagram, giving us the full picture of the blueberry muffin market. The orange mark is the equilibrium point, where the quantity of muffins demanded is equal to the quantity supplied.

17.4 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'market forces'.

2 Why do consumers like to buy goods and services when they are on sale?

Apply and analyse

3 **Explain** why producers are more willing to make goods and services that sell at a higher price.

4 Read the following scenario: A chef is at a market to buy one tonne of strawberries. The chef notices that there are two strawberry farmers selling their fruit. The first strawberry farmer's fruit looks very ripe and ready to eat, but he has priced his strawberries at $7 per kilogram. The second strawberry farmer has priced her fruit at $5 per kilogram but the strawberries are not as ripe. **Determine** (decide) who the chef should buy strawberries from and why.

17B RICH TASK

Choosing chocolate

Chocolate is unhealthy and highly addictive, and many people cannot get enough of it. The damage that sugary products such as chocolate do to our health is causing many people to look at ways of kicking their chocolate-eating habit.

Quizlet
Revise the key terms you have learnt so far.

Even though we know that chocolate is unhealthy, there is still a high demand for chocolate and chocolate-flavoured products in Australia. In fact, the confectionary industry was expected to receive approximately $16 billion in 2021 from selling chocolate and other sugary products to Australian consumers.

The government taxes other unhealthy products, including alcohol and cigarettes, and some people suggest that the government should tax chocolate and sugary products as well. They say that if sugary products cost more, people would not buy as many of them. Do you think a tax on chocolate would affect how much chocolate Australians buy?

The relationship between the supply of and demand for chocolate products can be investigated in many ways. This makes it easier for producers to determine how much chocolate they should produce, and how much they can charge for their chocolate goods. We can also assess how a tax on chocolate would affect the demand for chocolate by constructing a demand graph.

Source 8 While delicious, chocolate is filled with sugar and fat, which can cause many health problems.

KEY SKILL
Communicating & reflecting

Constructing a demand graph

In economics, being able to construct supply and demand graphs is an important skill. These graphs allow us to look at how the supply and demand for goods and services respond to changes in price. This information is especially important for businesses when they decide on what to produce, how much to produce, and what to charge.

To draw a demand graph, follow the steps below (note that the steps are very similar for drawing a supply graph):

Step 1 Gather data about how much will be demanded at different price levels.

Step 2 Create a table of values to show this (like the one in Source 9).

Step 3 Draw an L-shaped axis like you would in maths (like the one in Source 10).

Step 4 Label the vertical axis as 'Price' and fill in the values from your table.

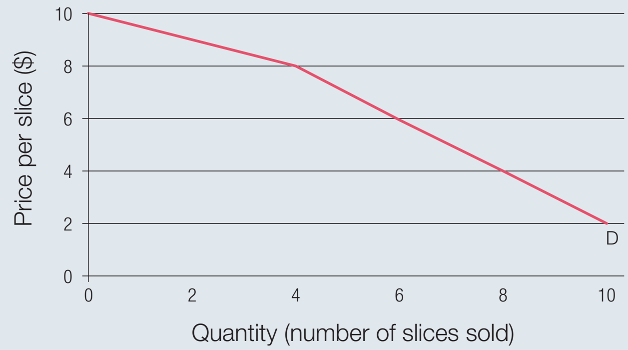
Step 5 Label the horizontal axis as 'Quantity' and fill in the values from your table.

Step 6 Plot the points from the table onto the graph.

Step 7 Draw a line connecting the graph (see Source 10).

Source 9 This table of values demonstrates how many slices of chocolate cake a cafe can sell for a given selling price.

Price per slice ($)	Quantity (number of slices sold)
2.00	10
4.00	8
6.00	6
8.00	4
10.00	0



Source 10 By graphing the values from Source 9, we can see how the demand for chocolate cake increases as the price of chocolate cake decreases.

Practise the skill

1 Copy the table below into your notebook. Using Steps 1 and 2, fill out the table showing how many of your favourite chocolate bars you think you would buy in an average week at each price.

Price ($)	Quantity (number of chocolate bars per week)
0.50	
1.00	
2.00	
3.00	
4.00	
5.00	
6.00	
7.00	
8.00	
9.00	
10.00	

2 Using the table you have just filled out, follow Steps 3 to 7 to draw a demand graph (like the one in Source 10).

3 Looking at your graph, do you believe a tax would be effective in making people eat less sugar?

4 **Explain** what you think would happen if a tax was not applied to chocolate.

Extend your understanding

1 **Research** the effects of sugar on health. List your findings.

2 **List** the pros and cons of removing sugar from your diet.

3 Look at the results of your pros and cons list. Should you cut sugar from your diet? **Justify** (give reasons for) your answer.

4 When people become addicted to sugary products, such as chocolate, nutritionists often suggest that they replace these products with natural sugar. **Research** foods that contain natural sugar.

Source 11 How do you think higher prices would affect the demand for chocolate cake?

17 CHAPTER REVIEW

Review questions

17A How do individuals and businesses make economic choices?

1 **Explain** why sometimes things that people feel they need are actually wants. Use some examples in your answer. (3 marks)

2 **Distinguish between** a good and a service, using an example for each. Remember, when you distinguish between two things you should talk about how they are different. (4 marks)

3 **Explain** why it is important for a business to understand the meaning of opportunity cost. (3 marks)

(Total: 10 marks)

17B How do businesses respond to consumer demand?

1 **Identify** two types of markets. (2 marks)

2 In your own words, **define** ‘the law of supply’ and ‘the law of demand’. (4 marks)

3 What do you think would happen if the price of the new Playstation console dropped to $50? **Justify** (give reasons for) your answer using the laws of supply and demand. (6 marks)

(Total: 10 marks)

Review activity

Analyse the data in Source 1, then answer the questions that follow. You may also need to refer to the information on page 457.

The market for ice-creams

Producers and consumers are key components of a market. Price is often determined by both these groups of people.

Source 1 shows the quantity of demand and supply of ice-creams.

Source 1 The demand and supply for ice-creams

Price ($)	Quantity demanded	Quantity supplied
2	120	20
4	90	40
6	60	60
8	30	80

1 In your own words, **define** 'producers'. (1 mark)

2 In your own words, **define** 'consumers'. (1 mark)

3 **Explain** what the equilibrium point is in relation to the laws of demand and supply. (3 marks)

4 **Identify** the equilibrium price and quantity of ice-creams. (2 marks)

5 **List** the four factors of production. (4 marks)

6 Give an example of each factor of production that would be needed to produce ice creams. (4 marks)

7 Use the information in Source 1 to **create** a demand and supply model on some graph paper. Remember to give your model a title and label the axes. (5 marks)

(Total: 20 marks)

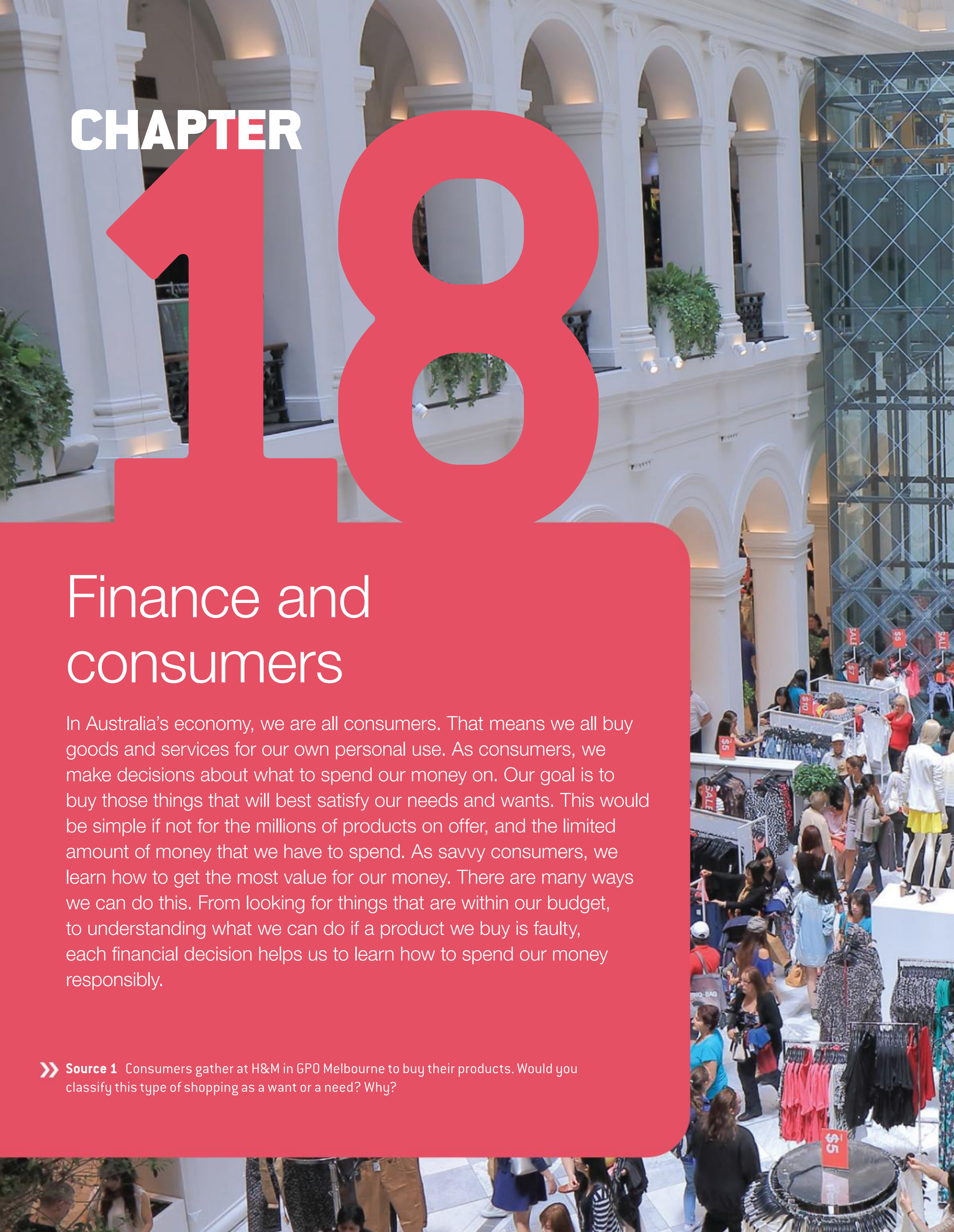
Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 17

Key skill worksheet
Communicating & reflecting: Chapter 17

Quizlet
Play a game of Quizlet on Economic choices.

Chapter review quiz
Chapter 17



CHAPTER 18

Finance and consumers

In Australia's economy, we are all consumers. That means we all buy goods and services for our own personal use. As consumers, we make decisions about what to spend our money on. Our goal is to buy those things that will best satisfy our needs and wants. This would be simple if not for the millions of products on offer, and the limited amount of money that we have to spend. As savvy consumers, we learn how to get the most value for our money. There are many ways we can do this. From looking for things that are within our budget, to understanding what we can do if a product we buy is faulty, each financial decision helps us to learn how to spend our money responsibly.

Source 1 Consumers gather at H&M in GPO Melbourne to buy their products. Would you classify this type of shopping as a want or a need? Why?

18A

What are the rights and responsibilities of consumers?

18B

What are financial goals and how are they achieved?

18.1 Consumer rights

In this topic, you will:

» understand the basic rights of Australian consumers.

In Australia, there are many laws that protect consumers from unfair treatment.

Australian consumer law

In Australia, the *Competition and Consumer Act 2010* (Cth) is one of several laws that protect the rights and responsibilities of consumers. While you do not need to know all the details of Australian consumer law, it is important that you understand your basic rights and responsibilities as a consumer, as well as where you can get help.

There are government bodies at both federal and state level that enforce the *Competition and Consumer Act 2010* (Cth) because it is so important. At a federal level, the Australian Competition and Consumer Commission (ACCC) makes decisions and provides guidance on issues that affect markets across Australia. At a state level, Consumer Affairs Victoria is the **regulatory body** that aims to make a fair and competitive marketplace for businesses and consumers in Victoria. As well as providing information to consumers, these bodies guide businesses towards operating in a way that avoids unfair situations.

Source 1 The Australian Competition and Consumer Commission (ACCC) monitors petrol prices.

regulatory body
an organisation that monitors or oversees certain aspects of an industry in order to protect those affected by it

Consumer guarantees

Under Australian consumer law, when you buy goods or services, they come with an automatic guarantee that they will work to a reasonable level – that is, the goods or services will work as you would expect. This is a consumer guarantee that means the goods you buy must:

- be safe
- be of reasonable quality (that is, they will not break after a few uses)
- do all the things that a person would normally expect them to
- match the descriptions made by the salesperson, on packaging and labels, and in promotions or advertising
- not have any hidden costs associated with their use or purchase
- meet any extra promises made about performance, condition and quality, such as lifetime guarantees and money-back offers
- have spare parts and repair facilities available for a reasonable time after purchase unless you were told otherwise.

Services that are provided by people through their skills, knowledge and effort must:

- be provided with acceptable care and skill, taking all necessary steps to avoid loss or damage

Quiz me!
A quick quiz on consumer rights

- achieve the results that the consumer and the business had agreed to
- be delivered within a reasonable time if there is no agreed end date.

Exceptions to consumer guarantees

There are some exceptions to the consumer guarantees that protect sellers from unfair situations. Consumer guarantees do not apply if you:

- got what you asked for but simply changed your mind, found the product cheaper somewhere else, decided you did not like the product, or had no use for it
- misused a product in any way that caused the problem
- knew of, or were made aware of, the faults before you bought the product
- asked for a service to be done in a certain way against the advice of the business or were unclear about what you wanted.

Source 2 While Australian consumer law protects consumers, the law does not apply when the consumer has caused the problem.

Resolving issues

If a product or service does not satisfy the consumer guarantee, a consumer has the right to approach the seller and request that the problem be fixed by the product or service being repaired, replaced or refunded. In some cases, a consumer can ask for compensation (usually in the form of money) for damages and losses. This is why it is important to keep your receipt to prove that the product or service was purchased from the seller.

The seller of the product or service must help the consumer directly, or refer them to the manufacturer or **importer** of the product who is responsible for the problem. If a consumer has made a complaint to the seller but is having difficulty resolving the problem, they should contact the ACCC or Consumer Affairs Victoria; these bodies can advise them on the best course of action.

importer
a business that brings to Australia products made overseas (to sell in the Australian market)

I used to think, now I think

Reflect on your learning about consumer rights in Australia and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

18.1 CHECK YOUR LEARNING

Review and understand

1 What is one Australian law that protects rights of consumers?

2 **Identify** two government bodies that regulate the marketplace and ensure that consumers are protected from being treated unfairly.

Apply and analyse

3 **Explain** why there are exceptions to the consumer guarantee.

4 Look at Source 2. **Explain** whether you think the seller of the phone would be required to replace it if:

a the consumer opened the box to find the phone was already broken upon purchase

b the consumer accidentally dropped the phone, causing the damage.

Evaluate and create

5 Write a letter of complaint to the owner of a store about a faulty product you have purchased from their store. The ACCC's website has a template that can help you write your letter (a link has been provided on your obook pro). In your letter, **propose** (put forward) how the store owner could resolve your complaint.

Weblink
ACCC: Write a complaint letter

18.2 Consumer responsibilities

In this topic, you will:

» identify the legal responsibilities of consumers

» explore what it means to be an ethical consumer.

See, think, wonder

Look at Source 3.

- What do you see?
- What do you think?
- What do you wonder?

Source 3 It is important to carefully read a product's specifications before purchasing it. These are usually printed on the product's packaging.

While consumers have many rights that are protected by law, we also have many responsibilities. One of these responsibilities is to ensure that we know what we are purchasing. Consumers also have a social and moral responsibility to the environment and the people who share our planet. Ethical consumers meet this responsibility by, for example, buying local produce and consuming less.

Legal responsibilities of consumers

As discussed on pages 464–465, there are certain exceptions to the guarantees we automatically receive when we buy a product or service. After all, it would be unfair on the seller if we did not take the time to consider what we were buying and then demanded a refund because we made a careless mistake. For this reason, it is our responsibility, as consumers, to learn about the product or service we wish to buy before we purchase it.

Learning about the product or service we wish to buy involves:

- carefully reading the description and specifications of the product or service
- researching the prices of similar products or services at other stores
- reading reviews and information about the product or service
- asking questions about the product or service
- carefully reading the terms and conditions of purchase.

After we purchase a product, we must ensure that we:

- read and follow the instructions for the product's use
- take care of the product so that it is not exposed to anything that is likely to damage it (such as leaving a computer outside when it might rain)
- contact the seller or manufacturer with any important questions about how to properly use the product.

Social responsibilities of consumers

Socially responsible consumers (that is, ethical consumers) make an effort to purchase goods and services that do not have a negative impact on other people, animals or the environment. Ethical consumers consider how they can satisfy their needs and wants in the way that is least harmful to others and to the environment.

Consume less

The easiest way that we can minimise our negative impact on the environment is by buying less, especially if it does not satisfy our basic needs. To consume less, we need to be aware of how we use the products we buy and how the disposal of them affects the environment. If we do not change our wasteful consumption, the world will continue to face environmental problems.

Australian Competition and Consumer Commission

CASE STUDY

The Australian Competition and Consumer Commission (ACCC) enforces the *Competition and Consumer Act 2010* (Cth). The ACCC promotes competition and fair trading and expects businesses to compete fairly when they are doing business.

The ACCC website has many useful resources for both businesses and consumers. For instance, consumers can fill out an online form to anonymously report a business that may not be doing the right thing under the *Competition and Consumer Act 2010* (Cth).

During the COVID-19 pandemic, the ACCC produced a series of fact sheets for consumers in 12 different languages to help with issues that arose due to the pandemic, such as travel cancellations, increases to product prices, and delivery delays.

Analyse this!
Product labelling

Buy local

It is more ethical to buy locally made products if you can afford them, because the people working in Australia should have been paid a minimum appropriate wage and worked under conditions that meet Australian standards. Locally made products have also not been transported across the world from the producer to the consumer – this transportation has a negative effect on the environment.

Research the product and company

Researching the products we regularly buy – as well as the companies that make them – gives us a better idea of what we are buying. This research will help us decide for ourselves if a product is being made in an ethical way. We can also research alternatives to products. We can access much of this information on the internet via our smartphones while we are shopping. For example, the 'Shop Ethical!' website and app has information about a wide range of products available in Australia.

Look for certification

Another way to be socially responsible consumers is by looking carefully at a product's packaging. Some products have certification logos on their packaging, such as the Fairtrade logo. A product with Fairtrade certification, (see Source 4) for example, has been made by workers who received a fair wage for their labour.

FAIRTRADE

Source 4 Fairtrade changes the way trade works through better prices, decent working conditions, and a fairer deal for farmers and workers in developing countries.

Weblink
Fairtrade International

18.2 CHECK YOUR LEARNING

Review and understand

1 **Identify** three legal responsibilities of consumers.

2 **Outline** what it means to be an ethical consumer.

Apply and analyse

3 **Explain** why you think consuming less is the easiest way to reduce our negative impact on the environment.

4 **Explain** why buying locally made products reduces our environmental impact.

Evaluate and create

5 **Discuss** which strategy for being an ethical consumer you might use in the future. How will you implement this strategy?

6 Use the Fairtrade website (a link has been provided on your obook pro) to complete the following tasks:

   a **Identify** one key issue Fairtrade is addressing.

   b **List** three examples that show why this is an important issue.

   c **Explain** how Fairtrade is addressing this issue.

18A

RICH TASK

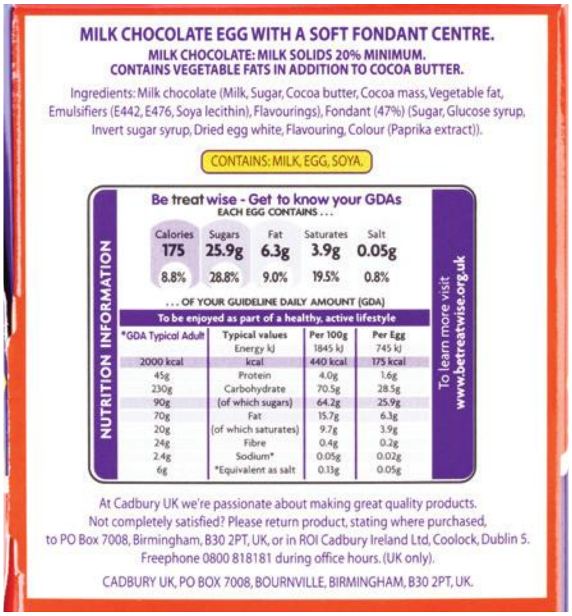
You are what you eat

Quizlet

Revise the key terms you have learnt so far.

Of all the products we purchase, none are more important to understand than food and drink. What we eat and drink can have a dramatic effect on our health and wellbeing.

However, with so much information on food and drink packaging, including different ingredients, nutritional information can be hard to understand. Fortunately, the law states that nearly every packaged item of food and drink has to provide nutritional information on its wrapping. By learning how to read this information, you can make more informed choices.



MILK CHOCOLATE EGG WITH A SOFT FONDANT CENTRE.

MILK CHOCOLATE: MILK SOLIDS 20% MINIMUM.
CONTAINS VEGETABLE FATS IN ADDITION TO COCOA BUTTER.

Ingredients: Milk chocolate (Milk, Sugar, Cocoa butter, Cocoa mass, Vegetable fat, Emulsifiers (E442, E476, Soya lecithin), Flavourings), Fondant (47%) (Sugar, Glucose syrup, Invert sugar syrup, Dried egg white, Flavouring, Colour (Paprika extract)).

CONTAINS: MILK, EGG, SOYA.

NUTRITION INFORMATION

Be treat wise - Get to know your GDAs

EACH EGG CONTAINS . . .

Calories	Sugars	Fat	Saturates	Salt
175	25.9g	6.3g	3.9g	0.05g
8.8%	28.8%	9.0%	19.5%	0.8%

. . . OF YOUR GUIDELINE DAILY AMOUNT (GDA)

To be enjoyed as part of a healthy, active lifestyle

*GDA Typical Adult	Typical values	Per 100g	Per Egg
	Energy kJ	1845 kJ	745 kJ
2000 kcal	kcal	440 kcal	175 kcal
45g	Protein	4.0g	1.6g
230g	Carbohydrate	70.5g	28.5g
90g	(of which sugars)	64.2g	25.9g
70g	Fat	15.7g	6.3g
20g	(of which saturates)	9.7g	3.9g
24g	Fibre	0.4g	0.2g
2.4g	Sodium*	0.05g	0.02g
6g	*Equivalent as salt	0.13g	0.05g

To learn more visit www.betreatwise.org.uk

At Cadbury UK we're passionate about making great quality products.
Not completely satisfied? Please return product, stating where purchased, to PO Box 7008, Birmingham, B30 2PT, UK, or in ROI Cadbury Ireland Ltd, Coolock, Dublin 5.
Freephone 0800 818181 during office hours. (UK only).

CADBURY UK, PO BOX 7008, BOURNVILLE, BIRMINGHAM, B30 2PT, UK.

Source 5 This nutrition label is from a pack of milk chocolate eggs.

KEY SKILL
Analysing sources

Reading a nutrition label

The infographic in Source 7 shows us what each part of a nutrition label means. Many labels also show the recommended daily intake of each nutrient for adults.

To read a nutrition label, follow these steps:

Step 1 Locate the nutrition label on a product's packaging.

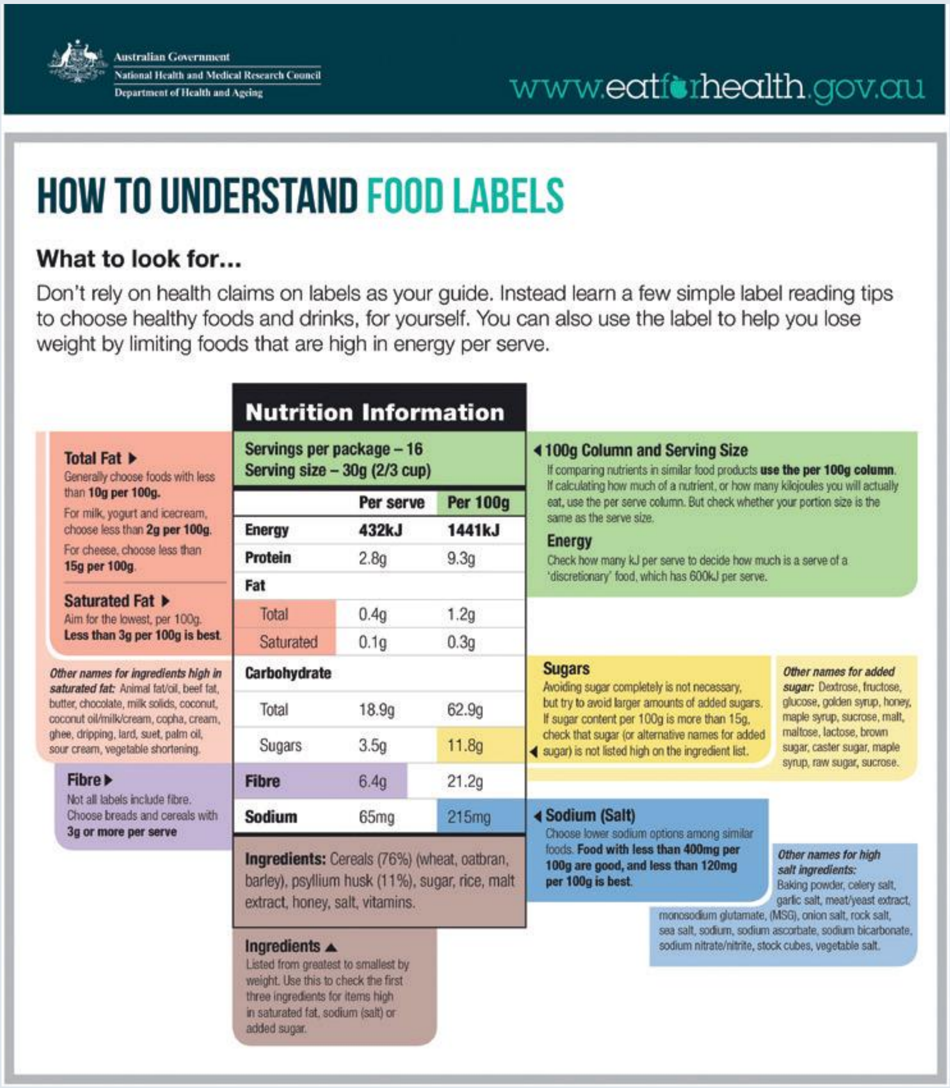
Step 2 Identify the serving size, which is usually at the top of the label. This indicates how much of the product you should consume. This amount also relates to the per serve nutrition information.

Step 3 Use the information in the label to identify the amount of energy, protein, fat, carbohydrates (including sugars), fibre and sodium in the product, either per serve or per 100 grams.

Step 4 Use the list of ingredients to decide whether this product is something you can eat or you want to eat. The list of ingredients is especially helpful for people with food allergies or intolerances. For example, it is important for people who are gluten intolerant to identify if there is wheat in a product.

Step 5 Look up any ingredients you do not recognise and decide if you do or do not want to eat the product.

Source 6 This nutrition label is from a carton of juice.



Source 7 You can use this infographic to help you understand what you are eating and drinking.

Practise the skill

1 **Compare** the nutrition labels in Sources 5 and 6. For each nutrient listed on both the labels, suggest which product is healthier.

2 Which product is healthier overall: the product in Source 5 or in Source 6? **Explain** your answer.

3 Imagine if food and drink products did not have nutrition labels. How do you think this would affect consumers?

Extend your understanding

1 Find three different food or drink products in your kitchen at home. For each product, read the nutrition label, using the five steps in the Key skill box. **Compare** the information about the products and rank the products from the healthiest to the most unhealthy.

18.3 Setting and achieving your financial goals

In this topic, you will:

» examine the importance of saving money to achieve your financial goals.

Setting financial goals

Knowing how to manage your money is an important life skill. The first step to managing your money is to set financial goals for yourself. The easiest way to set financial goals is by thinking about what you would like to spend money on in the future. Once you have set financial goals, you can start to figure out how you will achieve them.

Source 1 Buying a car is an example of a long-term financial goal.

Short-term goals

Short-term financial goals can be achieved in a few weeks or months. For example, a short-term financial goal could be saving up enough money to buy a new computer game.

Long-term goals

Long-term financial goals take much longer to achieve. They require consistent effort over months, or even years, allowing us to save enough money to purchase more expensive things. Long-term financial goals could be to buy a car when we are old enough to drive, or even to save an amount of money in our bank account for the future, without knowing exactly what it will be spent on.

Achieving financial goals

saving
setting aside money to spend later

Key skill worksheet
Asking questions & conducting research: Savings accounts

Knowing how to save money is important to achieving your financial goals. **Saving** means putting money aside to spend at a later date. People save money for a variety of reasons. For example:

- emergencies – many people feel it is important to have money set aside to help protect them in the event of an emergency, such as damage to their house or car
- expensive goods and services – many people save for a new television, computer or car, or for services such as education and holidays
- major events – to avoid future financial stress, many people will save for an important occasion such as a wedding, starting a family, or a funeral
- retirement – having savings can help provide for a higher standard of living in retirement.

If you do not have enough money to pay for the things you need and want, you might have to borrow money. If you cannot pay back the money you borrow, you might end up in **debt**.

debt
money that is owed to others

Setting savings goals

Saving money can be easier if you set a savings goal. To set a savings goal:

1. Identify what you would really like to have in the future and how much it will cost.
2. Identify the amount of money you can put aside per week or month.
3. Identify how long it will take you to reach your goal.

For example, if your saving goal is to go on a holiday that will cost $2000 and you can save $100 per month, it will take you one year and eight months to reach your saving goal.

Quiz me!
A quick quiz on financial goals

Opening a savings account

Did you know that banks will pay you money for keeping your savings in a bank account? This money is called **bank interest**, and the more money you have in the account, the more interest you will be paid. However, some banks can also charge fees, so you should look for a bank account that does not charge any fees.

bank interest
the amount of money paid to a person by a bank for keeping their money in an account with the bank

Increasing your savings

There are two simple ways to increase the amount of money you can save.

1. Earn more – some people work multiple jobs so that they can earn more money. You could also earn more through **investing** your money.
2. Spend less – monitor what you spend your money on. Identify areas where you might be wasting money and hold off buying items you can easily live without.

investing
when a person uses their money to make more money over time; for example, by buying a house to rent out to tenants

18.3 CHECK YOUR LEARNING

Review and understand

1. **Outline** why it is important to set financial goals.
2. **Describe** two short-term financial goals you have.
3. In your own words, **define** 'investing'.

Apply and analyse

4. Set one long-term financial goal of your own. Identify what you would like to purchase, how much it costs and how long you think it will take you to save the money needed.

Evaluate and create

5. **Create** a flow diagram showing how a savings goal is set.
6. **Research** the banks listed below. Find out what kind of savings accounts they offer for people your age. Be sure to write down any important information such as how much interest they offer and what fees they charge.
   - Commonwealth Bank of Australia
   - National Australia Bank (NAB)
   - Westpac
   - Australia New Zealand Bank (ANZ)

Source 2 Saving money (setting money aside to spend later on) is important to achieving your financial goals.

18B RICH TASK

Quizlet
Revise the key terms you have learnt so far.

The federal budget

Keeping track of how much money we earn (our income) and spend is an important part of managing our finances. A budget is one way to track how much money we have and how much money we spend. Budgets are used by individuals, businesses and even governments to figure out how they are tracking financially.

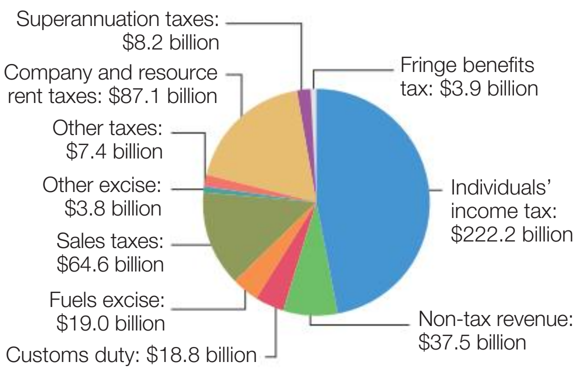
Budget	May 2021	
	Budgeted	Actual
Income		
Allowance	$150	$150
Interest on savings	$10	$9
TOTAL MONTHLY INCOME	$160	$159
Expenses		
Phone bill	$50	$60
Fast food	$20	$15
Bus and train tickets	$20	$10
Cinemas	$20	$0
Birthday present for friend	$30	$20
TOTAL MONTHLY EXPENSES:	$140	$150
Income less expenses		
Total monthly income − Total monthly expenses =	$20	$54

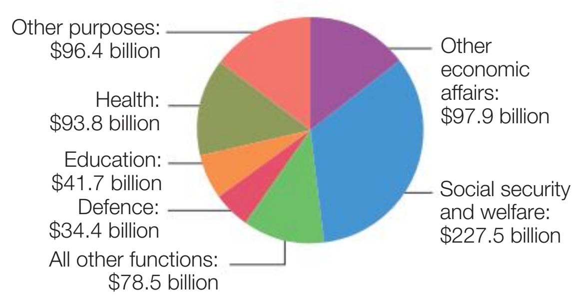
Source 3 This is what an individual monthly budget might look like. This person would be happy to know that they have saved more than they have spent.

Managing the federal budget

The Australian Government makes important financial decisions that affect the lives of every Australian. The government receives most of its money through taxes paid by people and businesses who earn an income. The government then invests this money into areas that they believe will improve the lives of Australians by providing services to the community. This might include funding for schools, hospitals and roads.

Every year, the Australian Government releases a federal budget. This budget outlines how much money the government expects to receive and spend throughout the next financial year. Because of the impact of COVID-19 on the economy, the Australian Government has increased its spending. The pie chart below (Source 4) shows what the Australian Government expects to spend money on throughout the 2020/21 financial year. As you can see, the Australian Government has spent most of the federal budget on social security and welfare, which includes payments to carers, senior citizens and people with disabilities. In this federal budget, the least amount of money is spent on national defence.





Source: https://budget.gov.au/2020-2021

Source 4 These pie charts show where the Australian Government received its income from and where it spent money.

KEY SKILL
Reasoning & decision making

Creating a budget

Being able to create a simple budget for yourself or your family is an important skill that you will be able to use your whole life. Follow the steps to create a simple budget:

Step 1 Decide what time period you want your budget to cover. This is known as the budget period. The federal budget covers a whole financial year, but you would probably find it more useful to prepare a monthly budget for yourself.

Step 2 Under the heading 'Income', list all the different types of income you expect to receive for the budget period. This can include things such as money you have earned from doing odd jobs, pocket money that you have received from your parents, or interest from your bank account.

Step 3 Add up all your income to get your total income.

Step 4 Under the heading 'Expenses', list all of the different types of payments you would expect to make over the budget period. This could include things such as daily bus tickets, food and a gift for your friend's birthday.

Step 5 Add up all your expenses to get your total expenses.

Step 6 Subtract your total expenses from your total income to check whether you will earn enough money to pay your expected costs, and whether you will save any money.

Step 7 At the end of the period, enter in all of your actual income and expenses in the 'Actual' column and compare them against what you budgeted. How close were your estimations? Why do you think there were differences? Did you forget to include something? These are all questions that will help you prepare a more accurate budget for the next period.

For more information about this key skill, refer to page 443 of 'The economics and business toolkit'.

Practise the skill

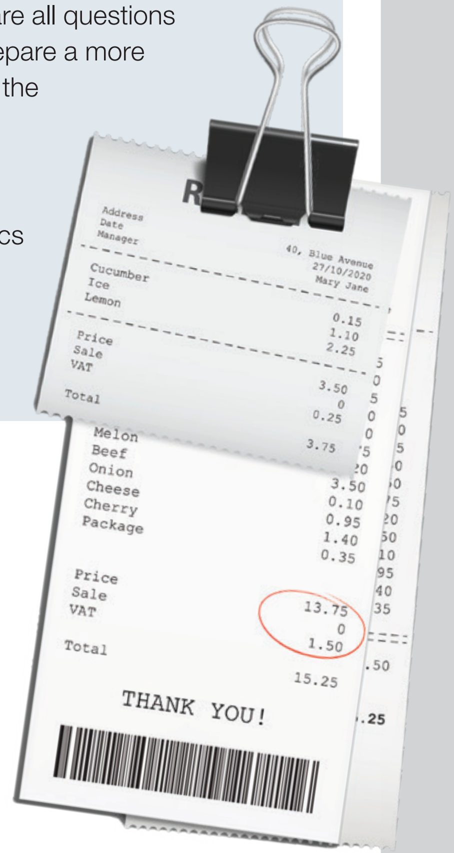
1 Using the steps above and the information in Source 4, prepare the federal budget. You do not have to complete the 'Actual' column from Step 7, but the budget should look similar to the sample budget from Source 3, without the right-hand column.

2 Does the government expect to have greater income or expenses? **Explain** whether you think this is good or bad.

Extend your understanding

1 Follow the steps above to **create** your own monthly budget. You should refer to Source 3 as a guide.

2 Did you save more money than you spent or did you spend more than you had budgeted? **Explain** where you were able to save money or where you spent more money than you had budgeted.



Source 5 Collecting receipts and invoices of your expenses throughout the budget period can help you remember what your actual expenses were. This will help you create a more accurate budget.

18 CHAPTER REVIEW

Review questions

18A What are the rights and responsibilities of consumers?

1. **Explain** what consumers can do if products they purchase turn out to be faulty. Use examples in your answer. (3 marks)
2. Write a short paragraph to **summarise** what it means if a product is Fairtrade-certified. (3 marks)
3. **Distinguish between** consumer rights and consumer responsibilities. Remember, when you distinguish between two things you must talk about how they are different. (4 marks)

(Total: 10 marks)

18B What are financial goals and how are they achieved?

1. In your own words, **define** the term ‘debt’. (1 mark)
2. **Explain** the difference between a short-term financial goal and a long-term financial goal. (3 marks)
3. **Propose** (put forward) two strategies a person could use to save their money. For each of your strategies, be sure to explain why it is a good strategy. (6 marks)

(Total: 10 marks)

Review activity

Read the following information, then answer the questions that follow.

The ACCC targets potentially harmful products

One of the roles of the Australian Competition and Consumer Commission (ACCC) is to protect consumers from harmful goods and services. In March 2021, the ACCC announced its five product safety priorities for the year:

- improving the safety of quad bikes
- improving the safety of button batteries
- improving unsafe infant sleeping products
- improving online product safety by working with online marketplaces
- reducing the risk of furniture falling.

The ACCC set these priorities because of the potential harm to some consumers who use these products. Quad bikes are estimated to cause six injuries every day. In 2019, quad bikes caused 23 deaths. Button batteries (small round batteries often used in toys) are a risk to small children, who may swallow them. Button batteries have been responsible for three recorded deaths over the past eight years. Falling furniture is also dangerous to consumers. Around 2600 people receive hospital treatment each year for injuries caused by furniture falling over.

1 **Identify** what ACCC stands for. (1 mark)

2 **Summarise** what the priorities of the ACCC were in 2021 in terms of reducing harm to consumers. (3 marks)

3 **Propose** (put forward) two ways in which consumers can minimise the potential harm of quad bikes and button batteries. (6 marks)

4 'Consumers should take responsibility for their own safety and not rely on producers or governments to protect them.' **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position. (10 marks)

(Total: 20 marks)

Source 6 Quad bikes, falling furniture and button batteries are all being watched by the ACCC to ensure these products are safe for consumers to use.

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 18

Key skill worksheet
Communicating & reflecting: Chapter 18

Quizlet
Play a game of Quizlet on Finance and consumers.

Chapter review quiz
Chapter 18


4

PART 4

Civics and citizenship

Skills

Chapter 19 The civics and citizenship toolkit 478

Citizenship, diversity and identity

Chapter 20 The identity of a nation 486

CHAPTER 19

The civics and citizenship toolkit

Civics and citizenship is the study of the rights and responsibilities that all Australians share. It looks at how we can work together to shape our nation into one that is fair and just for everyone.

Civics and citizenship teaches us to ‘agree to disagree’. That is, we learn to form our own opinions but accept that other people may have different views. To do this, we must first learn to gather information about various issues before we come to conclusions. We also need to have a good understanding of how our political and legal systems work.

As informed citizens we can promote the values of freedom, respect, compassion and equality that allow us to live in harmony.

Source 1 Parliament House in Canberra is where elected federal politicians meet to make important decisions about how our nation is run.

19A
What are the civics and citizenship skills?

19.1 Civics and citizenship skills

Active citizens learn to question, interpret and evaluate information and argue their point of view. For civics and citizenship students, the classroom is a place where you learn to share your opinions and see things from different perspectives. You should take this approach when examining multiculturalism in Australia, as well as the freedoms of Australian citizens.

Studying civics and citizenship requires you to ask a range of questions and analyse information to find out more about a topic. You will learn to develop questions and gather information by asking what, why, when, how and who to uncover the truth about an issue. You will analyse information and learn how to separate fact from opinion. You will develop your own point of view, while understanding why others have different opinions. You will learn how to apply democratic processes so that everyone can have their say, and how to communicate your argument.

Each of the skills you will learn is shown below. It might help you to think of each of these skills as tools in a toolkit.

1. Asking questions and conducting research
2. Analysing sources
3. Evaluating and decision making
4. Communicating and reflecting

Source 1 Citizens use several different skills. Each of these skills is like a tool in a toolkit.

19.2 Asking questions and conducting research

Developing questions

Civics and citizenship students ask questions. They do not believe everything they read and they carefully consider why someone takes a certain point of view or acts in a certain way. For example, when they see politicians talking in the media, they listen to their arguments and seek out different points of view. They also check facts and look at the arguments for and against a certain issue before reaching their own conclusions. When civics and citizenship students state their own viewpoint, they support their views with evidence such as statistics, cases from the past, quotes from what others have said and sound reasoning.

KEY SKILL
Asking questions & conducting research

Source 2 A political cartoon about the controversial issue of keeping asylum seekers in detention centres for an unspecified time, often years. This cartoon was created by Jon Kudelka and appeared in 'Can Houston package stop the boats?' in *The Australian* on 15 August 2012.

Asking what, who, where, how and why

You can learn to investigate a civics and citizenship issue, such as the keeping of asylum seekers in detention centres, by starting your questions with the words 'what', 'who', 'where', 'how', 'why', 'what impact' or 'what should'. When examining a source, whether it is a cartoon, video footage, newspaper article or election slogan, follow these steps:

Step 1 Brainstorm a list of questions and then try to answer them. Some questions, such as, 'What is happening?', might be easily answered, whereas other questions, such as, 'Why is it happening?', might need further research.

Step 2 Look at the source itself to try to understand the context. The 'who' question is important here. 'Who is saying this?' can be just as important as 'What is being said?' Identifying where the source comes from can quickly alert you to whether the truth of the source's statements should be examined more carefully.

Step 3 The 'how' question is also important. In this example you might ask, 'How are the asylum seekers being detained and processed?', but you also might ask, 'How does this source (cartoon) affect me?' Are there any emotions such as fear, persuasion or humour that are being used to influence your judgment?

Practise the skill

1. Where would you look to find answers to the question, 'What is the issue with detaining asylum seekers?'
2. **Explain** why it is important to know the author of the source when researching an issue.
3. Why is examining how the source affects you sometimes more important than asking 'What is happening?' and other basic questions?
4. Look at Source 2. What tactics have been used to convey the cartoonist's message about the issue of asylum seekers in detention centres?

Source 3 Learning to question and interpret information is an important skill for civics and citizenship students.

Gathering information

Civics and citizenship students gather information from a range of sources. These can take many different forms, from written records in books or online, to live video and audio recordings. Some examples of sources include case transcripts and judgments (the written decisions that judges make), newspaper articles, letters, tweets, blogs or Facebook posts, cartoons and interviews.

Locating a range of relevant sources is a valuable skill, which usually involves different research methods, such as:

- using online search engines, such as Google
- following social media, such as Facebook and Twitter
- looking at newspaper and magazine articles in print or online
- contacting local members of parliament or asking people with expertise in the subject
- speaking with other class members or family members to gain an insight into their views on a particular issue.

Source 4 Civics and citizenship students find valuable sources on the internet.

Check your learning
Log onto your obook pro to complete the questions for topic 19.2.

Using ICT to locate relevant sources

Although books and newspapers are valuable sources of information, most research today is conducted online. To ensure that sources gathered online are accurate, reliable and relevant, you should follow a number of guidelines:

- Search engines, such as Google, are useful research tools but much of the material on these sites is unreliable and inaccurate. When using search engines, be sure to define your search using keywords. Your librarian or teacher is a good person to ask for help with this.
- A reliable way of searching for sources is to use sites linked to government departments, reputable companies, universities and educational institutions. A quick way of telling whether a site is reputable is to look at the domain name in the URL (internet address). Government departments will include .gov in their URL and educational institutions will include .edu.
- Avoid blogs posted by unknown individuals. If you happen to find relevant information on a blog or social media site, always verify it by using a more reliable source.
- Never cut and paste online information without referencing where it is from. Taking someone else's work, ideas or words and using them as if they were your own is called plagiarism and is against school rules, while copying and pasting anything from a website without the website owner's permission is against the law.

19.3 Analysing sources

Analysing information

A useful source is one that will add to your understanding of a civics and citizenship question, topic or issue. The source needs to be relevant and reliable. The following are good questions to ask to determine whether a source is useful:

- Is it a reliable source?
- Is there enough detailed information in the source?
- Does the information support evidence from other sources?
- Is it balanced or does it present one point of view (bias)?
- Is it based on fact or opinion?
- Is the information current?

Key skill worksheet
Analysing sources: Separating fact from opinion

Separating fact from opinion

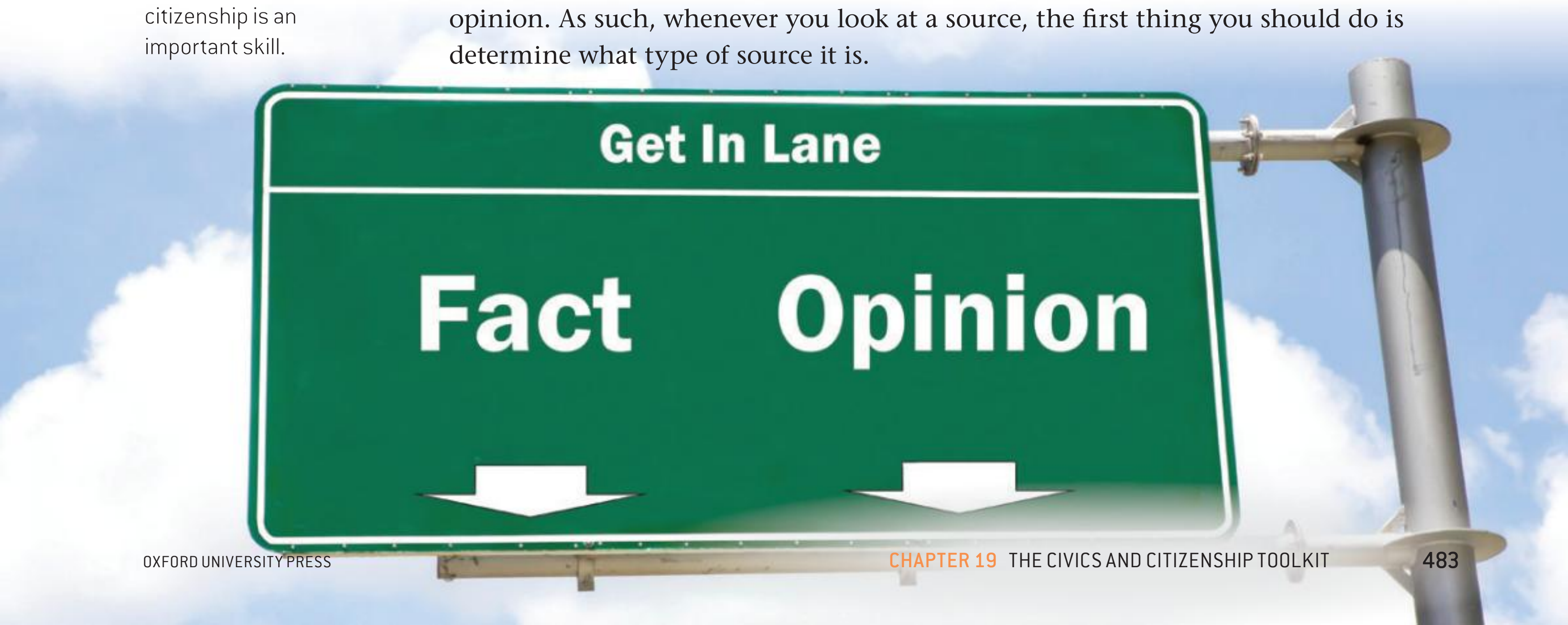
In civics and citizenship, the most useful sources are ones that help you understand the topic being that you are investigating. In many cases, this means you will need to examine a source and distinguish between facts and opinions. A fact is something that can be proved: when an event took place, what happened and who was involved. An opinion is based on what people believe is likely to be true. A simple way to detect whether a statement is fact or opinion is to look closely at the language used. The use of words such as 'might', 'could' and 'think' all indicate that an opinion is being expressed.

For example:

- fact: Australia detains asylum seekers for an unspecified period of time
- opinion: I think keeping asylum seekers in detention centres is unethical as they have not committed a crime.

There are also certain types of sources that are more likely to be based on facts than others. For example, government websites or court transcripts are more reliable sources, whereas tweets, blogs or Facebook posts are more likely to be based on opinion. As such, whenever you look at a source, the first thing you should do is determine what type of source it is.

Check your learning
Log onto your obook pro to complete the questions for topic 19.3.



Source 5 Separating fact from opinion in civics and citizenship is an important skill.

19.4 Evaluating and decision making

Recognising different points of view

In civics and citizenship it is important to understand not only what opinion is being expressed but also why it is being expressed. It is useful to consider why a person may have a certain point of view. For example, the family of a victim of crime may say to the media that a sentence given to a criminal was insufficient and unjust. This may be true, but it is important to consider how the opinion of these family members might be influenced by the emotions of losing a loved one. Listening and being respectful of opinions that may be different from our own is an important skill to learn in civics and citizenship.

Key skill worksheet
Evaluating & decision making: Recognising different points of view

Using democratic processess to agree on a course of action

A democratic process exists when everyone has an opportunity to have their say. This can include giving all members of a group the opportunity to contribute to a discussion in order to communicate their opinion. Often in a democratic system, it is also useful to make sure that all group members have access to any relevant information regarding the discussion or issue. Once all group members have had their say the group will then conduct a vote.

Once the vote has been completed and all members of the group have reached an agreed outcome, a plan must be developed that will be used for that action or issue.

For more information on this key skill, refer to the Key skill box in Chapter 20 (page 494).

Source 6 One way to reach a decision that reflects the majority view is to take a vote.

Check your learning
Log onto your obook pro to complete the questions for topic 19.4.

19.5 Communicating and reflecting

Quizlet
Become familiar with civics and citizenship terms by reviewing them on Quizlet.

Using civics and citizenship terminology

In every subject, there is a common language that is used. Source 7 lists and defines some commonly used terms in civics and citizenship; additional civics and citizenship terms can also be found in the glossary definitions throughout this book and are defined throughout the chapters. If you come across a term that you are unsure of, you should use a dictionary, go online or ask your teacher to help you understand what it means. It is a good idea to keep a glossary of subject-specific terms, as well as any other new words that you come across, in your workbook.

Source 7 Some useful civics and citizenship terms

Term	Definition
citizen	a person who legally lives in a geographical area such as a town or country
citizenship	a person's status as a citizen; in a wider context, citizenship encompasses the rights and responsibilities that citizens exercise
civics	the study of the rights and responsibilities of citizens and how government works
government	the portion of the elected members of parliament that controls or regulates a nation or state
multiculturalism	the way in which people of many different cultures, races and religions live peacefully with one another as equals
parliament	the organisation that makes the laws in a country, often with a lower house to draft laws and an upper house to review the proposed law; in Australia, the monarch's representative (the governor-general) is also part of parliament and officially creates the laws
parliamentary democracy	a system of government in which people elect representatives to parliament to make laws that reflect the majority of voters' views

Reflecting on your role as a citizen

Key skill worksheet
Communicating & reflecting: Your role as a citizen

Check your learning
Log onto your obook pro to complete the questions for topic 19.5.

Australian citizens have many rights and responsibilities as members of a democratic society. We have a right to live freely in a society where we allow others to live freely.

As individuals, we have a responsibility to think about what we can do to make the world a better place. This goes above and beyond simply obeying the law, but rather a higher level of social consciousness that aims to improve our world through the positive changes that we make to it.

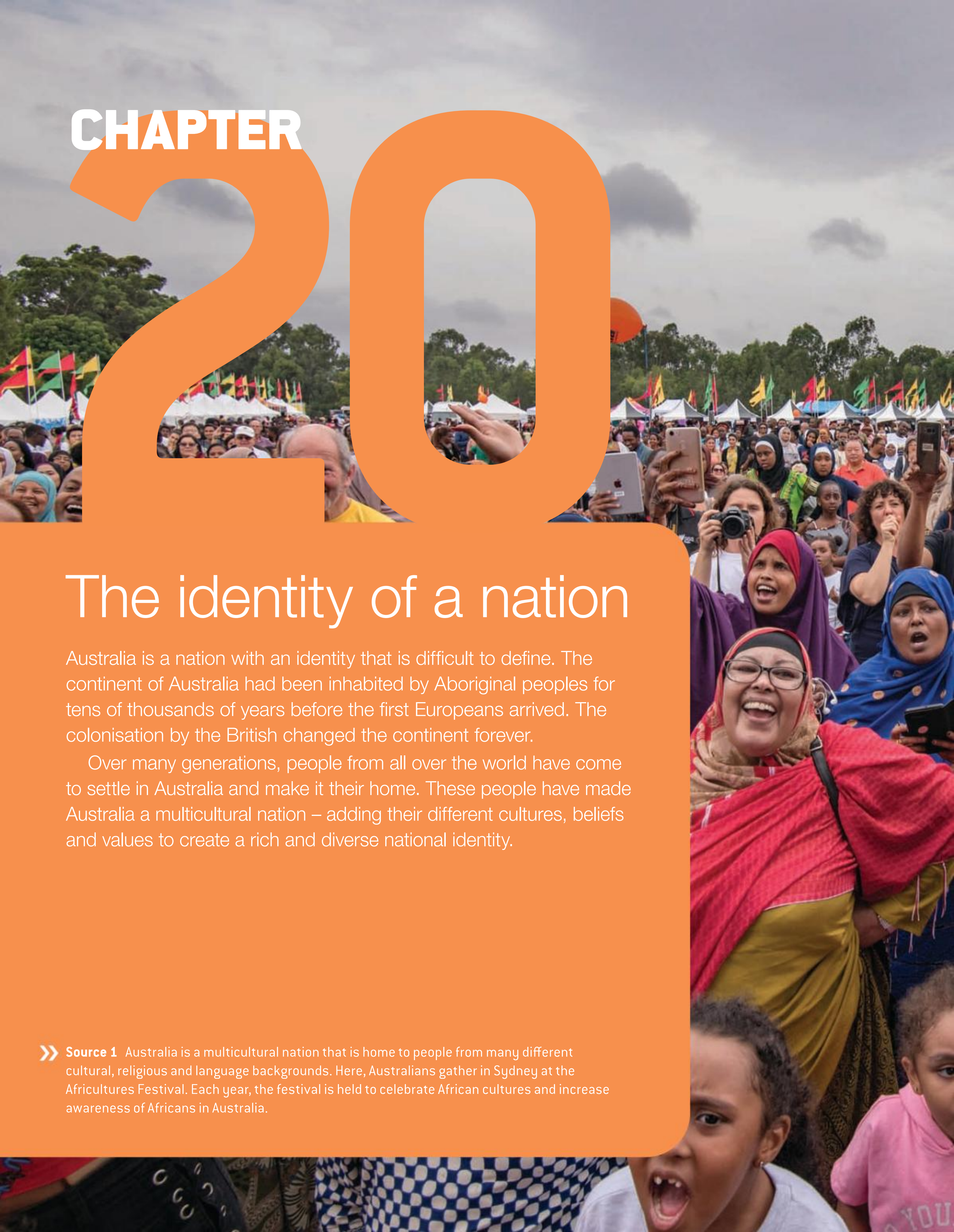
Australian citizens are global citizens and we understand that the decisions we make can affect the entire planet and its inhabitants. Ultimately, we are free to choose what kind of a world we live in.

CHAPTER 20

The identity of a nation

Australia is a nation with an identity that is difficult to define. The continent of Australia had been inhabited by Aboriginal peoples for tens of thousands of years before the first Europeans arrived. The colonisation by the British changed the continent forever.

Over many generations, people from all over the world have come to settle in Australia and make it their home. These people have made Australia a multicultural nation – adding their different cultures, beliefs and values to create a rich and diverse national identity.



Source 1 Australia is a multicultural nation that is home to people from many different cultural, religious and language backgrounds. Here, Australians gather in Sydney at the Africultures Festival. Each year, the festival is held to celebrate African cultures and increase awareness of Africans in Australia.

20A
What are Australian values?

20B
What is the Australian identity?

20.1 Australian identity and values

In this topic, you will:

- examine Australia's past and current national identity
- identify values shared by Australians.

Australia's national identity is made up of our shared history and values along with our diverse traditions and cultures. Australia is home to the oldest continuous culture on Earth, with evidence showing that Aboriginal peoples have occupied mainland Australia for at least 65 000 years.

Australia's changing identity

Before Europeans arrived on this continent, our country was populated by many Aboriginal and Torres Strait Islander nations and peoples. Archaeological evidence suggests that, prior to British **colonisation** in 1788, the population of Aboriginal peoples was around 750 000. However, the colonisers introduced diseases and treated Aboriginal peoples brutally, which resulted in the population of Aboriginal peoples declining significantly. In the 2016 **census**, the population of Aboriginal and Torres Strait Islander people was recorded at 798 400 people. This is about 3.3% of the total Australian population, which is around 25 million people.

colonisation
the process of setting up outposts or settlements in other lands, by a country, kingdom or empire

census
an official count or survey of something, especially a country's population

By the time of Federation in 1901, many Australians with European heritage identified very strongly as being part of the British Commonwealth. At this stage, Australia's population was mainly white and Christian, and the national anthem was 'God Save the Queen' (or King), which is the national anthem of the United Kingdom.

It is very different today. The Australian people have a diverse array of cultural backgrounds and beliefs. As Australia's population becomes increasingly **multicultural**, this diversity has become an important part of our society and of Australia's national identity.

multicultural
having many different cultures, races and/or religions

Source 1 This stone – which was used as a sharpening tool – is from Kakadu National Park in the Northern Territory. Items such as these show that Aboriginal peoples have lived on the continent that is now Australia for at least 65 000 years. They also show that Aboriginal and Torres Strait Islander peoples developed sophisticated tools at least 20 000 years before any other culture in the world.

Shared Australian values

Although Australians come from a range of different backgrounds, many of us share common values. Values are the beliefs and behaviours that we consider important as a nation. Shared values allow us to live in harmony, and they are reflected by our laws, and in the ideals of the majority of people within our society. The Australian Government has outlined several values in the Australian Values Statement, which is supplied to visa applicants to Australia. Some of these values are shown in Source 2.

Key skill worksheet
Evaluating & decision making: Shared values

Source 2 Some shared Australian values

Respect for freedom of individuals	Freedoms of speech, association, assembly, religion and movement	A 'fair go'	Commitment to the rule of law	Parliamentary democracy
Australians should respect the dignity and freedoms of every person.	Freedom is being able to make our own decisions, without being controlled. Australians enjoy many freedoms. However, most of these freedoms are not protected by law in Australia; they are a privilege rather than a right written into the Australian Constitution and each freedom must be enjoyed responsibly.	This applies to access to education and health care, and the opportunity to work and earn a sufficient living, regardless of gender, race or socioeconomic status. It means that discrimination on any of these grounds is not acceptable. A 'fair go' embraces: • mutual respect for each other • tolerance • compassion for those in need • equality opportunity for all.	All people should obey the law.	Our laws are made by parliament, which is elected by the people of Australia.

In this topic, we will examine the shared values of:

- freedom
- a 'fair go'
- compassion
- equality.

Freedom

Freedom is being able to make our own decisions, without being controlled. Australians enjoy many freedoms, such as freedom of speech, association, assembly and movement. However, most of these freedoms are not protected by law in Australia; they are a privilege rather than a right written into the **Australian Constitution**. Each freedom must be enjoyed responsibly.

Australian Constitution
a document that describes the rules, or laws, that govern Australia; the Constitution defines the structure of government in Australia, and also the rights of citizens

Source 3 Freedom of assembly gives Australian people the right to gather and protest. In this image, protesters campaign for a Tamil family to be released from an Australian detention centre.

A 'fair go'

A 'fair go' means making things reasonable, fair and equitable so that people have a chance to participate and succeed. This applies to access to education and health care, and the opportunity to work and earn a sufficient living, regardless of gender, race or socioeconomic status. It means that discrimination on any grounds is not acceptable.

Compassion

Compassion is a human response to the suffering of others that makes us want to help or relieve that suffering. Some Australians feel a responsibility to help those less fortunate, and they pressure the government to fulfill its responsibilities to people suffering in Australia and overseas. Compassion is perhaps the most important value of any healthy society, as it influences people to help others who are experiencing extreme suffering.

Equality

Equality is the idea that every person in society is treated the same way and considered equal. It is an important part of any fair society that cares about making sure no one is discriminated against. But equality is difficult to achieve. Economic inequality has increased in Australia as fewer people control more of the country's wealth. Nevertheless, giving everyone an equal opportunity to succeed is a value held dear by many Australians.

Source 4 Each year on 21 March, Australians celebrate Harmony Day. On this day, we celebrate our diversity and send a powerful message that everyone belongs in our society regardless of our differences.

Australian citizenship

Migrants to Australia can choose to become citizens after living in Australia for a certain period of time and meeting certain requirements. The final stage of becoming an Australian citizen is the citizenship ceremony. This ceremony gives the Australian Government the chance to welcome and celebrate its new citizens. During this ceremony, new citizens are given the opportunity to take the Australian citizenship pledge:

> From this time forward, I pledge my loyalty to Australia and its people, whose democratic beliefs I share, whose rights and liberties I respect, and whose laws I will uphold and obey.

Once a person becomes an Australian citizen, they take on the **rights and responsibilities** that come with it. For example, citizens have the right to vote in elections, run to for election to government, to travel using an Australian passport, and to experience the freedoms of living as an Australian. Citizens also have responsibilities, which include obeying the laws of Australia and voting in elections.

Quiz me!
A quick quiz on Australian identity and values

rights and responsibilities
the entitlements and obligations associated with citizenship

20.1 CHECK YOUR LEARNING

Review and understand

1. In your own words, **define** 'national identity'.
2. Why is it important for a society to have shared values?

Apply and analyse

3. Look at Source 2. **Explain** how values such as 'freedom of speech' and 'commitment to the rule of law' might make it easier for us to live together.
4. Think about the four values described in this topic. **Rank** them in order of how important you think they are. Give reasons for your rankings.

Evaluate and create

5. **Create** a poster that could be used at international airports in Australia to welcome new migrants to the country. Include at least one important value that must be respected and one piece of information that would be helpful for new arrivals to know.

20.2 Australia as a secular nation

In this topic, you will:

- examine the nature of Australia as a secular, multi-faith and diverse society
- examine trends in religious observance in Australia.

Graph it!
Religious affiliation in Australia

One of the core principles of Australia's democracy is that religious institutions are not allowed to directly influence the decisions of government.

Separation of church and state

While Christianity is the most widespread religion in Australian society, the Christian church has never been directly involved in running the country. Australia is a **secular** nation, which means the church and state are separate when it comes to government. The government (also known as the state) is responsible for running our political and legal systems. Australia's public health, education and political institutions are all free from religious connections. This ensures that the religious beliefs of one group are not forced onto Australians of other faiths.

secular
when the church and state are separated so that religious institutions are not directly involved in how the government is run

Secularism is a key feature of Australia's identity as a nation. Being a secular nation allows Australia to be a **multi-faith** society where people have the freedom to choose their religious beliefs. While most nations around the world today adopt a secular system of government, some nations, such as Iran and Saudi Arabia, are non-secular states and base their legal system on religious teachings.

multi-faith
having a variety of religions

	Religious affiliation	Population ('000)	Population (%)
Christian	Catholic	5 291.8	22.6
	Anglican	3 101.2	13.3
	Other Christian	3 808.6	16.3
	Total	**12 201.6**	**52.1**
Other religions	Islam	604.2	2.6
	Buddhism	563.7	2.4
	Hinduism	440.3	1.9
	Sikhism	125.9	0.5
	Judaism	91.0	0.4
	Other	95.7	0.4
	Total	**1 920.8**	**8.2**
No religion[a]		**7 040.7**	**30.1**
Australia[b]		23 401.9	100

a No religion includes secular and other spiritual beliefs.
b As religion was an optional question, the total for Australia is not equal to the sum of the items above it.

Source: Australian Bureau of Statistics

Source 5 This table shows the different religions or faiths of Australians according to the 2016 census.

Years	1966	1991	2016
Religion	%		
Christian	88.2	74.0	52.1
Other religions	0.7	2.6	8.2
No religion	0.8	12.9	30.1

Source: Australian Bureau of Statistics.

Source 6 This infographic shows how religious affiliation has changed in Australia since 1966.

Australia's many faiths

Freedom of religion is the right to believe in or practise any religion, or to practise no religion at all. This freedom extends to all faiths; a person is free to practise any religion, such as Christianity, Islam, Judaism, Buddhism, Hinduism, Jainism, Sikhism or Taoism.

Freedom of religion is one of the very few rights that is included in the Australian Constitution. In section 116, the constitution states:

> The Commonwealth shall not make any law for establishing any religion, or for imposing any religious observance, or for prohibiting the free exercise of any religion …

This means that the Australian Government cannot force people in Australia to follow any particular religion, nor can the government make it illegal for people to engage in any religious activities.

The fact that the right to freedom of religion is protected in Australia is clear from our multi-faith society – Australians hold a variety of beliefs and religions (see Source 5). Australia's commitment to freedom of religion allows Australians to practise whichever religion they choose, so long as it does not interfere with the rights of others or with Australia's laws.

CASE STUDY

Saudi Arabia

In some non-democratic countries, such as Saudi Arabia, it is illegal to not follow a particular religion. In Saudi Arabia, the official religion is Islam and the Islamic holy book, the *Qur'an*, is also the country's constitution. This means that it is illegal to engage in activities that are not in accordance with Islamic principles. The punishment for breaking these laws includes imprisonment or even death. In Saudi Arabia, it is also against the law to publicly engage in the worship of non-Muslim religions. The only places of worship that exist in Saudi Arabia are those associated with Islam. Also, Saudis who renounce (give up) Islam can be sentenced to death.

In 2019, Saudi teenager Rahaf Mohammed fled the country after renouncing Islam and fearing her family would kill her as a result. She was on her way to seek asylum (protection) in Australia but was stopped at Bangkok Airport where her passport was seized by an official from the Saudi Arabian Government. Rahaf barricaded herself into a room at the airport hotel and used social media to send a series of tweets explaining her situation and pleading for help. Her situation went viral under the hashtag '#SaveRahaf'. After spending two days locked inside the hotel room, she met with officials from the United Nations High Commissioner for Refugees and was granted asylum in Canada.

Source 7 Rahaf Mohammed arrived in Canada in January 2019 after being granted asylum.

Thread

Rahaf Mohammed رهف محمد @rahaf84427714 · Jan 7, 2019

based on the 1951 Convention and the 1967 Protocol, I'm rahaf mohmed, formally seeking a refugee status to any country that would protect me from getting harmed or killed due to leaving my religion and torture from my family.

576 6.2K 7.8K

Rahaf Mohammed رهف محمد @rahaf84427714 · Jan 7, 2019

I seek protection in particular from the following country Canada/United States/ Australia /United kingdom, I ask any if it Representatives to contact me.

545 2.7K 4.2K

Source 8 Two of the tweets sent by Rahaf Mohammed as part of her plea for help

20.2 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'freedom of religion'.

2 **Identify** two examples of non-secular states.

3 **Describe** two benefits of separating the church and state.

Apply and analyse

4 Look at Source 6. **Summarise** what has been happening in Australia from 1966 to 2016.

Evaluate and create

6 Some of the public holidays that are observed in Australia come from the Christian faith (such as Easter and Christmas). However, around 48% of Australians are not Christians. Use Source 5 to choose a non-Christian faith and research which holidays are observed by that religion. **Create** an infographic or calendar to display these holidays.

20A RICH TASK

Quizlet
Revise the key terms you have learnt so far.

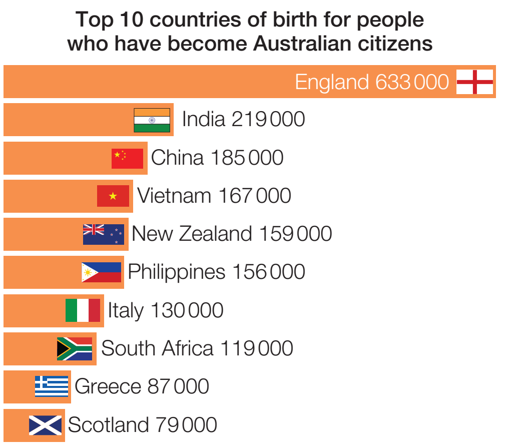
The Census

Every five years, the Australian Government conducts a survey of the entire nation known as the Census. The Census gathers data on every person in Australia. This information is used by the government in many ways.

The Census is conducted by the Australian Bureau of Statistics (ABS). It gathers data about people such as their age, gender, income, occupation, type of home, languages spoken, ancestry and optional questions, including religion (see Source 10). This information helps the government understand the types of people living in Australia and can be useful for assisting the government in decisions they make for and on behalf of the Australian people.

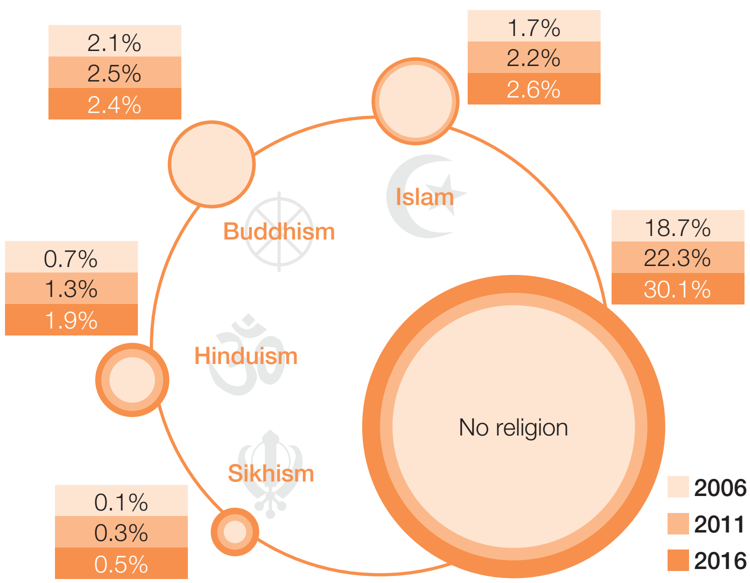
These decisions might include providing community services in areas where a lot people live whose first language is not English, or to build schools in areas where a lot of babies are being born.

However, the data collected by the ABS is not just used by the government. Individuals, businesses and private organisations such as research facilities can search the ABS data for specific information that would suit their purposes. The ABS does not include people's names on the data they make public.

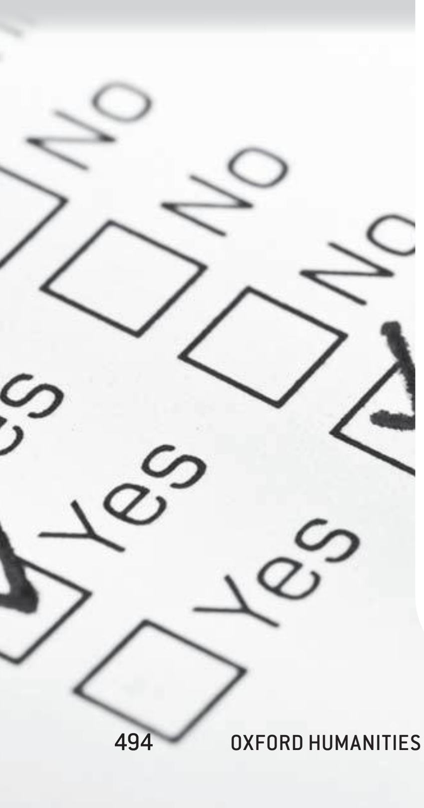


Source 9 The 2016 census showed that more than one-quarter of Australia's population was born overseas.

Source 10 While overall, Australians are becoming less religious, the 2016 Census showed that the proportion of people identifying with non-Christian religions is increasing.



Source: Australian Bureau of Statistics



KEY SKILL
Asking questions & conducting research

Conducting a census survey

A census survey can be used to gather information about any population. The following steps can be used to conduct a survey. A census tries to gather information about every person in the population.

Step 1 Think of a range of questions that you would like to gather information on, such as age, religion, gender, income and so on. It is easiest if you give people options to choose from when answering each question, so make each question multiple-choice whenever possible. Just make sure there is an option that suits all possible responses.

Step 2 Compile all your questions into a single document and give it to every person in the population you are surveying.

Step 3 Add up the results for each question.

Step 4 Present the results. There are many different ways to present statistics, such as calculating percentages or creating graphs. A simple way to present results is in a table.

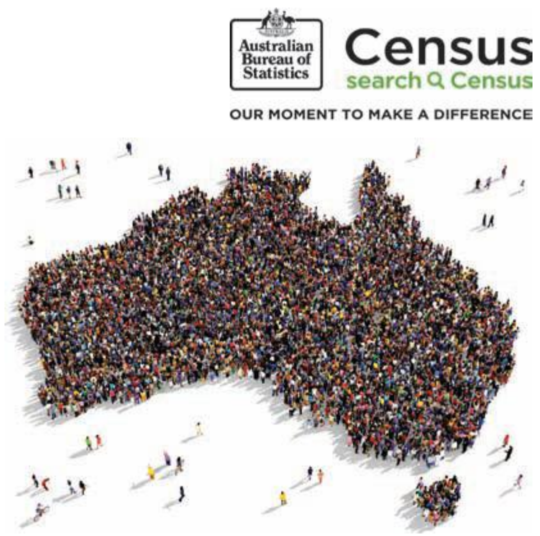
For more information on this key skill, refer to page 481 of 'The civics and citizenship toolkit'.

Practise the skill

1 Conduct a census of your class to find out information about classmates' country of birth, language spoken at home, age and gender. As people might be sensitive to some of these questions, include an option to choose 'prefer not to say' for each question.

2 Present your findings in a table. Do not include people's names on the table.

3 Use the results from your census survey to answer the questions below.
   a Which language is most often spoken at home?
   b How many of the participants were born in Australia? What percentage of the class is this?
   c Which is the most common gender in your class?



Source 11 The government body in charge of collecting and analysing census data is the Australian Bureau of Statistics (ABS).

Extend your understanding

Research the results of Australia's most recent census. Log onto your obook pro to find this data on the ABS website. Answer the following questions.

1 When was the most recent census conducted?

2 What was Australia's population?

3 How much had the population increased from the previous census?

4 Which state or territory has the highest population?

5 When is the next census occurring?

6 According to the ABS data, how often is a new person added to the Australian population?

Weblink
ABS Census data

20.3 Multicultural Australia

In this topic, you will:

» investigate the impact that multiculturalism has had on Australia's national identity.

Australia is one of the most culturally diverse nations in the world. Our population is made up of:

- Aboriginal and Torres Strait Islander peoples
- migrants who were born overseas
- the descendants of those who migrated to Australia since 1788.

All of these people carry with them a rich heritage and culture that has helped shape Australia's identity.

A history of migration to Australia

Until Australia was colonised by the British in 1788, Australia had been inhabited solely by Aboriginal peoples for more than 65 000 years. Since then, waves of migrants have come to Australia from all over the world (see Source 1).

Key skill worksheet
Analysing sources: Migration and multiculturalism

Australia's multicultural identity today

Two of the core values that have been commonly held by Australians over time are compassion and inclusion. In the past, these values resulted in the Australian Government developing polices that welcomed migrants who were seeking safety from war-torn homelands.

Due to migration, Australia's national identity has gone through many changes over the past 250 years. Australia has gone from a land where only Aboriginal and Torres Strait Islander peoples lived, to being occupied by British colonists, to today, when Australia is home to people with a range of different backgrounds. Today, half of all Australians have at least one parent who was born overseas.

This multiculturalism has resulted in vibrant cities and towns across Australia that are bustling with a diverse range of music, food, beliefs and customs from more than 200 nations. As a result of our diverse society, Australians have the opportunity to learn about other cultures through community events such as food festivals, film festivals and traditional celebrations from other countries (such as Lunar New Year). It is this ever-changing and exciting mix of cultures that forms the Australian identity.

20.3 CHECK YOUR LEARNING

Review and understand

1 When did the British colonise the country that is now called Australia?

2 **Identify** the period of time Aboriginal peoples have inhabited Australia.

Apply and analyse

3 Examine Source 1. In your own words, **summarise** the waves of migration to Australia since British colonisation.

Evaluate and create

4 **Create** a poster or infographic celebrating one of Australia's many cultures. Research the culture, including information on:

- customs
- food
- music
- language
- religion
- famous Australians of that cultural background
- significant historic events that caused that group of people to migrate to Australia.

Pre-European colonisation	There are hundreds of Aboriginal and Torres Strait Islander nations throughout Australia. Aboriginal and Torres Strait Islanders are estimated to have inhabited Australia for more than 65 000 years.
1788	The First Fleet arrives from Britain in Australia, which is inhabited by more than half a million Aboriginal and Torres Strait Islander peoples.
1788–1868	Britain transports more than 160 000 convicts to Australia in order to ease their own overcrowded prisons and expand colonisation in Australia.
1793–1850	Around 200 000 mainly English, Irish and Scottish people migrate to Australia voluntarily.
1851	The gold rush begins, attracting thousands of Chinese migrants.
1901–58	The 'White Australia' policy encourages migration to Australia from European nations (particularly English-speaking nations), while restricting migration from Asia.
1945	Under the slogan 'Populate or Perish', the government accepts more than three million European migrants. Migration is encouraged because there are fears that Australia will not survive with such a small population spread across an entire continent.
1970s	The first wave of refugees arrive from Asia, most of whom are people fleeing war in Vietnam. To this day, the treatment of asylum seekers is a hotly debated political issue in Australia.
Today	There are more than 25 million people living in Australia, half of whom were either born overseas or have at least one parent who was born overseas.


An example of Aboriginal rock art painting


SS *Great Britain* leaving Liverpool for Australia, 1852

The 1910 song, 'March of the Great White Policy' by W.E. Naunton


Prime Minister Scott Morrison with new Australian citizens during a citizenship ceremony in Canberra in 2020

Source 1 A timeline of migration to Australia

20.4 Aboriginal and Torres Strait Islander peoples and Australian identity

In this topic, you will:

» describe the steps to address past injustices against Aboriginal and Torres Strait Islander peoples, and the impact these steps have had in shaping Australia's national identity.

reconciliation
in Australia, the process of strengthening the relationships between Aboriginal and Torres Strait Islander peoples and non-Indigenous peoples

assimilation
the policy adopted by the Australian Government that aimed to absorb Aboriginal and Torres Strait Islander peoples into white society

For many people, truly recognising the past injustices suffered by Aboriginal and Torres Strait Islander peoples since British colonisation is a necessary step towards properly defining Australia's identity. They argue that until we confront our past, we will never be able to honestly promote the values that we want our nation to stand for. The process of acknowledging the past and strengthening the relationship between Aboriginal and Torres Strait Islander peoples and non-Indigenous peoples is known as **reconciliation**. This process involves:

- acknowledging the past injustices done to Aboriginal and Torres Strait Islander peoples by white Australians
- valuing Aboriginal and Torres Strait Islander cultures
- building positive connections between all Australians.

However, reconciliation is a slow and difficult process that will take many years to achieve.

Past injustices

In the past, many Australians and various Australian governments have ignored the gross injustices suffered by Aboriginal and Torres Strait Islander peoples through colonisation. At the hands of the European colonists, Aboriginal and Torres Strait Islander peoples were killed, removed from their sacred lands, and forced into servitude.

Source 2 Former boxer Jack Hassen (a Kalkadoon man) and his daughter demonstrated outside Parliament House in Canberra in the lead-up to the 1967 referendum.

Perhaps the worst injustice carried out by white Australians was the forced removal of Aboriginal and Torres Strait Islander children from their families. Between 1910 and the 1970s, various government policies caused thousands of Aboriginal and Torres Strait Islander children to be taken from their families. These children were sent to institutions, fostered or adopted to non-Indigenous families. This was part of a government policy of **assimilation**, which was a misguided assumption that the lives of these children would be better if they were raised in the white Australian community. These children are known as the Stolen Generations. The damage and trauma of this forced removal has been felt not just by the children and their immediate families, but also by their descendants and the impacts continue to this day.

Journey to citizenship

The citizenship experiences of Aboriginal and Torres Strait Islander peoples have been very different to those of non-Indigenous people. When Australia was federated in 1901, the newly written Australian Constitution stated that 'aboriginal natives shall not be counted'.

Source 3 Skywriting in Sydney on Australia Day in 2008, three weeks before the Australian Government's apology to Aboriginal and Torres Strait Islander peoples.

Essentially, this meant that Aboriginal and Torres Strait Islander peoples were not considered to be part of the Australian population. It was not until 1967 that a referendum was held to remove this section of the Constitution.

By law, Aboriginal and Torres Strait Islander peoples were also not allowed to vote until this law was changed by the Australian Parliament in 1962.

Apology to the Stolen Generations

In 2008 on behalf of the Australian Government, then-Prime Minister Kevin Rudd formally apologised to Aboriginal and Torres Strait Islander peoples for past government policies that removed children from their families. In his speech in the House of Representatives on 13 February 2008, Rudd stated:

> We apologise for the laws and policies of successive Parliaments and governments that have inflicted profound grief, suffering and loss on these our fellow Australians … For the pain, suffering and hurt of these Stolen Generations, their descendants and for their families left behind, we say sorry.

For many Aboriginal and Torres Strait Islander peoples, this apology was an important step towards reconciliation and creating a national identity based on unity, equality and respect for all.

Analyse this!
Apology to the Stolen Generations

I used to think, now I think

Reflect on your learning about the citizenship experiences of Aboriginal and Torres Strait Islander peoples and complete the following sentences.

- I used to think …
- Now I think …

What has changed in your understanding?

20.4 CHECK YOUR LEARNING

Review and understand

1 In your own words, **define** 'reconciliation' as it is used in this topic.

2 **Describe** what colonisation is, and give two examples.

3 Who were the Stolen Generations?

Apply and analyse

4 **Compare** the rights of Aboriginal and Torres Strait Islander peoples in the early days of Federation with those of non-Indigenous people at the time.

5 In your own words, **explain** why reconciliation is an important step for defining Australia's national identity.

20B RICH TASK

#ChangeTheDate

Quizlet

Revise the key terms you have learnt so far.

The date of Australia Day, 26 January, is the anniversary of the arrival of the First Fleet of British ships at Port Jackson, New South Wales, in 1788. It marks the beginning of British rule of the Australian continent.

Some people think that Australia Day is a significant day that celebrates Australia's national identity. It is marked by a public holiday in all states and territories.

However, many people believe that celebrating Australia Day on 26 January is wrong because it is offensive to Aboriginal and Torres Strait Islander peoples. Aboriginal and Torres Strait Islander peoples consider 26 January to be a day of mourning and have named it 'Invasion Day'. More and more Australians are demanding that the date of Australia Day is changed to a date that both Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians can celebrate.

Source 4 Many Australians are happy to celebrate the Australia Day public holiday on 26 January with a great sense of patriotism.

Source 5 Many Australians feel that 26 January represents the British invasion of the continent.

Australia Day was first celebrated in 1934 when the vast majority of the Australian population had European ancestry. This has changed and today Australia is a multicultural society with many Australians recognising the injustices experienced by Aboriginal and Torres Strait Islander peoples as a consequence of the First Fleet's arrival. They also believe that celebrating Invasion Day goes against Australia's values.

People opposed to changing the date argue that celebrating Australia Day on 26 January is an important tradition that forms part of the Australian identity. Many of these people believe that the nation we live in today was shaped by the arrival of the First Fleet and it should be remembered.

Whatever side they take, people across Australia can exercise their democratic right to voice their opinion on the debate through means such as protests, marches and petitions.

KEY SKILL
Communicating & reflecting

Writing a letter to your local MP or to the prime minister

In our democracy, the role of politicians is to represent the people's opinions, concerns and interests. One way of ensuring your opinion is heard is by directly contacting your local member of parliament (MP) or the prime minister via an email or letter.

Here are some steps to follow when writing such a letter:

Step 1 Before you write, research the topic you are concerned about and make note of important facts that support your view.

Step 2 When you are addressing the politician, make sure you use their correct title – for example, Ms Joanna Smith MP.

Step 3 Introduce yourself and state the reason you are writing.

Step 4 In your own words, politely write the main points you wish to share with the politician.

Step 5 Explain what you would like them to do about the issue.

Step 6 Sign off the letter with 'Sincerely' and your full name below it.

Step 7 Wait for a response and contact them again if you have not heard from them after a month.

For more information on this key skill, refer to page 485 of 'The civics and citizenship toolkit'.

Practise the skill

1 Write a letter to your local MP or to the prime minister discussing why you think the date of Australia Day should or should not be changed. You may also wish to include your opinion on whether 26 January should be recognised as a day of mourning. You can also propose a new date on which to celebrate Australia Day.

Extend your understanding

1 Using the internet or an Australian calendar, **identify** all the public holidays celebrated in Victoria.

2 Research the historic significance of these public holidays. In your own words, **summarise** how each one is portrayed in the media and in popular culture.

3 **Explain** how these public holidays form part of our national identity.

Source 6 Every year on 25 April, Australians have a public holiday to mark ANZAC Day. ANZAC Day is a national day of remembrance; it commemorates the first landing of the ANZAC soldiers at Gallipoli on 25 April 1915.

20 CHAPTER REVIEW

Review questions

20A What are Australian values?

1 In your own words, **define** the term ‘secular’. (1 mark)

2 **Explain** how Australia’s national identity has changed over time. (3 marks)

3 **List** three shared values and **explain** why each one is important to Australians. (6 marks)

(Total: 10 marks)

20B What is the Australian identity?

1 **List** the three key groups that make up Australia’s population. (1 mark)

2 **Summarise** what Kevin Rudd apologised for on 13 February 2008. (3 marks)

3 **Discuss** one argument for and one argument against changing the date of Australia Day from 26 January. Remember to include the strengths and weaknesses of each argument. Be sure to give your overall opinion. (6 marks)

(Total: 10 marks)

Review activity

Deng Thiak Adut is a former child soldier who came to Australia from Sudan in 1998. He became an Australian citizen in 2001. Read the following extract from the Australia Day address Adut gave in 2016, then answer the questions that follow.

Source 7 Deng Thiak Adut

What does it mean to be Australian?

Source 8

I came to Australia as an illiterate, penniless teenager, traumatised physically and emotionally by war. In Sudan, I was considered legally disabled, only by virtue of being black or having a dark skin complexion. As you can see, I am very black and proud of my dark skin complexion. But in the Sudan, my colour meant that my prospects could go no further than a dream of being allowed to finish a primary education … Australia educated me. How lucky I became. How lucky is any person who receives an education in a free land and goes on to use it in daily life.

In 1987, the year before the Australian bicentennial celebrations, I was among many young children forcibly removed from their homes and families and marched to Ethiopia, for reasons that were unknown to me at the time. I walked thousands of kilometres without shoes or underwear.

What do we take for granted as Australians? Free education, food, clothing (more than shoes and underwear), shelter, health care and personal safety. We take those things for granted until we don't have them.

Australia is a nation where most of us, most of the time, seek to give and receive a 'fair go' and 'respect democracy'. It's that 'fair go' that you see in every new Australian success story. That is the 'advance Australia fair' in the anthem.

I know that some who are watching and listening will be wondering why I, so black, am ignoring that the ruling majority appear to be white. I don't ignore it, just as I don't ignore that the colours and faces of the Australian community are such a rich palate. Take a trip around an Australian city, visit a building site, walk around an educational campus, look at the names in our sporting teams, and hear, see, smell, and taste the richness of the cultures in any of our shopping centres. White is a colour to which so much can be added.

Source: Australia Day address given in 2016 by Deng Thiak Adut

1 **Explain** why Deng Thiak Adut fled to Australia from Sudan as a refugee. (3 marks)

2 **Analyse** Adut's message about what is means to be Australian.
   - a Note down all the reasons Adut gives for being proud to be an Australian.
   - b Note down any comments he makes that are critical of life in Australia. (4 marks)

3 What do you think it means to be an Australian? Try to **summarise** your own point of view in 30 words or less. (3 marks)

4 'Australia is a nation where most of us, most of the time, seek to give and receive a "fair go" and "respect democracy".' **To what extent** do you agree with this? A lot (strongly), a little bit (somewhat) or not at all? Write a short paragraph explaining your position. (10 marks)

(Total: 20 marks)

Check your Student obook pro for these digital resources and more:

Student book questions
Chapter 20

Key skill worksheet
Communicating & reflecting: Chapter 20

Quizlet
Play a game of Quizlet on The identity of a nation.

Chapter review quiz
Chapter 20

[STEAM project 1]

How can we reduce pollution in local waterways so that biodiversity is protected?

Australia is one of the driest continents in the world. But according to an Australian Government report, Australians consume more water per person than any other country, using an average of 100 000 L per person every year.

Water is an important resource in Australia, so it is critical to manage our waterways carefully.

Australia has many waterways, including rivers, groundwater systems, wetland environments and other human-made passages for water. Waterways are vital to our existence and are valuable economic assets.

Waterways play an important role in supporting biodiversity in our local areas, by providing habitats for wildlife (such as fish and turtles) and plants.

Humans rely on local waterways for drinking water, irrigation of crops, industrial processes and recreational activities. But sometimes these human activities can impact waterways, endangering the biodiversity of a local area.

Waterways also hold spiritual significance for many people. Due to the importance of local waterways to Aboriginal and Torres Strait Islander peoples, waterways are part of our cultural heritage.

We must, therefore, manage our waterways to maintain their complex ecosystems.

Water quality and contaminants

A contaminant is a substance that pollutes or poisons something. Contaminants can occur naturally, or be caused by humans – such as microplastics, pesticides and litter. Litter is an example of a physical contaminant, while pesticides are examples of chemical contaminants. There are many types of contaminants, which are often more heavily concentrated in industrial, urbanised or agricultural areas.

Your task

Design a device that will reduce the contaminants that are entering your local waterway, in order to protect biodiversity in the area.

Figure 1 Algal blooms occur when an oversupply of nutrients in the water allows algae populations to quickly increase, covering the water's surface. Contaminants such as industrial fertiliser running into waterways can cause algal blooms. Algal blooms are often toxic to other aquatic life.

Human land-use and major weather events, such as floods and bushfires, can introduce contaminants into local waterways and affect the water quality.

When water becomes contaminated, it can affect the health of an entire ecosystem, leading to serious environmental issues, such as acidic soil or algal blooms. So it is important for all waterways to be managed to protect the organisms that rely on them to survive.

Figure 2 Litter is a contaminant in local waterways, such as the River Torrens in Adelaide.

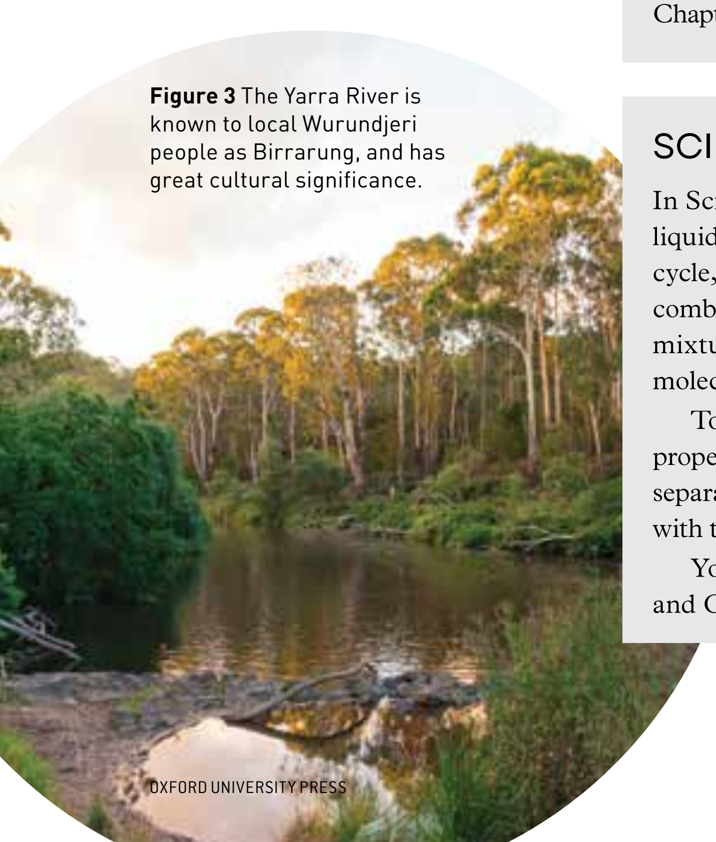


Figure 3 The Yarra River is known to local Wurundjeri people as Birrarung, and has great cultural significance.

HUMANITIES

In Geography this year, you will learn about water as a resource and how it connects places as it moves through the environment. You will also study the variability and scarcity of water in Australia.

In History, you will investigate the importance of water in sustaining ancient civilisations.

To complete this task successfully, you will need to investigate the health of a local waterway and the nearby land uses that may be introducing contaminants to the water. You will then need to research strategies that will help to reduce these contaminants.

You will find more information on this in Chapter 2 'Water as a resource' and Chapter 3 'Valuing and managing water' of *Oxford Humanities 7 Victorian Curriculum*.

MATHS

In Maths this year, you will consolidate your understanding of volume and capacity and different units for measuring them. You will learn to perform calculations involving fractions, decimals and percentages – both with and without digital technology.

To complete this task successfully, you will need to combine these mathematical skills with your understanding of chemical and physical changes. You can then determine the scale of the problem and design your prototype in detail. You may need to perform calculations that relate the concentrations of contaminants, the dimensions of your prototype, the volume of water that can and needs to be processed, and the quantity of contaminants that need to be disposed of.

You will find help for applying these maths skills in Chapter 3 'Fractions and ratios', Chapter 4 'Decimals and percentages', and Chapter 9 'Length, area and volume' of *Oxford Maths 7 Victorian Curriculum*.

SCIENCE

In Science this year, you will learn about how particles move in solids, liquids and gases. Each of these states of matter occurs during the water cycle, which is influenced by both nature and humans. When water is combined with other particles, it forms different types of solutions and mixtures. The unique properties of each particle (including the water molecule) can allow it to be isolated and purified once more.

To complete this task successfully, you will need to consider the properties of each contaminant, and how these properties can be used to separate the contaminants from the water. You will also need to be familiar with the scientific method, and understand how to conduct a fair test.

You will find more information on this in Chapter 2 'Particle model' and Chapter 3 'Mixtures' of *Oxford Science 7 Victorian Curriculum*.

The design cycle

To successfully complete this task, you will need to complete each of the phases of the design cycle.

Discover

When designing solutions to a problem, you need to know who you are helping and what they need. The people you are helping, who will use your design, are called your end-users.

Consider the following questions to help you empathise with your end-users:

- Who am I designing for?
- What problems are they facing? Why are they facing them?
- What do they need? What do they not need?
- What does it feel like to face these problems?
- What words would you use to describe these feelings?

To answer these questions, you may need to investigate using different resources, or even conduct interviews or surveys.

Define

Before you start to design your device, you need to define the criteria that you will use to test that the problem is solved.

Define your version of the problem

Rewrite the problem so that you describe the group you are helping, the problem they are experiencing and the reason it is important to solve it. Use the following question as a guide:

'How can we help (the group) to solve (the problem) so that (the reason)?'

Determine the criteria

1 Define each contaminant that is present in the waterway. Describe the properties of each contaminant.
2 Describe how you could test whether the contaminant was present in the water.
3 Describe how the contaminant would affect the biodiversity of the area if it were not removed from the waterway.

Ideate

Once you know who you're designing for, and what the criteria are, it's time to get creative!

- Outline the criteria or requirements your device must fulfil (for example, the weight and height of your design).
- Brainstorm at least one idea per person that fulfils the criteria.
- Consider whether your idea will prevent contamination from occurring or solve the problem after it has already occurred.

Remember that there are no bad ideas at this stage. One silly thought could lead to a genius innovation!

Build

Draw each individual design for your device. Label each part of the design. Include the materials that will be used for its construction.

Include in the individual designs:

a the method you will use to isolate each contaminant

b the location of the device in the waterway.

If there is more than one separation method used in your design, identify the order in which you will carry out each method.

Present your design to your group. Use the criteria or requirements that you identified to decide which design your group will build.

Build the prototype

Build and test the prototype of your group's chosen device.

Use the following questions as a guideline for your prototype:

- What materials will you need to build your prototype?
- How will you test whether each step of the design is successful? What will the outcome of each step look like?
- How will you record the steps you use when testing your device?
- How will you record the details of each extracted contaminant?
- How will you dispose of the extracted contaminants after your project is completed?

Test

Use the scientific method to design and experiment with each separation method to ensure its success. You will need to control your variables between each test.

What criteria will you use to determine the success of your prototype?

Conduct your tests and record your results in an appropriate table.

Communicate

Present your design to the class as though you are trying to get your peers to invest in your device.

In your presentation, you will need to:

- explain why removing the contaminant is important for the local wildlife
- describe the key features of your design and how it will reduce the amount of contaminant in the waterways
- construct a labelled diagram of your prototype in the natural environment
- explain the principles that support your design – the importance of water in the local environment and in sustaining civilisations, how some waterways become contaminated and how these contaminants can be reduced
- estimate the number of devices needed to reduce contaminants in the waterways in your local area
- calculate the cost of implementing your design.

Check your Student obook pro for the following digital resources to help you with this STEAM project:

Student guidebook
This helpful booklet will guide you step-by-step through the project.

What is the design cycle?
This video will help you to better understand each phase in the design cycle.

How to manage your project
This 'how-to' video will help you to manage your time throughout the design cycle.

How to pitch your idea
This 'how-to' video will help you with the 'Communicate' phase of your project.

[STEAM project 2]

How can we reduce waste so that we are not exploiting resources?

In 2019, the United Nations estimated that every year 90 billion tonnes of resources (including fossil fuels, precious metals and non-metals) are extracted from the earth and turned into usable products. When these products are no longer used or wanted, only 9 per cent are recycled.

If we want to have enough resources left for future generations, humans cannot continue to extract materials from the earth in this way. It is unsustainable.

E-waste

In Australia, millions of electronic devices are thrown away every year. This is known as e-waste. E-waste can be difficult to recycle, but it often contains valuable metals.

The average mobile phone contains 0.034 g of gold, 16 g of copper and 0.35 g of silver. When a phone is thrown into landfill (along with all the other e-waste that once used electricity or batteries) the materials can take many decades to break down (sometimes releasing toxins into the ground).

Recycling these materials reduces the need to mine new resources.

Fast fashion

Fast fashion is the term used for affordable clothing produced rapidly for the general public. It is designed and produced quickly to reflect current fashion trends. When fashion becomes outdated, the clothes or products that reflect that fashion are often thrown away. The Australian Bureau of Statistics (2020) identified that, on average, each person sends 23 kg of clothing to landfill each year. Over 60 per cent of this clothing is made of synthetic fibres (made from fossil fuels) that can take many years to biodegrade.

Your task

Develop a way to encourage residents or businesses to be part of the circular economy by reducing the amount of waste that is sent to the local landfill site.

Figure 1 In Australia, 6000 kg of textiles and clothing are dumped in landfill every 10 minutes.

What is a circular economy?

One potential solution to our unsustainable use of resources is a 'circular economy'. In a circular economy, resources are used and reused as much as possible. This benefits businesses because the longer a resource can be used, the more value it has. A circular economy is based on three key principles:

1. eliminate waste or pollution in the production of a product
2. keep products and materials in use
3. regenerate natural systems.

Some companies are already using the principles of a circular economy in the products they sell in Australia.

Figure 2 Electronic waste does not belong in landfill. Laptops that are no longer working or wanted are examples of e-waste.

Figure 3 The average mobile phone contains gold, copper and silver.

HUMANITIES

In Economics and Business this year, you will learn how consumers and producers respond to and influence each other in the market, particularly through price mechanisms. You will consider how resources are distributed, allocated or used in the production of food, clothing and electronics, and the growing consumer demand for sustainable products.

In Geography, you will investigate how the environment can affect the liveability of a place. You may survey the local area to understand the role of services and facilities provided to minimise, reduce and prevent waste, and strategies used to enhance liveability.

To complete this task successfully, you will need to consider the products you buy and the decisions businesses make when deciding what to produce, and the consequences when a product reaches its end-of-life. You will also need to gain an understanding of people's perceptions in your local area towards waste management, recycling and the importance of the environment in measuring liveability.

You will find more information on this in Chapter 5 'Liveable cities' and Chapter 17 'Economic choices' of *Oxford Humanities 7 Victorian Curriculum*.

MATHS

In Maths this year, you will use fractions, percentages and decimals to represent numbers, and ratios between quantities. You will consolidate your knowledge of volume, learning about cubic units and how to convert between different units of volume. You will perform calculations with and without digital technology.

To complete this task successfully, you will need to quantify the problem, which will include using ratios or fractions to scale between individual, local, national and global situations. You will need to cost your solution, accounting for any costs saved by recycling valuable materials.

You will find help for applying these maths skills in Chapter 3 'Fractions and ratios', Chapter 4 'Decimals and percentages', and Chapter 9 'Length, area and volume' in *Oxford Maths 7 Victorian Curriculum*.

SCIENCE

In Science this year, you will learn how different resources can take different amounts of time to be regenerated. You will need to use your knowledge to consider the role of renewable and 'non-renewable' resources in different products, and how constantly sourcing new materials will affect the surrounding ecosystem.

To complete this task successfully, you may need to consider how the change in state of matter can aid a circular economy. You will also need to be familiar with the scientific method and understand how to conduct a fair test.

You will find more information on resources in Chapter 5 'Resources' in *Oxford Science 7 Victorian Curriculum*.

The design cycle

To successfully complete this task, you will need to complete each of the phases of the design cycle.

Discover

When designing solutions to a problem, you need to know who you are helping and what they need. The people you are helping, who will use your design, are called your end-users. This stage involves thinking about the problem (not possible solutions).

Consider the following questions to help you empathise with your end-users:

- Who am I designing for?
- What problems are they facing? Why are they facing them?
- What do they need? What do they not need?
- Who is producing the waste? Why is the waste being produced?
- What does it feel like to face these problems?
- What words would you use to describe these feelings?

To answer these questions, you may need to investigate using different resources, or even conduct interviews or surveys.

Define

Before you start to design your solution, you need to define the criteria that you will use to test the success of your solution.

Define your version of the problem

Rewrite the problem so that you describe the group you are helping, the problem they are experiencing and the reason it is important to solve it. Use the following phrase as a guide.

'How can we help (the group) to solve (the problem) so that (the reason)?'

Determine the criteria

1 Describe the product that is being used. How much product is needed for normal functions?
2 Describe the waste that is being produced. In what units could you measure the amount of waste? How could you estimate how much waste is currently being produced?
3 Describe the different things that currently happen to this waste. To what fraction of the waste does this happen?
4 Describe the criteria that you will use to measure the success of your design.

Ideate

Once you know who you're designing for, and what the criteria are, it's time to get creative!

As a group, brainstorm ways to solve the problem. Remember that there are no bad ideas at this stage. One silly thought could lead to a genius innovation!

Once you have many possible solutions, select three to five ideas and research whether these ideas have already been produced by someone else. If the prototype idea is already on the market, can you make a better version? If it's not, what will be needed to make it?

Build

Draw your top two ideas. Label each part of the designs. Include the materials or skills required for their construction.

Include in the designs:

a a description of how the users will interact with the prototype idea

b a description of how the amount of waste will be decreased, and by roughly how much

c a description of how the design will contribute to the circular economy

d at least one advantage and disadvantage of each design.

Select one of the designs to take to the building and testing stage.

Build the prototype

You will need to build at least three versions of your prototype idea. The first version will be tested for usefulness; the second will be used to test or survey the group you are helping; the third will be used for the presentation.

Use the following questions as a guideline for your prototype idea.

- What skills will you need?
- How will you produce a physical version of your prototype idea?
- How will you collect data on the effectiveness of your idea?

Test

Prototype 1

Use the scientific method to design an experiment that will test the effectiveness and strength of your first prototype. You will test the prototype more than once so that you can compare, but you will need to control your variables between tests.

What criteria will you use to determine the success of your solution?

Conduct your tests and record your results in an appropriate table.

Prototype 2

If your prototype will be used to reduce waste, then you will need to generate a survey to test whether the prototype is appropriate for the user. (How would they use it? Would it make their work easier or harder? How likely do you think they are to buy it, and why? How will the prototype affect normal behaviours? How will the production of the prototype affect the environment?)

Prototype 3

Use the information you have obtained from testing the first two versions to adapt your last prototype to be more effective and usable for the group you are helping. You may want to use the first two prototypes to demonstrate how the design has been improved over time.

Communicate

Present your solution to the class as though your peers are going to invest their money. How will you convince them it is a good idea?

In the presentation, you will need to:

- explain why we need to reduce the amount of waste going to the local landfill
- describe the key features of your design and how they will reduce the amount of waste in the landfill, using calculations to justify a quantitative estimate of that reduction
- construct a labelled diagram of your prototype in the natural environment
- describe how the ecosystem will be impacted by your prototype idea
- explain the principles that support your design – such as the circular economy
- use calculations to estimate the cost of implementing your design.

Check your Student obook pro for the following digital resources to help you with this STEAM project:

Student guidebook
This helpful booklet will guide you step-by-step through the project.

What is the design cycle?
This video will help you to better understand each phase in the design cycle.

How to manage your project
This 'how-to' video will help you to manage your time throughout the design cycle.

How to define a problem
This 'how-to' video will help you to narrow your ideas down and define a specific problem.

GLOSSARY

Glossary: Geography

A

alphanumeric grid
a coordinate system on a grid in which each cell is identified by a combination of a letter and number; using this system makes it easy to locate a specific position on a map

amenities
features that make living in a place more attractive (e.g. public transport, good roads, a park)

aquaculture
the farming of fish and other aquatic animals and plants

aquifers
layers of rock or soil in the ground that hold water or that water can pass through

available water
fresh water that is accessible for use by humans without treatment

B

biodiverse
a term used to describe an ecosystem containing a large range of different types of plants and animals

C

cardinal points
the four main directions: north, south, east and west

catchments
areas where water is collected by the natural landscape

city dwellers
residents or inhabitants of a city

civil war
a war between citizens of the same country

compass bearings
a precise way of giving compass directions, such as 135° south-east

condensation
the process that takes place when a gas cools and forms a liquid; for example, water vapour becoming water droplets

continuous resources
resources, such as the Sun, that will never run out no matter how much they are used

contour lines
lines drawn on a map that connect points at the same height to show the height and steepness of land

D

deforestation
the process of clearing a forest of trees from land which is then converted to non-forest use

delta
a fan-shaped deposit of soil formed where a river enters an ocean or lake

desalination
the process of removing salt from seawater

desert
an area that receives less than 250 mm of rain every year; can be hot or cold

developing countries
less economically developed countries that have some difficulties supporting their own people

discharge
the volume of water flowing through a river

E

eastings
the gridlines that run vertically on a topographical map

environmental resources
anything human or natural that can be used by people to satisfy a need

Equator
an imaginary line that runs around the middle of the Earth separating the Northern Hemisphere from the Southern Hemisphere

erosion
the wearing away of the Earth's surface by forces such as river, wind and ice

ethnicity
the background, nationality or culture of a person, or group of people

F

fault lines
cracks in the Earth's crust; movement along these cracks cause earthquakes

fertile
soils that have the nutrients and minerals to support the growing of plants

floodplains
low-lying land next to a river or stream that is regularly flooded

G

geographical inquiry
a process that geographers use to guide their investigations of places, people and things

H

hydroelectricity
a form of energy that harnesses the power of water in motion to generate electricity

I

inflation
increase in the general level of prices paid for goods and services over a certain period

infrastructure
the physical and organisational structures and facilities needed for the operation of a society or enterprise (e.g. buildings, roads, power supplies)

irrigation
the watering of crops in some way other than by precipitation

L

land clearing
the process of removing trees, stumps, and other obstacles from an area in order to increase the size of new land

latitude
imaginary lines running east–west around the Earth's surface, parallel to the Equator, used to work out location and direction

life expectancy
the average number of years a person can expect to live

literacy
the ability to read and write

liveability
an assessment of what a place is like to live in, based on factors such as access to schools, safety and health care

longitude
imaginary lines running north–south around the Earth's surface, from the North Pole to the South Pole, used to work out location and direction

M

map
a simplified plan of an area shown from directly above the area

meteorologists
a type of scientist that studies the atmosphere to predict and understand the weather

metropolitan
a term used to describe a city and its surrounding suburbs

mouth
the end of a river where it enters a lake or ocean

N

natural disasters
major hazardous events resulting from a natural process of the Earth (e.g. floods, volcanic eruptions, tsunamis)

non-renewable resources
resources that cannot be regenerated once they are used up (such as oil or coal)

northings
the gridlines that run horizontally on a topographical map

O

objective factors
Factors contributing to liveability that can be measured in numbers, such as the climate, cost of housing, number of schools or hospitals, level of crime and availability of public transport

P

plan view
a way of showing something as if the viewer is looking down on it from above; a bird's-eye view

potential water
water that needs to be treated in some way to make it ready for use

primary data
data for geographical inquiry that was collected in the field by a geographer conducting the inquiry (e.g. survey data, hand-drawn maps or photographs)

Prime Meridian
an imaginary line of longitude that runs from the North Pole to the South Pole; longitude is defined as 0° at the Prime Meridian

Q

qualitative data
any information that can be recorded in words; for example, Uluru is very large

quantitative data
any information that can be recorded as numbers; for example, Uluru is 3.6 kilometres long

R

refugee
people who move to another country because of a natural disaster, to avoid war or persecution

renewable resources
resources that can regenerate or be regrown (such as trees) as opposed to those that cannot be regenerated (such as coal)

runoff
the flow of water on the ground when excess rainwater can no longer infiltrate in the soil

rural–urban fringe
the area on the edge of a city where the city ends and country or farming areas begin

S

sanitation
a term used to describe public health conditions relating to clean drinking water and safe treatment and disposal of sewage

secondary data
data used for a geographical inquiry that was not collected by the geographer conducting the inquiry (e.g. textbooks, atlases and government websites)

silt
small sediment particles that travel downstream through rain, water flow and eroding riverbanks

slum
a settlement within a city where the inhabitants have inadequate housing and poor access to basic services

subjective factors
Factors contributing to liveability that cannot be measured in numbers, such as personal likes and dislikes, connection to family and friends, and feelings of spirituality and belonging

surface water
any body of water above ground, including streams, rivers, lakes, wetlands, reservoirs, creeks and the ocean

T

tributaries
rivers that flow into a larger river

W

wastewater
water that has been used by people in domestic or industrial settings for washing, cleaning or flushing that contains waste products

water balance
a calculation of the amount of water entering and leaving a particular place

water cycle
the continuous cycle by which water evaporates from lakes and oceans, condenses into clouds, falls on land as rain, finds its way into rivers (often after human use) and returns to the oceans

water scarcity
the lack of availability water, either due to physical shortage or lack of access from infrastructure in the area

Glossary: History

A

acropolis
a raised and fortified area within a Greek city-state on which public structures such as temples were built

agriculture
the science and practice of farming, including cultivating soil for growing crops, and raising animals to provide food, wool and other products

alliance
an agreement between countries or political parties to work together in order to achieve something that they all want

alluvial
made of sand and earth that is left by rivers or floods

amphitheatres
ancient versions of today's football stadiums, where raised seating rose up around a flat central area where events or performances were held

amulets
charms thought to keep away evil

ancestors
people in your family who lived a long time ago

aqueducts
human-made channels for transporting water

archaeological digs
sites known (or thought) to contain items of interest from the past; these sites are roped off and carefully dug up by archaeologists

archaeologists
people who uncover and interpret sources from the past, such as the remains of people, buildings and artefacts

aristocrats
people who (through wealth or birth) belong to the upper class of a social group

artefacts
any objects that are made or changed by humans

artillery
large, heavy guns which are often moved on wheels

astrologers
people who study the stars and planets to work out their effect on human affairs

autocrat
a person who rules with unlimited authority

B

bandits
a member of an armed group of thieves who attack travellers

battering ram
a heavy wooden pole extending from the front of a boat

bias
a pre-set view about someone or something that is not altered by the presentation of facts and opinions to the contrary

C

canopic jars
jars used in ancient Egypt to store body parts removed during the mummification process

caste system
a strict hierarchy (class system) used to organise society

cause and effect
the link between what causes an action and the outcome of that action; understanding that events that take place are linked and can have impacts on people and places for many years to come

census
the process of officially counting something, especially a country's population

chronological order
the order in which events have taken place

chronology
a record of events in the order they took place

citizens
people who through birth (or by meeting certain criteria) are recognized as legal members of a community

city-states
independent settlements made up of an inner fortified city surrounded by houses and farmland

civilisations
the societies, cultures and ways of life in a particular area

colonies
settlements in other lands that had been taken over by Greece

colonisation
the process of setting up outposts of settlements in other lands, by a country, kingdom or empire

Colosseum
a large amphitheatre built and used during the Roman Empire to stage gladiator fights and other forms of public entertainment

concubine
a woman who lives with a man, often in addition to his wife or wives, but who is less important than they are

conscripted
when somebody is ordered by law to join the armed forces

continuity and change
the historical concept that explains that while some aspects of a society stay the same over time (continuity), others will develop and transform (change)

cosmos
the universe

Country
a term used by Aboriginal peoples to refer to all living things present on the land that they belong to; Country includes animals, plants and people as well as creeks, waterholes and hills; Creation spirits and seasons are also included in the term Country

culture
the customs and traditions that a community, society or civilisation develops over time that are passed down from generation to generation

customary law
traditional Aboriginal law

Cyclades
an early Greek civilisation based on a group of rocky islands in the Aegean Sea from about 3000 to 1700 BCE

D

deference
behaviour that shows that you respect somebody or something

deities
gods or goddesses

democracy
a political system in which people hold the power, either directly or through representative democracy

demotic and hieratic
both simplified systems of writing based on hieroglyphs; demotic was faster and easier to write

dendrochronology
a method used to estimate the age of trees by counting the rings in the cross-section of a tree trunk

desert
an area that receives less than 250 mm of rain every year; can be hot or cold

dowry
money and/or property that, in some societies, a wife or her family must pay to her husband when they get married

Dreaming, the
the belief system central to all Aboriginal cultures; the Dreaming also provides a moral code and guidance on interacting with Country; the Dreaming is not fixed in time – it is in the past, present and future

dynasties
periods of rule by members of the same family who come to power one after the other

E

Elders
key people who are keepers of cultural and spiritual knowledge within Aboriginal and Torres Strait Islander communities

embankments
walls or banks of stone or earth made to keep water back

empire
a group of countries and/or areas, often with different languages and cultures, that are ruled by a central power or leader (known as an emperor or empress)

evidence
information provided by a source that supports a given interpretation, or provides support for possible answers to inquiry questions

export
the selling and transporting of goods to another country

F

feudalism
a social system that existed in Europe and Asia in which people were given land and protection by a lord, and had to work and fight for him in return

fortification
a tower or wall built to defend a place against attack

G

garrison
a group of soldiers living in a town to defend it

geneticists
scientists who specialise in the study of genetics

H

Hades
the ancient Greek god of the Underworld; also the name of the Underworld itself – the place that the souls of people went when they died

hearth
the Latin term for 'focus'; the hearth fire in the home was used for cooking food, heating water and as a gathering place for family

heir
someone who will legally inherit the fortunes of another

hierarchy
a way of organising things (or people) from top down in order of importance or significance; ancient societies had strict hierarchies with a ruler at the top and peasants at the bottom

hieroglyphs
picture-like signs used in the original writing system of the ancient Egyptians

hoplites
Greek warriors

hydraulic engineering
the planning and management of the flow, pressure and storage of water

hydroelectricity
a form of energy that harnesses the power of water in motion to generate electricity

I

imperial
belonging or relating to an empire or the person or country that rules it

importing
bringing in a product or service to one country from another

inundation
a term used for a flood; there was a yearly flooding of the Nile River in Egypt

K

khepresh
a blue crown often worn by the Egyptian pharaoh when in battle; it was often studded with semiprecious stones to create stones to create a hard surface

kinship
an important part of Aboriginal and Torres Strait Islander cultures and values; kinship relates to relationships between people, and between people and the land

L

latrines
the early name for toilets

legions
military units in the army of ancient Rome made up of 60 centuries (i.e. around 6000 soldiers); soldiers in a legion were called legionaries

M

mausoleum
a special building made to hold the dead body of an important person or the dead bodies of a family

megafauna
a number of large animal species that lived in Australia during ancient times

Mesopotamia
the fertile land lying between the Tigris and Euphrates rivers (now covering a large part of Iraq); Mesopotamia is an ancient Greek word meaning 'between rivers'

middens
ancient rubbish heaps that contain the remains of meals such as shells and bones

millennium
a period of 1000 years

Minoans
an early Greek civilisation on the island of Crete from about 2500 to 1600 BCE

monarchy
a system of government in which a single monarch (such as a king or queen) has power

mummification
the process of preserving a dead body by preventing its natural decay; in ancient Egypt a body was mummified by removing internal organs (except the heart) and drying out the remaining body tissue, and the mummy was then buried

mummy
a body prepared for burial or entombment in ancient Egypt

Mycenaeans
an early Greek civilization on the mainland from about 1600 to 1100 BCE

mythology
a series of stories that the ancient civilisations used to explain life and the natural world

N

nomadic
belonging to a community that moves with its animals from place to place

O

official
a person who is in a position of authority in a large organisation

'Out of Africa' hypothesis
one model in the theory of how modern humans spread around the world, hypothesising that modern humans developed in Africa before migrating outwards

P

palaeontologists
scientists who study life in the geological past by examining the fossils of plants and animals

palynology
the study of microscopic organic matter found in soil

papyrus
a type of riverside plant; the ancient Egyptians made paper from the crushed pulp of the plant

paterfamilias
a Latin word meaning 'father of the family'; male head of a household in ancient Rome

patricians
educated and usually influential male members of one of ancient Rome's aristocratic families; usually wealthy landowners

phalanx
a tight battle formation used by the ancient Greeks in which soldiers would pack together with their shields overlapping; spears in the front row were held forward, those in the rows behind were held higher

pharaohs
leaders of ancient Egypt who were believed to be gods; the pharaoh had absolute power and total control

plateau
an area of high flat ground

plebeians
a term used to describe the many poor and uneducated people in ancient Rome

polygamy
marriage to more than one person at the same time

praetor
an official who worked under the consuls; one praetor commanded the army while the other was a magistrate in the justice system

primary sources
sources that existed or were made in the time period being studied

Q

quaestor
the lowest ranking elected official; usually looked after public spending and saving

R

radiocarbon dating
a method used to estimate the age of something that was once alive; the amount of radioactive carbon in the remains of the object is tested and gives a good indication of age because carbon breaks down over time at a known rate

regent
a person who acts as head of state if the true ruler is too young, too ill or missing

reincarnation
the process of being born again; to live life again in another body (human or animal)

republic
a system of government in which the people and their elected representatives (such as a president, politicians or senators) have power

resin
a sticky substance (similar to the sap from a tree) used in ancient Egypt to glue bandages together

revolts
protests against authority, especially that of a government, often involving violence

Roman Senate
a group of officials (senators) with ruling power in ancient Rome

S

sacred sites
places that have special importance or cultural significance to Aboriginal and Torres Strait Islander peoples

sarcophagus
the outer case (usually stone) of the nest of coffins containing the dead body of a person of importance

scarab
a type of beetle considered sacred by the ancient Egyptians; the word 'scarab' also refers to items of stone or metal jewellery in the form of the scarab beetle

scholar
a person who knows a lot about a particular subject because they have studied it in detail

scribe
a highly educated person in ancient Egypt who was able to read and write

seals
engraved stamps

secondary sources
sources created after the time being studied

self-cultivation
the development of one's mind or capacities through one's own efforts

shrine
a place or building where respect and devotion is paid to a god or goddess; shrines often house religious objects known as relics

Silk Road
a trade route stretching west from China to the Mediterranean Sea; the main route by which silk was introduced to the West

sistra
metal musical instruments in ancient Egypt that rattled when shaken; the singular form is *sistrum*

societies
communities of people living in a particular area who have shared culture, customs and laws

sources
anything that allows us to understand the past; sources can be primary sources or secondary sources

standardised
to have made objects or activities of the same type have the same features or qualities

stupa
a religious structure built to house Buddhist relics

T

timelines
sequences of related historical events shown in chronological order

totem
an animal or object that has spiritual significance for Aboriginal and Torres Strait Islander peoples; different totems are given to children at birth and are considered guides and protectors

U

Underworld
the place where spirits of the dead were believed to reside according to ancient Greek beliefs

V

values
qualities of character that a society or community regards highly

Glossary: Economics and business

D

debt
money that is owed to others

E

employees
people who work for a business

employers
businesses that employ workers to produce goods and services

F

factors of production
economic resources that are divided into four categories: land, labour, capital and enterprise

G

goods and services
goods are physical things (e.g. food and clothing), while services are things people do for us (e.g. cutting our hair)

I

importer
a business that brings to Australia products made overseas (to sell in the Australian market)

interest
(1) the cost of borrowing money from a bank; a person has to pay the bank interest on top of the original amount borrowed from the bank

(2) the amount of money paid to a person by a bank for keeping their money in an account with the bank

investing
putting money into shares, property or other financial schemes in the hope of making a profit

L

landlord
the owner of a house who leases it out to a tenant in exchange for rent

law of demand
when prices rise, the quantity demanded decreases and when prices fall, the quantity demanded increases

law of supply
the higher the price that a good or service can be sold, the higher the quantity that producers are willing to supply

leased
a contract that allows a person to use a property for a period of time, usually in exchange for rent (money)

M

market forces
changes in supply and demand that affect how much people are willing to pay for or sell goods and services

minimum wage
the lowest amount of money that a worker can be paid; it is usually an amount for each hour worked

N

needs
things that we physically cannot survive without, including food, water and shelter

O

opportunity cost
opportunity cost what we miss out on when making a choice

P

price mechanism
the way price can affect the supply and demand of goods and services

profit
the amount of money a business earns after taking away its expenses

R

regulatory body
an organisation that monitors or oversees certain aspects of an industry in order to protect those affected by it

relative scarcity
The problem that arises because our wants are unlimited, but the natural resources we use to fulfil them are unlimited

resources
natural or manufactured materials that can be used to produce goods and services

S

saving
setting aside money to spend later

T

tenant
a person who pays rent in exchange for living in a house owned by someone else

W

wage
the amount of money that a worker is paid based on the work they do

Glossary: Civics and citizenship

A

assimilation
the policy adopted by the Australian Government that aimed to absorb Aboriginal and Torres Strait Islander peoples into white society

Australian Constitution
a document that describes the rules, or laws, that govern Australia; the Constitution defines the structure of government in Australia, and also the rights of citizens

C

census
the process of officially counting something, especially a country's population

colonisation
the process of setting up outposts of settlements in other lands, by a country, kingdom or empire

M

multicultural
having many different cultures, races and/or religions

multi-faith
having a variety of religions

R

reconciliation
in Australia, the process of strengthening the relationships between Aboriginal and Torres Strait Islander peoples and non-Indigenous peoples

rights and responsibilities
the entitlements and obligations associated with citizenship

S

secular
when the church and state are separated so that religious institutions are not directly involved in how the government is run

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* Former Yugoslav Republic of Macedonia

180°
150°W
120°W
90°W
60°W
30°W
0°
30°E
OCEAN
PACIFIC
OCEAN
ATLANTIC
OCEAN
Kalaallit Nunaat (Greenland) (Denmark)
Arctic Circle
ICELAND
Reykjavik
60°N
Alaska (USA)
CANADA
Ottawa
St Pierre and Miquelon (France)
Washington DC
UNITED STATES OF AMERICA
Azores (Portugal)
Bermuda (UK)
30°N
BAHAMAS
Nassau
Tropic of Cancer
Havana
CUBA
HAITI
DOMINICAN REPUBLIC
Port-au-Prince
Santo Domingo
Socorro Island (Mexico)
MEXICO
Mexico City
Clarion Island (Mexico)
Hawaii (USA)
CAPE VERDE
Praia
GUATEMALA
Guatemala City
HONDURAS
Tegucigalpa
San Salvador
EL SALVADOR
NICARAGUA
Managua
San Jose
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TRINIDAD AND TOBAGO
Port of Spain
GUYANA
Georgetown
Paramaribo
French Guiana (France)
SURINAME
VENEZUELA
Bogota
COLOMBIA
Clipperton (France)
MARSHALL ISLANDS
Majuro
NAURU
Yaren
South Tarawa
Equator
0°
Quito
ECUADOR
Galapagos Islands (Ecuador)
KIRIBATI
SOLOMON ISLANDS
Honiara
Funafuti
TUVALU
PERU
Lima
BRAZIL
Brasilia
SAMOA
Apia
American Samoa (USA)
VANUATU
Port Vila
FIJI
Suva
NIUE
Alofi
TONGA
Nuku'alofa
COOK ISLANDS
Avarua
French Polynesia (France)
New Caledonia (France)
La Paz
BOLIVIA
Sucre
PARAGUAY
Asuncion
Tropic of Capricorn
Pitcairn Island (UK)
Rapa Nui (Easter Island) (Chile)
San Felix (Chile)
CHILE
Norfolk Island (Australia)
International Date Line
30°S
Juan Fernandez Islands (Chile)
Santiago
Buenos Aires
URUGUAY
Montevideo
ARGENTINA
Wellington
NEW ZEALAND
Chatham Islands (New Zealand)
LEGEND
Country border
Disputed country border
Country capital city
Azores (Portugal)
Dependency
Auckland Islands (New Zealand)
Falkland Islands (UK)
South Georgia (UK)
N
0
1000
2000
3000 km
SCALE 1:77 000 000 at 40°N and S
1 centimetre on the map measures 770 kilometres on the ground.
Modified Times Projection
60°S
Antarctic Circle
ANTARCTICA
180°
150°W
120°W
90°W
60°W
30°W
0°

The history of ancient Egypt has long fascinated people all over the world, partly due to its rich legacy of magnificent monuments, pyramids and temples. This photograph shows the temple of Kom Ombo, which is dedicated to two deities: Sobek (the crocodile god) and Horus (the falcon-headed god). It is located on a hill overlooking the River Nile, which used to be home to huge numbers of crocodiles. The temple includes a courtyard, passageways and small rooms, as well as intricately carved columns and friezes. The site also features a crocodile museum, where you can see several crocodile mummies.

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