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VICTORIAN CURRICULUM

Mark Easton | Maggy Saldais | Vladimir Dumovic
Geraldine Carrodus | Christian Machar

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Using *Oxford Big Ideas Humanities*

Oxford Big Ideas Humanities is a brand-new series developed and written to provide complete coverage of the Victorian Curriculum: Humanities – Geography, History, Economics and Business, and Civics and Citizenship – across Years 7–10.

Focus on inquiry

Each chapter of *Oxford Big Ideas Humanities* is structured around key inquiry questions from the Victorian Curriculum. Each unit of the text supports teachers and students as they adopt an inquiry-based approach to the key learning areas in the Humanities.

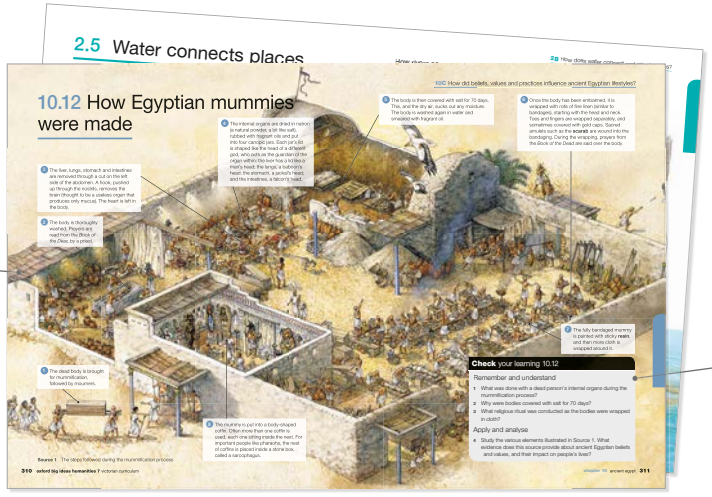
The learning sequence in each chapter is clearly set out under key inquiry questions. Students are encouraged to use their prior knowledge and make predictions at the start of each new topic.

Stunning full-colour photography generates discussion and interest.

Focus on engagement

Each unit of the Student book combines a range of engaging source materials – such as photographs, videos, data tables, graphs and illustrations – with supporting questions and activities.

Source materials – such as photographs, infographics, political cartoons, graphs – simplify difficult concepts and engage reluctant learners.



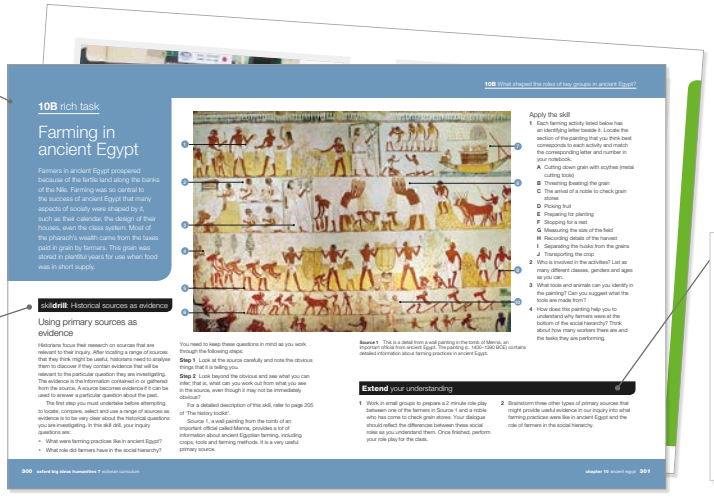
Check your learning activities accompany every unit, allowing students to consolidate and extend their understanding. These are graded according to Bloom's Taxonomy – catering for a range of abilities and learning styles.

Focus on concepts and skills

Complete coverage of all concepts and skills provided in stand-alone reference ‘toolkits’. All of these concepts and skills are also integrated throughout the text so students can see them at work in context.

Rich task activities encourage students to apply the knowledge and skills they have learned in each chapter to a new and interesting case study, event or issue.

Skill drill activities guide and support students step by step as they learn and apply key skills.



Extend your understanding activities challenge students to conduct further research, or complete group work, to deepen their understanding of an issue or skill being investigated.

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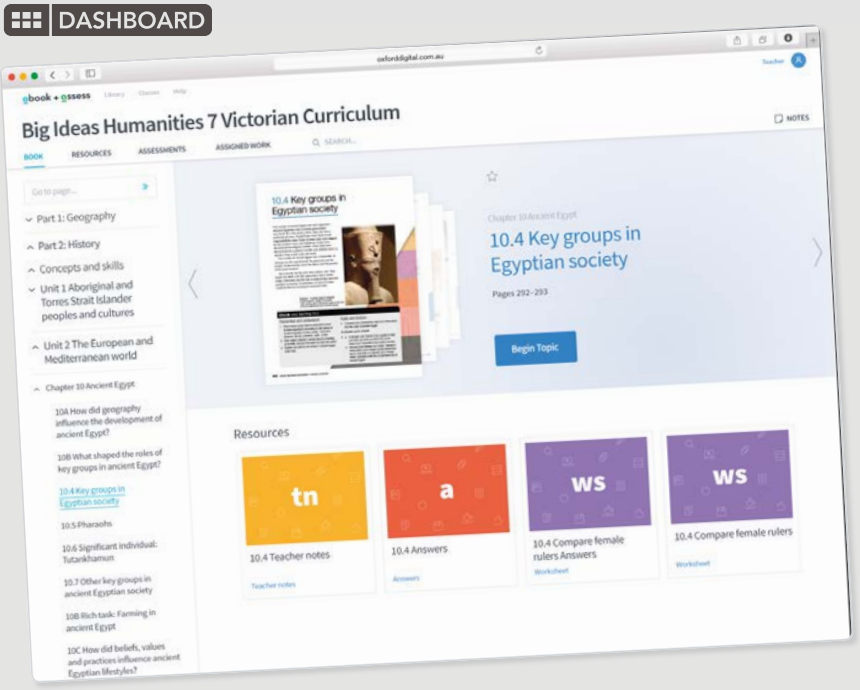

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geography

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Concepts and skills

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 concepts and skills is a tool that you can use to better understand your world. As you master each of these concepts and skills you will gradually fill your toolkit with a range of useful geographical tools.

Geographers are curious. They look at the Earth's **features** and always want to know more about them. For example, when they look at Jim Jim Falls (Barrkmalam) in Kakadu National Park, Northern Territory, shown in Source 1, they wonder about many aspects of this natural feature. They want to know about:

- its size
- its location
- the types of rocks in the area
- the types of plants and animals in the area
- its significance to Indigenous Australians
- the way it is used by people
- the way it is changing.

1A

What are the geographical concepts?

1B

What are the geographical skills?

chapter 1

Source 1 A view of Jim Jim Falls in Kakadu National Park in the Northern Territory. This is known to the Aboriginal people of the region as Barrkmalam.

1C

What is fieldwork?

1.1 Geographical concepts

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

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

Place

Places are parts of the Earth's surface that are identified and given meaning by people. Your home and your school are important places for you because they are the places where you live and spend most of your time. A place can be as small as your bedroom or as large as the entire planet!

Places play an important role in the lives of every person on Earth. Places can be natural (that is, shaped by the environment and largely unchanged by humans) or built (that is, constructed by humans).

The life of every person and animal on Earth is influenced by place. Places determine our relationships with one another. Our closest relationships are likely to be with people in the same place. The environmental and social qualities of a place all 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 Indigenous Australians, place also has a deeper spiritual meaning. Their sense of identity comes from their relationship with place. Aboriginal people have lived in the Kakadu **region** of Northern Territory for over 50 000 years. The region contains approximately 5000 rock art sites, some of which are over 20 000 years old. They represent the longest historical records of any group in the world. This was one of the reasons Kakadu National Park is World Heritage listed. Aboriginal people refer to their place as 'Country' and believe that they have a responsibility to look after it.

Source 1 An aerial view of Manhattan Island, New York City – an example of a built environment

Geographers use the concept of place when conducting any **geographical inquiry**. For example, a geographer visiting New York City in the United States (Source 1) would use the concept of place to help understand why people originally settled there, how the city was built and how it has changed over time.

They would also use place to investigate the important role the city plays in the lives of New Yorkers, Americans and people all over the world.

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. For example, by investigating the way in which human actions have altered the Brazilian Rainforest, geographers can learn how to better manage and care for our natural resources.

Space

To most people space means the empty universe, but to a geographer it has a different meaning. Geographers investigate the way that things are arranged on the Earth's surface. They look for patterns and try to explain them. 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.

The concept of space can also be used to investigate some other important aspects of the world around us. 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 that improvements in transport and communication have made links between places quicker and easier and the ways that this is changing the world.

The city of Shimabara in the south of Japan (Source 2) illustrates the concept of space well. The city has been built on a flat coastal area at the foot of an active volcano, Mount Unzen. Houses, schools and office buildings in Shimabara are linked by roads leading to nearby farms closer to Mount Unzen. The volcano clearly presents a danger to people living in the town. As Source 2 shows, the flow of superheated ash and rock from the volcano has buried part of the city as it makes its way to the sea. At first glance it may not be clear why anyone would risk living this close to a volcano, but closer analysis of the area reveals that the fertile volcanic soil in the area makes it ideal for growing crops.

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).

Source 2 An **aerial photograph** showing the path of the hot ash and rock that flowed to the sea from Mount Unzen, an active volcano on the island of Kyushu in Japan. Part of the city of Shimabara (shown in the foreground) has been buried by the eruption.

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).

Our understanding of the location, patterns and planning of spaces helps geographers to make sense of our world.

Environment

The world in which we live 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. In order 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 (such as soil, plants and animals), they also affect the climate. A large city, such as New York, has its own microclimate. It will often be a few degrees hotter than the surrounding areas because concrete in the buildings traps the Sun's heat. Skyscrapers also catch and funnel the wind, increasing its speed.

Most environments on Earth are now a combination of natural and human features. For example, Antarctica, the harshest environment on the planet, is considered a natural environment despite humans having altered some areas of it. These changes have included the building of a number of permanent research bases and the carrying out of various scientific studies both on land and sea. The McMurdo research base, for example, operated by the United States (Source 3), has three airfields, a harbour and more than 100 buildings. In addition to these built structures, other human influences have affected this environment. The warming of the planet has contributed to the increased melting of ice shelves, and pollution of our oceans has had an impact on sea and land animals in Antarctica.

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 impact so that they can be managed more wisely.

Source 3 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.

Source 4 Bangladesh is one of the countries most vulnerable to climate change because of a number of interconnected processes that are causing sea levels to rise. It is estimated that 15 million of the poorest people living in Bangladesh, like those living in this slum, will be affected by a 1-metre rise in sea levels.

Interconnection

No place or thing on Earth exists in isolation. All environments on Earth 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 in many different ways that 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.

It helps to think of the Earth as a single living organism, much like your 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 have an effect on the oceans (such as damaging coral reefs and affecting the populations of fish and other sea creatures), the land (such as failure of crops and drought) and the polar ice caps (such as increasing sea levels and forcing millions of people to relocate their homes). Source 4 shows a slum in Bangladesh, the most densely populated country in the world. Bangladesh is slightly larger than England in size, but is home to 150 million people; this is three times the population of England. Its coastal zone has a very low elevation above sea level, making it one of the countries most vulnerable to **climate change** through rising sea levels.

Source 5 A Minke whale and her one-year-old calf are being dragged on board the Japanese factory ship *Nisshin Maru*. Anti-whaling activists argue that the number of whales hunted by the Japanese each year is **unsustainable**.

Sustainability

The concept of sustainability relates to the ongoing capacity of Earth to maintain all life. This means developing ways to ensure that all resources on Earth are used and managed responsibly so they can be maintained for future generations.

Sustainable patterns of living meet the needs of the current generation without compromising the ability of future generations to meet their own needs. 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 one day run out. 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 a number of levels:

- Local – Recycling of paper and plastics by individuals, schools and households reduces the number of trees that need to be cut down and amount of oil that needs to be drilled to produce plastic bottles and bags.
- National – In Australia, the government has begun to encourage sustainable use of energy through the establishment of wind farms and hydroelectric power plants and measures to promote the use of solar panels.
- International – Efforts to protect endangered whale species around the world have attracted media attention and focused public opinion on maintaining breeding grounds free of large whaling vessels (Source 5).

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

Scale

The concept of scale is used to guide geographical inquiries. Geographers study things that take place on many different spatial levels – meaning 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 geographic 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, the types of facilities there and whether these facilities meet the needs of visitors
- regional – such as an inquiry into the types of visitors staying at campsites and tourist parks in the Grampians region of Victoria
- national – such as an inquiry into the yearly tourist numbers visiting national parks in Australia (such as Kakadu National Park and Christmas Island National Park), including the impact these visitors have on our national parks, the way in which these parks are managed, and on what levels Indigenous people are involved
- international – such as an inquiry into animal poaching in national parks and wild game reserves in different countries across Africa (such as South Africa, Kenya, Tanzania and Madagascar)
- 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.

Source 6 Geographical inquiries can be carried out on a number of different spatial levels: local (e.g. at a nearby skate park); regional (e.g. at a campsite in the Grampians region of Victoria); national (e.g. at national parks across Australia); international (e.g. in different countries across Africa) and global (e.g. at marine parks all over the planet).

Change

The Earth is constantly changing. Some changes occur very rapidly and are easy to see, while others take place over millions of years and are almost undetectable to us. The concept of change is important in geography because it helps us to understand what is happening around us and see the world as a dynamic place. Over millions of years, 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 or a creek flooding, are often easy to observe and explain. Larger regional or national changes, such as an earthquake or tsunami, can happen quickly and their effects can be widespread and have devastating impacts on places and people (see Source 7). Changes that take place on a global scale can take much longer. Global warming, for example, is a long-term change that happens slowly. Global warming has widespread effects that are not easily explained.

Observing and understanding changes that are natural and/or are made by humans and have occurred over time 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 in Indonesia. Geographers play an important role in ensuring that change is managed in a sustainable way.

Source 7 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.

Check your learning 1.1

Remember and understand

1 Examine the photo of Jim Jim Falls (on page 4). Is this a natural or built environment? Give reasons for your answer.

2 New York City (shown in Source 1) is one of the world's largest cities. List five ways in which this built environment affects how people live and work.

3 Look carefully at Source 2. Why have people settled in this location? Describe the pattern formed by the houses in the township.

Apply and analyse

4 Here are some examples of changes that may be occurring on Earth at any given time:
- an extra bathroom is being built onto your house
- a new freeway is being built through the city
- the Earth's climate is warming
- an earthquake is destroying a town in Turkey
- a rainforest is being cleared by loggers in Indonesia.

   a Rank these changes from the slowest to the most rapid.

   b Which of these changes are caused by human activities and which are caused by natural processes?

   c Identify the scale at which each of the above changes takes place: local, regional, national, international or global.

5 Using Source 4, explain the chain of events that would lead to flooding in this slum area of Bangladesh. Describe how and why slum dwellers would be more affected by this event than the wealthy.

6 List three ways in which your school or household is addressing the concept of sustainability. Which of these do you believe is most successful? Why?

7 Examine Source 5. Work with a partner to conduct research on the importance of the Southern Ocean Whale Sanctuary in conserving endangered whale species.

8 Study Source 7. Identify the major changes to the Japanese coastal suburb as a result of the tsunami. How might an understanding of the concept of change be useful in guiding the rebuilding or relocation of the suburb?

9 Your class is undertaking research on the Great Barrier Reef. Develop one question for each of the seven geographical concepts discussed in the text.

Evaluate and create

10 Create a diagram, such as a flow chart, to show the interconnection between the natural and built environment at Antarctica's McMurdo Station (Source 3). Include information on such aspects as climate, landforms, wildlife and human settlement (especially waste management and change to the natural environment).

11 Choose one of the key concepts that has been discussed. Design a poster for your geography classroom to help you and your classmates remember this concept and use it in geography.

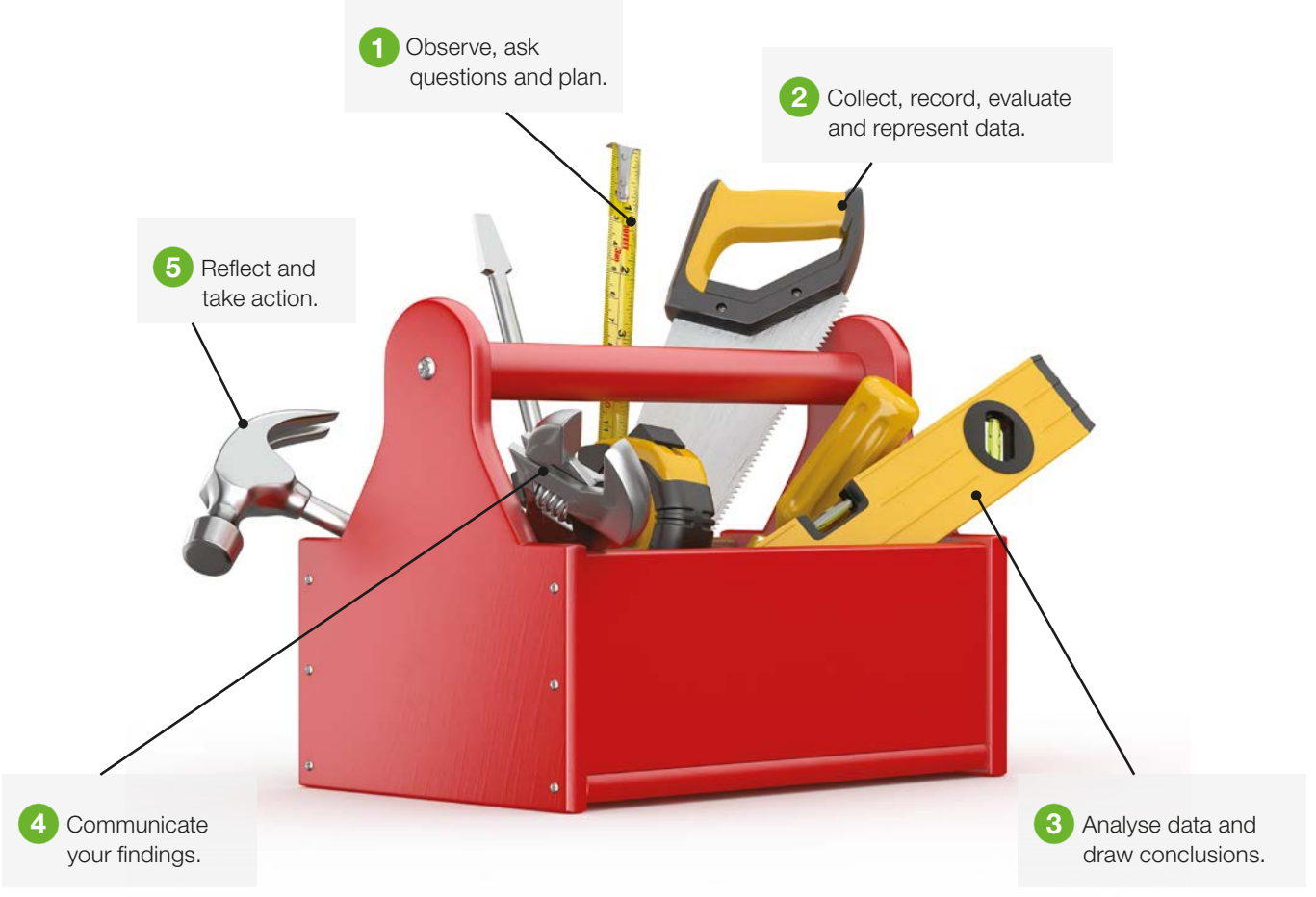
1.2 Geographical skills

Geography has been described as the 'why of where'. Geographers examine the world and try to explain what they see. Like a detective at the scene of a crime they follow a line of inquiry. As shown in Source 1, there are five stages in any geographical inquiry. They are:

1. Observe, ask questions and plan.
2. Collect, record, evaluate and represent data.
3. Analyse data and draw conclusions.
4. Communicate your findings.
5. Reflect and take action.

To follow a line of inquiry, geographers need a range of skills. 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 have gained 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. For some geographical inquiries you may only need to use one tool; for others, you may need to use many.



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

1.3 Observe, ask questions and plan

Observe the world around you

All good geographical inquiries begin by observing something in the natural or built world around you. If you look out the window of your classroom you will become aware of your surroundings. Is it a sunny day? Is it windy? Can you see any buildings or trees? Are there any clouds?

Even though you may look out this window on most days and take what you see for granted, these simple questions can easily become the basis of a number of different geographical inquiries. If the sun is shining, you might like to begin an inquiry into the hours of sunlight and the pattern of temperatures in your area. If it is windy, you might like to begin an inquiry into what direction the wind is coming from, how strong it is and why. If you can see lots of trees or buildings, you might like to 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.

Develop geographical questions

Geographers ask lots of questions. 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?'

As a geographer, no longer will you look at something in your world, such as Uluru, and only 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 used and managed and its significance for Indigenous Australians.

Plan a simple geographical inquiry

Once you have asked a range of more general questions about a geographical feature or issue, it is time to select one question that will become the focus of your inquiry. When you have chosen this, it is useful to decide what data is needed to answer the question and how to collect the data.

Planning a geographical inquiry about Uluru

Having chosen to investigate the **key inquiry question** 'Is it a good thing that so many tourists visit Uluru?', you need to decide what data is needed to answer the question and how to collect the data.

Source 1 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 Indigenous 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.

skill**drill:** Data and information

Developing geographical questions

This visitor to Uluru is asking some important geographical questions. You can learn to do this too by starting your questions with the words 'what', 'where', 'how', 'why', 'what impact' or 'what should' when thinking about a particular feature or place.

Your questions should deal with these types of issues:

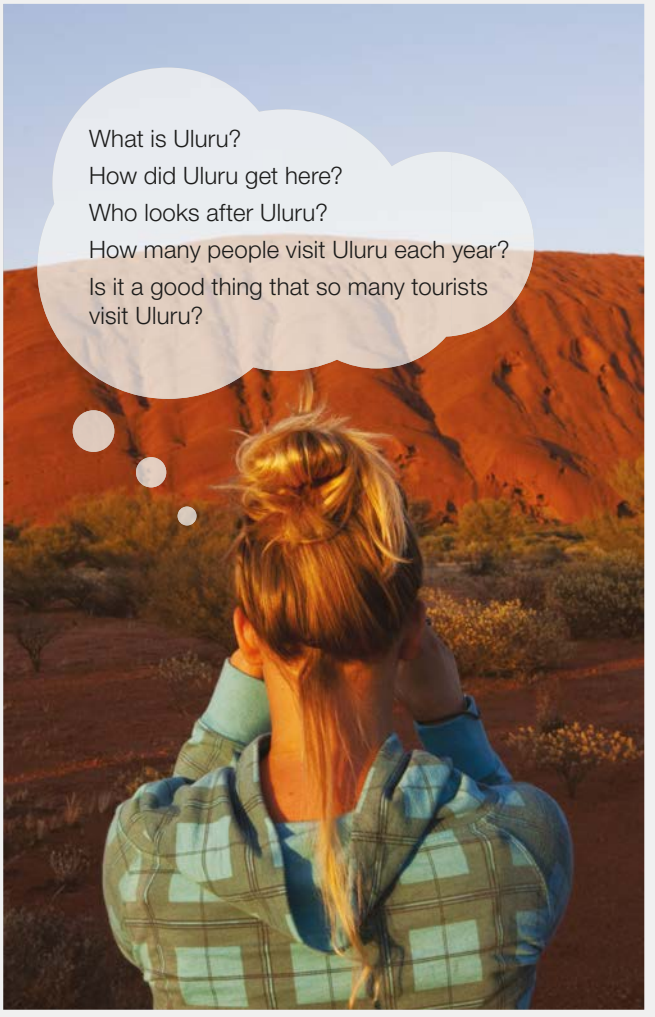
- Where is it?
- How big is it?
- What pattern or shape is it?
- How does it interact with other things in this place?
- Is it changing? If so, why is it changing and what will it look like in the future?

The very best questions open up exciting areas for you to explore. For example, a visitor to Uluru might ask a simple question, such as 'How big is Uluru?' This is a question with a relatively simple answer. A better geographical question for the visitor to ask would be 'Why is Uluru so big?' This question opens up a whole new area for her to explore.

Apply the skill

1 Why would it be better to ask 'Why is Uluru so big?' rather than 'How big is Uluru?'

2 Examine the photograph of Jim Jim Falls at the beginning of this chapter. Work with a partner to develop geographic questions about this landscape.



Source 2 Developing geographical questions is an important part of a geographical inquiry

Check your learning 1.3

Remember and understand

1 Good geographers are like detectives. Why is this?

2 On your way to school you notice that bulldozers are clearing an area of bushland.

- **a** How could this observation form the basis of a geographical inquiry?
- **b** Write five different types of questions to assist you in your geographical inquiry into the clearing of this bushland.

Apply and analyse

3 There is a proposal to build a new shopping centre.

- **a** Describe how a geographer would be able to find out what local people thought about the proposal.
- **b** What two additional issues may be linked to this geographical inquiry into the construction of a new shopping centre? One issue should relate to the natural environment and one should relate to the built environment.

1.4 Collect, record, evaluate and represent data

Collect, record and evaluate primary and secondary data

Good planning and preparation will ensure that your geographical inquiry will run smoothly, be relevant and give you the answers you are looking for.

- Collect and record the information you think you will need to answer your key inquiry question.
- Evaluate this information and data to determine that it is accurate and relevant.
- Represent your findings in an interesting and appropriate way (such as tables, graphs, maps and sketches).

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 his or her inquiry but has not been specifically collected or designed by the geographer for the inquiry. This type of information is called **secondary data**.

Source 1 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

Distinguish 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).

Source 2 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

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 to be 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.

Create maps and other graphic representations

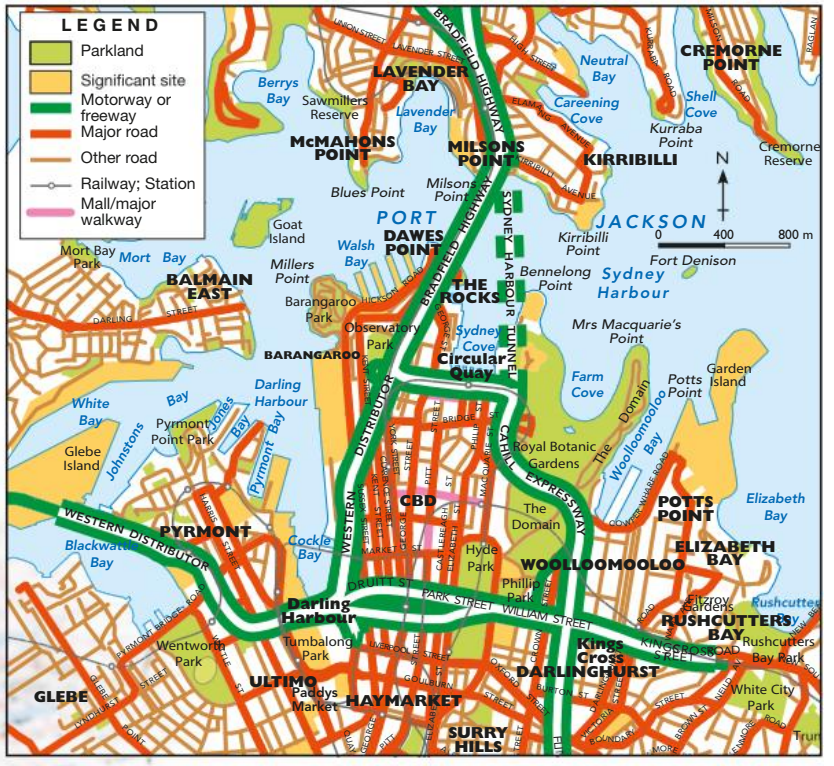
Geographers often present the information they gather during their inquiries in a number of different ways. They often make maps, create graphs and tables or even draw diagrams to help them look for patterns in the data they have gathered. These tools also help people who were not involved in the inquiry (such as the general public, the government or people in the media) understand the work that has been done.

Creating maps

One of the most useful tools that geographers use to process information is a **map**. A map is a simplified plan of an area. 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.

Source 3 An aerial photograph of Sydney Harbour and the city

SYDNEY: HARBOUR AND CBD



Source 4 A map of Sydney Harbour and the city

Source: Oxford University Press

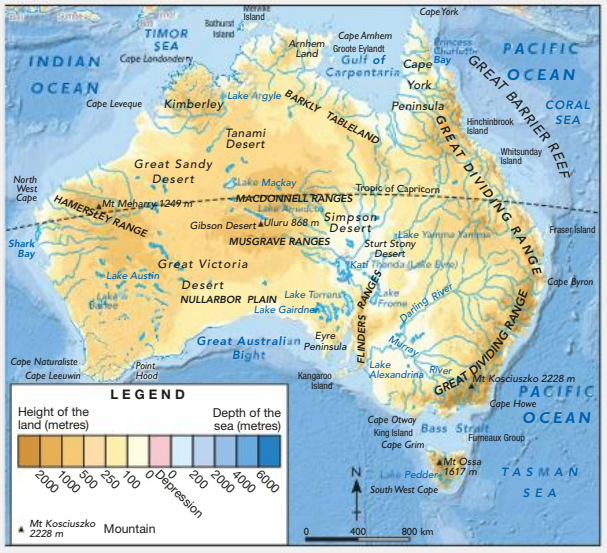
Simple maps

Geographers use different types of maps to show a whole range of different natural and built features – and the connections between them. This year you will be learning how to create a number of different types of maps and interpreting the information that they provide.

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 5 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 6 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 7, 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 3 on page 38). Dot distribution maps help to show patterns and links between features – geographers refer to this as spatial distribution.

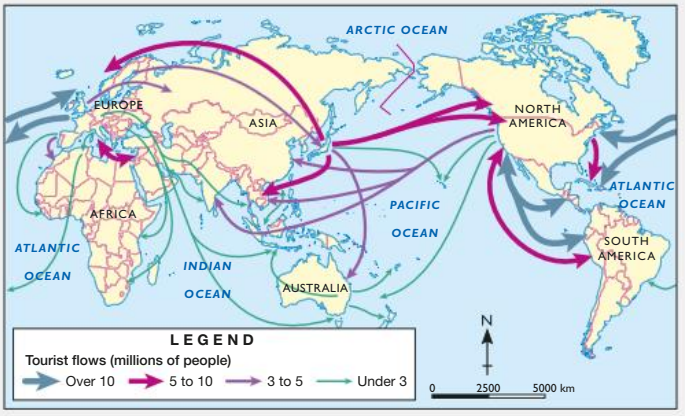
DOT DISTRIBUTION MAP OF AUSTRALIA SHOWING POPULATION

Source 7 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

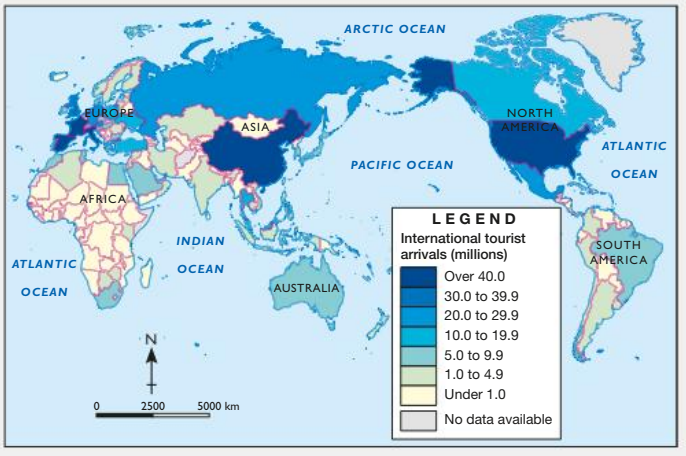


Source 8 Source: Oxford University Press

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.

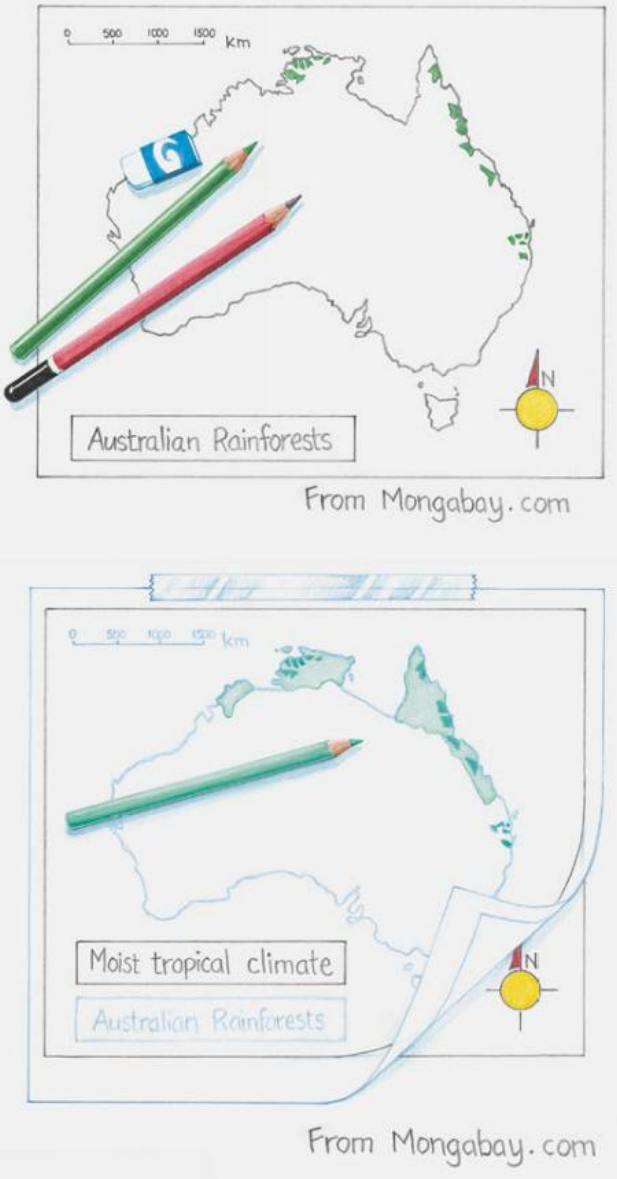
CHOROPLETH MAP SHOWING INTERNATIONAL TOURIST ARRIVALS WORLDWIDE



Source 9 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 10 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)

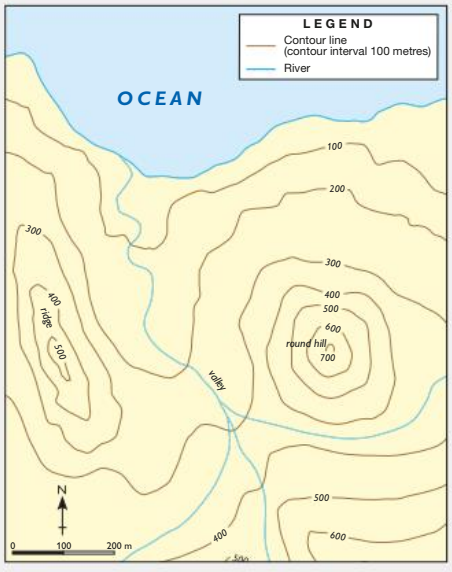
More complex maps

Over the course of the year you will also be working with a number of other, more complex maps. You won't necessarily be creating these maps yourself, but you will be learning how to make sense of the information they provide.

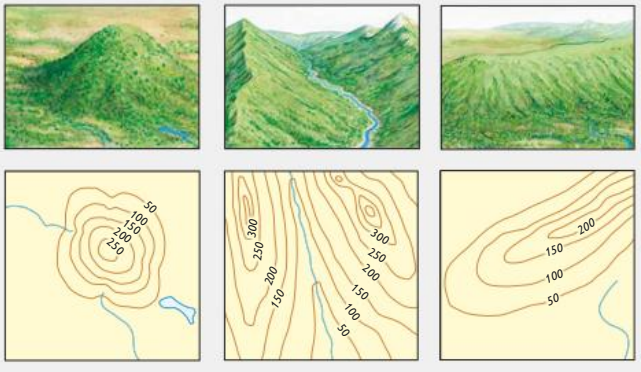
Topographic maps

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 11.

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



A ROUND HILL | A VALLEY | A RIDGE



Source 11 Source: Oxford University Press

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 12 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 13 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 is an exciting new development in the world of geography because it allows 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 3-D models of areas and record video simulations, known as flyovers.

GIS is already a part of many people's everyday life. 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.

Essential features of maps

BOLTSS

Regardless of the type of maps you are creating or interpreting, 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**.

Source 14 shows a map of Australia that is held together with 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

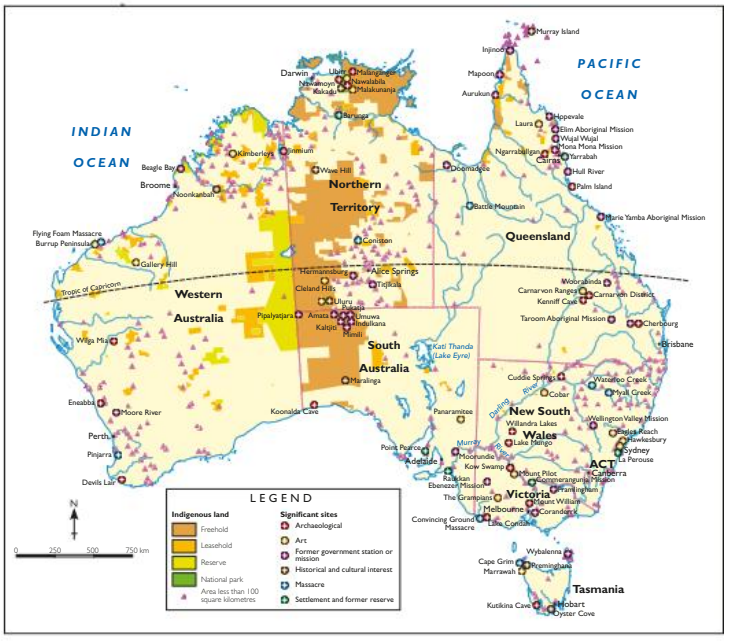
L Legend – an explanation of the symbols, colours and patterns used on the map (also known as a key)

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 17 shows the three ways 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]'.

AUSTRALIA: INDIGENOUS LAND AND SITES, 2006



Source 14 A map of Australia showing all the features of BOLTSS
Source: Oxford University Press

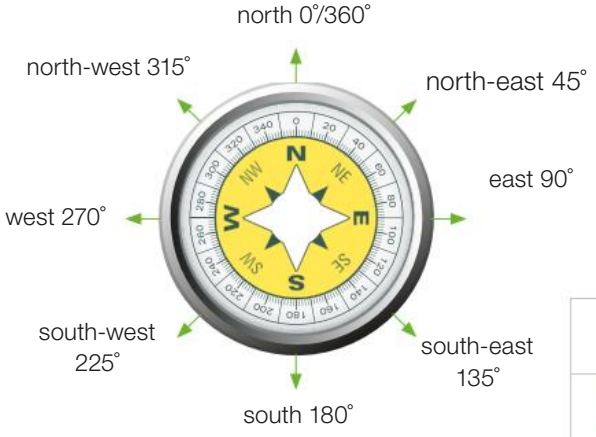
Direction

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 by the use of 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 15).

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 15.



Source 15 A compass face showing cardinal points and compass bearings

Scale

We use **scale** to shrink or increase real-world features so they will fit into a space. Model cars are scaled down in size and proportion from real cars.

The model shown in Source 16 looks like the real car, only smaller. It is a 1:35 scale model. This means that 1 centimetre on the scale model is equal to 35 centimetres on the real car. If 1 centimetre represents 35 centimetres, then 10 centimetres (the total length of the model) represents a total length of 350 centimetres (or 3.5 metres) on the real car.

Scale on maps

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 the map of Tasmania (Source 17). In the bottom left-hand corner 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 17 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 17 line scale shows 1 centimetre is equal to 30 kilometres.
- Ratio scale – A ratio scale shows scale in numbers. The ratio scale for Source 17 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.

Source 16 This model car is 35 times smaller than the real car. This is expressed as 1:35.

Using line scale to measure distances

Scale is a handy tool to help you study the world around you from inside your classroom. Look at Source 17. You will notice that all the features on the map have been shrunk by the same amount so that they fit on the page.

You can use the line scale to measure the distance between two points 'as the crow flies' (that is, in a straight line) by following these steps:

Step 1 Place the straight edge of a sheet of paper over the points you wish to measure.

Step 2 Mark the starting and finishing points on the paper.

Step 3 Hold the edge of the paper against the line scale to work out the real distance between the two points.

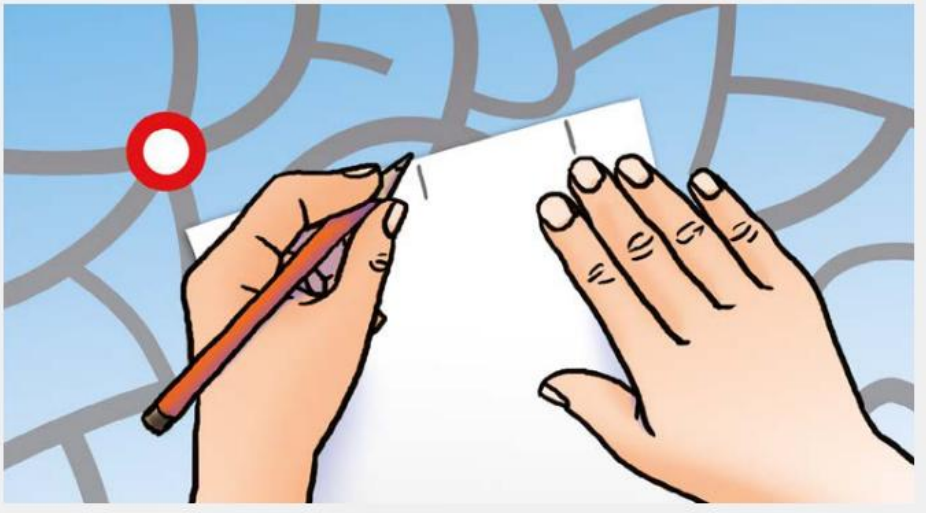
Apply the skill

1 Use Sources 17 and 18 to answer the following questions:

- **a** How far is it from the peak of Cradle Mountain to the centre of Hobart as the crow flies?
- **b** How far is it from Devonport in the state's north to Queenstown in the west as the crow flies?
- **c** How long is Lake Gordon from north to south?
- **d** How wide is the state of Tasmania at its widest point?

TASMANIA

Source 17 Source: Oxford University Press



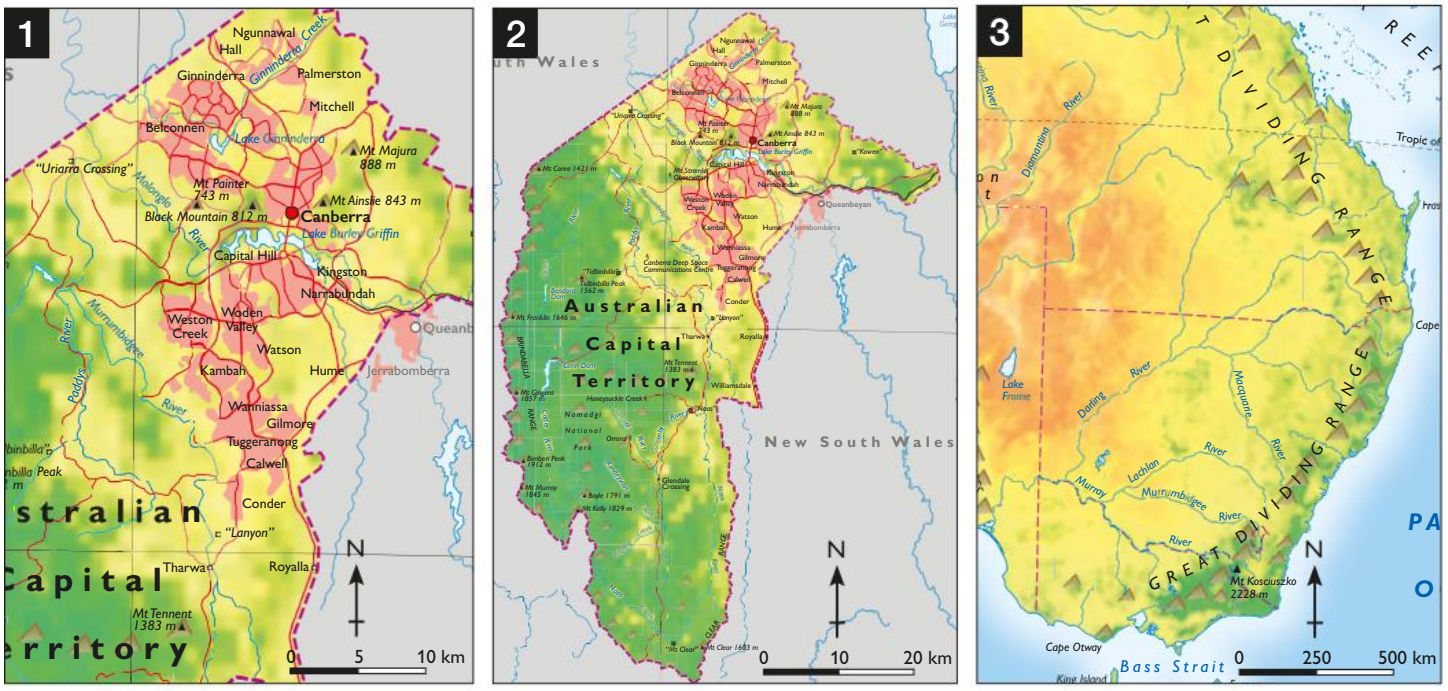
Source 18 Measuring straight distances on a map using a sheet of paper

Comparing map scales

Maps are often shown at different scales depending on the amount of detail they need to show. Source 19 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 19

Source: Oxford University Press

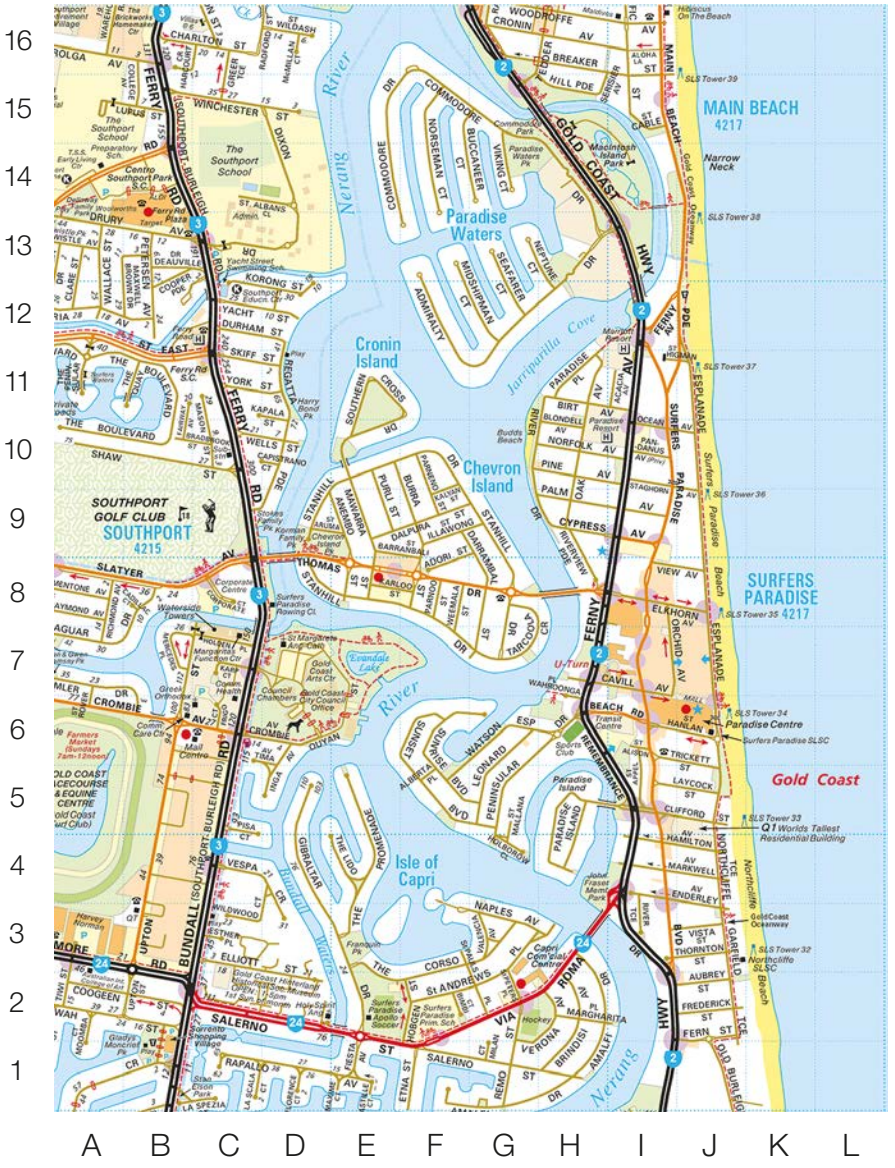
Remember:

- Large-scale maps show a **large** amount of detail, but a **small** area.
- Small-scale maps show a **small** amount of detail, but a **large** area.

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 a number of ways in which you can locate things on maps and a number of 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.

SURFERS PARADISE STREET MAP



Source 20 Source: *Brisway*

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 20 the grid reference for the Paradise Centre is J6.

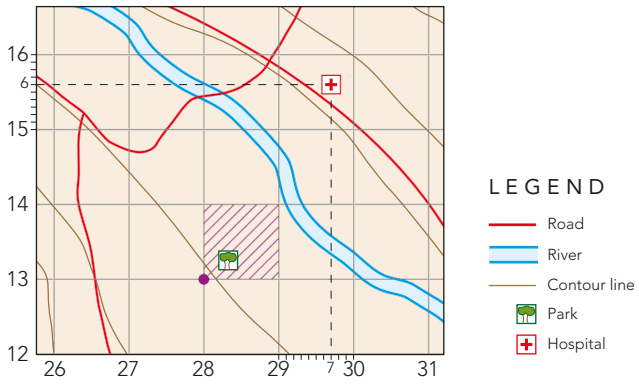
Area referencing (AR)

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 21 the park is located in AR2813.

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 21 the hospital is located at GR297156.

TOPOGRAPHIC MAP EXTRACT SHOWING AR AND GR



Source 21 Source: Oxford University Press

Latitude and longitude

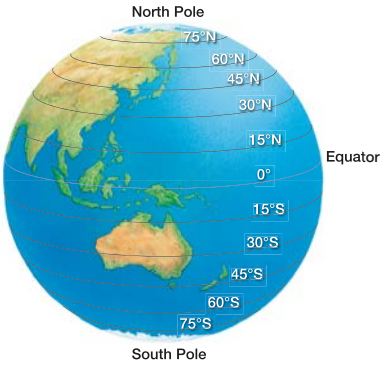
Maps that show large areas of the Earth's surface (such as world maps) use a set of imaginary lines that form a grid. These gridlines, known as **latitude** and **longitude**, help us to locate places accurately.

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.

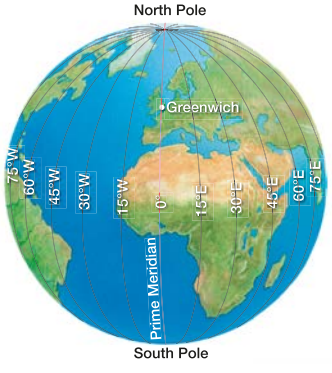
The line of latitude midway between the north pole (90 degrees north) and south pole (90 degrees south) is known as the **Equator** (see Source 22), which is located at 0 degrees latitude. It divides the Earth into the northern hemisphere and southern hemisphere.

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 23).



Source 22 Lines (or parallels) of latitude



Source 23 Lines (or meridians) of longitude

Remember:

- Latitude – think 'lat is flat'.
- Longitude – think 'long is long'.

Creating graphic representations

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

- Tables – These allow geographers to present and compare data by organising it under different headings (see Source 24).
- Diagrams – These allow geographers to show the features or characteristics of some places or things much more effectively than describing them in words. Certain interesting or complex processes can also be more easily explained and demonstrated with the help of sketches, flow charts or illustrations (see Source 22 and Source 23).
- Graphs – These 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.

Source 24 A table showing the populations of Australian states and territories in 2011

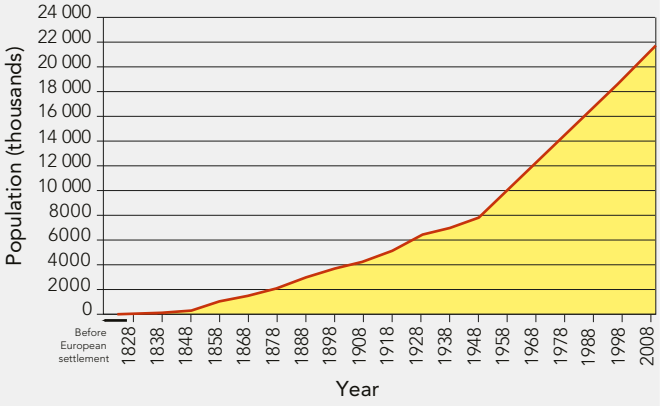
State/Territory	Population	Percentage of Australia's population
New South Wales	7 317 500	32.3
Victoria	5 640 900	24.8
Queensland	4 599 400	20.3
Western Australia	2 366 900	10.4
South Australia	1 659 800	7.3
Tasmania	511 000	2.3
Australian Capital Territory	366 900	1.6
Northern Territory	231 200	1.0
Australia	22 693 600	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 a number of different types of graphs and interpreting the information that they provide. Some of these graphs are described below.

Line graphs

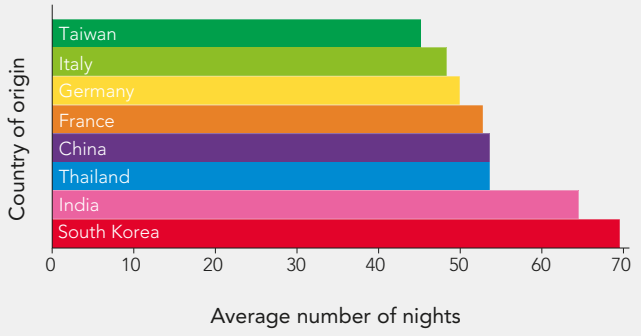
Line graphs show information as a series of points that are joined up to form a line. The line shows a trend or change over time. The horizontal axis (x) will usually show units of time and the vertical axis (y) will usually show amounts.



Source 25 A line graph showing the increase in Australia's population, 1828–2011

Bar graphs

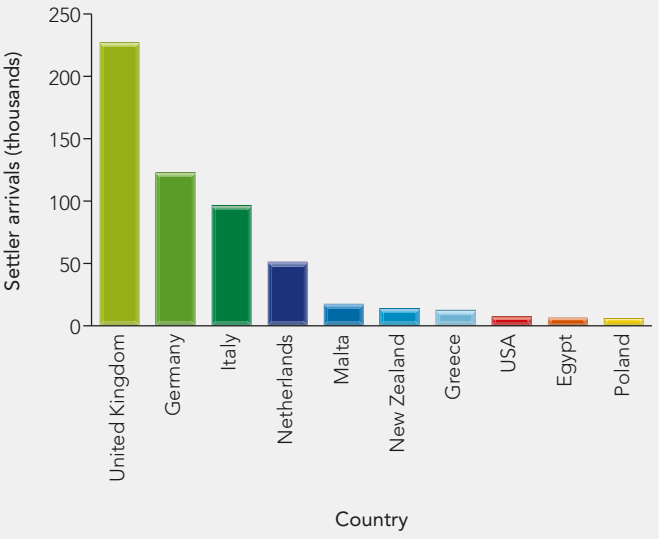
Bar graphs show information as a series of bars that run in a horizontal direction and are stacked one on top of the other. They are usually used to compare quantities.



Source 26 A bar graph showing average number of nights spent in Australia by tourists from different countries, 2009

Column graphs

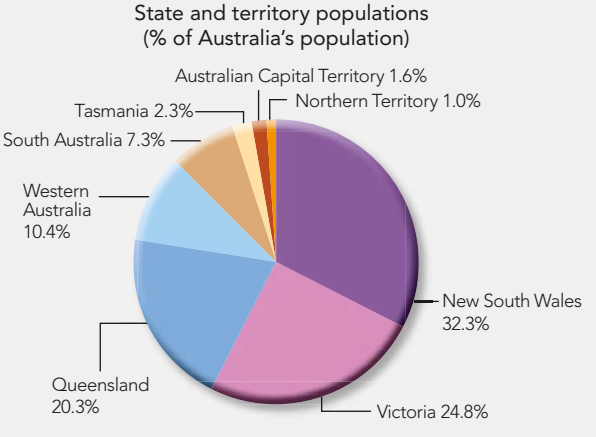
Column graphs are similar to bar graphs, but they show information as a series of vertical columns that are arranged side by side. They are also usually used to compare quantities.



Source 27 A column graph showing top ten countries of settler arrivals in Australia, 2010–11

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 per cent and each of the slices is a percentage of that. The slices of the pie are organised from largest to smallest in a clockwise direction starting from 12 o'clock.



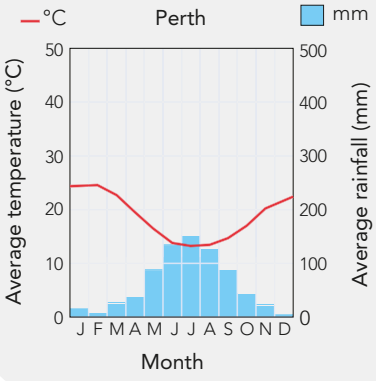
Source 28 A pie graph showing state and territory populations as a percentage of Australia's total population, 2011

More complex graphs

Over the course of the year you will also be working with a number of other, more complex graphs. You won't 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

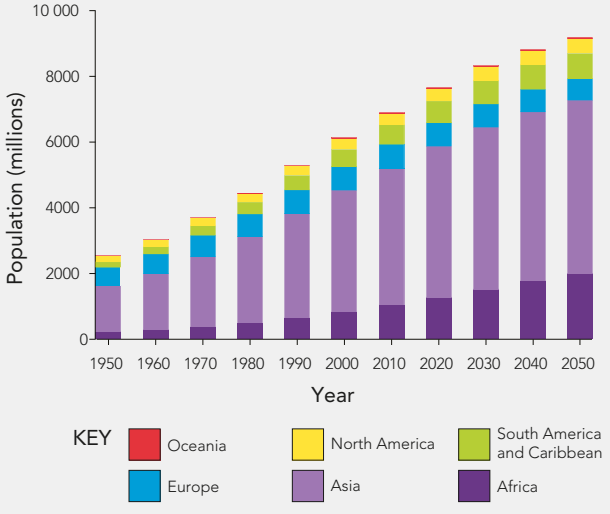
Climate graphs show the average monthly temperature and rainfall for a place over a year. Climate graphs combine line and column graphs. Temperature is recorded as a line graph and rainfall is recorded as a column graph.



Source 29 A climate graph showing the average monthly temperature and rainfall in Perth

Compound column graphs

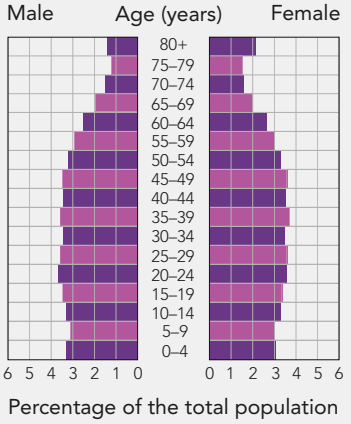
Compound column graphs are a more complex type of column graph in which each column is split into sections so results can be more easily compared.



Source 30 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 31 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

Check your learning 1.4

Remember and understand

1 Give two examples of primary data and two examples of secondary data. What is the main difference between these two types of data?
2 What is a map?
3 What does BOLTSS stand for?

Apply and analyse

4 Look carefully at Source 17 on page 24 and answer the following questions:
   a What is the scale of the map? Give your answer in the form of a ratio.
   b If you were flying from Marrawah to Port Arthur in which direction would you be travelling?

Evaluate and create

5 On a piece of graph paper, draw a simple map of your bedroom. Be sure to include all the furniture (for example, your bed and desk) in the correct location and to the correct scale. Make sure it has BOLTSS.
6 Look at Source 24 on page 27 and construct a bar or column graph to represent this data graphically.

1.5 Analyse data and draw conclusions

Identify patterns and relationships in geographical data and draw conclusions

Once you have collected, recorded, evaluated and represented your data, it is time to identify any trends, patterns or relationships in the information. You will have used questionnaires and surveys to gather visitor statistics, drawn sketches and diagrams, created graphs and tables and taken photographs (primary data). You will also have collected information from various other sources, such as textbooks, websites, GIS and atlases (secondary data). Next, look at this information, identify any possible links and relationships and draw conclusions.

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, quantify and exceptions.

Pattern (P)

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

When looking at data, 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. For example, when looking at a physical map of Australia (see Source 1) you might say, 'Most mountains run along the east coast.'

Quantify (Q)

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

Quantifying involves using statistics, amounts, sizes and locations to give specific details. For example, rather than saying, 'Most mountains run along the east coast,' you would quantify this statement. You might instead say, 'A mountain range known as the Great Dividing Range extends more than 3500 kilometres along the eastern coast of Australia from Queensland to Victoria. It is the third longest mountain range in the world.'

Exceptions (E)

In this step, you need to identify anything that does not fit your patterns.

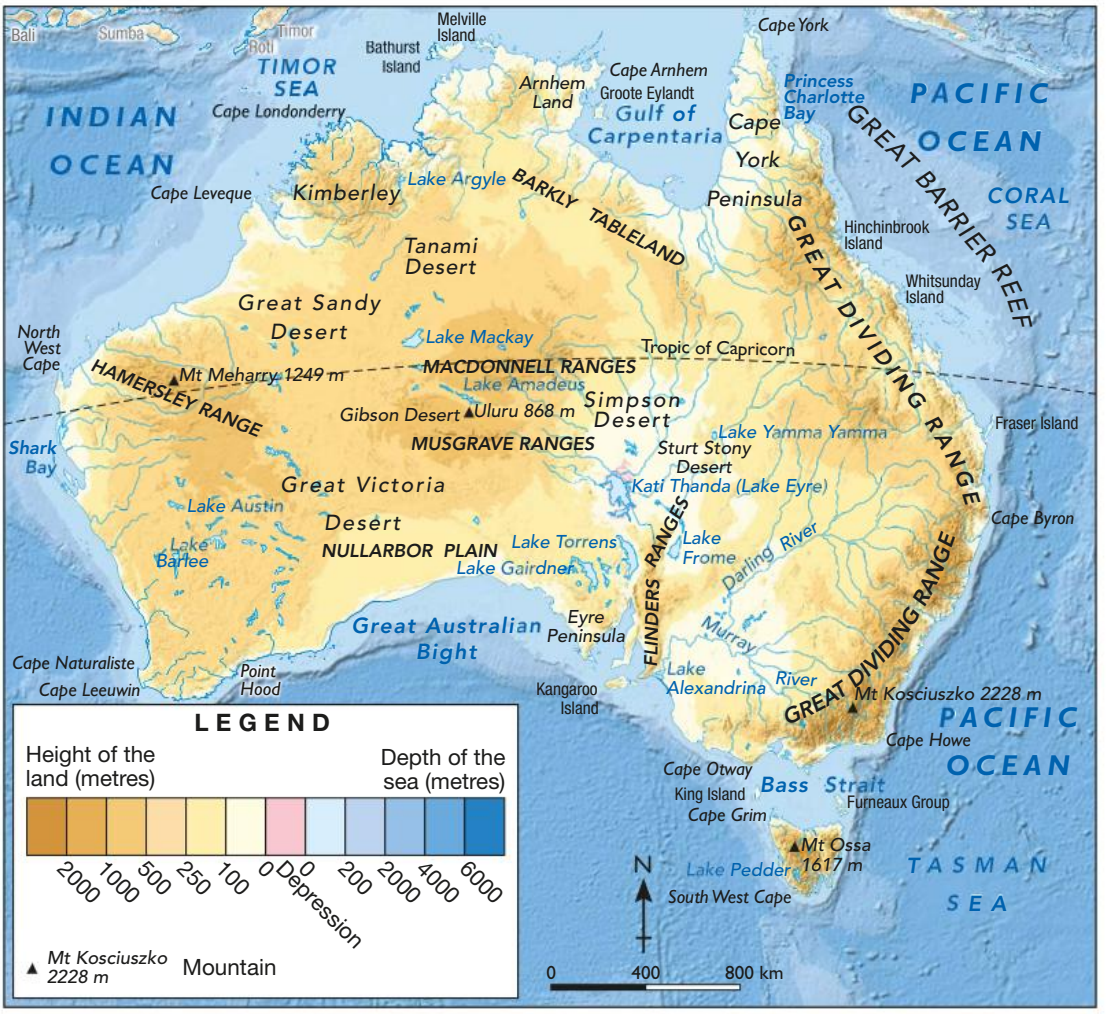
Often you may find that there are things in your data that do not fit into a pattern you have identified. These are called **exceptions**. They also need to be identified and quantified. For example, you might say, 'There are a number of other mountain ranges that are not on the east coast. These include the Flinders Ranges in South Australia and the MacDonnell Ranges in the Northern Territory.'

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. The letters SHEEPT stand for:

- social (S) – factors relating to culture and people
- historical (H) – factors relating to past events
- environmental (E) – factors relating to the natural environment (including climate, landforms and vegetation)
- economic (E) – 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)
- political (P) – factors relating to governments (including laws, regulations and policies)
- technological (T) – factors relating to the availability and use of different types of technology (including the development of greener technologies, alternative energy sources and GIS).

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



Source 1

Source: Oxford University Press

Check your learning 1.5

Remember and understand

1 What do the letters PQE stand for?
2 What do the letters in SHEEPT stand for?
3 How can the PQE and SHEEPT methods assist us to identify trends, patterns and relationships in geographical data and draw conclusions?

Apply and analyse

4 Look at Source 1. Use the PQE method to think about Australia's lakes.
   a Can you identify a pattern?
   b Can you quantify this pattern?
   c Are there any exceptions to this pattern?

Evaluate and create

5 Conduct your own Internet research on the way in which Uluru is managed and use the SHEEPT method to think more closely about the factors that impact on Uluru.
   a List at least one point for each of the SHEEPT factors.
   b What conclusion(s) can you make about the way in which Uluru is managed?
6 Create a colourful and informative pictogram (by adding an image or picture to each of the letters in the word SHEEPT) to help you and your classmates remember what each of the letters in SHEEPT stands for.

1.6 Communicate your findings

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. After carefully considering their audience and the purpose of the inquiry they may choose to communicate their conclusions in a number of different ways. 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, 3-D models and simulations, and multimedia presentations.

skill**drill:** Data and information

Creating an annotated visual display (AVD)

One of the most popular ways of presenting and communicating the findings of a geographical inquiry is to construct 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 Gather your data

Make sure that you have collected all the pieces of information and data that you have found and/or created throughout your inquiry. Print your photographs, tidy up your sketches and process any data that you have collected. Tables of raw data are usually much more effective when they are made into graphs (for example, bar graphs or pie graphs). Ensure that all your maps, including sketch maps, have BOLTSS. Each resource (such as a graph, map, sketch, photograph, cross-section or written explanation) must also have a title and, in the case of photographs, a caption.

Step 2 Organise your results

On a large sheet of poster paper, lay out all your information and data. All written descriptions and answers should be typed, or neatly printed, on separate sheets of white paper, not written directly onto the poster 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 following example, the focus question, 'Is it a good thing that so many tourists visit Uluru?', suggests that there will be three main parts to the AVD:

- information about Uluru and its physical features
- tourist statistics and other data that show the effects that visitors are having on Uluru and its surroundings
- an analysis of the data and a conclusion that answers the key inquiry question.

Step 3 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

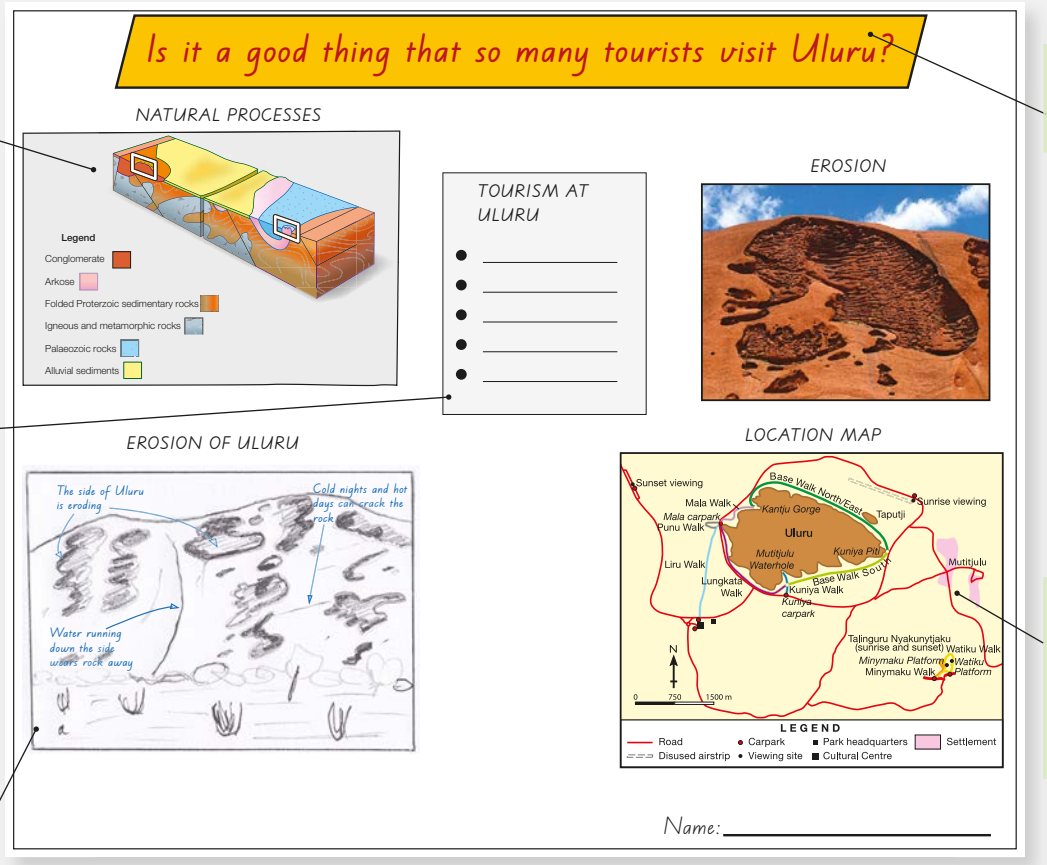
All diagrams, sketches, photographs and graphs must have a heading and a caption.

Lists may be better than long paragraphs

A simple sketch can break up lots of writing.

Make the heading stand out.

Always include a location map; remember BOLTSS.



Source 1 An annotated visual display (AVD)

Natural processes illustration © Director of National Parks (Parks Australia) www.parksaustralia.gov.au

your resources onto your AVD. You may like to draw borders around some information.

Step 4 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.

Apply the skill

1 Imagine that your class is exploring the Great Barrier Reef as a geographic inquiry with a particular focus on the impact of tourism on this natural environment.

- **a** Discuss with a partner some geographic questions about this place.
- **b** Select one of these questions that could be used to complete an AVD.
- **c** Gather some data in response to this question. There is no need to explore this topic in great depth, but just to practise your communication skills. Your data could be sourced from the Internet, books, magazines or from your own personal experience. You should try to find about three or four images and some writing, such as a newspaper article.
- **d** Work with your partner to design your AVD on a piece of A3-sized paper.
- **e** Complete your AVD by following steps 3 and 4 of the skill drill.
- **f** Display your AVD on the classroom wall and compare it with those of your classmates.

Use correct geographical terminology

Just like scientists, geographers share a common language. They use geographical terminology to clarify what they are talking about and to share their findings. Source 2 lists and defines some commonly used geographical terms; additional geographical terms can also be found in the glossary at the end of this book.

Source 2 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 the use of 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)

Check your learning 1.6

Remember and understand

1 What do the letters AVD stand for?
2 Make a list of the things you need to gather before creating an AVD.
3 Why is it important to spend time on the layout of the written and visual information that will be shown on your AVD?

Apply and analyse

4 Do you think an AVD is an effective way to communicate the findings of a geographical inquiry? Why or why not?
5 As part of a geographical inquiry looking at the key question 'Is it a good thing that so many tourists visit Uluru?' Your teacher has asked you to take part in a class debate. List three points for the affirmative and three points for the negative. Which side would you rather be on? Why?
6 Which form (such as written, oral, graphic, visual or digital) do you think would be most appropriate for presenting the findings of a geographical inquiry into tourism at Uluru? Why?

Evaluate and create

7 Your geography class has been asked by the principal to complete a geographical inquiry into the issue of recycling at your school. The principal hopes that by raising awareness of recycling, the school community may be willing to change their behaviour and make the school more sustainable. Conduct a class discussion on the most effective way to conduct the inquiry. At the end of your discussion, make a decision about the best way in which your findings could be presented to the whole school in order to convince them to participate.

1.7 Reflect and take action

Reflect on what you have learned

The final stage of a geographical inquiry is 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 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 1 A geographical inquiry found that cigarette butts were a leading cause of litter at Uluru. One of the responses was the introduction of personal ashtrays. These ashtrays are available from the Cultural Centre and carry the logo 'Don't let the ranger see your butt'. Park authorities reduced the number of butts littering the area and believe this has also reduced the risk of bushfires.

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	**Comments**					
The part I found most difficult was:						
I need the most help with:						

Source 2 A self-evaluation checklist

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.

Our geographical inquiry into Uluru 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. In particular, one of the negative effects discovered in the inquiry was litter, and a good example of a campaign to combat this is shown in Source 1.

Check your learning 1.7

Remember and understand

1 Name two ways in which you could 'reflect' on what you have learnt throughout a geographical inquiry.

2 Give two reasons why it is important to be able to self-evaluate your work.

Apply and analyse

3 Which do you think are the two most important questions to ask yourself in the self-evaluation checklist? Why?

Evaluate and create

4 The completed self-evaluation checklist can look very different depending on what you are investigating. Are there any areas that you think could be improved in Source 2? What questions could be changed or added?

1.8 Fieldwork in geography

Fieldwork is any geographical study that takes place outside the classroom or, as geographers say, 'in the field'. The 'field' is the source of geographical information (primary data). 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'. Working in the field provides opportunities for first-hand investigation of both natural and built environments.

Fieldwork provides an opportunity to develop skills associated with observing, measuring and recording. Different forms of geographical data can be collected and then analysed to find relationships between the natural and human environments. The results of a fieldwork investigation are presented and communicated in a 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.

Fieldwork often looks at a key feature, issue or conflict. For example, many tourists visit Uluru each year with the intention of climbing 'The Rock'. In doing so, they ignore the wishes of the traditional owners of the land, the Anangu people (see Source 1). They also put themselves and others at risk. About 35 people have died while climbing Uluru and countless others have been injured or rescued. Geography students visiting Uluru may try to find out why people continue to climb it, and study the impacts of this activity on people and the natural environment.

Source 1 Every tourist that climbs Uluru must pass a sign asking them not to climb the rock out of respect for the traditional owners, the Anangu.

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 2 provides examples of fieldwork locations and activities for a range of topics.

Source 2 Examples of fieldwork locations and activities for a range of topics

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 geographical photographs
Growing cities	Edge of a large city	Observing and describing
Changing cities	Urban renewal project	Land use mapping
Coastal landscapes	Local beach	Sketching a cross-section
Landscape hazards	Local beach	Field sketching
Global links	Shopping centre	Using a questionnaire
Communities	Local area, including houses and shops	Street surveying
Food security	Farming area	Asking questions
Endangered environments and animals	Zoo	Comparing environments

Conducting successful fieldwork

Fieldwork is a type of geographical inquiry, so whenever you take part in fieldwork you will need to follow the stages that are outlined in this toolkit, namely:

- Stage 1 – Observe, ask questions and plan
- Stage 2 – Collect, record, evaluate and represent data
- Stage 3 – Analyse data and draw conclusions
- Stage 4 – Communicate your findings
- Stage 5 – Reflect and take action.

The first stage is vital as this gives you a focus for your fieldwork. It also allows you to make a judgement about whether your fieldwork investigation has been successful.

Stage 1: Observe, ask questions and plan

Begin by looking at an issue or location and compile a set of related inquiry questions that you would like to answer. Plan what information you will need and how you will collect it.

Stage 2: Collect, record, evaluate and represent data

Plan your fieldwork so that you can collect the evidence and data that you will need. For example, take photos, draw sketches, conduct tests, construct questionnaires and surveys. You will then need to use this data to create graphs and maps for analysis. You may also need to consider members of the public, including Indigenous people and their beliefs and feelings about places in the landscape. If your class is planning a field trip to a natural environment, such as a forest or beach, you will need to ensure you do not damage the environment by trampling on plants or animals or by dropping litter.

Stage 3: Interpret, analyse and conclude

Interpret and analyse the data you have collected and look for patterns or clues that will help you to answer your key inquiry question and come to a conclusion. There are a number of different tools and methods you can use to do this, including PQE and SHEEPT.

Stage 4: Communicate your findings

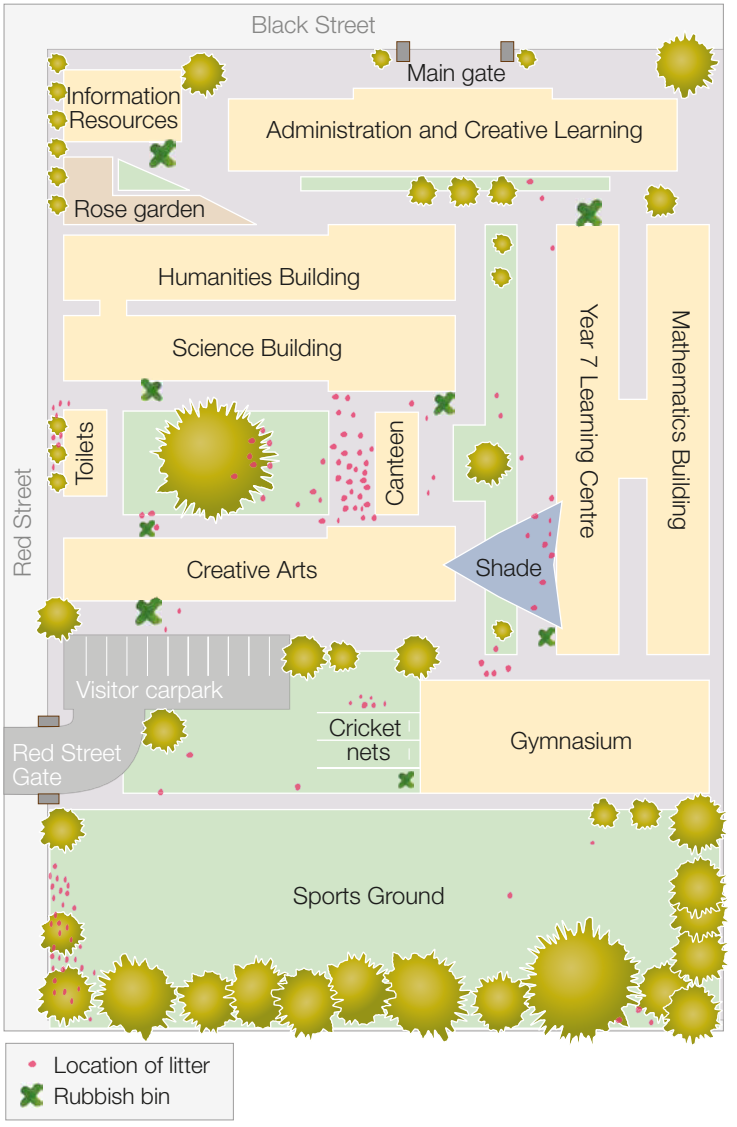
Communicate what you have found to an audience in the form of a report, a presentation or an annotated visual display (AVD).

Stage 5: Reflect and take action

Think about your fieldwork findings and reflect on ways to improve your investigation process. Finally, take action, if this is appropriate.

A fieldwork example: Gumtree College litter investigation

In the following example, a Year 7 geography class at Gumtree College (7G) decided to conduct fieldwork to explore a problem in their school – litter. As a class, they followed a process of inquiry to understand the issue and try to resolve it.



Source 3 A sketch map of the schoolyard showing the locations of the bins and litter at Gumtree College

Source 4 A questionnaire of students in the canteen

Stage 1: Observe, question and plan

During a brainstorm session, a range of investigation questions were raised by 7G.

- What are the most popular foods sold in the school canteen?
- Does our school have the worst litter problem in the city?
- Does our school have enough bins in the yard?

During discussion it was decided that the first question wasn't really about litter. It was also decided that the second question was too broad and complex to answer in one fieldwork inquiry. The class agreed that the third question was the best one for the class to investigate.

The next stage was to plan what data had to be collected in order to answer the question and choose the methods used to collect this data. As geographers, 7G had to carefully consider other people and the environment when collecting data in the field. For example, they had to be careful not to disturb other classes while collecting their data.

Stage 2: Collect, record, evaluate and represent data

After some discussion, 7G decided to gather the information they needed to answer their inquiry question in three ways:

- A sketch map of the schoolyard showing the locations of the bins and the litter – To complete this map, a group of students would look for rubbish at the end of every lunchtime for five days and show their findings on a dot distribution map (see Source 3).
- A litter survey – This would involve another group of students looking closely at the rubbish and classifying each piece of rubbish using certain headings (see Source 5).
- A questionnaire of students in the schoolyard – Another group of students would ask other students about litter and how they disposed of it (see Source 4).

Source 5 A litter survey

Stage 3: Interpret, analyse and conclude

After asking questions and collecting evidence through fieldwork, 7G needed to interpret and analyse this data so that they could come to some conclusions about what they had found. Their aim was to use the evidence to answer the key question. By looking closely at their map and applying the PQE method, 7G students identified that most of the litter in their schoolyard was located close to the canteen where there were no bins. It was found that in places where bins were provided, they were generally used. The results of the student questionnaire were graphed (see Source 6); the results confirmed that 82 per cent of students used bins if they were nearby.

Stage 4: Communicate your findings

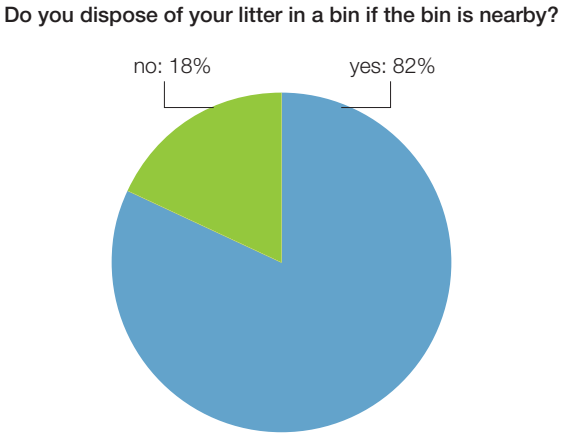
Based on the data they had collected, 7G prepared an AVD about this issue and presented it to the school council. The students argued that three new bins had to be installed in the schoolyard – two near the canteen and one next to the sports ground. This information was passed on to the school principal.

Stage 5: Reflect and take action

The bins were installed within a week, but 7G also decided that students at Gumtree College needed to take more responsibility for their own litter and placed some posters in the canteen to remind students why littering was bad for the school.

In the final stage of their fieldwork, the 7G students had a class discussion to reflect on the ways in which they carried out their fieldwork. Most of the students felt that the process worked well, but a few thought that the key question about bins was a little too simple.

They decided to use the same method to explore a more complex problem in the local community.



Source 6 A pie graph showing the results of the student questionnaire

Check your learning 1.8

Remember and understand

1 What is meant by studying geography 'in the field'?
2 List two ways in which the results of a fieldwork investigation may be presented.
3 What is the main aim of all fieldwork investigations?

Apply and analyse

4 In what ways did 7G gather the information they needed to answer their fieldwork question?
5 Which of these methods do you think would have given them the most valuable and reliable data? Why?

Evaluate and create

6 Look again at the geographical questions shown on page 16. Imagine that you are on a field trip to Uluru to study the impact of visitors on the natural and cultural environment.
   a In small groups, decide on an issue related to Uluru that you would like to investigate.
   b Generate a set of inquiry questions and decide on the one you would most like to explore in detail.
   c Create a set of questions for a visitor questionnaire that you think will help you get the information you need to answer your key inquiry question.
   d Share your key inquiry question with the class and read out the questions you decided to include in your visitor questionnaire. What do your classmates think of your ideas?

Water as a resource

A **resource** is anything we use to satisfy a need or a want. Resources we use from the natural world are called environmental resources. All life on Earth 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.

2A

How is water an environmental resource?

1 Which environmental resources do we need to survive?

2 How are the people in the photograph using the Ganges River as a resource?

2B

How does water connect and affect places?

1 How do you think the Ganges River connects places in India?

2 List three ways that water from the Ganges River might be used.

chapter 2

Source 1 Hindus in India believe that bathing in the holy waters of the Ganges River gives them spiritual blessings.

2C

How much water do we have?

1 Water covers about 70 per cent of the Earth's surface, so why do we have a shortage of water to drink and wash in?

2 Where do you think the wettest and driest places in Australia might be found?

2.1 Environmental resources: an overview

Over thousands of years, humans have developed ways of life that depend on almost all environmental resources found on 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. We have found and used resources in almost every corner of the Earth. 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.

Types of environmental resources

Geographers divide all of the environmental resources on Earth into three types:

1 Renewable resources

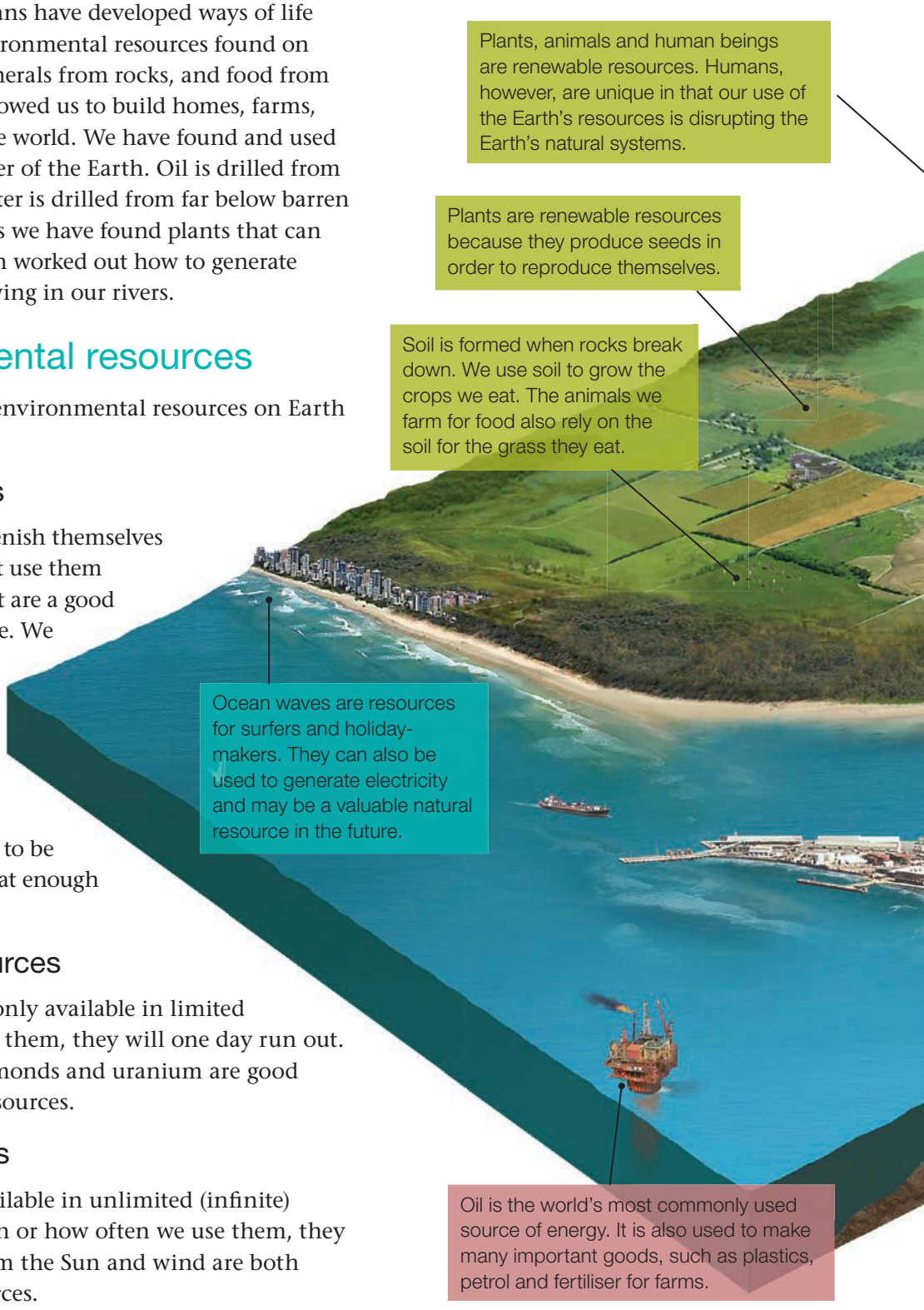
Renewable resources will replenish themselves naturally over time if we do not use them too quickly. The trees in a forest are a good example of a renewable resource. We can cut them down for wood, but they will grow back in time. We just need to manage them carefully. In countries such as Australia,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

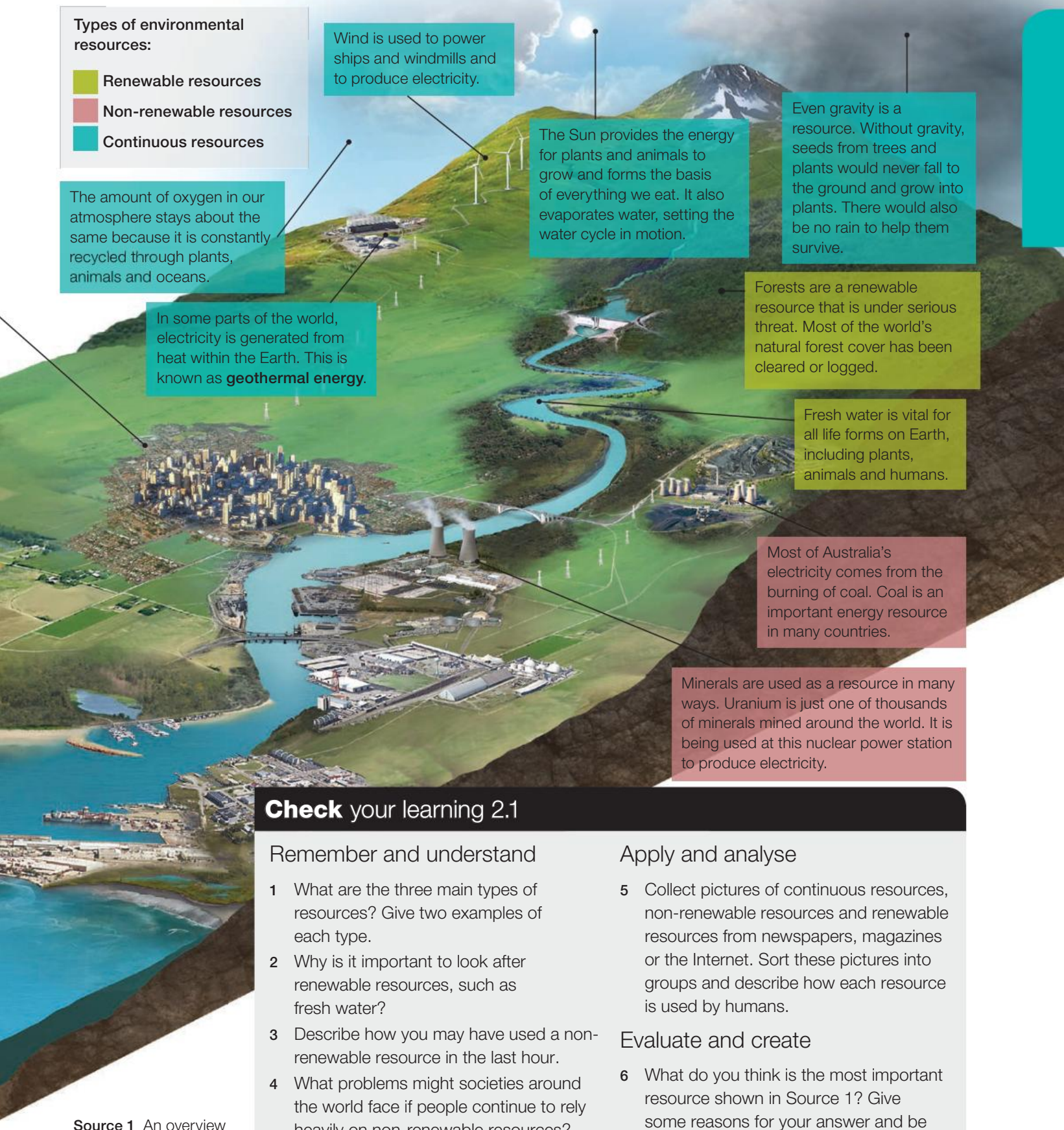
2 Non-renewable resources

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.

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.





Source 1 An overview of the many types of environmental resources

Check your learning 2.1

Remember and understand

1 What are the three main types of resources? Give two examples of each type.
2 Why is it important to look after renewable resources, such as fresh water?
3 Describe how you may have used a non-renewable resource in the last hour.
4 What problems might societies around the world face if people continue to rely heavily on non-renewable resources?

Apply and analyse

5 Collect pictures of continuous resources, non-renewable resources and renewable resources from newspapers, magazines or the Internet. Sort these pictures into groups and describe how each resource is used by humans.

Evaluate and create

6 What do you think is the most important resource shown in Source 1? Give some reasons for your answer and be prepared to discuss this with a partner and with the class.

2.2 Where water comes from

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 on to 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 three reasons that air masses rise. Each of these will produce different types of rainfall at different places on the Earth's surface.

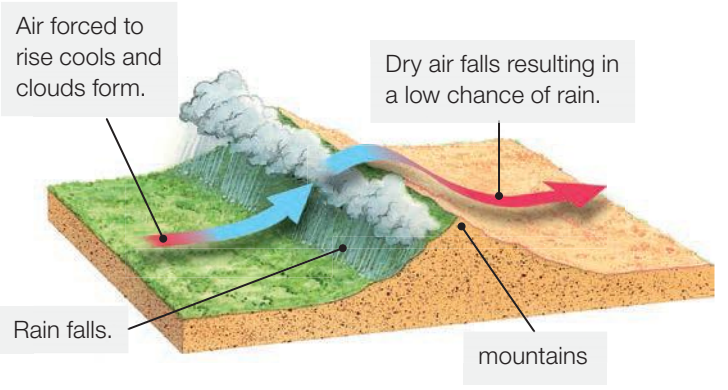
key concept: Interconnection

The water cycle

The water cycle links together large areas of the natural environment (see Source 2). The world's oceans, mountains, rivers and atmosphere are all important parts of this cycle. The water cycle links together the natural and human environments because water is so central to all human activities. The presence of water is key when settling new farms and cities. For more information on the key concept of interconnection, refer to page 9 of 'The geography toolkit'.

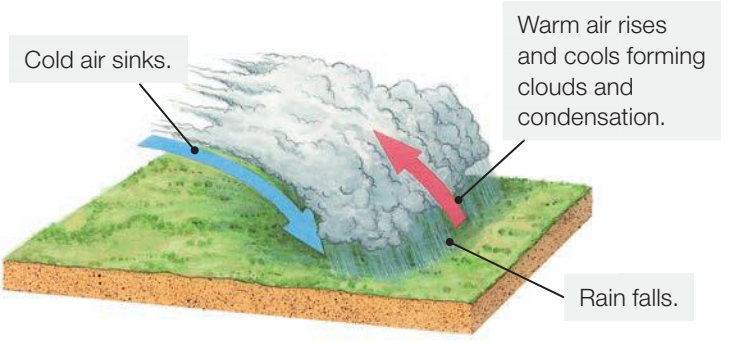
Orographic rainfall

Air is forced to rise due to the height of land masses, such as mountains. As the air cools, condensation forms, producing rain. As the air begins to fall from the high land, it warms up, creating dry regions.



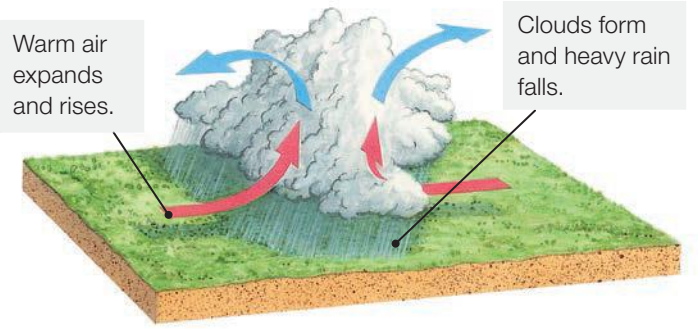
Frontal rainfall

Two air masses meet and the cooler air mass wedges itself under the warmer air mass. This forces the warm air to rise and cool, causing condensation and rain along a distinct line.

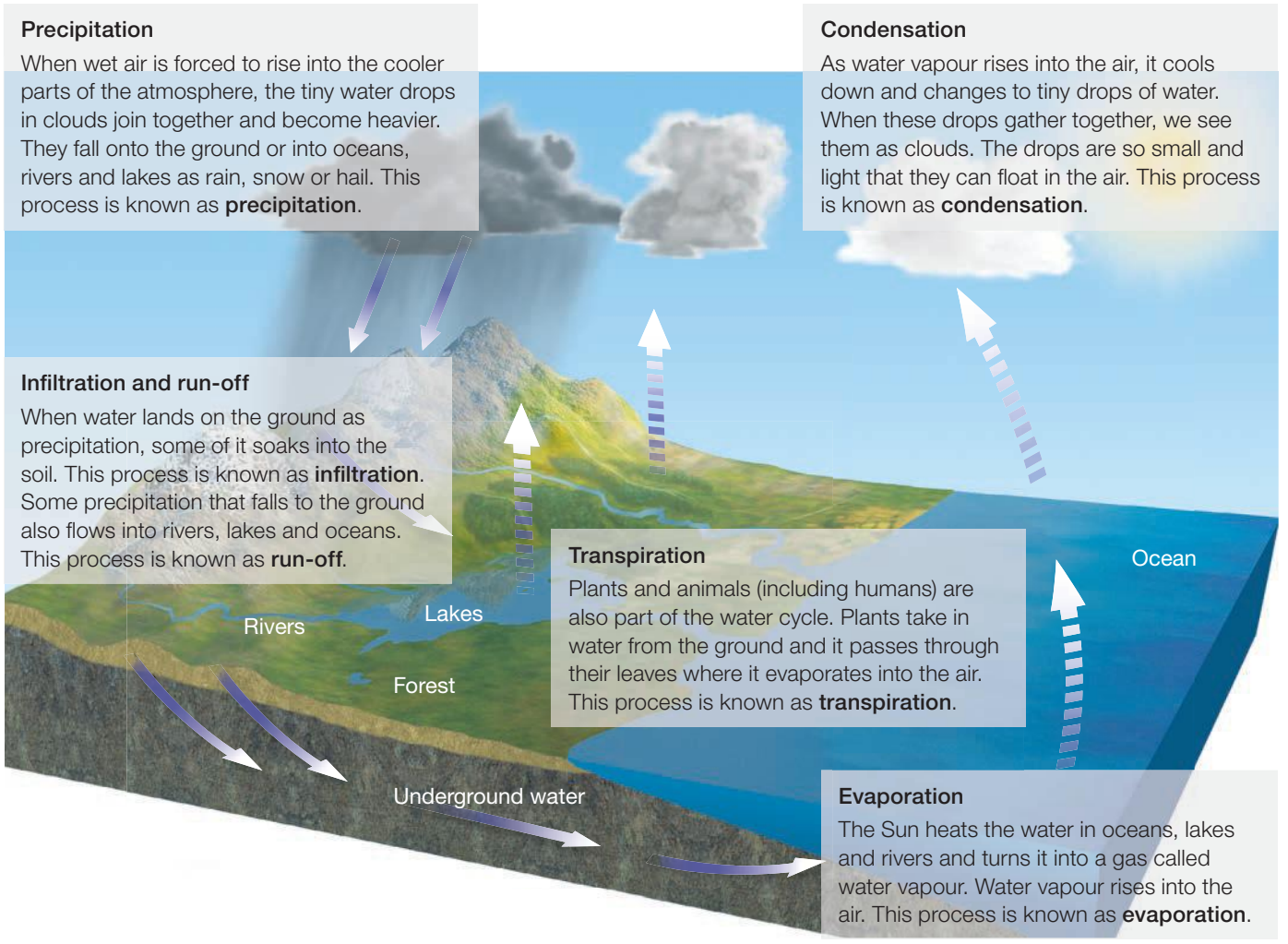


Convectional rainfall

Temperatures during the day warm the ground causing warm air to rise rapidly and condense at high altitude. This produces heavy rain and thunderstorms.



Source 1 Different types of rainfall



Source 2 The stages of the water cycle

Check your learning 2.2

Remember and understand

1 What is the water cycle?
2 What causes water to fall as rain?
3 List these words in the correct order within the water cycle: precipitation, condensation and evaporation. Now write a definition for each in your own words.

Apply and analyse

4 What is the difference between frontal rainfall and orographic rainfall? How are they similar?
5 Why do you think the wettest place in Australia is near Tully on the eastern slopes of the Great Dividing Range in Queensland? You might like to find Tully in an atlas to help with your answer.
6 The water cycle helps us to understand how water moves in our world but it can also help us understand how rivers change the landscape. How do you think the rivers shown in Source 2 have changed this landscape?
7 What type of rainfall do you receive most often in the place where you live? Why will the answer differ for students who live in other parts of Australia?
8 Salt water in oceans cannot be used to drink or water crops. Is salt water an available or potential resource?

Evaluate and create

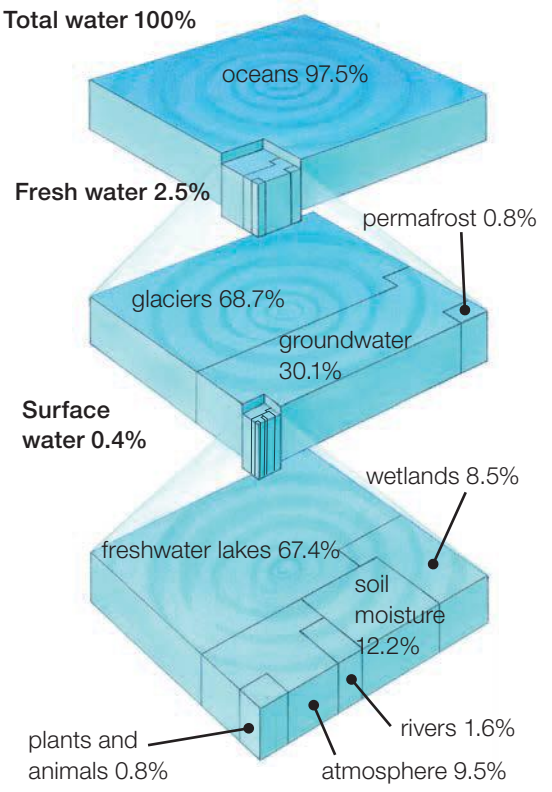
9 Imagine that you are a water droplet in a cloud. Describe your journey through the water cycle in language that a young child would find interesting. Here is a start: 'Floating along with billions of my closest friends, I thought nothing would ever change …'

2.3 Accessing water resources

Although the surface of the Earth is covered with water, only a tiny percentage of that water is fresh and available for **consumption**. Typically this is found in surface water, such as lakes and rivers. Source 1 shows the breakdown and availability of this water. As populations grow and more water is used, people are also using groundwater locked away in underground **aquifers**. This water supports every man, woman, child, animal and plant on Earth. This makes water our most precious resource.

To further complicate matters, the 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 1 Distribution of the world's water

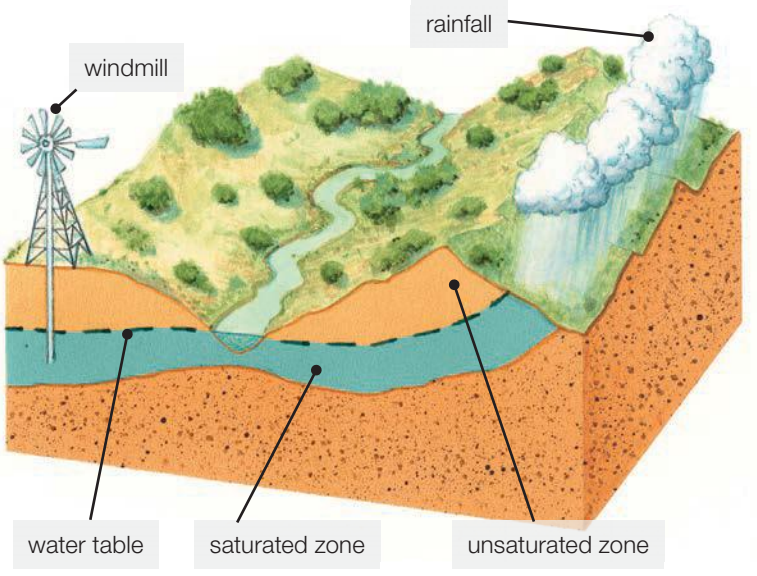
Groundwater

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. In the saturated zone, all the spaces between soil and rock particles are filled with water. The top of this zone is referred to as the water table (see Source 2).

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 is also drawn to the surface by **bores** drilled into the ground. Most of Perth's water is drawn from an underground aquifer, a layer of permeable rock that stores water.

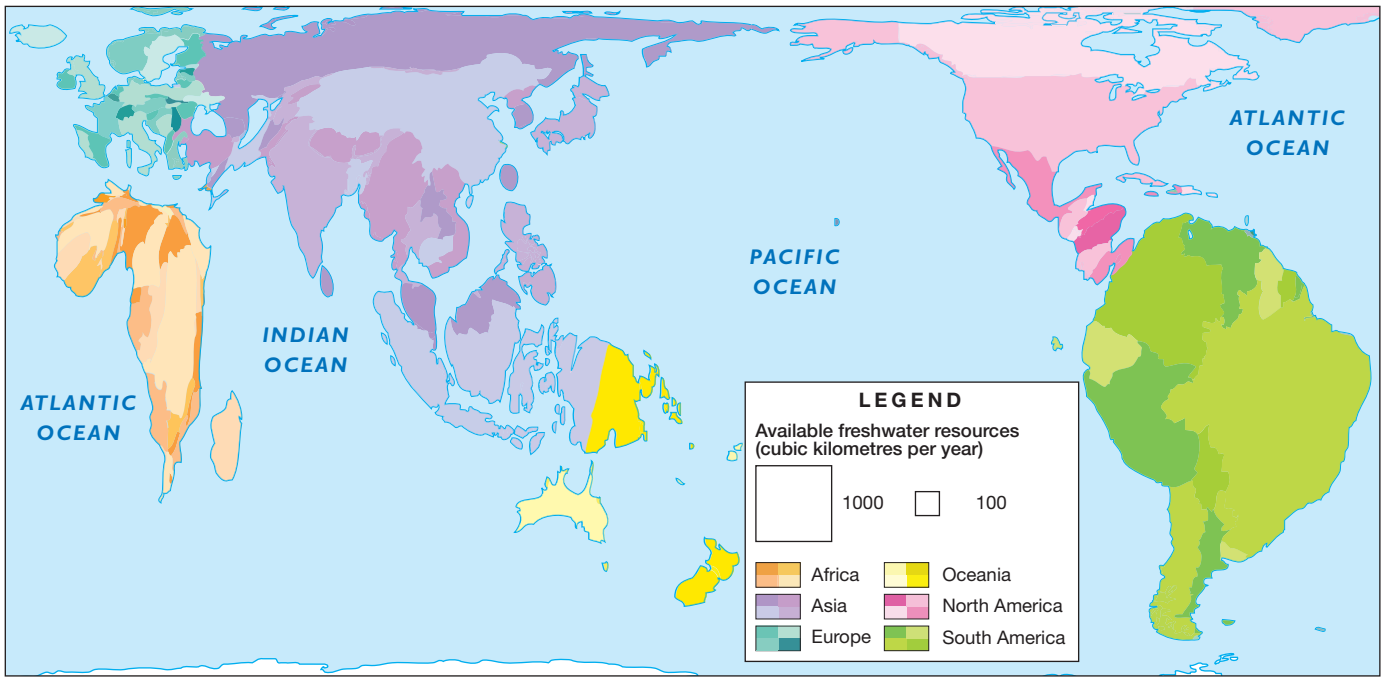
The world's freshwater resources

Source 3 is a map of the world as you have never seen it before. While each country is shown in its correct location, its size shows the proportion of the world's freshwater resources found there. Countries that appear fat are water rich; those that appear thin are water poor. Comparing the size and shape of countries in Source 3 with the same countries on a standard world map (like the one provided at the back of this book) will clearly show which are water rich (larger than normal) and which are water poor (smaller than normal).



Source 2 Groundwater from aquifers is pumped to the surface via bores for use by humans.

WORLD: FRESHWATER RESOURCES



Source 3

Source: Oxford University Press

skill**drill:** Data and information

Using the PQE method to describe maps

The PQE method is used by geographers to identify trends and patterns in data and draw conclusions. For more information on the PQE method refer to page 30 of 'The geography toolkit'. There are three steps to follow when using the PQE (pattern, quantify, exceptions) method to describe maps:

Step 1 Pattern: Give a general overview of the pattern, referring to particular places. Which areas seem to have common features? (For example, 'The map of the world's freshwater resources shows that countries throughout South America have lots of fresh water.')

Step 2 Quantify: Quantify your general overview using data for specific regions or countries. (For example, 'Brazil has more than 5000 km^3 of fresh water a year.')

Step 3 Exceptions: Point out any exceptions to the pattern you have described. (For example, 'Madagascar, the island off Africa, appears to have abundant water supplies, whereas the rest of the African continent does not.')

Apply the skill

1 Use the PQE method to describe the world's freshwater resources. Be sure to describe areas that are water rich and those that are water poor. The world map on the inside back cover will be useful.

Check your learning 2.3

Remember and understand

1 How much of the world's water is fresh water, available for our use?

2 Is Australia water rich or water poor? What does this mean?

3 Study Source 3.

- **a** Which countries would you consider to be the most water rich? Which are the most water poor?
- **b** Compare the freshwater resources of Australia, New Zealand and Papua New Guinea.

Apply and analyse

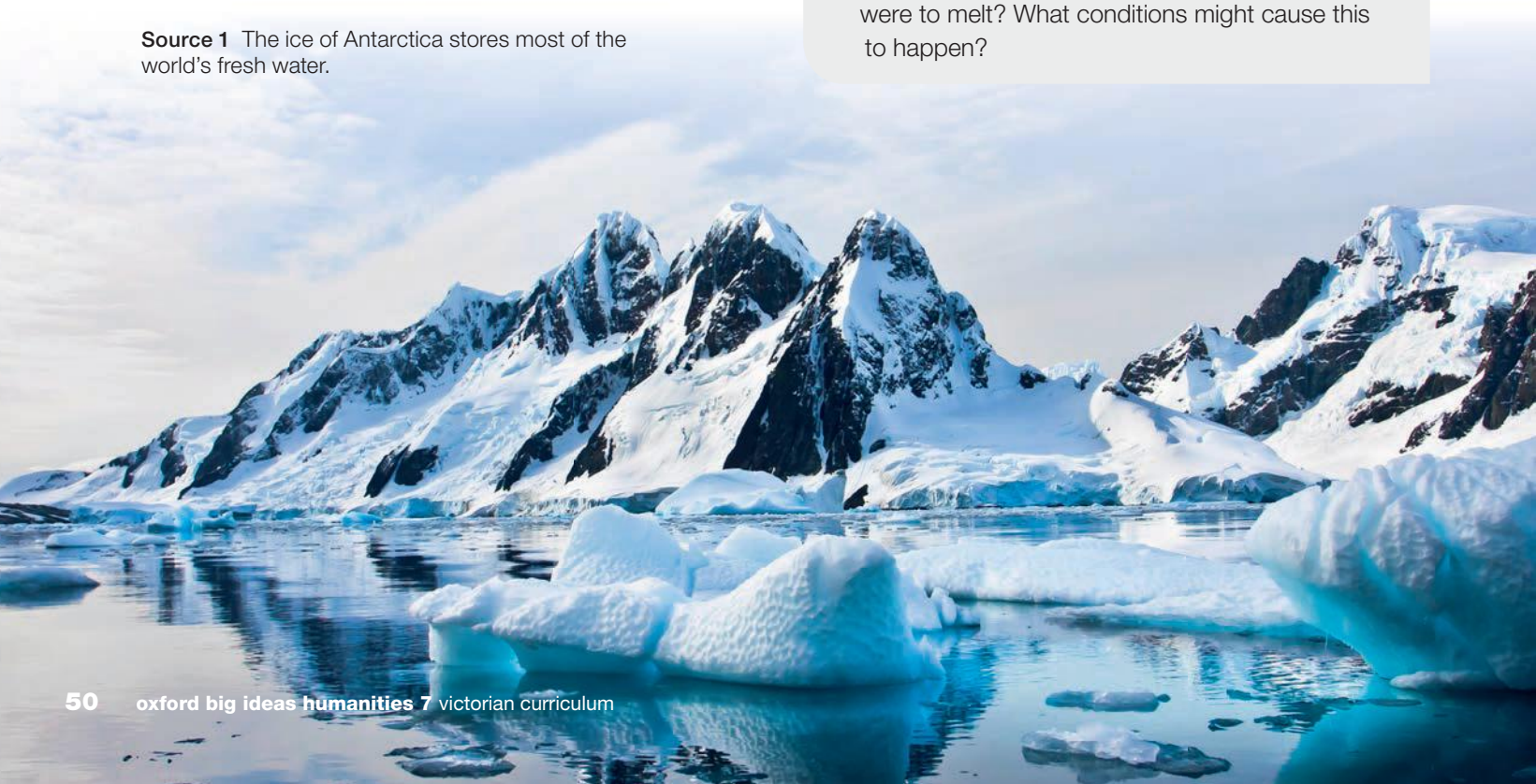
4 What can countries that are water poor do to access more fresh water? Brainstorm this as a class. Think first of those methods that you already know about, perhaps those used in your local area, and then expand these into other possibilities.

2.4 Stored water

The water cycle is the movement of water through the Earth, but most of the fresh water on Earth is in storage. Fresh water can be stored for days or weeks in a lake or for thousands of years underground or in an ice cap, such as the one that covers much of Greenland. About 97.5 per cent of the Earth's water is found in the oceans and is too salty to drink. Much of the remaining 2.5 per cent, which is safe for us to drink, is locked in the polar ice caps and in flowing rivers of ice, known as glaciers.

Antarctica contains nearly 70 per cent of the world's fresh water as ice in an ice sheet that covers large sections of bedrock (solid ground) in Antarctica. The ice sheet has an average thickness of 2500 metres and scientists have found places where the ice is thought to be twice this thickness. If this ice were to melt, sea levels around the world would rise by up to 60 metres. Because the temperature in the interior of Antarctica remains below freezing, any snow that has fallen there in the last few million years has never melted and has gradually formed into a great dome of ice. The ice is gradually moving towards the sea away from the centre of the continent. As it reaches the sea, the ice breaks off into gigantic **icebergs**.

Source 1 The ice of Antarctica stores most of the world's fresh water.



Check your learning 2.4

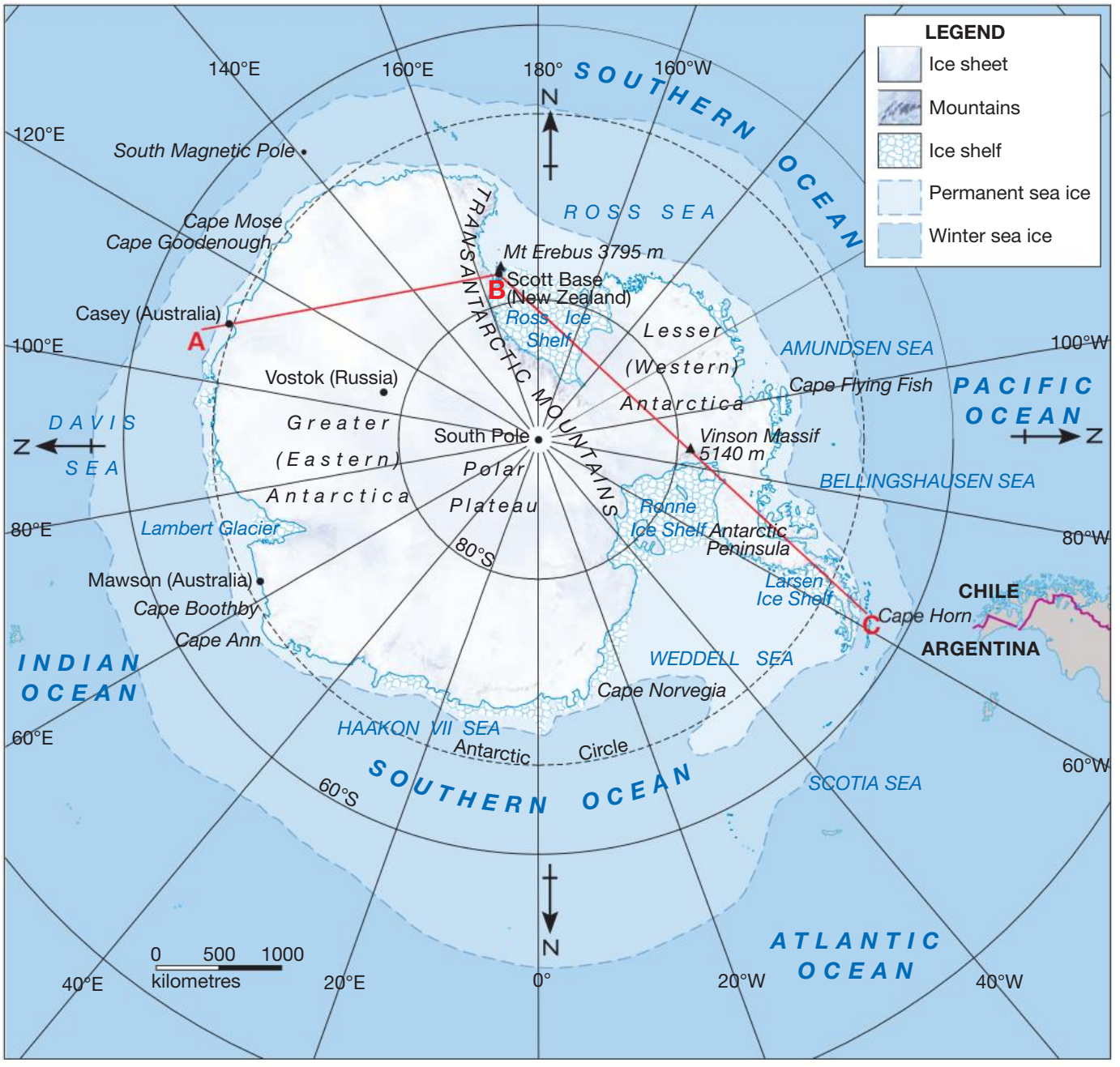
Remember and understand

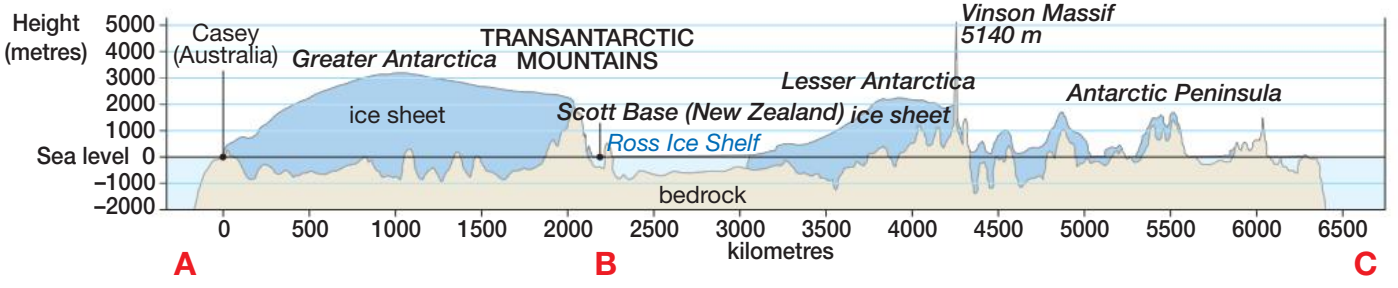
1 List three places where ice is stored.
2 Where is most of the world's fresh water stored?
3 Why doesn't the ice in Antarctica melt?

Apply and analyse

4 Look carefully at the map in Source 2.
   a What happens to the sea surrounding Antarctica in winter?
   b What is the difference between an ice sheet and an ice shelf?
5 Look carefully at the cross-section of Antarctica in Source 2. This shows a view of Antarctica from the side as if it had been cut along the A–B–C line on the map.
   a Over which part of Antarctica is the ice sheet the thickest?
   b Describe what Antarctica would look like without its ice sheet.
   c Why is this cross-section a better way of showing the thickness of ice in Antarctica than the map?
6 What would happen if all the ice in Antarctica were to melt? What conditions might cause this to happen?

ANTARCTICA: LANDFORMS





Source 2

Source: Oxford University Press

2A rich task

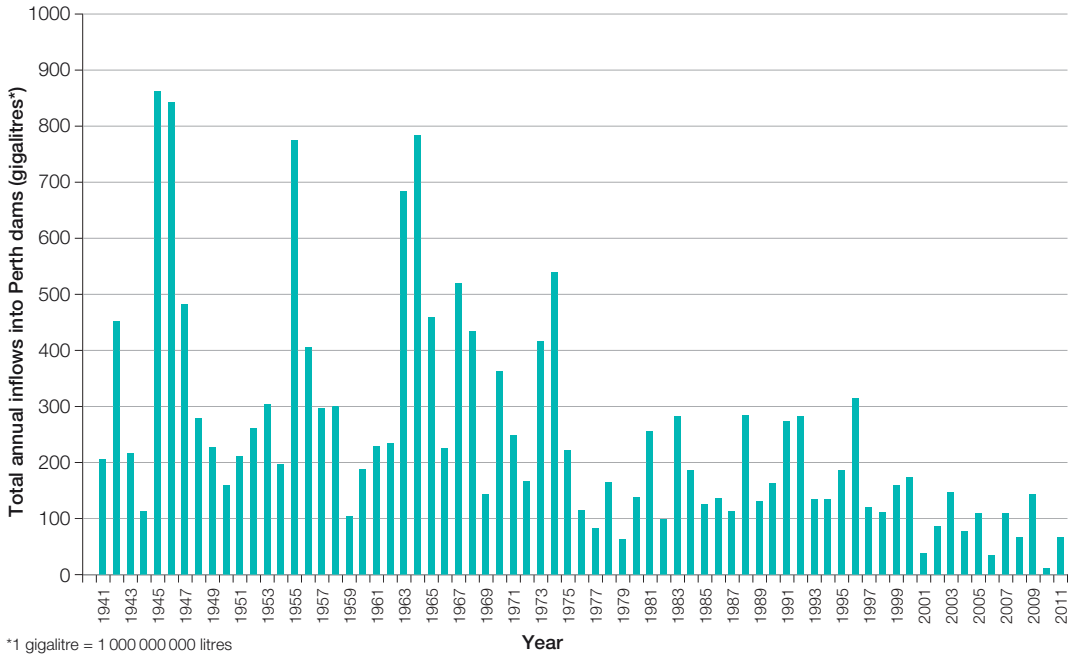
Perth's water supply

Like many Australian cities and towns, Perth faces many challenges in supplying its population with enough fresh water. A decline in its rainfall over the last 100 years has meant that the people of this rapidly growing city can no longer rely on rivers, lakes and dams to supply all their water needs. About half of Perth's water now comes out of 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 treated, mixed with rainwater and used by Perth residents in their homes, farms and gardens. Up to 20 per cent of Perth's water comes from two large desalination plants. The city was one of the first in Australia to use desalination plants to provide fresh water. The Western Australian state government hopes that expansion of these plants will help to 'drought-proof' Perth.

PERTH: WATER RESOURCES

Source 2 Source: Oxford University Press

Source 1 One of Perth's desalination plants. The Perth Seawater Plant removes the salt from sea water to produce fresh water.



Source 3 Water flowing in to Perth's dams, 1941–2011

skill**drill:** Data and information

Using a map legend

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).

Apply the skill

1 Study Source 2.

- **a** What symbol has been used for desalination plants on this map?
- **b** Give an example of an area symbol used.
- **c** How many groundwater treatment plants supply water to Perth?
- **d** What do you notice about the location of the dams?

Extend your understanding

1 Look carefully at Source 3.

- **a** Compare the annual flow of water into Perth's dams before and after 1975. What difference can you see?
- **b** List the four years with the smallest annual inflows of water. What do you notice from this pattern?
- **c** Why do you think the annual inflow of water changes so greatly between years?

2 What two other sources of water does Perth use to access water other than dams fed by rain?

3 Do you think it is possible to drought-proof a city? Give some reasons for your answer.

4 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?

5 Why does Perth need more water now than it did 100 years ago?

6 What are some of the strategies being tried to address water problems in other parts of Australia?

2.5 Water connects places

Because people rely on water to survive, easy access to water influences where people choose to live. Cities, towns and villages are often located near fresh water sources such as rivers, lakes and underground water reserves. Water sources also directly influence the way people live; for example, the crops they grow or the transport they use. As human settlements tend to cluster around the same types of water sources, these water sources need to be shared by the communities. Because of this, many places around the world are connected with each other through these water sources. Generally, three main factors relating to water influence where people settle. These factors are discussed below and shown in Source 1.

Historical and environmental factors

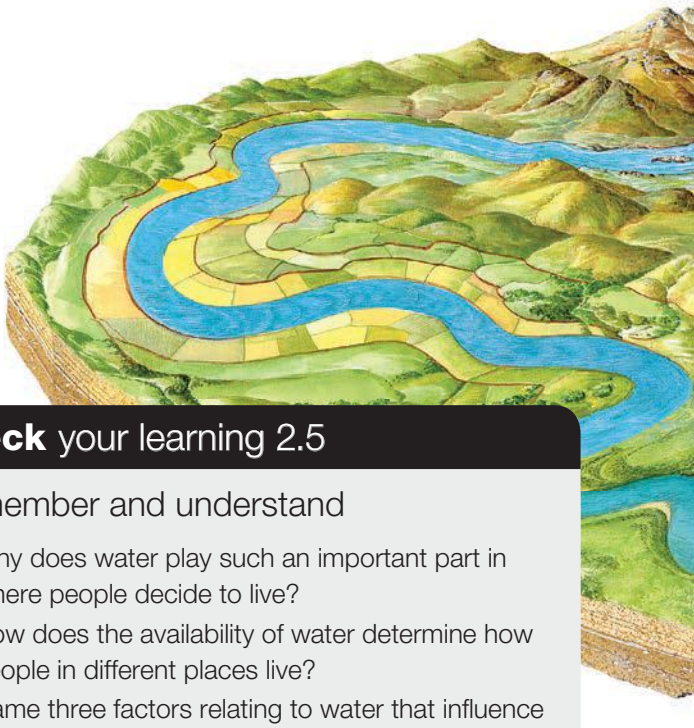
Historically, towns and cities have developed along rivers and near lakes and other fresh water sources. People will settle anywhere there is water, adapting their way of life to the local environmental features. Communities in the Hindu Kush region of the Himalayas in Pakistan and Afghanistan depend on the seasonal melting of the snow and glaciers to provide them with fresh water. This melt also feeds the great rivers in the region, the Indus River and the Ganges River, that supply water to the many cities and communities that have been established along their banks – around 1.5 billion people.

Agriculture

Communities also rely on fresh water to grow crops and farm animals. The availability of fresh water will determine the sorts of crops grown. In places where water is limited, crops that need little **irrigation**, such as corn, will be grown. Crops that rely heavily on water, such as rice, are grown on **floodplains** where water is plentiful. These floodplains and **deltas**, located on flat land where rivers meet the sea, have particularly rich soil due to the deposits of silt that has travelled down the river from the mountains.

Trade and transport

Rivers move water across the Earth's surface, carrying water great distances to the sea. Rivers, lakes and oceans also act as transport networks, allowing products and people to move easily from one place to another, connecting the communities established on their banks.



Check your learning 2.5

Remember and understand

1. Why does water play such an important part in where people decide to live?
2. How does the availability of water determine how people in different places live?
3. Name three factors relating to water that influence where people choose to settle. In your own words, describe each of these factors briefly.

Apply and analyse

4. Describe how water flowing along a river can connect people living at different points along it.
5. How has the choice of crops being grown in Source 4 been determined by the environment? By contrast, what types of crops do you think would be grown in the location shown in Source 2?

How rivers connect people and places

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.

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

2.6 Water affects places

As well as connecting different people and places, water can also affect them – in both positive and negative ways. On the positive side, water from the 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 negative side, water in all its states – whether as a liquid (water), a solid (snow and ice) or a gas (fog) – can cause serious problems and damage in different places. Snow storms can shut down cities for days, heavy fog can disrupt air travel and cripple airports, and heavy rainfalls can cause widespread flooding.

A good way of understanding how water affects places is to look at some case studies relating to rivers. Rivers are interesting to study because if there is a problem upstream (such as a flood or pollution) this problem will quickly travel downstream, affecting the people who live there. Flooded rivers can affect many settlements along their banks, collecting and carrying rubbish or even trees and cars, as they go. If pollution or toxic chemicals enter the water at one location on the river, they quickly affect other parts of the river downstream, as well as the people who use it.

Case study: Tisza River pollution, 2000

In 2000, a storage pond used by a gold mine in Romania burst its banks. Around 100 000 cubic metres of water containing poisonous cyanide spilt into a local river that flowed into the Tisza River in nearby Hungary.

The cyanide spill killed much of the fish and plant life for several 100 kilometres downstream. Drinking water was polluted in four different countries: Romania, Hungary, Serbia and Bulgaria.

Case study: Thailand floods, 2011

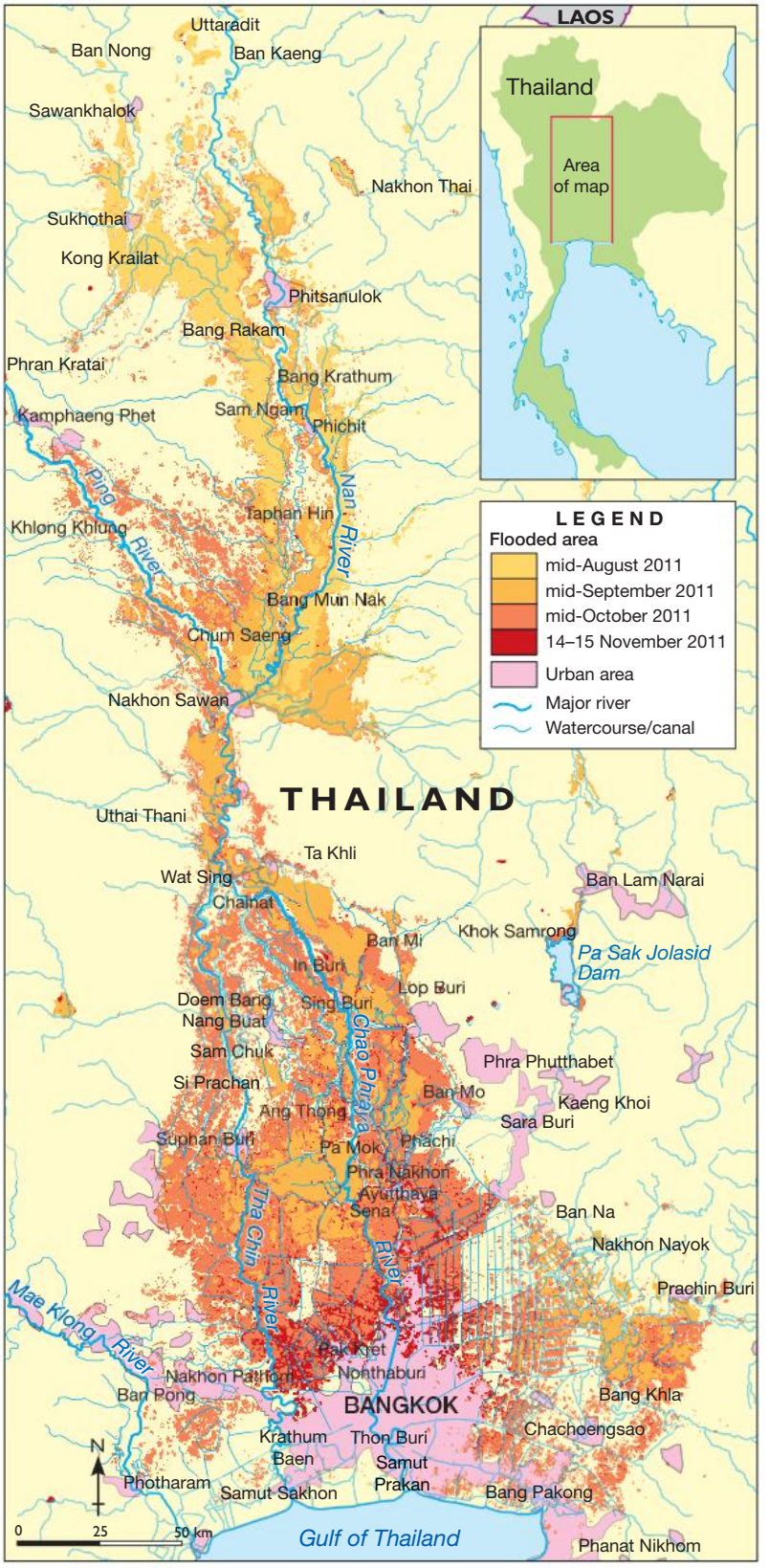
In 2011, the people of Thailand experienced some of the worst flooding they had seen for decades. Areas of Thailand are prone to flooding as the annual monsoon brings heavy rain, particularly in the north of Thailand. In early 2011, a tropical cyclone combined with the monsoon to more than triple the amount of rain falling on northern Thailand. As heavy rains continued for several months, rivers burst their banks in the mountainous north, resulting in flash flooding and at least 13 deaths.

Flooding continued downstream in many large towns built beside rivers. Soon the country's capital, Bangkok, became the area of greatest concern. Located on a low floodplain at the mouth of the Chao Phraya and Tha Chin Rivers, Bangkok is very prone to flooding and, despite an intricate system of flood walls and canals, much of the city flooded. By the time the floodwaters receded, they left more than 500 people dead and a damage bill of more than US$45 billion.

Source 1 A Hungarian fisherman pulls out toxic fish from Lake Tisza on the Tisza River 12 days after a serious chemical spill upstream in Romania on 30 January 2000.

Source 2 Floodwaters in the main street of Ayutthaya during the floods in Thailand in 2011 shut down the city and resulted in many deaths.

THAILAND: TIME-LAPSE MAP SHOWING THE SPREAD OF FLOODWATERS, MID-AUGUST 2011 TO 15 NOVEMBER 2011



Source 3 Source: Oxford University Press

Check your learning 2.6

Remember and understand

1 Give examples to show how water affects places in its gas, liquid and solid states.

2 What problems did the gold mine in Romania cause downstream?

Apply and analyse

3 Look carefully at Source 3.
- **a** When did floodwaters reach Bangkok?
- **b** How far had some of the floodwater travelled? (Use the scale provided to calculate the distance.)

4 Decide whether each of the following facts makes flooding in Bangkok more likely or more dangerous. Justify your answer for each one.
- **a** Between June and October Thailand experiences its wet season with heavy monsoon rains.
- **b** Bangkok has been built on the Chao Phraya River delta.
- **c** Between 1985 and 2010 Thailand's population increased by more than 10 million people.
- **d** The land on which Bangkok is built is sinking by 30 millimetres a year.

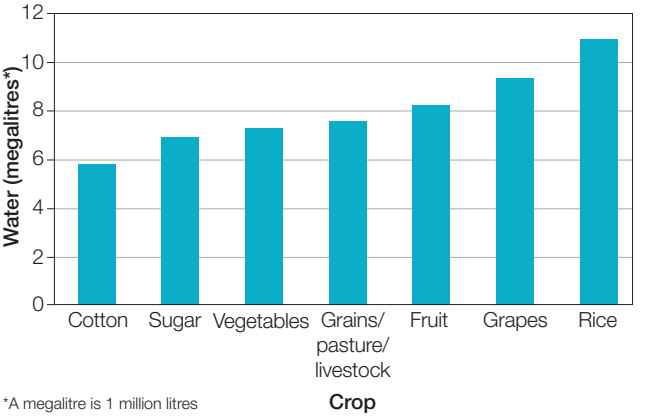
2.7 Water for food

Farmers are by far the biggest users of water in Australia. About 70 per cent of the fresh water used each year in Australia is used in agriculture. This water is used to produce an enormous range of products, many of which you consume every day (see Source 1).

You may not realise it, but a lot of water was needed to produce your breakfast. Many everyday products use even more water. For example, it takes up to 50000 litres of water to produce 1 kilogram of beef, and 685000 litres to produce enough wool to make one suit. The amount of water needed to produce an item of food, such as a steak, or a piece of clothing, such as a suit, is known as **virtual water**.

In Australia, many crops are grown in the Murray–Darling Basin in south-eastern Australia (see Source 4). While a lot of the water used in this region falls on the farms as rain, much of it is taken from the rivers. Movement and control of water has a large economic impact in this region.

In the past, the rivers in this region had a normal cycle of flood and drought. Farmers needed a more reliable flow of water and so a system of dams and weirs was built along the river. These collect water during wet times and release it gradually during dry times, thereby controlling the flow of the river.



Source 2 Water used per hectare (10000 square metres) to grow selected crops

Farmers are allowed to use a certain amount of water each year and are charged for the amount of water they use. Because they have to pay for their water, farmers in this region use it very carefully. Another reason for farmers to use water as efficiently as possible is the scarcity of water in many parts of Australia. In the early years of the twenty-first century, a widespread and severe drought turned the Darling River and many others into a series of pools separated by kilometres of dry river bed. Because of these factors, many farmers and farming industries have developed more water-efficient methods of farming.

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 per cent 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: 18070 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 per cent 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 per cent 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 1 The amount of water needed to produce typical breakfast foods

Source 3 An irrigation channel in the Murray–Darling Basin

Murray River irrigation

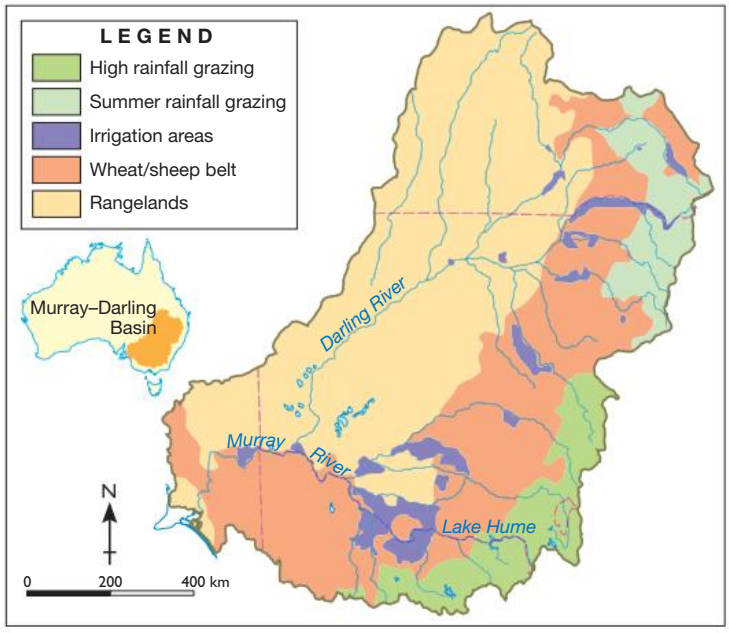
Lake Hume is an artificial lake formed by the Hume Weir near Albury–Wodonga on the Murray River. Completed in 1936, it is one of a series of dams and weirs built to control the flow of water in the Murray River. Its main purpose is to trap water during periods when there is a large amount of water in the Murray River and release it gradually to keep the flow of the river relatively constant.

A network of irrigation pipes and open channels carries the water from the Murray River hundreds of kilometres to individual farms. Open channels are generally less efficient than pipes as water is lost to evaporation and water seeping into the soil. However, they are much cheaper to build than pipes.

When the water reaches the farms it flows by gravity or is pumped onto the crops or pastures. A common method of irrigation is the use of a pivot spray. A giant arm with sprayers attached moves around a central pivot point, creating distinctive circles of green.

Source 5 Pivot spray irrigation

MURRAY–DARLING BASIN: LAND USE



Source 4 Source: Oxford University Press

Check your learning 2.7

Remember and understand

1 How much of Australia's fresh water is used on farms?
2 How does water for irrigation of crops and pastures reach the farms?
3 Rank the breakfast foods shown in Source 1 in order from greatest water need to least water need.

Apply and analyse

4 Can farmers use as much water as they want?
5 Look at Source 2.
   a Which crop uses the most water?
   b Which crop uses the least water?
6 Why do you think it takes so much water to produce 1 kilogram of rice?
7 In what ways is the Murray–Darling Basin one of Australia's most important resources?
8 Look closely at the map (Source 4).
   a What relationship do you notice between irrigation areas and rivers?
   b Explain the nature of this relationship.

Evaluate and create

9 Draw a labelled diagram to clearly show how pivot spray irrigation works. Use Source 5 to help you.

2.8 Water for energy

Moving water has been used as a source of energy since ancient Greek and Roman times, with the invention of the water-driven wheel. Watermills built by the Romans used the force of the flowing water to drive the blades of a large wooden wheel. This, in turn, rotated an axle to drive the machinery inside the mill to grind grains such as wheat and corn.

Hydroelectricity

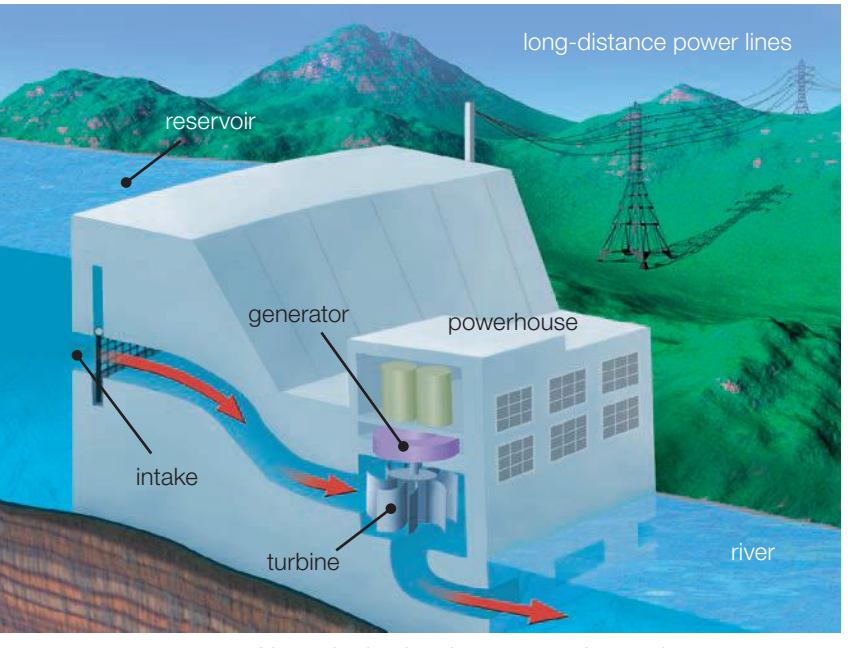
Today, electricity is generated following the same basic concept used in Roman watermills. A dam is built across a river, creating a large reservoir of water. This water is then released through turbines, causing them to turn. The spinning turbines rotate giant magnets around a huge coil of copper wire to create electricity. The faster the water flows, the more electricity is created. This type of electricity is known as hydroelectricity.

Australia's largest plant is the Snowy Mountains Hydroelectric Scheme. More than 100 000 people from over thirty countries constructed the huge tunnels, dams and power stations. Electricity generated by the scheme is used in the Australian Capital Territory, New South Wales and Victoria.

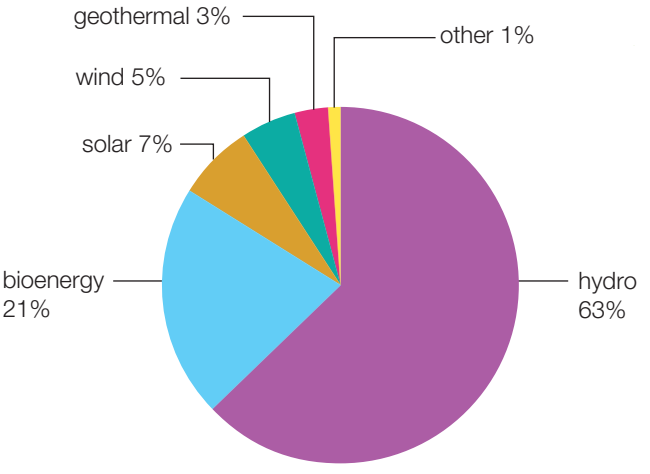
Hydroelectricity is the largest source of renewable, non-polluting energy in the world. The main negative impact of building a hydroelectric plant is that the natural flow of the river is stopped and the land behind the dam is flooded. The flooding of valleys behind the dam can destroy natural habitats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

Case study: Three Gorges Dam, China

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 660 kilometres long. 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; that is about 30 000 times the size of the Melbourne Cricket Ground.

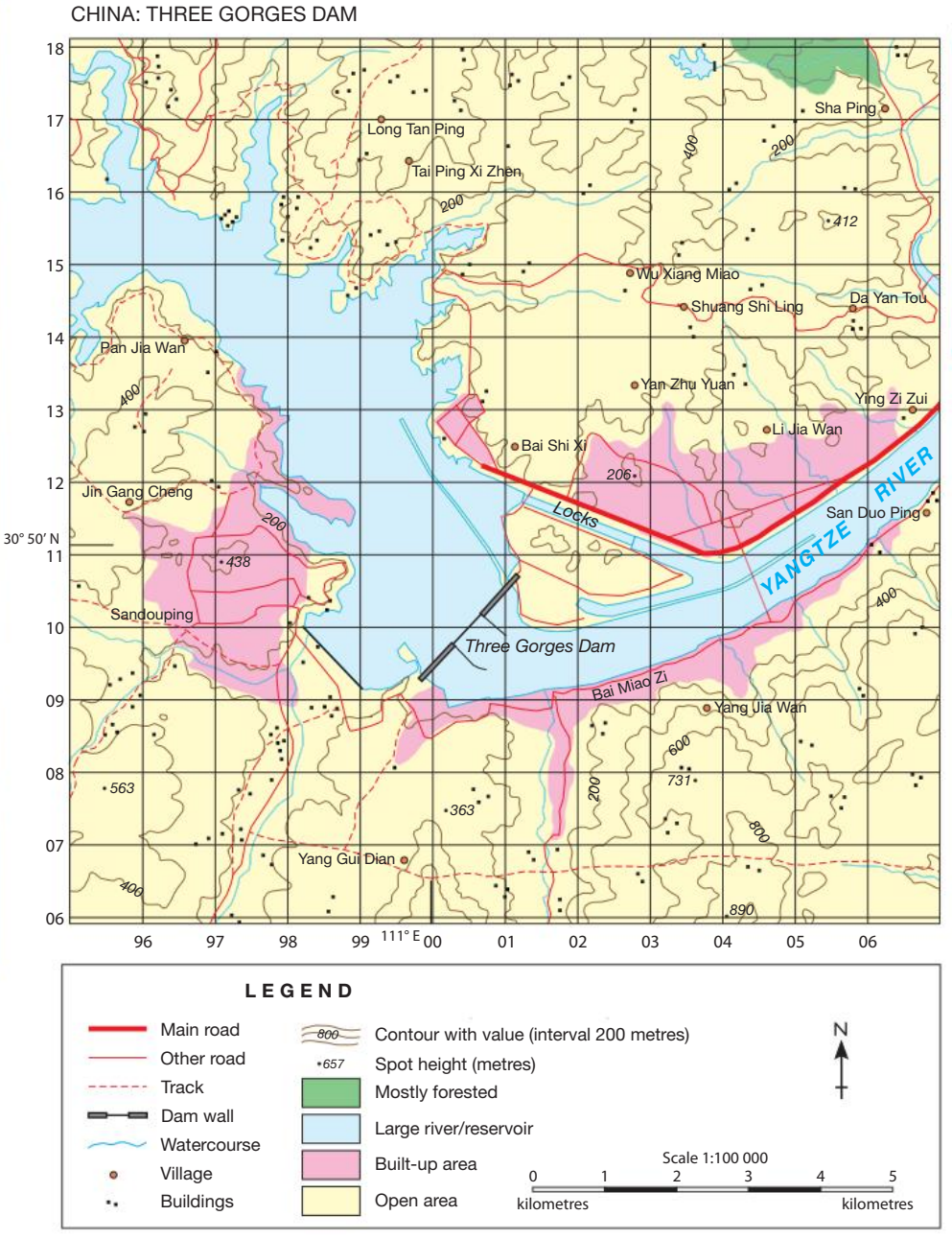


Source 1 How a hydroelectric power station works



Source 2 Energy from renewable and continuous sources. Hydroelectric power accounts for most of the total energy produced from these sources around the world.

Source 3 An oblique aerial view of the Three Gorges Dam on the Yangtze River in China. Water flows through the open sluice gates. The hydroelectric power station is to the left of the sluice gates.



Source 4

Source: Oxford University Press

Check your learning 2.8

Remember and understand

1 How is water used to create electricity?

2 What advantages and disadvantages does the building of dams bring?

3 How can you stop a river flowing to build a dam wall?

Apply and analyse

4 Look carefully at Source 3. Oblique aerial images are taken from an angle and show a foreground and a background. Is the dam wall in the foreground or the background?

5 Draw a sketch of the oblique aerial image (Source 3) and label the following:

- Three Gorges Dam
- hydroelectricity plant
- Yangtze River
- flooded valley.

Mark in where you think the original course of the river flowed.

6 What happened to the towns, villages and farms upstream of the Three Gorges Dam on the Yangtze River?

2B rich task

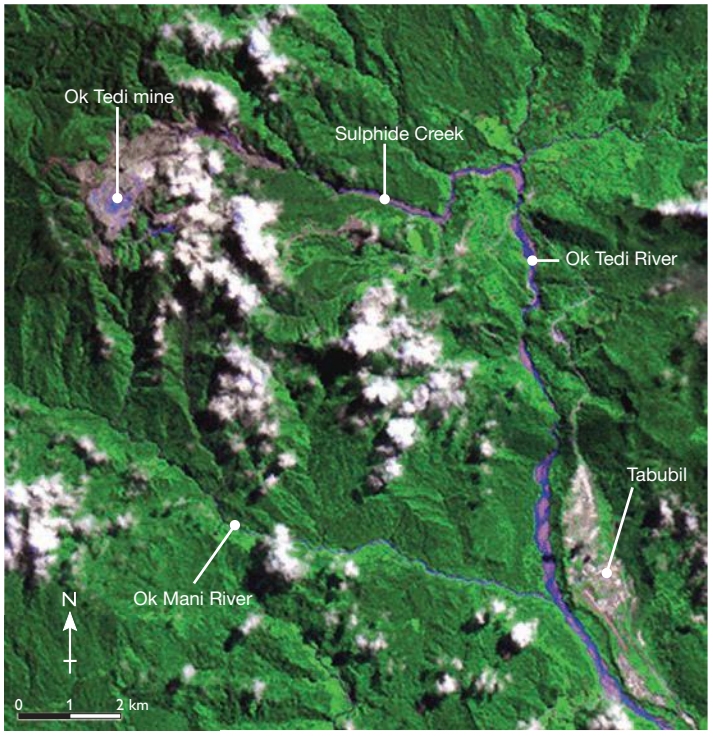
The Ok Tedi mine

The Ok Tedi copper and gold mine is located on the Ok Tedi River in Papua New Guinea. During mining operations large amounts of chemicals are used to separate the precious gold and copper minerals from other rocks. These chemicals, along with ground up rocks and ore (known as **tailings**), need to be disposed of. In order to do this, the mine owners (BHP Billiton) built a dam known as the tailings dam. The tailings dam allowed heavy metals and solid waste from the mine to settle. Cleaner water would then be released into the river system.

Unfortunately, an earthquake in 1984 collapsed the tailings dam. BHP Billiton argued it was too expensive to rebuild it.

Source 1 Ok Tedi mine in Papua New Guinea

Since 1984, the mine has discharged 70 million tonnes of tailings into the river system each year. Chemicals from these tailings destroyed wildlife in the river, particularly fish. The materials dumped into the river also changed a deep and slow river into a shallow river with rapids. Transport up and down the river became more difficult. The change in the river bed led to frequent floods that spread contaminated mud onto 1300 square kilometres of farms along the Ok Tedi River. The discharge from the Ok Tedi mine caused great harm to the 50 000 Indigenous people who live in the 120 villages downstream of the mine. Millions of dollars in compensation was paid to those affected by the misuse of the river system.



Source 2 Satellite image of Ok Tedi mine, 5 June 1990

Source 3 Satellite image of Ok Tedi mine, 26 May 2004

skill**drill:** Data and information

Identifying change over time

By carefully examining photographs, satellite images or maps from different times we can see the changes that occur at a location. When studying the same area at two different times, undertake the following steps.

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).

Apply the skill

1 Study Sources 2 and 3.
   - **a** In what two years were the satellite images taken?
   - **b** Were the images taken at different times of the year?
   - **c** What changes to the rivers occurred between the years when these images were taken?
   - **d** Why did these changes occur?
   - **e** Are these changes permanent or seasonal?
   - **f** Draw a sketch map of the area in 2004, using a key and labels to outline the changes that have occurred since 1990.

Extend your understanding

1 What competing uses were there for the Ok Tedi and Ok Mani Rivers?

2 What problem did BHP Billiton have managing the polluted water in their tailings dam?

3 What environmental impact did the tailings have on the rest of the river?

4 What social impact did the actions of BHP Billiton at the Ok Tedi mine have on the Indigenous users of the river?

5 Give another example where change in water use in one part of a river has impacted on water users downstream.

2.9 Water in Australia

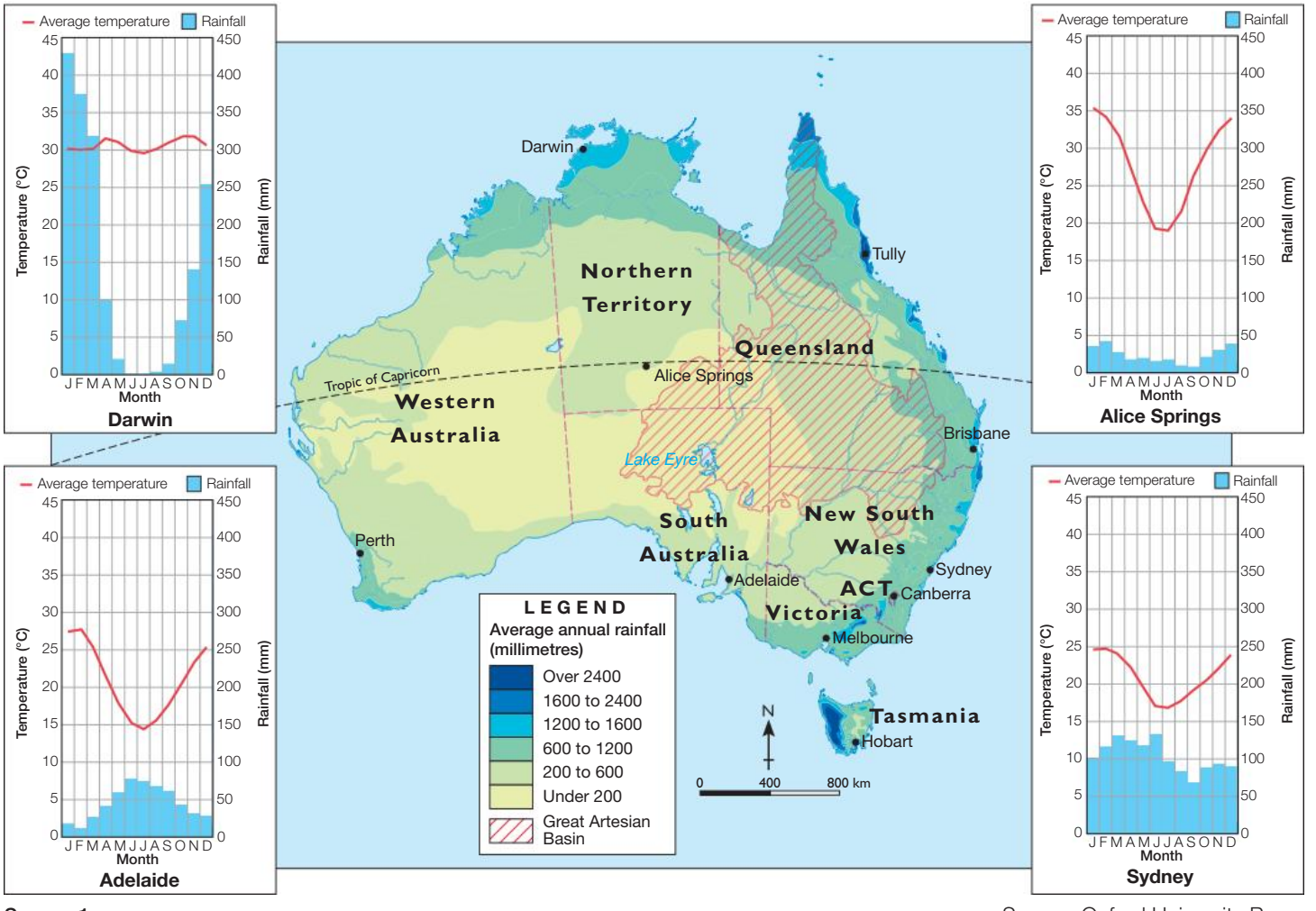
Australia has the lowest volume of water in rivers and the smallest number of permanent wetlands of any continent except Antarctica. Australia's water supplies are not evenly distributed. The northern third of the continent lies in the **tropics** and receives heavy rainfall with **monsoons** in the summer. It is a water-rich area. By comparison, vast areas of the interior 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 good, reliable rainfall, pressure from a large number of water users has put great 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. It extends 3500 kilometres from the northern tip of Cape York to southern Victoria. Moisture-rich winds from the south-east push warm, moist air over the land. Forced to rise and cool, the water droplets fall onto the east coast as rain, but as the air descends to the west, it becomes warmer and drier.

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



Source 1

Source: Oxford University Press

Source 2 Australia's heaviest rainfall makes Tully the white-water rafting capital of Australia.

Being such a large country, Australia has a great deal of variation in rainfall. It is common for one part of the country to have floods while another has a long drought. The wettest place in Australia is Tully, near Innisfail in north Queensland, which averages 4204 millimetres of rainfall a year. Tully receives so much rain because of its location within the tropics on the north-eastern facing slopes of the Great Dividing Range.

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 on to 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 over 1.7 million square kilometres in size and covers approximately 22 per cent of Australia. The water is trapped underground in a sandstone layer covered by sedimentary rock, creating a aquifer. Farmers and communities access this water by drilling a well and pumping water to the surface with a windmill.

Australia's river resources

Rivers are a vital source of fresh water for many people. Australia, though, has the lowest volume of water in rivers of any inhabited continent on Earth. On average, just 12 per cent of Australia's rainfall is collected in rivers; this is referred to as the river discharge. The remaining 88 per cent 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.

Check your learning 2.9

Remember and understand

1 Why do many Australians live on the southern and eastern coast?
2 Where are the wettest regions of Australia? Where are the driest regions of Australia?
3 How do many farmers and communities in inland Australia access more water?
4 Use the map in Source 1 to estimate how much rainfall is received every year on average where you live.

Apply and analyse

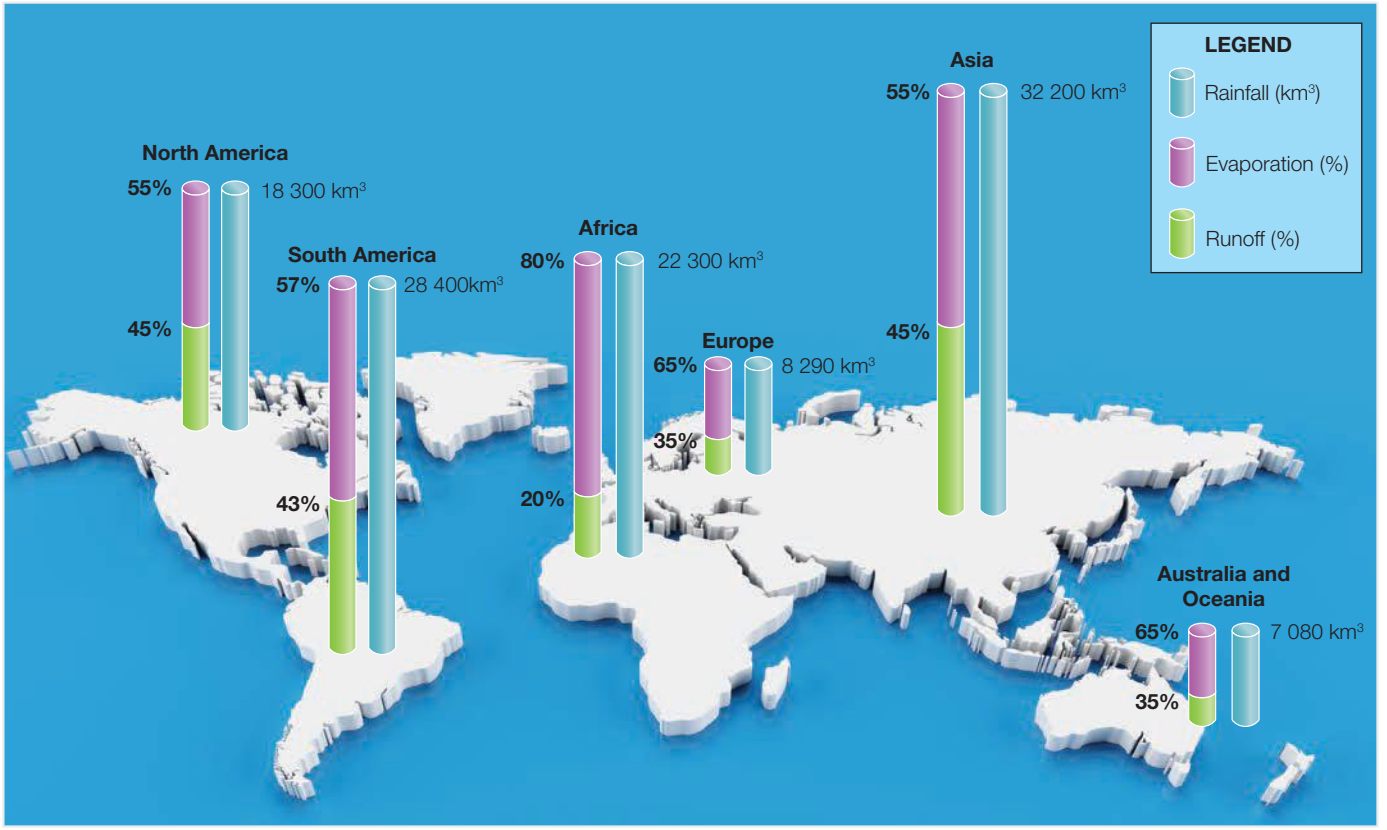
5 Use the PQE method explained in the Skill drill on page 49 to describe the distribution of Australia's rainfall.
6 Four climate graphs are shown in Source 1. Each of these gives us two important pieces of information about the climate at a particular place. Rainfall is shown as a series of blue bars while average temperatures are shown with a red line. The trickiest part of reading a climate graph is reading the correct scales. Temperature is shown on the left-hand side, rainfall is shown on the right-hand side, and months along the bottom. For more information on reading a climate graph refer to page 29 of 'The geography toolkit'.
   a Which is the most water poor of the four places shown? Why is this?
   b Which has the most even or reliable rainfall throughout the year? Why is this?
   c Which has the most seasonal rainfall?

2.10 Water in the world

In an average year, 577000 km³ (cubic kilometres) of rain falls on Earth. One cubic kilometre (1 km³) is equal to one trillion litres of water. That means around 577 trillion litres of water falls to Earth as rain each year. Of this, 458000 km³ falls on the oceans and 119000 km³ on land.

When water falls to Earth as rain, most of it evaporates back into the atmosphere. Of the annual rainfall that falls on land, 74000 km³ (or 62 per cent) evaporates. In Australia, around 65 per cent of our total rainfall each year evaporates. The remaining 35 per cent runs off the land, and of this, only about 12 per cent ends up in our rivers. Only Africa has a higher evaporation rate than Australia.

The amount of water in Australian rivers is the smallest of all inhabited continents, with South America experiencing the highest volumes of water in its rivers. For example, the Amazon River (the second-longest river in the world) carries more water than any other river on Earth, with an average discharge (volume of water flowing through it) greater than the next seven largest rivers combined. Nearly 20 per cent of all the fresh water entering the oceans comes from the Amazon River.

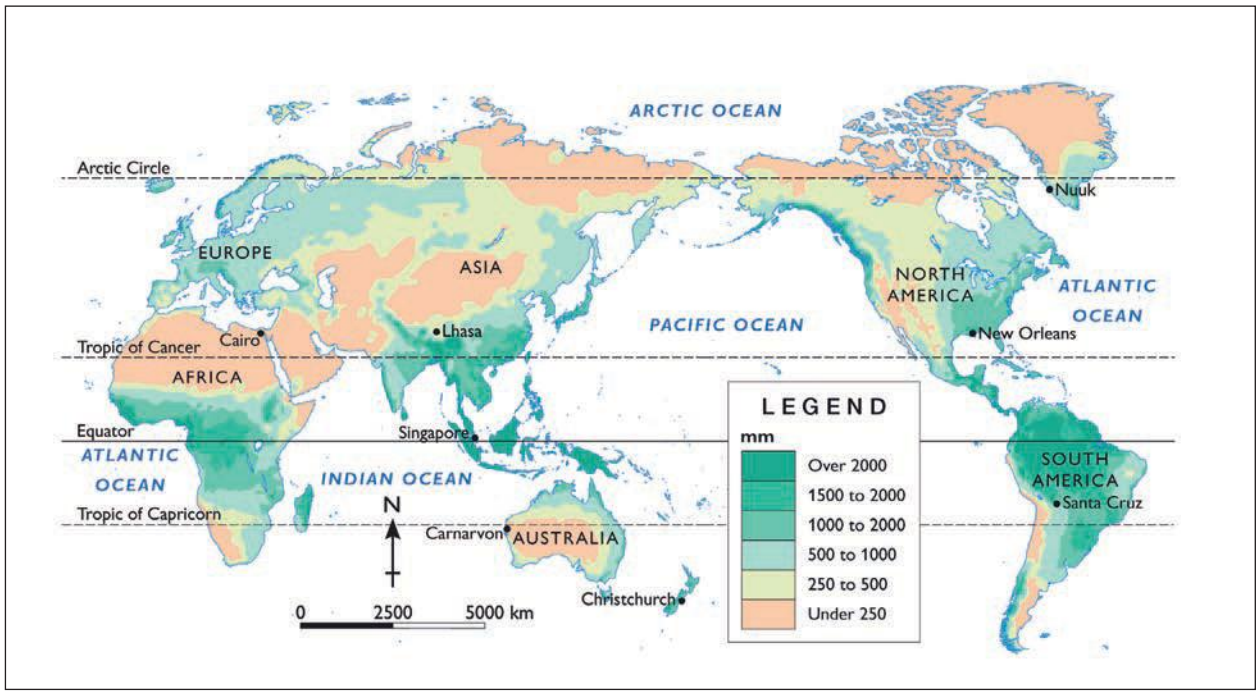


Source 1 Average volume of yearly rainfall (km³), evaporation and run-off by world region

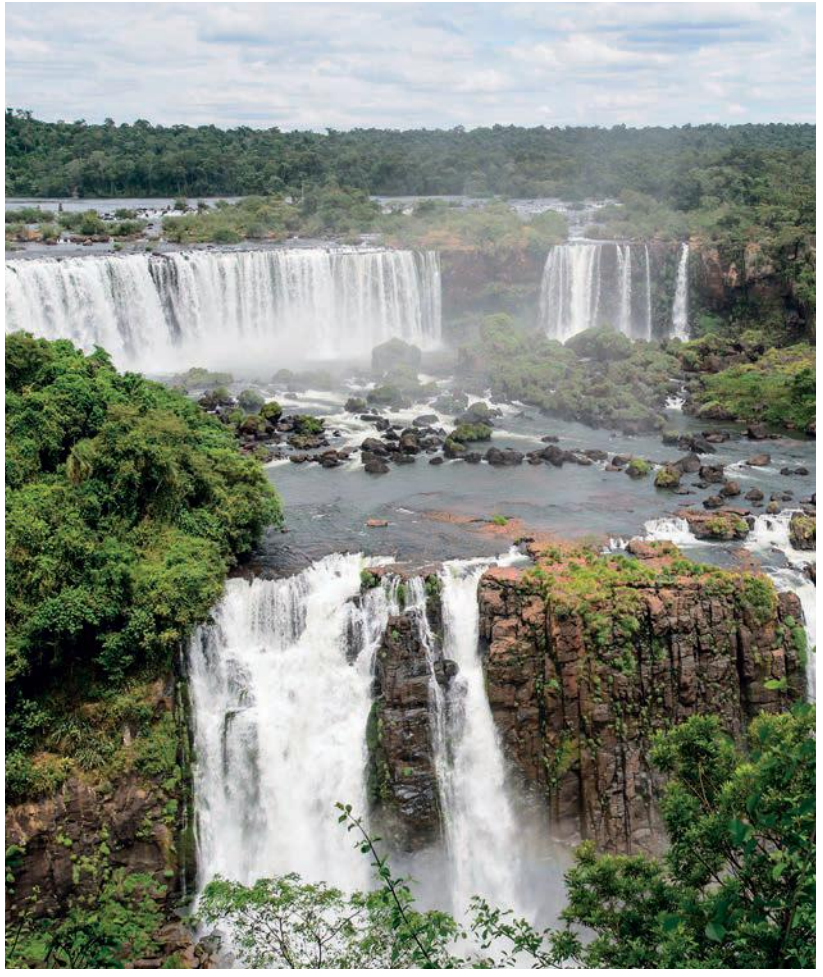
Source: FAO Aquastat

Source 2 Some of Australia's driest regions are in the desert.

WORLD: ANNUAL RAINFALL



Source 3 Source: Oxford University Press



Source 4 South America's high rainfall has contributed to the creation of the Iguazu Falls, which are 80 metres high and 3 kilometres wide.

Check your learning 2.10

Remember and understand

1 Use Source 1 to rank the six inhabited continents in order from the continent that has the most run-off to the continent with the least.

2 Which river carries the most water and how does it compare to other rivers?

Apply and analyse

3 Look carefully at Source 3.

- **a** Which region of the world is the wettest? Why do you think this is the case?
- **b** Which part of Africa experiences the lowest rainfall? What type of landscape would you expect to find here?
- **c** Which part of Asia is the wettest? What are some of the advantages and disadvantages of high rainfall?
- **d** Does the region north of the Arctic Circle have low or high rainfall? How might much of the water in this region be stored?

2.11 The world's drinking water

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 per cent less water by 2030 in order to stay within the limits imposed by our rainfall. Some households have started to use a number of strategies to save water, while many others continue to waste large amounts.

Source: United Nations 2006

Source 1 Water use per person per day. Mozambique has the lowest daily water use per capita while the United States has the highest.

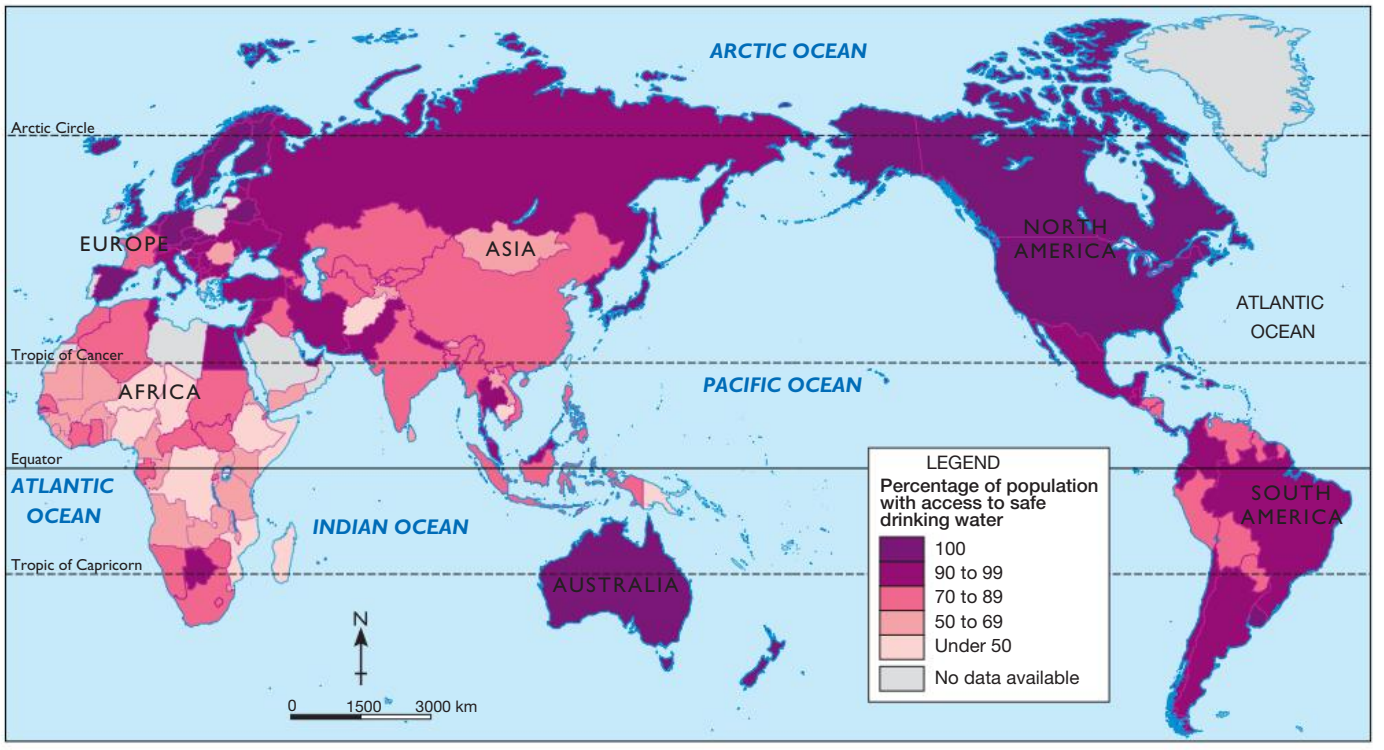
Access to safe drinking water

In Australia, we take for granted that we have flush 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 half the world's population has problems caused by lack of access to clean water. More than 1 billion people do not have access to a reliable freshwater supply, and 2.6 billion do not have basic sanitation, such as running water to clean their hands or flush their toilets.

It is estimated that, at any one time, almost half the people in poorer countries are suffering from health problems due to a lack of safe water. 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.

Source 2 In Chad, as in many African countries, each day begins with a walk to the village well.

WORLD: ACCESS TO SAFE DRINKING WATER



Source 3

Source: Oxford University Press

key**concept:** Environment

Serah's story

Serah and her six children live in Ethiopia in Africa. The scarcest resource in her region is water. Before dawn, she makes her first journey to the village pump. Once there were three wells, but the 8-metre well has dried up. The 9-metre well has a little salty water at the bottom. The flow from the pump of the 25-metre well has slowed to a painful trickle. There is just barely enough for everyone to drink.

While it takes her 25 minutes to walk down the hill to the pump, it will take her 40 minutes to make the return journey with the 10-litre jar balanced on her head. She makes this trip at least twice a day. She tends not to drink as much as the others as she believes she should look after her children before herself. This means that she cannot produce enough milk for her baby, so he is often ill. The water contains parasites that make her other children sick, but Serah has little choice.

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

Check your learning 2.11

Remember and understand

1 What is potable water?
2 How many people in the world do not have access to a reliable supply of fresh water?
3 Describe the differences in the drinking water available in most Australian homes and in Serah's village.

Apply and analyse

4 Using Source 3 and the world map on the inside front cover of this book, identify two countries with excellent access to safe water and two countries with poor access to safe water. Which continent has the worst access to safe water?
5 Read Serah's story.
   a How much water will Serah collect in two trips to the pump?
   b How many people depend on her trips to the pump?
   c How much will each person receive?
   d The average toilet in Australia uses 8 litres per flush. Write a statement about the way water is used in Australia compared to Ethiopia.

2C rich task

The driest city in Africa?

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 250 000 people 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 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 in order to supplement Windhoek's fresh water. As the city's population continued to grow rapidly, in the 1990s it was decided to build another treatment plant to convert sewage into drinking water. This was completed in 2002. Now more than one-third of Windhoek's drinking water comes from this unlikely source, making the city the world leader in turning waste-water into drinking water.

Source 1 Water is a scarce and precious resource in Namibia. These women walk for hours a day to collect water.

Source 2 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

skill**drill:** Data and information

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.

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 degrees Celsius. 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.

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 very lightly shade the bars with a blue pencil.

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

Apply the skill

1 Using the steps shown above and the data in Source 2, and referring to the Alice Springs climate graph (Source 1 on page 64), construct a climate graph for Windhoek.

Extend your understanding

1 Describe the annual pattern of rainfall in Windhoek.

2 Explain how this annual pattern makes dams and reservoirs an unreliable water resource.

3 Describe the annual pattern of temperature and explain the impact of these temperatures on the evaporation of water held in dams.

4 Compare the climates of Windhoek and Alice Springs (Source 1 on page 62).

5 Examine the map of Namibia. Identify three water resources on this map.

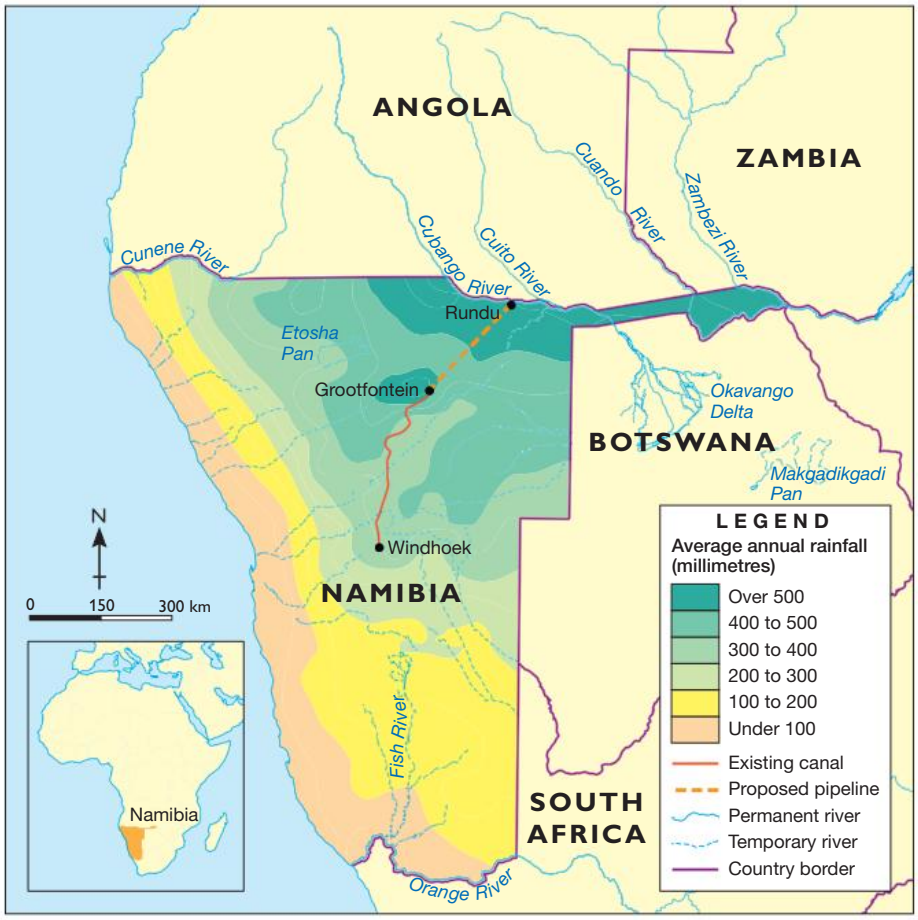
6 a What have the people of Windhoek done to make their water supply more sustainable and safe?

b What problems does lack of access to safe water cause?

7 Use the information on the map (Source 3) to explain why a pipeline is proposed to be built from the Cubango River to Grootfontein.

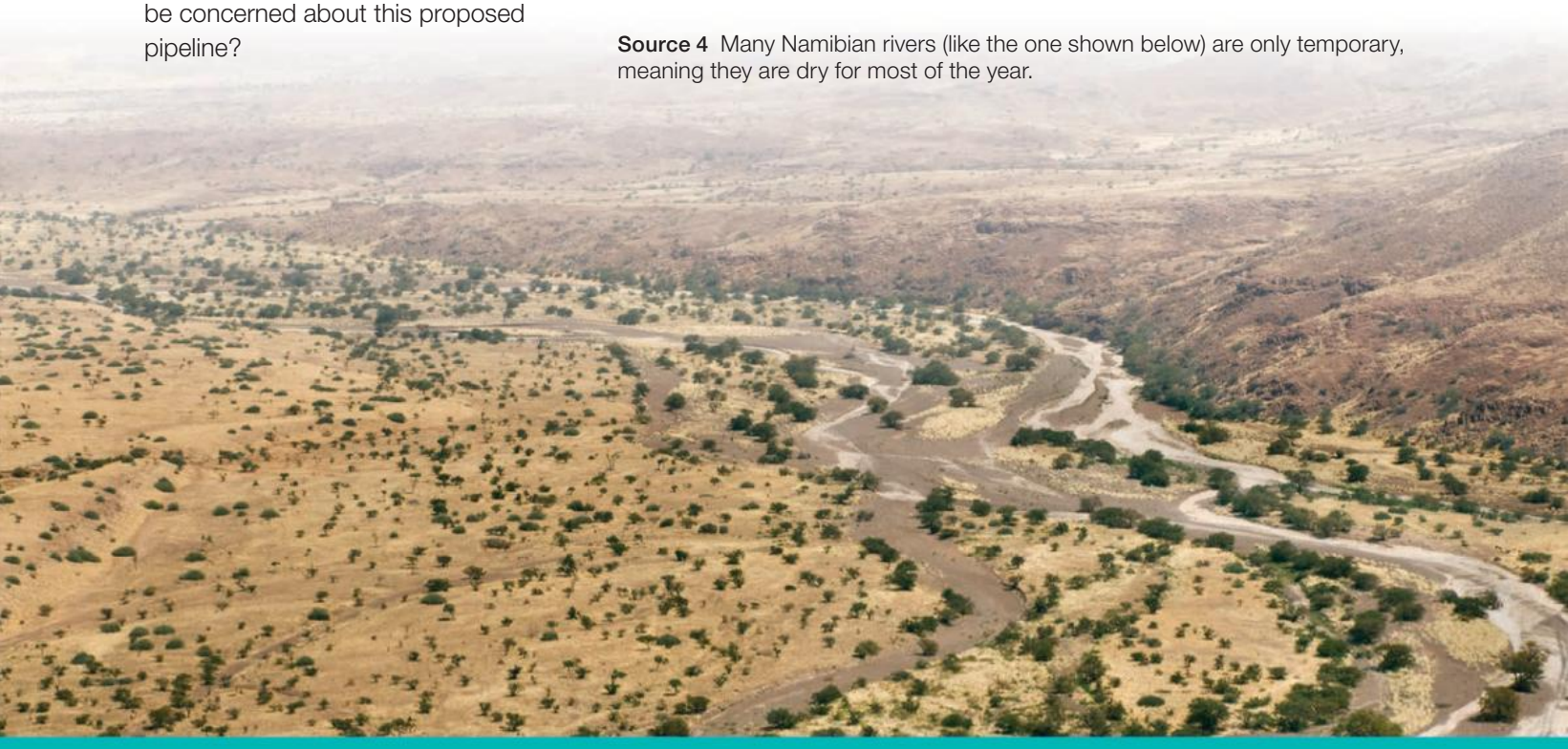
8 Why would the people of Botswana be concerned about this proposed pipeline?

NAMIBIA: AVERAGE ANNUAL RAINFALL



Source 3 Source: Oxford University Press

Source 4 Many Namibian rivers (like the one shown below) are only temporary, meaning they are dry for most of the year.



Valuing and managing water

People value water for many different reasons. It has economic, cultural, spiritual and even aesthetic (appreciated for its beauty) value. As populations grow, the demand for water increases, yet its supply is limited. People all over the world need to examine how they use water, and put in place measures to conserve and manage it. On the other hand, when rainfall is high, communities in low-lying areas close to rivers need to put in place measures to deal with the opposite problem – floods.

3A

How do we value and manage water?

1 Considering that only 2.5 per cent of all water on Earth is fresh water, do you think that the Cascata Golf Club's use of water (see Source 1) is responsible?

2 Why might water have a higher economic value in the Nevada Desert?

3B

How can we overcome water scarcity?

1 What could the managers of the Cascata Golf Club do to use less water?

2 Make a list of strategies that you, personally, could put in place to use less water.

chapter 3

Source 1 The Cascata Golf Club in the Nevada Desert uses 5 000 000 litres of water per day to irrigate its fairways and greens.

3C

How do we respond to floods?

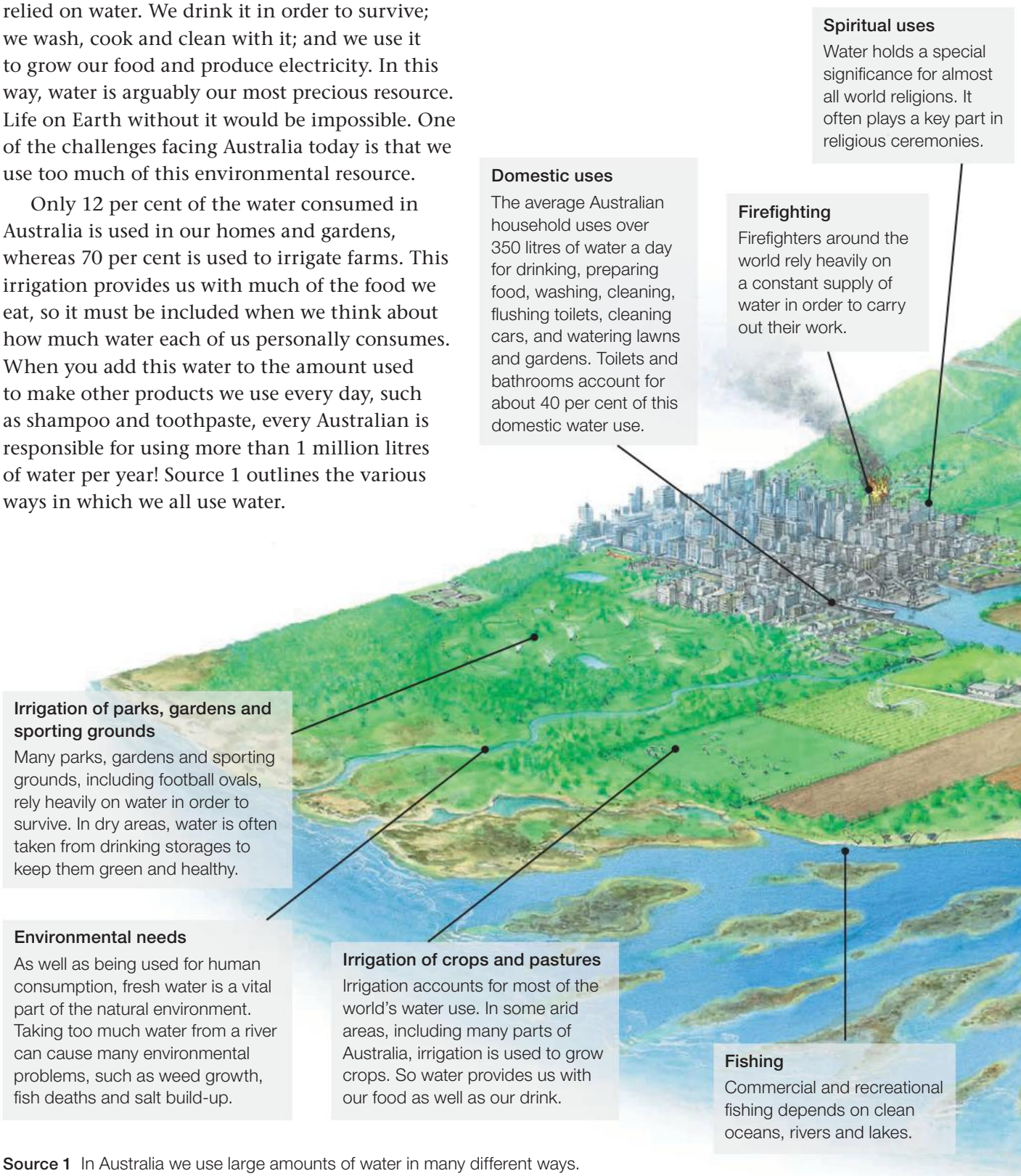
1 The Nevada Desert suffers from permanent drought conditions. Other parts of the world are frequently flooded. What factors do you think might make an area prone to flooding?

2 Suggest two ways that communities in flood-prone areas might plan for floods.

3.1 The importance of water

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. One of the challenges facing Australia today is that we use too much of this environmental resource.

Only 12 per cent of the water consumed in Australia is used in our homes and gardens, whereas 70 per cent is used to irrigate farms. 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 personally consumes. When you add this water to the amount used to make other products we use every day, such as shampoo and toothpaste, 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.



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

Power generation: coal-fired and nuclear power

Virtually all power stations use large quantities of water. Coal-fired power stations heat water to produce steam that turns turbines to create electricity. Water is also used to cool the station. Nuclear power plants operate in much the same way.

Power generation: hydroelectric power

Electricity can be generated from the energy of moving water. Usually, to do this a dam must be constructed across a river and a lake formed behind it. This allows the river's flow to be controlled and released through the dam to produce electricity.

Snow-making

Artificial snow-making is important in countries such as Australia where natural snowfalls can be infrequent. However, many countries with more regular snowfalls now also use snow-making machines in order to improve conditions and attract more tourists.

Navigation and trade

Large rivers (such as the Nile in Egypt, the Rhine in Europe and the Yangtze in China) have been used for centuries for trade, as they provide a fast method of transporting goods between regions and countries.

Construction and industry

The construction industry relies heavily on water in order to make concrete and many building supplies, such as bricks. Many industrial processes use large quantities of water for cooling and cleaning.

Recreational activities

Recreational activities (such as water-skiing and swimming) generally have little impact on the quantity and quality of fresh water. Pollutants in the water from industry upstream can affect water quality and make the water unsuitable for recreation.

Mining

The mining industry relies heavily on water to cool machinery, enable drilling and process minerals and iron ore taken from the ground.

Check your learning 3.1

Remember and understand

1 What activity uses the most water in Australia? How much of our water does it use?
2 How can water be used to help create electricity?
3 Using Source 1, categorise each water use shown as either an off-stream use (in which water is removed from its source, either by pumping or diversion) or an in-stream use (in which water remains in place).
4 What other water uses can you think of?

Apply and analyse

5 Using Source 1, identify two water uses that compete with one another and so cannot easily exist beside one another.

3.2 Growing the world's grain

Rice is the world's most important food crop and is 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 located in regions of the world with high rainfall. About 90 per cent of the world's rice is grown in Asia, with India and China being the largest producers of rice. Outside of Asia, the USA and Brazil are the biggest producers of rice.

Source 1 Rice seedlings being placed in the rice paddy for planting, Mekong Delta, Vietnam

Source 2 Satellite image of the Mekong Delta in Vietnam. Farming here is dependent on the rich soils and plentiful water of the region.

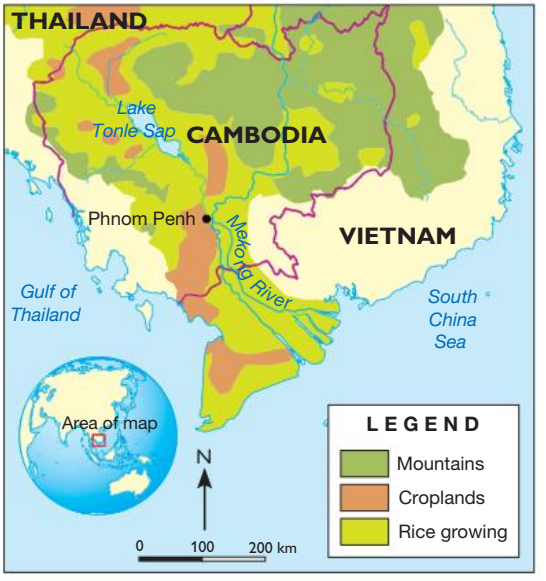
Rice farming in Vietnam

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 per cent 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 and provides rich soil for farming. The Mekong Delta region is also flood prone, making it perfect for rice production. The rice is grown in flooded fields known as paddies.

Of the 17 million people in the delta region, 80 per cent are employed in rice cultivation. The rice farmers live in

MEKONG DELTA: RICE-GROWING REGIONS



Source 3 Source: Oxford University Press

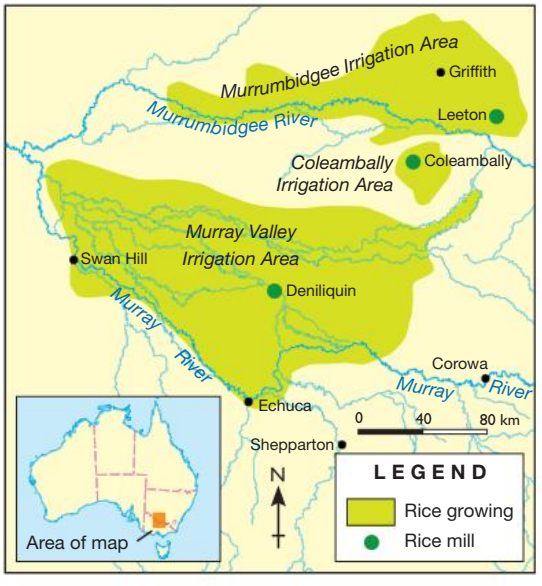
houses built on stilts and the roads in the region are located on raised embankments to provide protection from flooding.

Most of the rice produced in Vietnam and other parts of southern Asia is a variety known as Indica rice. Indica rice is a long grain rice that grows well in hot, tropical climates. In recent times, faster growing rice plants have been developed. These new strains of rice mature in 110 days instead of 160, meaning farmers can grow three crops a year instead of two.

Rice farming in Australia

In Australia, a variety known as Japonica rice is more commonly grown. This variety of rice grows well in the Australian climate. In a dry country such as Australia, rice farmers have to be very efficient in their use of water (see Source 5). Australian rice growers use 50 per cent less water than the world average to grow 1 kilogram of rice. To ensure water is not wasted, the soil of Australian rice farms needs to be checked and approved to ensure that it can hold water and not allow it to escape below.

AUSTRALIA: RICE-GROWING REGIONS



Source 4 Source: Oxford University Press

Source 5 Australian farmers carefully plough their fields to minimise water wastage. They even use lasers to ensure rice fields are as close to level as possible. Raised levees divide large fields into individual bays to allow farmers to carefully control the flow of irrigation water.

Australia's rice-growing regions include the Murrumbidgee and Murray Valley in south-western New South Wales (see Source 4). These regions are suitable for rice cultivation as they have available water, irrigation infrastructure, large areas of flat land, and suitable soils. Storage and milling facilities for rice have also been established in these areas. The rice industry has been a major contributor to the economic and social wellbeing of people in the towns of these regions.

Check your learning 3.2

Remember and understand

1 What economic value does rice have?
2 How have farmers reduced their water use in rice-growing regions across Australia?

Apply and analyse

3 Compare rice-growing techniques in Australia and Vietnam. How are they similar? How are they different?

Evaluate and create

4 Draw a sketch map of Source 2 to show the location of rice paddies on the Mekong Delta. Mark in the South China Sea and rice paddies (most of the green area on the image).

3.3 Competition for water supplies

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 Murray River

The Murray River provides an excellent example of what happens when demand for river water threatens to outpace supply. Water from the Murray River has many competing uses, including irrigation, domestic urban water supply, industrial water supply, maintaining the natural environment, recreation, navigation, hydroelectricity and water storage. There are three major water storage dams on the Murray River. There are also 10 weirs (another type of dam) built across the river to slow the river flow and allow towns to access the water. Locks have been built where the water level can be raised and lowered to allow boats to travel from one side of the weir to the other.

A series of pumps and pipes carries some of the water from the Murray River to water users in towns, cities and farms many kilometres from the river (see Source 1). One of these pipes carries water from the town of Mannum to Adelaide, 60 kilometres away. The amount of water pumped from the river to Adelaide varies from year to year but can be as high as 90 per cent of Adelaide's water needs in some years.

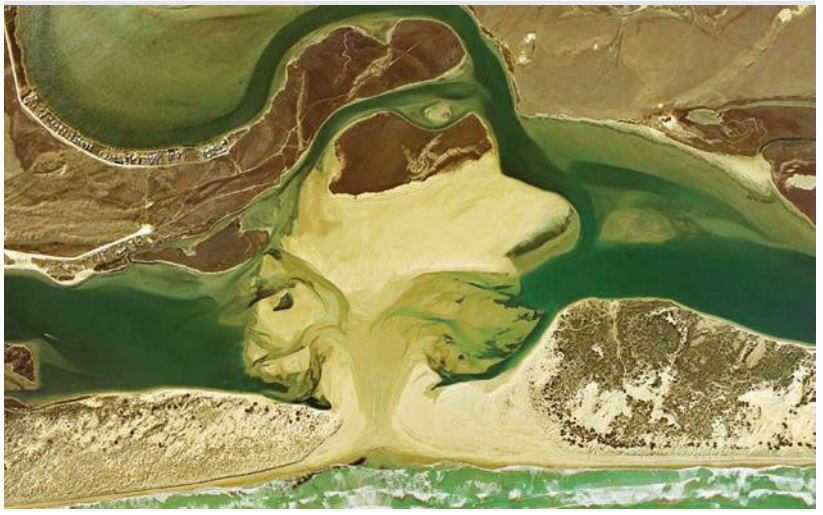
The agriculture sector is by far the largest user of water from the Murray River. On average, 3780 gigalitres (3780 billion litres) is diverted each year to irrigate farmland to grow crops and raise livestock. Clearing of native vegetation in the river valley has

MURRAY RIVER AND SOUTH AUSTRALIAN WATER PIPELINES

Source 1 Source: Oxford University Press

Source 2 Oblique aerial photograph of the Murray River at Mannum, South Australia

enabled irrigated crops and pastures to be grown, but also forced salty groundwater to the surface and into the river. Along with pesticides and fertilisers, the salty water causes problems for users downstream. Near the South Australian town of Waikerie a system of pumps intercepts some of the salty water before it reaches the Murray River. It is carried in pipes to a 400-hectare lake. It is estimated that this scheme prevents more than 100 tonnes of salt a day reaching the river. Most of the water not used for irrigation is diverted to homes and industries throughout South Australia through six major pipelines (see Source 1). The average amount of water that flows from the Murray River into the ocean near Adelaide is now just 25 per cent of the total natural flow. This is because around 75 per cent of this water is taken out of the river upstream.



Source 3 This image was taken in 1981 when the mouth of the Murray River completely closed, creating changed conditions for wildlife and plants in the region.

keyconcept: Scale

The changing scales of water management

The water in the Murray River is one of Australia's most precious resources but is very difficult to manage. This is mainly because there is so much competition for the water. The water is used by thousands of farmers to produce food and other products for millions of people. Many towns and cities in three different states use the river to supply residents with water for their homes and businesses.

In the past, many upstream water users have only considered their own water needs when taking water from the river. They have not considered how this would impact on people and places downstream. We now know that this local-scale approach to water use damages the health of the river. Water must be managed at the regional scale, considering the needs of all water users and the environment in the entire river basin. For more information on the key concept of scale, refer to page 11 of 'The geography toolkit'.

Check your learning 3.3

Remember and understand

1 What competition is there for Murray River water?
2 What are the two major uses of Murray River water?
3 How have the competing water uses of boating and water storage in weirs been catered for along the Murray?
4 What problems have been caused downstream by upstream usage of the Murray River water?

Apply and analyse

5 Why is it difficult to manage the water resources of the Murray River?
6 In the foreground on the left of the Mannum oblique aerial photograph (Source 2) you can see a small marina and a residential development. Are these developments at a local or regional scale?
7 Examine Source 1.
   a How many pipelines are shown that access water from the river?
   b Use the scale to estimate the distance water travels from Swan Reach to Edithburgh.

Evaluate and create

8 Draw a map of Source 2. Use a legend to show the following features: the Murray River, irrigated farmland, irrigated golf course and sporting ground, a marina for houseboats and the town of Mannum.

3.4 The challenges of managing water

Water is an essential environmental resource that is important for the health of humans and the health of 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. Competition for water use needs careful management. It is often not easy to come up with solutions. Water management is difficult because:

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

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 fairly share the use of water and minimise the impact our water use has on the natural environment.

Source 1 Sewage spills into the Ganges River in the city of Varanasi.

Case study: Ganges River, India

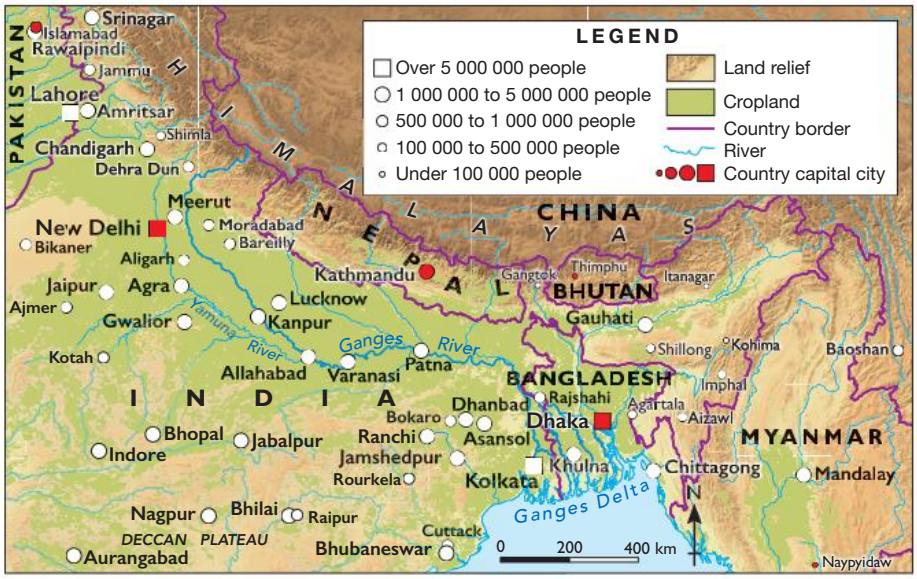
The Ganges River begins high in the Himalayan mountains, and travels across India before flowing east into Bangladesh and into the Bay of Bengal. In total, the river is 2525 kilometres long. The Ganges is worshipped by Hindus, who believe bathing and praying in the river purifies them. This sacred river 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 nearly 1.2 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 **waste-water** is dumped into the river from cities and towns that lack proper sewage-treatment facilities. Around 25 per cent of India's population work in manufacturing and industry. The waste-water 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 have meant 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 (or Mother Ganga as they call her) is the source of these problems. 'People have so much faith in this water that when they bathe in it or sip it, they believe it is the nectar of God [and] they will go to heaven,' says a scientist at the Central Pollution Control Board in India.

In 2011, Indian officials signed an agreement with the World Bank for a $1 billion loan to finance a government project that aims to stop the flow of untreated waste-water into the Ganges by 2020.

COURSE OF GANGES RIVER



Source 2 Source: Oxford University Press

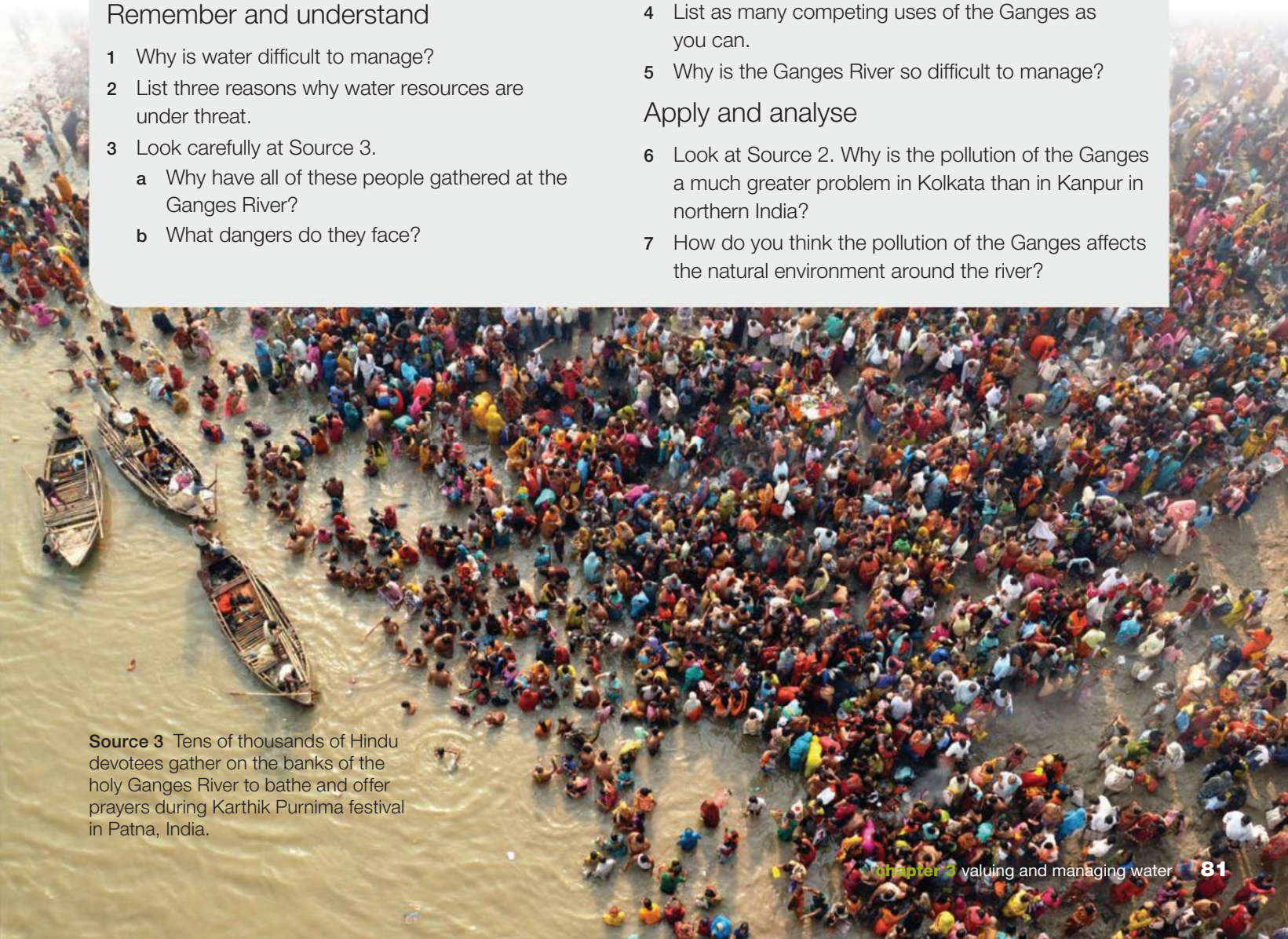
Check your learning 3.4

Remember and understand

1. Why is water difficult to manage?
2. List three reasons why water resources are under threat.
3. Look carefully at Source 3.
   - **a** Why have all of these people gathered at the Ganges River?
   - **b** What dangers do they face?
4. List as many competing uses of the Ganges as you can.
5. Why is the Ganges River so difficult to manage?

Apply and analyse

6. Look at Source 2. Why is the pollution of the Ganges a much greater problem in Kolkata than in Kanpur in northern India?
7. How do you think the pollution of the Ganges affects the natural environment around the river?



Source 3 Tens of thousands of Hindu devotees gather on the banks of the holy Ganges River to bathe and offer prayers during Karthik Purnima festival in Patna, India.

3.5 Water and Indigenous Australians

Water is a vital resource valued by both Indigenous and non-Indigenous Australians. Non-Indigenous Australians generally consider water as a natural resource with great economic and aesthetic value. Indigenous Australians on the other hand generally value water for cultural and spiritual reasons. They regard the rivers and waterholes as an inseparable part of their land. Land and water management is a key part of the culture of Aboriginal and Torres Strait Islander peoples.

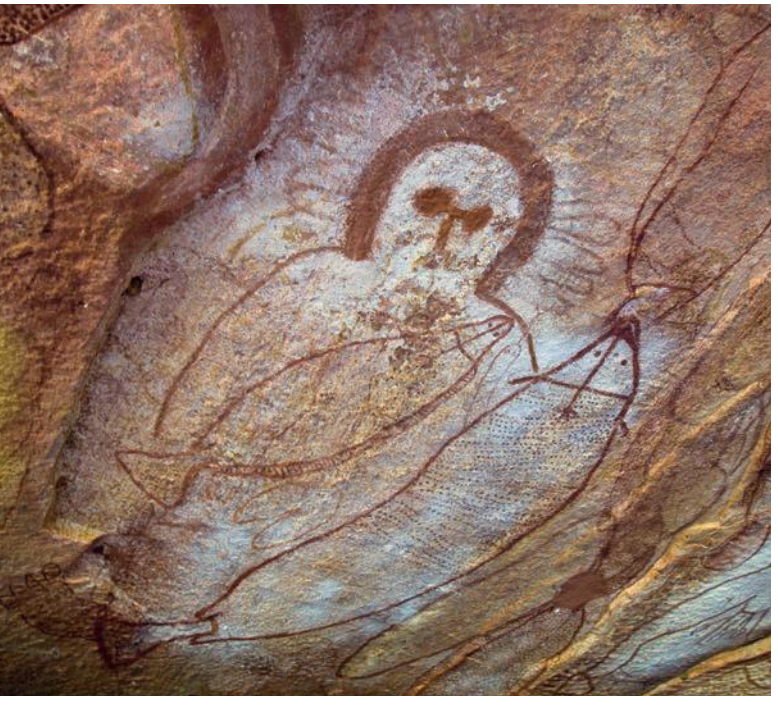
A spiritual connection with water

Prior to European settlement, most Aboriginal peoples lived in the well-watered coastal areas and along the rivers of the Murray–Darling Basin. Aboriginal people in the arid areas of Australia studied the habits of wildlife to detect water supplies. They mapped the location of water in their artwork. In these maps, spirals identified the location of pools and wells while wavy lines showed the location of running water (see Source 2).

Source 2 In the past, Aboriginal people communicated the location of water resources through symbols on maps (like this one) and through spoken instructions and stories.

Aboriginal people 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) dug a path where the Prince Regent River now flows by travelling from far inland to the sea. Other creator beings called Wandjina 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 (see Source 4).

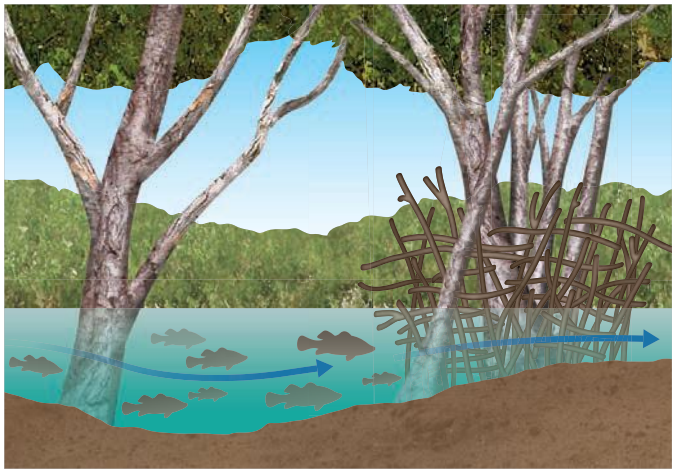


Source 1 Aboriginal links to water in the Kimberley region go back thousands of years. These scenes were created by the Worrorra people on a cave ceiling about 8000 years ago. The scene is said to depict a 'great fish chase', showing figures representing both Rock Cod and Dugong and their Wandjina captors.

Indigenous water management

Traditionally, Aboriginal peoples in drier areas of Australia depended on their knowledge of water sources to survive. They accessed water trapped in waterholes, rocks and tree hollows. They watched the flight paths of birds, such as the zebra finch, to help uncover wells and springs. The long roots of eucalypt trees were followed to find underground water, and water was collected from the morning dew on plants. Indigenous Australians would also enlarge rock holes and chip channels through rocks to divert water into specific holes to increase their access to water. To catch fish, dams were built across narrow creeks using rocks or woven branches (see Source 3).

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



Source 3 An Aboriginal dam made of woven branches designed to catch fish

Urlampe in the Northern Territory, 1330 kilometres south-southeast of Darwin, is home to one of Australia's most remote Aboriginal communities. Allan Rankine of the Urlampe Aboriginal Corporation is responsible for managing the water supply for the community. Allan decides what water the community pumps from the bore and how it will be distributed. Traditionally, Aboriginal land and water management plans are clearly defined and everyone understands and respects them.

Source 4 King Cascade on the Prince Regent River is now a popular tourist destination.

However, Allan and the traditional owners of the area do not have control over all important water resources in the region. The permanent spring that Allan visited as a child has been polluted by cattle. This once valuable water resource is now undrinkable.

Check your learning 3.5

Remember and understand

1 Where did most Aboriginal peoples live in Australia before Europeans arrived in 1788?
2 Give examples of traditional and modern Aboriginal water management.
3 How are Indigenous and non-Indigenous views of water resources different?
4 Both Aboriginal peoples and Europeans built dams along the Murray River. What impact did each have?

Apply and analyse

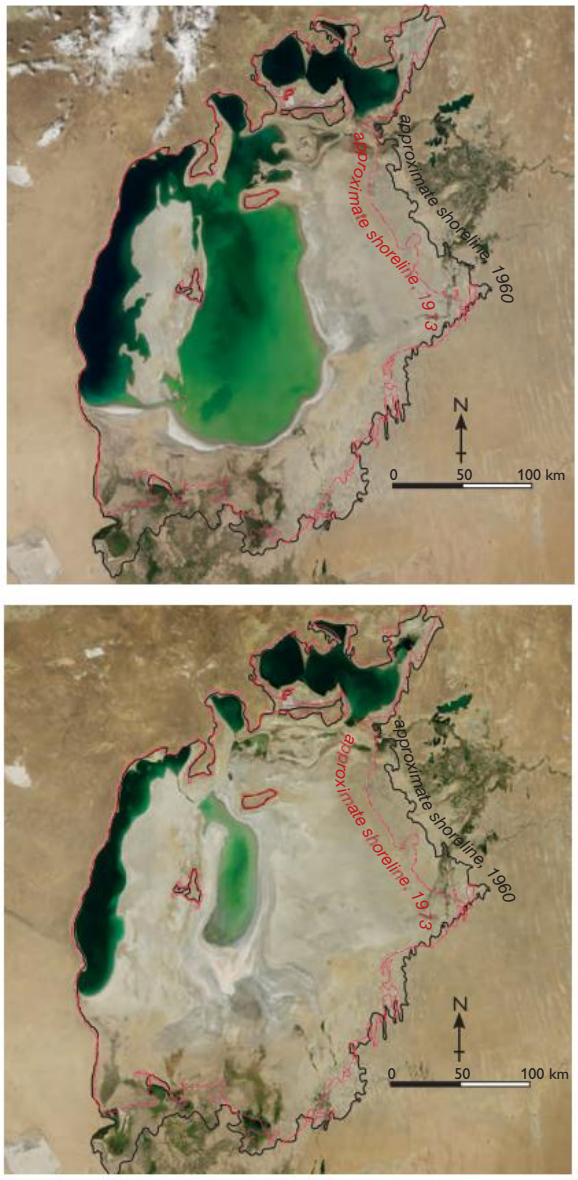
5 Look carefully at Source 4.
   a What is the spiritual value of this place to the local Indigenous people?
   b What value might this site have to a tourist?
6 Look carefully at Source 2.
   a Sketch the symbols you think represent water holes and running water.
   b Why were maps such as these important to Aboriginal communities?
   c Why do you think maps like these are still being produced by Indigenous Australians?

3A rich task

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 per cent, and its volume was reduced by 80 per cent. 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.

The Kara Desert covers about 70 per cent of the land area in Turkmenistan. It is crossed by the 1375-kilometre Karakumski Canal, the second-largest irrigation canal in the world. The canal brought a water supply to the town of Ashkhabad and allowed farming to take place in the desert, particularly cotton growing. Leakages from the canal allowed 50 per cent of the water to escape.



Source 1 Satellite images of the Aral Sea in 2000 (top) and 2011 (bottom)

skill**drill:** Data and information

Interpreting satellite images

Satellite images help geographers view large areas of the Earth's surface. Special cameras in orbiting satellites 700 kilometres above the ground record variations in the light reflected on the Earth's surface. Satellite images can show different features on the Earth's surface through colour variations on the image. Sometimes this colour variation is natural but it can also be added by computer to highlight specific features. The natural colour satellite images of the Aral Sea in Source 1 accurately record the shrinking size of the lake from 2000 to 2011.

Apply the skill

1 Study Source 1.

- **a** Describe how the Aral Sea has changed between 2000 and 2011.
- **b** What colour represents deep water on these satellite images?
- **c** What is the shallowest part of the lake in 2000?
- **d** What type of land surrounds the Aral Sea in 2000 and 2011?
- **e** Use the scale to estimate the length of the longest remaining part of the Aral Sea in 2011.

ARAL SEA BASIN: WATER RESOURCES

Source 2

Source: Oxford University Press

Extend your understanding

1 Look carefully at Source 2.
   - **a** What is the name of the longest river that feeds the Aral Sea?
   - **b** Where does this river begin?
   - **c** Into which canal is most of the water from the Amu River diverted?
   - **d** What is this water used for?

2 Look carefully at Sources 1 and 2.
   - **a** What was water once used for in this region?
   - **b** How has the Karakumski Canal changed this region?

3 The management of the water resources in this region is made more complex because more than one country is involved. Name the countries involved and the ways in which they use water resources in this region.

Source 3 The shore lines of the Aral Sea have receded by 60 to 80 kilometres, leaving behind rusting fishing trawlers that used to fish in its waters. All 20 known Aral Sea fish species are now extinct, unable to survive in the salty water that remains.

3.6 Managing water scarcity

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. It is one of the biggest issues facing Africa, the second-driest inhabited continent in the world after Australia. Whereas all Australians have access to clean water, millions of Africans face water shortages. Of the 800 million people who live in Africa, more than 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 and variable rainfall
- poor water quality
- lack of water infrastructure, such as pipelines.

Water scarcity contributes to the deaths of many African children. Local water sources may contain harmful bacteria that cause diseases, such as typhoid and dysentery. These diseases are spread by drinking and washing in contaminated water.

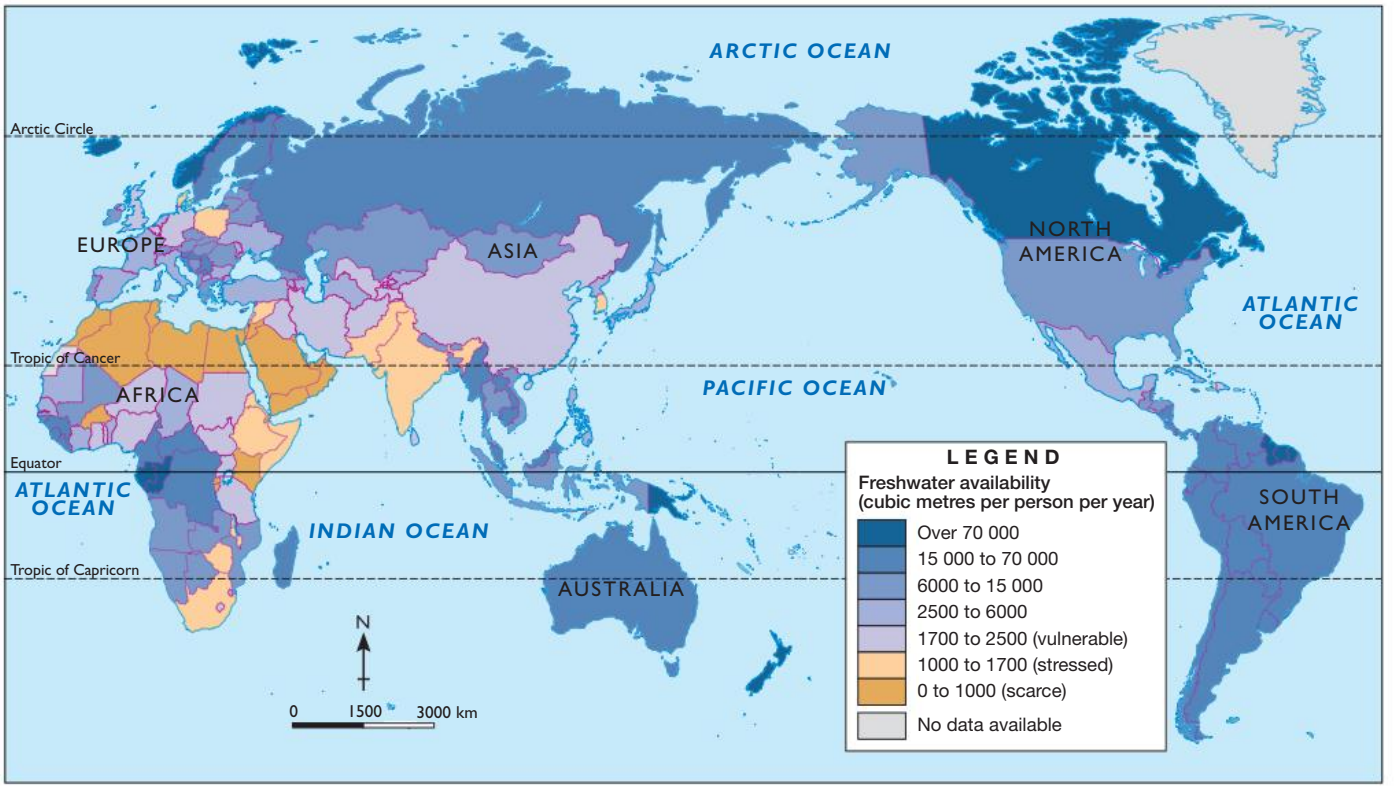
Delivering safe water

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 in order 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 of its **developing countries** and international relief agencies, such as World Vision and AusAID.

Source 1 A young girl in Guinea-Bissau enjoys clean water from a new well that has been sponsored by the World Vision aid agency.

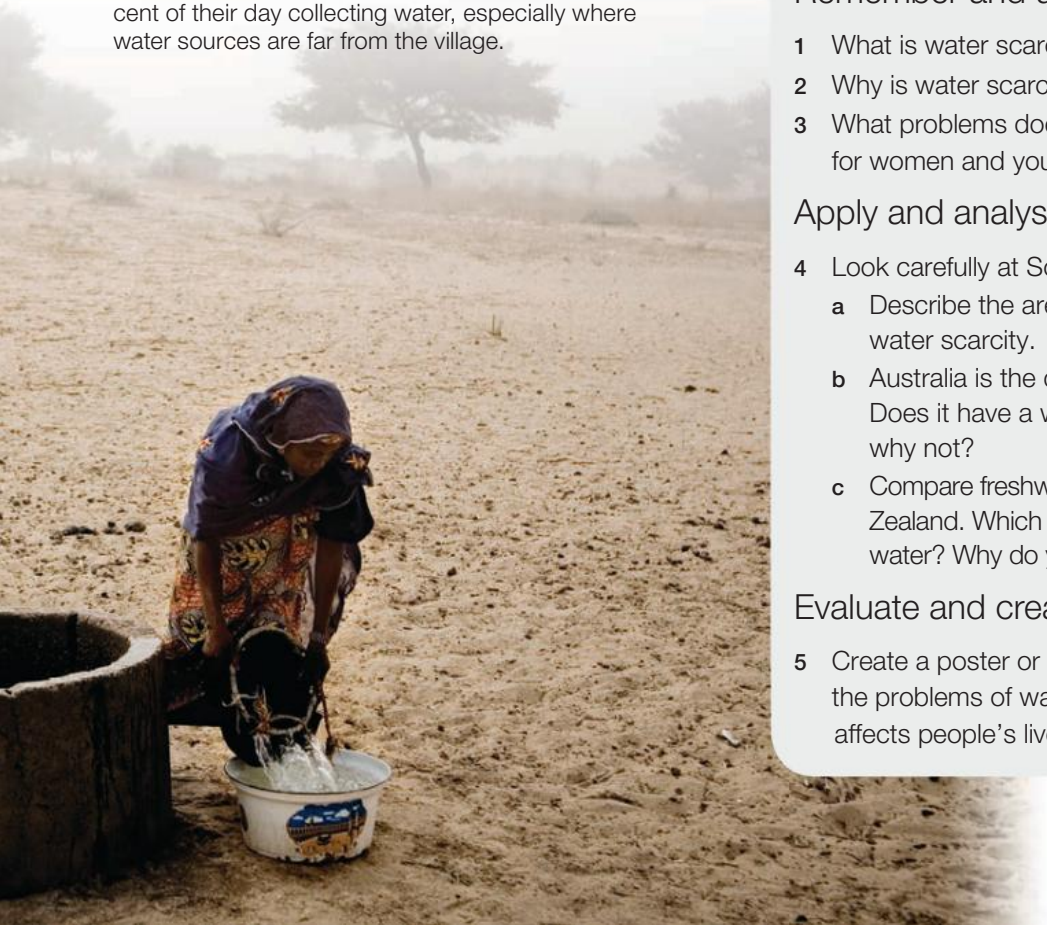
Source 2 This woman in Zambia is collecting water from a dried-up river bed half a kilometre from her house. She uses a saucepan to fill the large container, which she will carry on her head or shoulder back to her home.

WORLD: FRESHWATER AVAILABILITY PER PERSON PER YEAR, 2007



Source 3

Source: Oxford University Press



Source 4 A woman fills a water container from a well in the desert in Niger. In most African societies, women are the collectors and managers of the family water supply. African women can spend up to 60 per cent of their day collecting water, especially where water sources are far from the village.

Check your learning 3.6

Remember and understand

1 What is water scarcity?
2 Why is water scarcity such a problem in Africa?
3 What problems does water scarcity cause, especially for women and young children?

Apply and analyse

4 Look carefully at Source 3.
   - **a** Describe the area of Africa that suffers most from water scarcity.
   - **b** Australia is the driest inhabited continent on Earth. Does it have a water scarcity problem? Why or why not?
   - **c** Compare freshwater availability in Australia and New Zealand. Which country has access to more fresh water? Why do you think this might be the case?

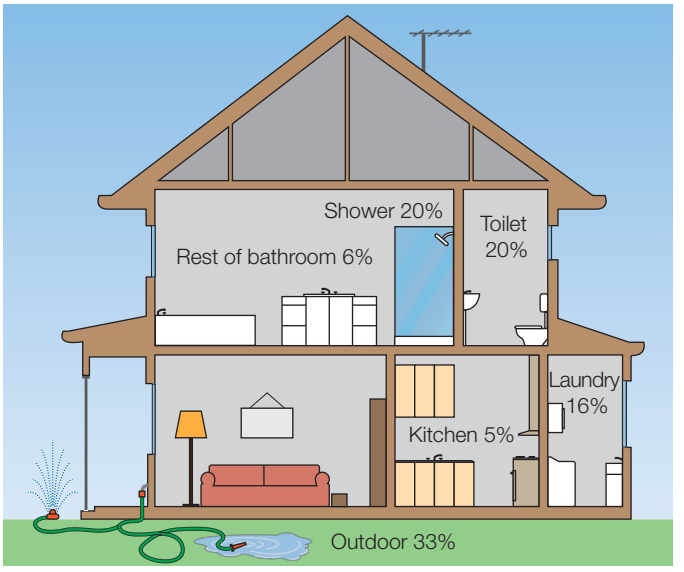
Evaluate and create

5 Create a poster or PowerPoint presentation highlighting the problems of water scarcity in Africa and how it affects people's lives.

3.7 Managing water at home

The easiest way for us to become involved in water management is to understand how we can be more water wise at home. A resource management plan takes into account the range of uses of the resource, the amount of the resource required and the impact of resource use on the environment. Decisions are then made about what is the best and most **sustainable** way to use the resource. Sustainability is an important concept in geography. In order for a resource to be used sustainably there must not be so much used that it affects the ability of the resource to replace itself naturally. Domestic users of water are under more pressure than ever before to manage their water use properly as our water resources become more stressed.

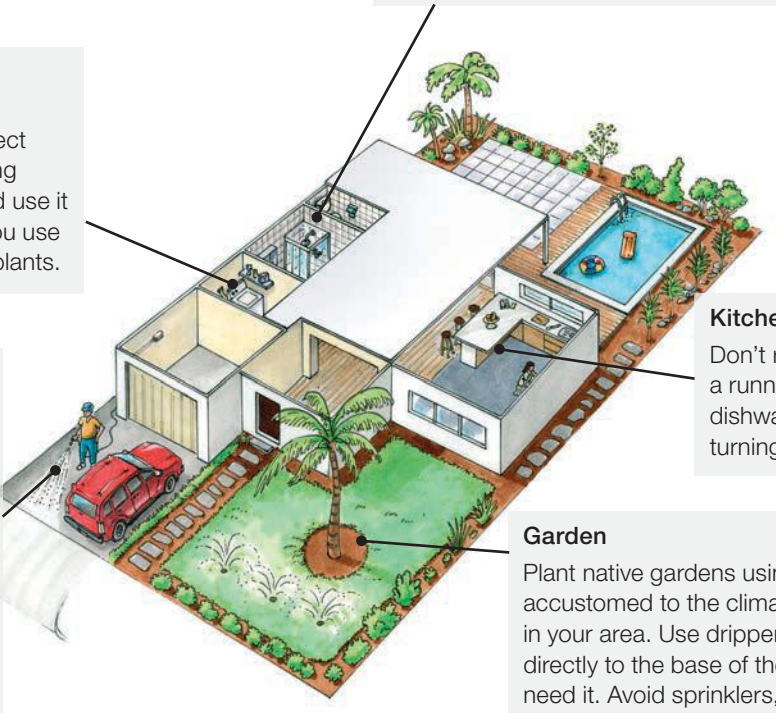
As you have learnt, Australians are among the highest users of water in the world. Nearly half of the domestic water usage occurs in the bathroom. To improve water management in the home we need to select water-saving appliances, capture and recycle water and attempt to use less water. To ensure we have a sustainable supply of water into the future, think about some of the water-saving ideas shown in Source 1.



Source 2 Water use in the home

Bathroom
Take shorter showers and install new water-efficient showerheads that use no more than 9 litres of water per minute (compared with old-style showerheads that use 20 litres per minute). This can save up to 20 000 litres of water per person per year.

Laundry
Only use the washing machine when you have a full load. Redirect the waste-water from the washing machine into a collection bin and use it on the garden, but make sure you use detergents that will not kill your plants.



Outside
Don't use the hose to clean hard surfaces outside; use a broom. Install a plastic pool cover to reduce water lost to evaporation. Install a rainwater tank to use the water that falls on your roof. It can be used to flush toilets, wash clothes and water the garden. Top up the pool with water from the tank.

Kitchen
Don't rinse dishes under a running tap. Ensure the dishwasher is full before turning it on.

Garden
Plant native gardens using local plants that are accustomed to the climate and soil conditions in your area. Use drippers to deliver water directly to the base of the plants where they need it. Avoid sprinklers, which allow water to be blown away and evaporated.

Source 1 A range of simple water-saving ideas

key**concept:** Sustainability

The air shower

Despite living in one of the world's driest places, Australians are among the world's biggest water users. Many scientists believe that our use of water is not sustainable and have looked for ways to increase our water supply or decrease the amount of water we use.

AIR SHOWER SET TO CUT WATER USE BY 30 PER CENT

As Australians become increasingly alert to the importance of using water wisely in the home, CSIRO researchers have found a way to use a third less water when you shower – by adding air.

The scientists have developed a simple 'air shower' device which, when fitted into existing showerheads, fills the water droplets with a tiny bubble of air. The result is the shower feels just as wet and just as strong as before, but now uses much less water.

The researchers, from CSIRO Manufacturing Materials Technology in Melbourne, say the device increases the volume of the shower stream while reducing the amount of water used by about 30 per cent.

Given the average Australian household uses about 200 000 litres of water a year, and showers account for nearly a third of this, the 'air shower' could help the average household save about 15 000–20 000 litres a year. If you extend this across the population, that is an annual saving of more than 45 000 Olympic-sized swimming pools …

CSIRO website

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

Source 3 This cartoon was first published in 2007 during a period of severe drought.

Check your learning 3.7

Remember and understand

1 What does a management plan need to take into account?
2 Which room in the house uses the most water?
3 What is the easiest way of reducing the amount of water and energy used in the shower?
4 Suggest three ways that water can be gathered and reused around the home.
5 Give two examples of how technology can be used to help save water.

Apply and analyse

6 Look carefully at the news article.
   a What have researchers at CSIRO developed to help save water in the home?
   b What water savings do they hope to make?
   c Apply your understanding of the air shower to develop a new water-saving product idea to clean dishes.
7 Look carefully at Source 3.
   a What is the cartoonist suggesting about our management of water in the future?
   b When was the cartoon drawn and what influence might this have had on the cartoonist?

Evaluate and create

8 Create your own water-saving reminder for display in one of the rooms of your house.

3.8 Managing water in Australia's biggest cities

In order to ensure that reliable supplies of safe water are available for use now and into the future, we all need to use water more sustainably. Careful management of our existing supplies and reductions in our consumption will help to achieve this. We also need to remember that people are not the only living creatures on the planet. The interests of all living organisms need to be considered if the natural environment is to be protected for the future.

Source 1 The Warragamba Dam near Sydney is one of the largest domestic water supply dams in the world. It supplies 80 per cent of Sydney's water.

Ensuring reliable water supplies in Australian cities

Over 60 per cent of Australia's population lives in one of our five largest cities – Adelaide, Brisbane, Melbourne, Perth and Sydney – all of which are home to more than a million people. The sites of these cities were chosen in large part because of their reliable rainfall and access to fresh water from neighbouring rivers. However, all of these cities have now outgrown their original water supplies. Large dams have been built to provide a permanent water supply for large towns and cities, but population growth and drought have put enormous pressure on these reserves. As a result, many Australian cities are now looking at a number of strategies to reduce their water usage and ensure they have access to reliable supplies into the future. Some of these options are discussed here.

Option 1: Build more dams

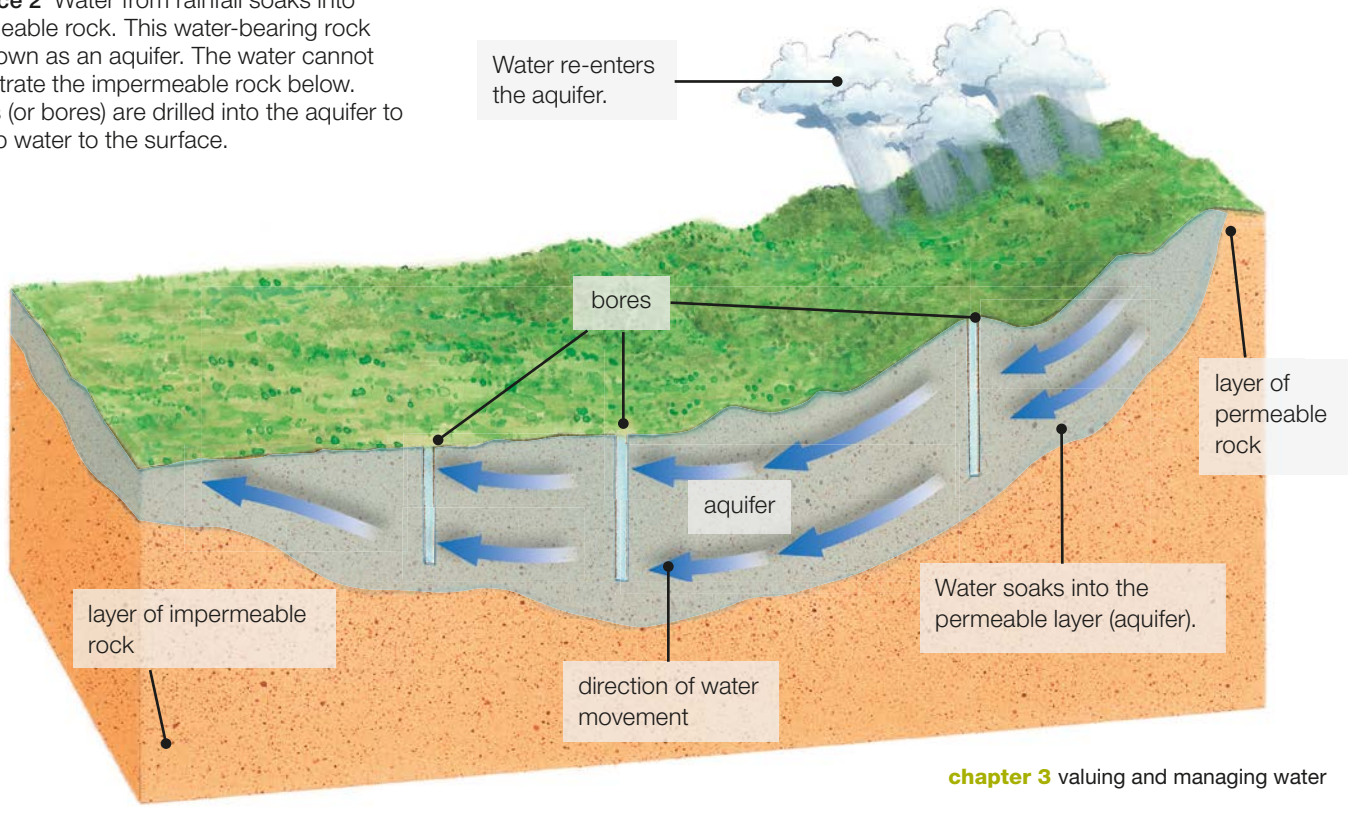
Across Australia, governments are thinking about building more dams to create a reliable water supply for our growing population. Dams can also be used to create hydroelectric power when water let through the dam wall turns a turbine to create electricity.

Option 2: Use underground water reserves

Drilling water bores is a common method used on Australian farms for supplying water for irrigation and animals. Many Australian cities have started to use this method to add to their freshwater supplies. Deep holes, called bores, are drilled down into a layer of rock under the ground that holds water. This layer of rock is called an aquifer. The water is then pumped to the surface (see Source 2). It is also possible to replace the water in the aquifers during wet periods by pumping the water back underground. In this way, aquifers operate as underground dams. In Western Australia, scientists are trialling a method of treating stormwater (rainwater that falls on the hard surfaces of a city, such as roofs and roads) and using it to recharge the aquifers that supply much of Perth's water.

There are large aquifers in many areas of Australia, including beneath Melbourne. Often this water has a high mineral content and must be treated before it can be used for drinking and other household uses. This water could be used for industrial purposes, such as to clean machinery and irrigate crops. This would allow drinking water, currently used for these other purposes, to be added to the city's water supplies. This idea of using lower-quality water for non-domestic purposes has been considered in many Australian cities.

Source 2 Water from rainfall soaks into permeable rock. This water-bearing rock is known as an aquifer. The water cannot penetrate the impermeable rock below. Wells (or bores) are drilled into the aquifer to pump water to the surface.



Option 3: Build desalination plants

Desalination plants treat sea water to remove from it the salt and other impurities (see Source 3). This process, known as reverse osmosis, turns sea water into fresh water for drinking. As Australia has easy access to a vast supply of sea water, desalination plants are an attractive option for many cities.

There are three main reasons why there are not more of them already:

- Desalination plants cost a lot of money, making the water they produce expensive. The Perth desalination plant, opened in 2006, cost $387 million to build and adds about $44 a year to every consumer's water bills.
- Desalination plants use a lot of electricity and can damage the environment. It has been estimated that the Sydney desalination plant uses as much electricity as 120 000 households. A new power plant had to be built to run it, adding to the cost.
- Desalination plants can damage the environment. They release highly concentrated salt water (brine) back into the ocean, which can harm marine animals.

Option 4: Build water pipelines

Perhaps the simplest method of ensuring a reliable water supply is to move water from areas that have a surplus. This already happens in most Australian cities. Rainwater is collected in catchments in the hills and forests close to cities and piped to treatment plants and then to water users.

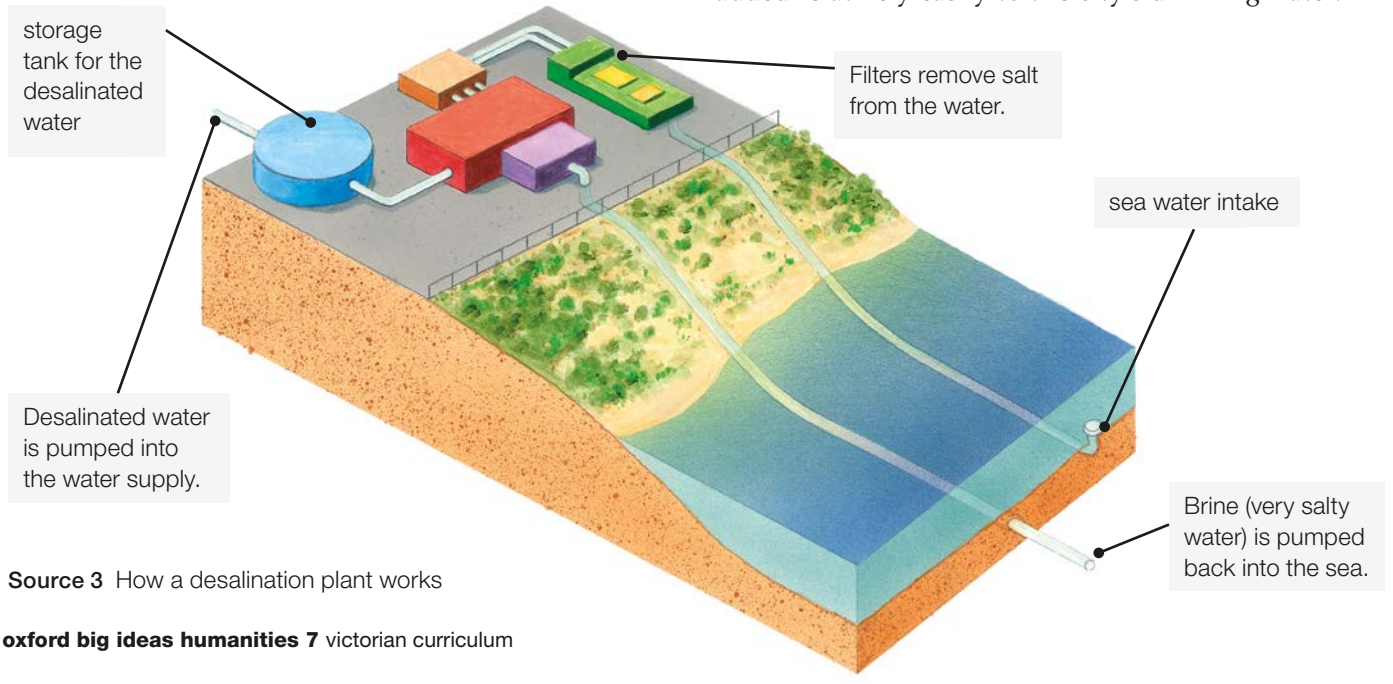
Source 4 Huge pipes carry water beneath our city streets. Here, pipes are being laid in Brisbane.

One proposal currently involves piping water not just hundreds of kilometres but thousands. For many years, there has been an idea to pipe water from the Fitzroy River in the Kimberley region in north-western Western Australia to the city of Perth. This pipeline would need to be 3700 kilometres long. The cost of transporting water this far through steel pipes is much greater than other options, such as desalination plants, and so this method is unlikely to be used in the near future. It will also cause environmental problems at the source of the water and would require large amounts of energy to build and operate.

Option 5: Capture and store stormwater

Stormwater is collected in pipes and gutters and discharged in the sea or rivers. Rainwater tanks capture this fresh water but cities have not been designed to collect this water on a large scale.

In Adelaide, there is a plan to capture this water through existing pipes and treat it in the current water-treatment facilities. In this way, it could be added relatively easily to the city's drinking water.



Source 3 How a desalination plant works

Option 6: Recycle and treat waste-water and sewage

Water that leaves our homes is generally unsuitable to be used again. In using the water to clean clothes, dishes and ourselves and to flush toilets we have polluted the water. This water (known as waste-water or sewage) is usually piped to a treatment plant where it is cleaned and purified and then released back into rivers and bays. In some places, notably Singapore and Windhoek (see 2C Rich task on page 70) in Namibia, this water is added to rainwater and piped back into homes and to other water users.

Source 5 At this plant in Singapore, waste-water (sewerage) is processed and then used in industry or blended with rainwater for use in homes.

key**concept:** Sustainability

Toowoomba says 'No' to drinking sewage

In trying to use our resources sustainably, we sometimes have to change our attitudes and behaviours. While many Australians believe that we should use less water or use water from different sources, it can be difficult to convince people to change. In 2006, for example, the people of Toowoomba were faced with a difficult decision about water.

At that time, Toowoomba's three dams had fallen to critical levels. The town council proposed a radical solution. The town would treat its sewage to a high level, store the treated sewage in a dam for three to five years and then add it to the town's freshwater supplies.

The supporters of the scheme pointed out that this is exactly the system used successfully in parts of California and Singapore, and that the technology exists to treat the sewage to a safe, clean, drinkable level. The opponents of the scheme called it 'drinking poo' and voiced concerns about the town's reputation as a tourist centre and about potential health hazards.

The campaigning was fierce for months before the vote. In the end, 62 per cent of Toowoomba's population voted 'no' to the proposal, leaving the council in the difficult position of having to find other sources of fresh water.

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

Check your learning 3.8

Remember and understand

1 In your own words, describe what a sustainable resource is.
2 List five different ways that governments might investigate to find extra water resources for growing cities.
3 When a new dam is built across a river, what problems are caused for people and wildlife upstream from the dam?
4 How can aquifers be used to provide and to store water?
5 What are the advantages and disadvantages of desalination?
6 Where does the water that you use at home come from? Where does it go when you are finished using it?

Apply and analyse

7 What plan for recycling did Toowoomba residents oppose? Do you think the recycling plan was a good idea?
8 Why doesn't Perth pipe water from wet places in Western Australia?

Evaluate and create

9 For the capital city in your state, complete the following activities:
   a Research the city's current water supply. Which of the water supply methods described here does it currently use?
   b Which of these methods do you believe should be used to add to this water supply?
   c What impacts would these new methods of water supply have on the natural environment and the cost of water?

3.9 New ways of thinking about water

As global pressure on water resources increases, water experts are beginning to think of water in new ways. New terms for describing types of water and usage have been devised, including virtual water, and blue and green water. This new thinking is designed to promote a better understanding of the ways in which people use water and will help to make water usage more sustainable.

Virtual water

The amount of water used to produce a good or service is called virtual water. This includes the water used to grow crops or raise animals as well as the water needed in processing these crops and animals into products. Experts coined the term 'virtual water' because we cannot actually see how much water went into producing the goods and services we consume every day. For example, 15 000 litres of water are needed to produce just 1 kilogram of beef. This 15 000 litres of water is known as virtual water.

It is often impossible to move real water between water-rich countries and water-poor countries. It is, however, relatively simple to transport virtual water in the form of goods, such as meat and wheat. This helps to support water-poor countries with their water needs.

Blue water and green water

Historically, water suppliers have focused on the capture and supply of blue water (that is, water in storages, such as lakes, rivers and acquifers) over green water (that is, rainwater stored in the soil as soil moisture). Green water is the water that remains in the soil to be used by plants. Farmers in dry regions, such as the interior of Australia, need to understand how to manage both their blue water resources and their green water resources. Installing a rainwater tank to collect and store water for later use is an example of blue water management. Adding a layer of mulch to slow the evaporation of water from the soil is an example of green water management.

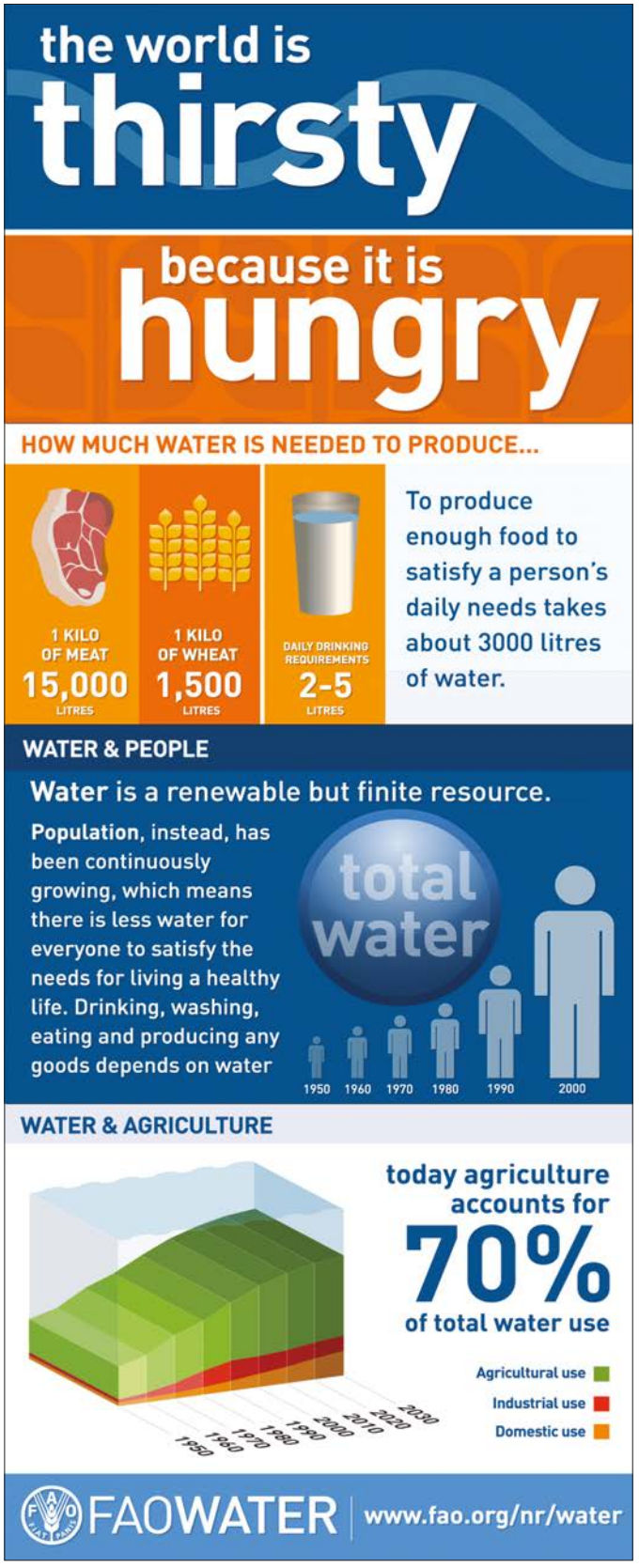
Water footprints

The total amount of water you consume each year is known as your **water footprint**. This includes the real water you consume (by drinking, bathing and cleaning) and the virtual water you use through your consumption of goods and services. The total volume of water used by everyone who lives in a country, including the water used to produce exported goods, is the national water footprint.

The size of a country's water footprint is largely determined by the country's:

- climate, especially the amount of rainfall and evaporation

Source 1 One kilogram of rice contains 1500 litres of virtual water, making it one of the world's thirstiest crops.



Source 2 A poster from the United Nations that uses the idea of virtual water to communicate a message

- farming methods, especially how efficiently water is used
- production and consumption of crops
- general consumption and production patterns.

Countries where people eat lots of beef and rice and buy many manufactured goods use more water than countries where people eat mainly vegetables and have few personal goods.

Australians are one of the world's biggest water users. It is estimated that Australia's population will increase to about 35 million by 2056 and this will place a great strain on an already stressed water-supply network. Experts believe that Australia's capital cities, for example, will need 76 per cent more water by 2056 than is currently supplied.

The good news is that Australians have embraced new water-saving measures. Despite the population of Australia increasing by 7.7 per cent between 2003 and 2009, the amount of water used by households actually fell by 12 per cent. This is due largely to water restrictions in many capital cities and the use of new technologies, such as dual-flush toilets and water-saving showerheads.

Check your learning 3.9

Remember and understand

1 What is virtual water?
2 What is the difference between blue water and green water?
3 Why is it important to understand virtual water when working out your water footprint?
4 How can an understanding of virtual water help water-rich countries to decide what to produce and export?

Apply and analyse

5 Source 2 states that the world is thirsty because it is hungry.
   a What does this mean?
   b What evidence is presented to support this idea?

3B rich task

The Wodaabe nomads

Communities in extreme environments develop ways of life that allow them to survive and thrive. In the south-eastern part of Niger, in Africa, live the Wodaabe people. They live in a desert region where water is often scarce and feed for their cattle is in short supply. In response to these conditions they have become **nomads** and rarely stay in one place for more than 10 days. They follow the seasonal rains across the desert as rain brings grass for the cattle; this takes them on a route they have followed for hundreds of years.

The seasonal migrations of the Wodaabe take them from the clay plains near Lake Chad to the sandy soils away from the lake. Over the last few decades the lake has become smaller as other communities in the area have used its water for irrigation. This has meant that the Wodaabe's have had to change annual migration routes. The reduction in the size of the lake has meant that more grass is able to grow on land that was once covered in water, but it has also meant that freshwater supplies have become less reliable.

Source 1 Packing up the homestead to follow the rains

Source 2 Climate data: Nguigmi, Niger

Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	0	0	0	1	5	11	55	100	15	1	0	0
Temperature (°C)	21	24	28	31	33	33	31	30	30	29	25	22

skill**drill:** Data and information

Understanding flow maps

Flow maps show the movement of things from one place to another (for example, people or goods). Flow maps can be simple or complex. They can show the movement of one group of people around a small area or compare the movement of many different goods around the world. Depending on what they are showing, flow maps use arrows of different colours and sizes. These arrows help the person making the map show different things moving around and the numbers of these things. Here are some steps that will help you understand flow maps:

Step 1 Read the title of the map carefully, as this will tell you exactly what is being shown.

Step 2 Look at the legend on the map. This will tell you what the different coloured arrows on the map are showing and provide you with extra information that you may need (like the time of year this movement happens).

Step 3 Look for patterns in the movements shown on the map. Are the movements related to changes in the weather, to the time of year, to political or economic factors or all of these things?

Step 4 Once you have identified the pattern being shown, try to explain the reasons for it.

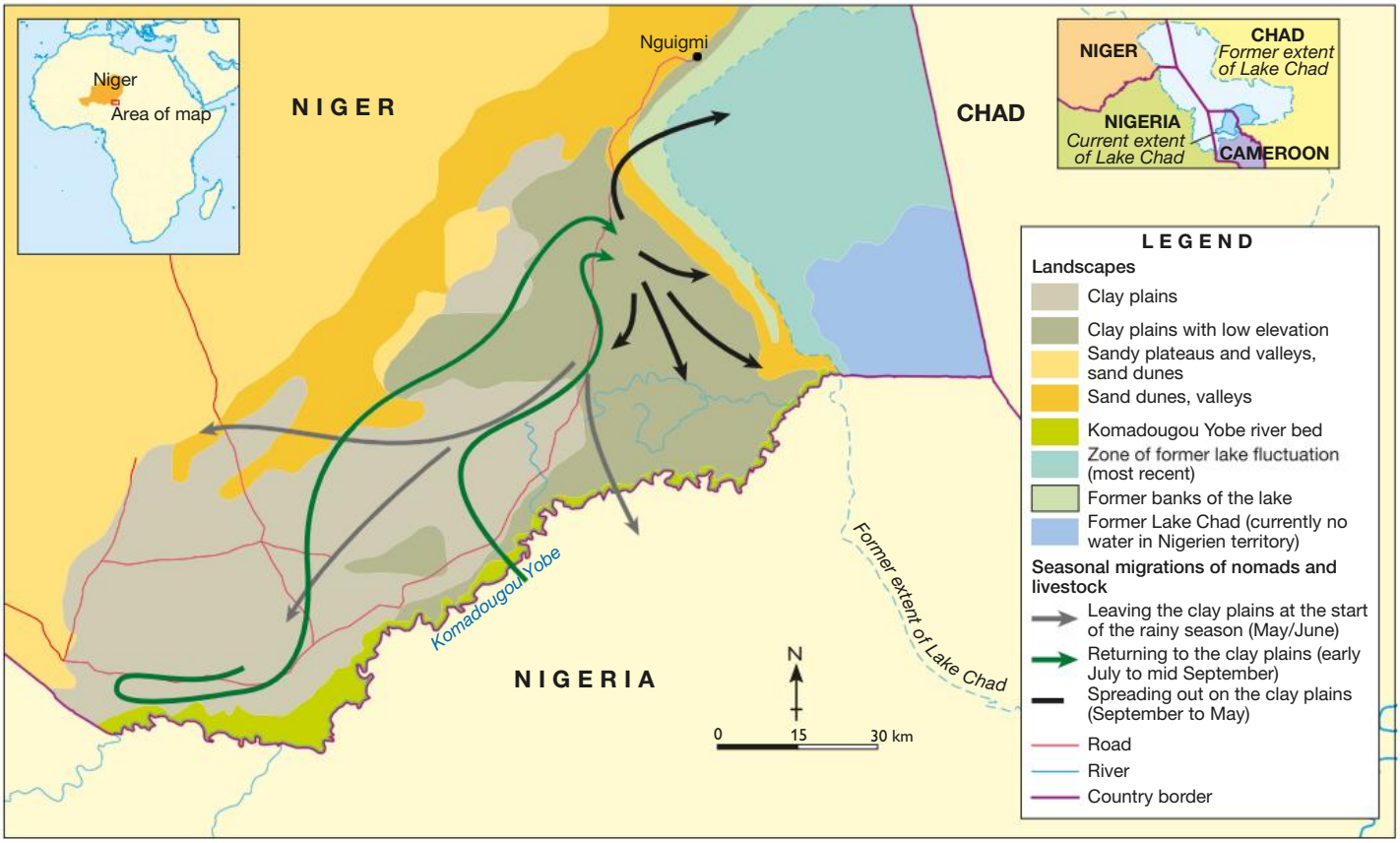
Apply the skill

1 Describe the movement of the Wodaabe during the months of May and June.

2 Where do the Wodaabe travel to from the beginning of July to mid September?

3 In your own words, explain the pattern being shown in Source 3.

SOUTH-EASTERN NIGER: NATURAL ENVIRONMENTS AND SEASONAL MIGRATION ROUTES OF THE WODAABE



Source 3

Source: Oxford University Press

Source 4 Young men of the Wodaabe tribe

Extend your understanding

1. Clay plains with low elevation are the best areas for the Wodaabe to graze their cattle in the dry season. Why? Describe the location of the clay plains with low elevation.
2. Construct a climate graph for Nguigmi in Niger using climate data provided in Source 2.
   - **a** When is the rainy season?
   - **b** When is the dry season?
3. Would you describe the Wodaabe as **voluntary migrants**?
4. Source 1 shows a Wodaabe family packing their belongings, to follow the rains. Describe their possessions. How many donkeys would your family need to move?

3.10 Why rivers flood

Natural factors

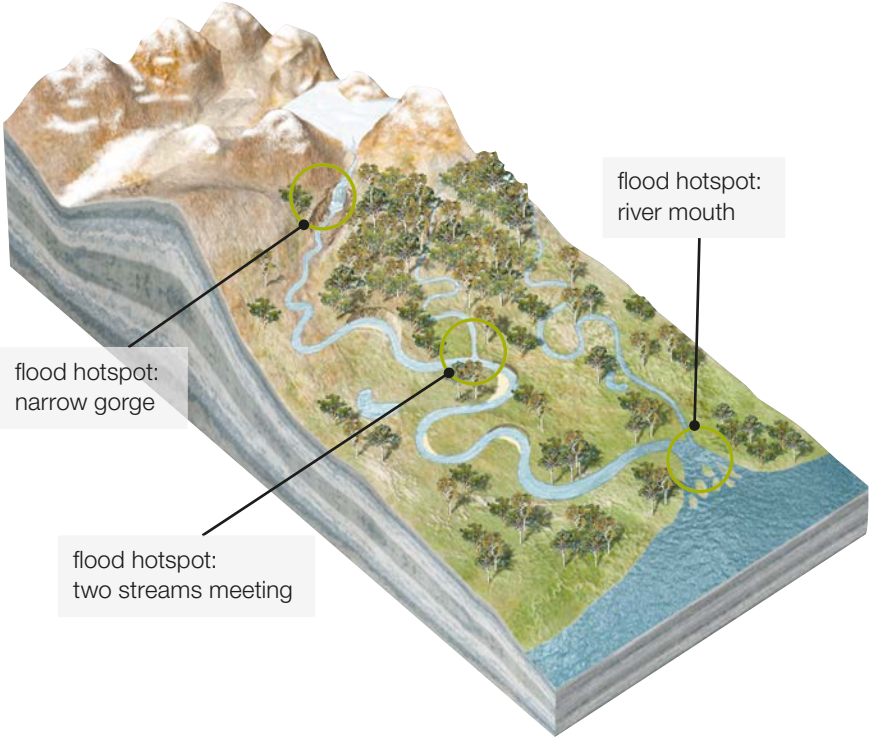
Put simply, rivers flood because they are forced to carry more water than they can hold. This process is like filling a glass from the tap but leaving the tap dripping into the glass after it's full. Every river, like every glass, can only hold a certain amount of water. This is known as its carrying capacity. Heavy rain or a collapsed dam can cause a river to exceed its carrying capacity and force it to burst its banks. As a result, water covers the surrounding land.

The soil carried by the river is spread across the surrounding land. Over millions of years and thousands of floods, the land near the river is slowly built up and, appropriately, is called a floodplain. Billions of people around the world choose to live on these floodplains because of the fertile soil, flat land and ready supply of fresh water. The world's floodplains support billions of people, many of whom live with the constant threat of floods.

Source 1 A flood is a natural event, but becomes a disaster if human life is adversely affected by it.

Human factors

Some human activities make rivers more likely to flood, endangering both natural and human environments. Clearing the natural vegetation, such as trees and plants, growing on the sides of hills may result in more water flowing into rivers instead of being used by these trees and plants. Replacing natural environments (such as forests, grasslands, wetlands and soil) with hard surfaces (such as concrete and roads) also means that water does not soak into the ground; instead, it flows across it. The presence of so many communities, towns and cities also increases the flood risk. Rivers naturally flood. In areas where there are no humans

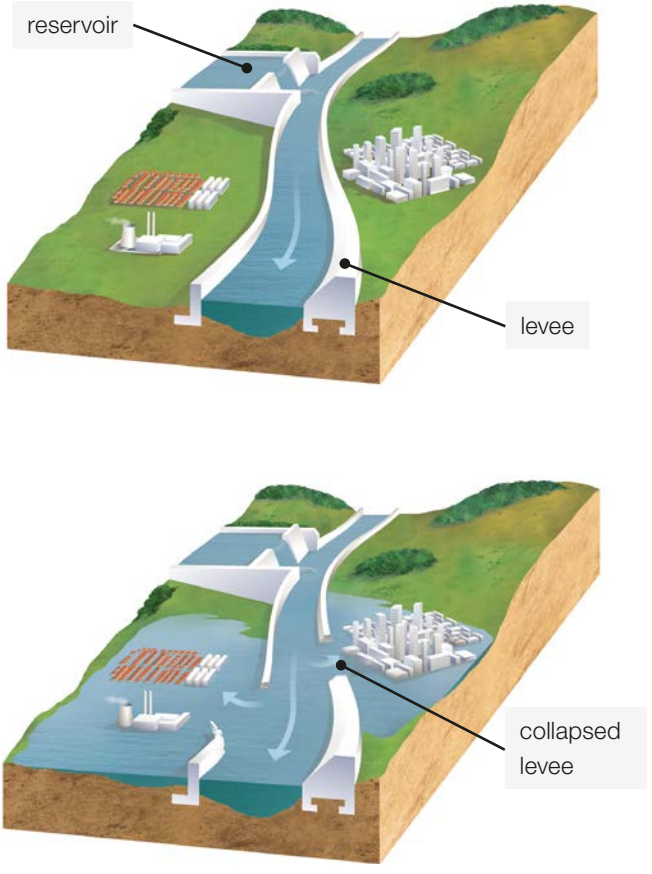


Source 2 Rivers tend to flood in particular places, shown here as hotspots.

this is considered a natural process, but in areas where there are lots of people, these natural events turn into potential and real disasters.

In some places, large artificial banks known as stopbanks or **levees** have been built to help protect communities from floods. While they help defend the community from small floods they sometimes make the effects of a large flood much worse. The river runs faster and deeper between the levees and is able to carry more water. During a major flood the water may have nowhere to go if it meets an incoming tide or storm surge at the river mouth. The water then banks up behind the levees and may spill over into surrounding areas.

If the levee collapses from the strain of holding back the floodwaters, this can result in catastrophic flooding as the water floods through a narrow gap with terrifying force. This occurred in the US city of New Orleans in 2005 when Hurricane Katrina brought torrential rain and a storm surge up to 9 metres high. Levees protecting much of the city collapsed and more than 1800 people were killed.



Source 3 A levee before and after its collapse

Source 4 The first of many giant sandbags is lowered by helicopter to close a hole in a levee following Hurricane Katrina in New Orleans, USA.

Check your learning 3.10

Remember and understand

1 What is a floodplain and why do so many people live on them? Do you live on a floodplain?
2 What is a levee and how can it reduce flooding in some areas?
3 List some of the human activities that may contribute to flooding. Select one of these and explain why it may lead to a flood. You may wish to use a sketch in your explanation.

Apply and analyse

4 Explain why floods are more likely at each of the hotspots shown in Source 2.
5 Do you think that the attempt to repair the levee in Source 4 will be successful? Give some reasons for your answer.
6 Examine a map of Australia online or in your atlas that shows our largest cities and towns. List the Australian cities of over 1 million people that are located on floodplains at the mouth of rivers. What is the largest town or city that you can find that is *not* located in one of these hazardous places? What does this tell you about the flood threat in Australia?

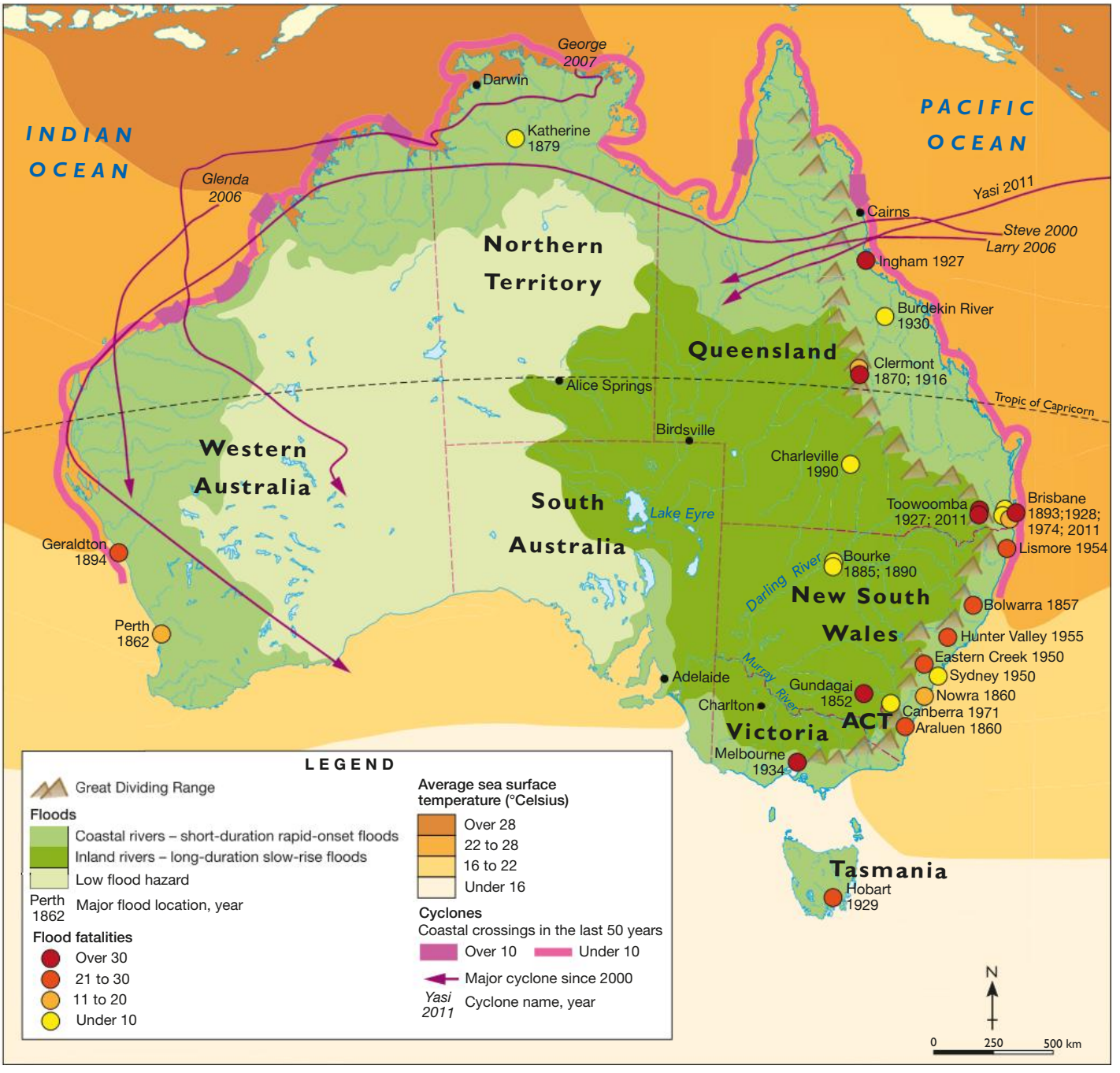
Evaluate and create

7 Why do levees sometimes make the effects of flooding worse? Design a flood protection system that you believe would work better than a levee. Conduct some more research to assist you in designing your system. Sketch your design and label the key features.

3.11 Floods in Australia

Most towns and cities in Australia are located close to rivers, but some experience more floods than others. This is due to a combination of important geographical factors, particularly rainfall patterns and river geography. As you have already learnt, different places experience different types of rainfall but there are also different types of rivers. Australia is the world's flattest continent, so generally our inland rivers flow, and flood, slowly. Those that flow from the mountains to the sea, however, tend to flow and flood more quickly and this can be devastating for the people who live beside them.

AUSTRALIA: FLOODS



Source 1

Source: Oxford University Press

Inland rivers

The rain that falls on inland Australia flows into one of our many inland river systems. Some of these never reach the sea as they flow into large salt pans, such as Kati Thanda (Lake Eyre). Once a decade or so, enough rain falls in central Australia to fill Kati Thanda, creating Australia's largest lake. The rivers that flood these inland regions and fill the lake move very slowly, giving people time to prepare for them. Farming communities and towns may be isolated for weeks if roads are covered by floodwaters but few lives are lost in these slow-onset floods.

Some of our inland rivers, however, can be deadly. Much of the rain that falls in inland eastern Australia flows into the Murray–Darling river system and eventually reaches the sea near Adelaide. Some of the rivers in this system can rise quickly with little warning. The deadliest flood in Australia's history, for example, occurred when the Murrumbidgee River destroyed the small New South Wales town of Gundagai in June 1852. Swollen by torrential rain, the river rose and washed away all but three of the town's houses. Eighty-nine people lost their lives, and many more were saved from the floodwaters by local Aboriginal men.

In southern New South Wales and northern Victoria, floods may be caused by summer thunderstorms or by a series of cold fronts sweeping in from the south. These fronts, created when warm air is forced above cold air, may bring heavy rain along the southern coast and into much of the southern Murray–Darling Basin.

Source 2 The Diamantina River, shown here flowing past Birdsville in western Queensland, carries floodwaters to Kati Thanda several times a decade.

Source 3 In early 2011, about one-quarter of Victoria was affected by major flooding. In some inland towns, such as Charlton, the floodwaters took many weeks to recede.

Coastal rivers

Most of Australia's most devastating floods occur on our coastal rivers, particularly along the eastern coast. During summer, tropical cyclones and thunderstorms often dump heavy rain on the eastern slopes of the Great Dividing Range (see Source 1). This rain fills the short, fast-flowing rivers in the area to bursting point, causing rapid-onset floods. Towns and farming communities at the foot of the ranges, such as Clermont and Toowoomba, are most in danger.

Check your learning 3.11

Remember and understand

1 Why do Australia's inland rivers flow slowly? How does this affect the types of floods that occur in the interior?
2 Seven Australian floods have resulted in more than 30 fatalities. Where and when did they occur?

Apply and analyse

3 Which areas of Australia are most at risk from dangerous floods? Why?
4 What questions could you ask to investigate the flood risk in your local area?
5 What do you notice about the temperature of the sea and the risk from tropical cyclones?
6 In what ways does the Great Dividing Range influence the flood risk in eastern Australia?
7 Fourteen of the 15 most disastrous floods in Australian history occurred more than 50 years ago. Do you think this means that we are experiencing fewer floods or are there other explanations for this? Discuss this with a partner and brainstorm the possible explanations.

3.12 How floods affect people and places

Major floods can have devastating effects on different regions all over the world. In large cities, hard concrete and asphalt surfaces mean that very little water soaks away through the soil. Instead, roads can quickly turn into rivers, with terrifying results.

In farming regions whole crops can be uprooted and washed away, along with much of the rich topsoil. Expensive farming machines and equipment can be damaged or destroyed by floodwaters and livestock can also be lost.

In some countries, floods lead to widespread famine and starvation, with large death tolls. In Pakistan in 2010, nearly 2000 people died from flooding and 17 million people were affected.

Source 1 Volunteers remove flood debris from houses in the Brisbane suburb of Fairfield on 16 January 2011.

Source 2 A Pakistani farmer and his family became stranded by floodwaters in 2010 and were left without food and medical supplies. The biggest challenge they faced, however, was a lack of fresh, clean water.

Source 3 In flat regions, such as western Victoria, floodwaters can make farming impossible for months at a time.

Source 4 This beetroot farm in the Lockyer Valley in Queensland had huge quantities of valuable topsoil washed away in 2011.

Source 5 These villagers in Pakistan compete for food supplies being dropped by an army helicopter after severe flooding in 2010.

Check your learning 3.12

Remember and understand

1 What are some of the ways in which people's health can be affected during floods?
2 Why does it cost so much to clean up after floods?
3 Study Source 1.
   a Who are the people in the photograph and what are they doing?
   b Where has all the rubbish come from?

Apply and analyse

4 Study Source 2.
   a How can the people shown possibly be suffering from a lack of water?
   b How might food aid reach this family?
5 What are some of the short-term and long-term effects of flooding?
6 Which of the flood effects shown on these pages do you believe will have the most lasting impact? Give some reasons for your answer.

Evaluate and create

7 Study Source 5. Imagine you have been sent into this region to report on the effects of the flood. Write a report on the effects on the people who live in this area. Present it as a newspaper report or as a script for a television news report.

3.13 Preparing for floods

Floods are part of the natural cycle of many rivers, so it is almost impossible to prevent them entirely. There are, however, many steps that we can take to lessen the impact of floods on people and places. These can be grouped into three categories. First, we can predict where and when there will be flooding so people have time to prepare. Second, we can ensure that people, homes and communities in flood-prone regions are prepared. Finally, when a flood does strike we can respond quickly and efficiently to save lives and make the affected area safe.

How do we know floods are coming?

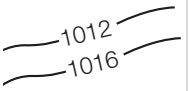
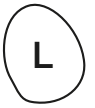
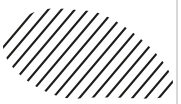
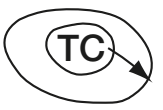
Floods in Australia are caused by heavy rain. To predict where and when heavy rain will fall, **meteorologists** use thousands of observations from radar, weather balloons, satellites and other sources. They use their observations to forecast the weather and inform the public about upcoming weather events. This includes issuing flood alerts and warnings.

The basic tool of weather prediction is a weather map. Weather maps show what is happening to the air in the atmosphere. Air rises and falls and this movement is measured with a **barometer** as air pressure. Air rises when it is heated and sinks when it is cooled. Because the Earth is spinning, the rising and sinking air also spins. We feel this spinning air as wind. Water droplets in rising air may cool and join together to create rainfall.

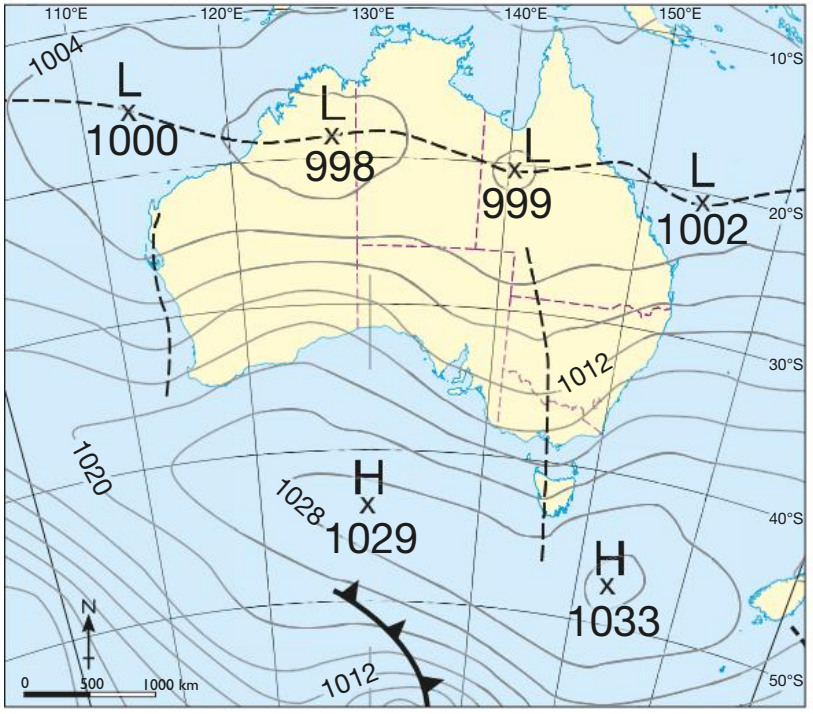
Source 1 Toowoomba in Queensland during the January 2011 floods, the deadliest floods in more than 70 years

Weather maps show the air pressure as a series of lines and help meteorologists make predictions about temperature, wind and rainfall. Although they may appear confusing at first, the symbols on a weather map are codes and, as with all codes, once you know the secret, you can read the message.

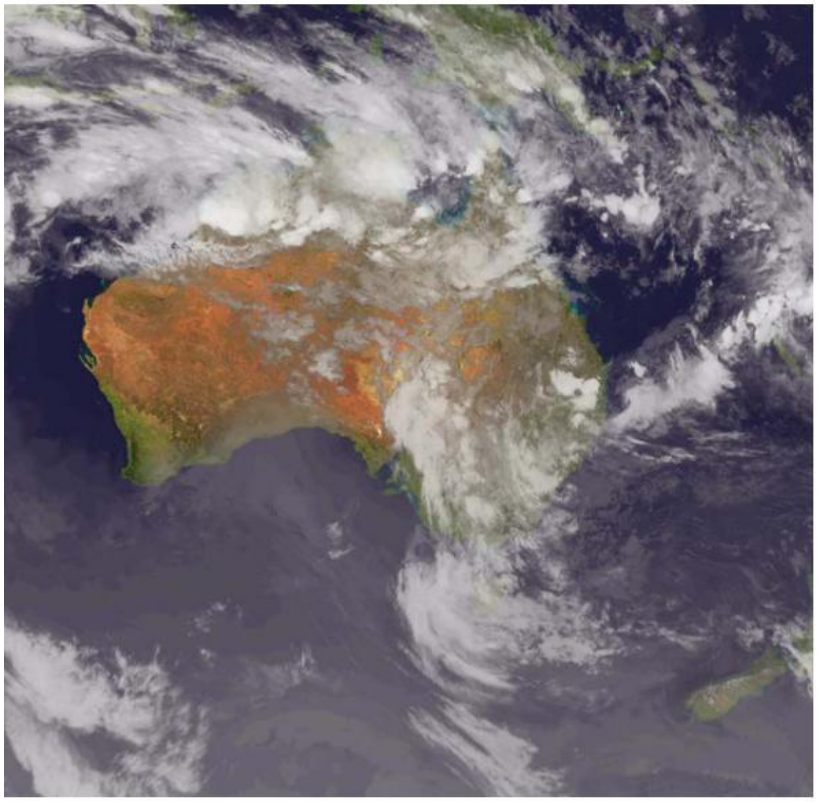
Source 2 Weather map symbols

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.

AUSTRALIA: WEATHER MAP, 10 JANUARY 2011



Source 3 Source: Bureau of Meteorology



Source 4 Satellite image of Australia on 10 January 2011

Source 5 The Bureau of Meteorology issues flood warnings that are broadcast on television and other media.

Check your learning 3.13

Remember and understand

1. What are three things that people can do to lessen the impacts of floods?
2. What is a cold front?
3. How could Source 3 be used to lessen the impacts of flooding?
4. North-eastern Victoria experienced heavy rain and major flooding on 10 January 2011. What was the cause of this rain?
5. On 10 January 2011 it was a windy day in Perth. From which direction did the wind blow? Do you think Hobart was windier or calmer than Perth on that day?

Apply and analyse

6. What relationship do you notice between clouds and trough lines when comparing the satellite image (Source 4) with the weather map (Source 3).
7. Source 3 is a weather map that shows the situation on the day on which devastating floods hit the Lockyer Valley in south-eastern Queensland. What type of weather can this region of Queensland expect to receive in the next few days?

3.14 Managing floods

Individuals living in flood-prone areas should be prepared for a flood. The government department responsible for managing disasters, Australian Emergency Management, recommends following the three steps outlined in Source 3.

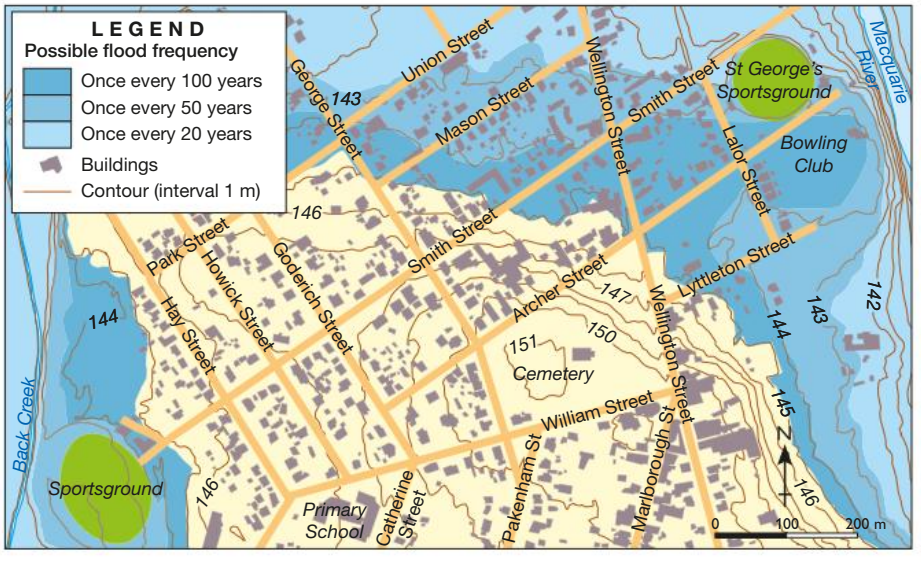
At the regional level, there are a number of ways that local communities can prepare for a flood. Some of these involve changing the physical environment to reduce the flood risk. Flood engineers and local councils examine the local environment and consider the impacts of previous floods when designing flood-protection strategies.

Case study: Longford, Tasmania

The town of Longford in the north-east of Tasmania sits at the junction of two rivers (the Macquarie River and the South Esk River) on a relatively flat floodplain. Heavy rain can swell the two rivers and when they meet, the waters spread across the plain. This can bring severe flooding to nearby towns, such as Longford and Perth, and to the city of Launceston, which sits at the mouth of the South Esk. In 1929, floods submerged parts of Longford under metres of water and made 4500 people homeless.

The people of Longford have responded to this flood risk. Using records of floods in the past, flood engineers have estimated the areas likely to be flooded once every 20 years, once every 50 years and once every century (see Source 1). This allows the local council to consider rules about building in these places, residents to prepare their flood plan, and engineers to design systems to control the flooding.

FLOODPLAIN MAP OF PART OF NORTH LONGFORD



Source 1

Source: Oxford University Press

Source 2 A temporary levee put in place during a flood in Longford, Tasmania in 2011

Source 3 Disaster management steps

Ask	Find out about floods in your local area. Have there been floods before and, if so, was your house or area affected?
Learn	Find out how the flood warning system works. The Bureau of Meteorology issues flood watches, flood warnings and severe weather warnings. They use terms such as minor, moderate, major, localised and flash to describe flooding. You should learn what these mean.
Plan and prepare	Put together a flood plan that describes what you will do in the event of a flood. Keep a list of emergency phone numbers, prepare an emergency kit (including important documents to take with you if you evacuate) and take into account people with special needs, such as the elderly or disabled.

Based on this and further investigations, a levee has been constructed beside the river junction at the northern end of the town. Made of soil and rock, the levee is 4.5 kilometres long and is designed to stop floodwaters from entering the town. It has been designed to cope with the type of flood that Longford receives once a century. Large steel gates have been placed in the levee wall to allow creeks to flow to the main rivers when there are no floods. There are also temporary flood levee walls stored in Longford that can be quickly erected in a major flood.

Source 4 Steel gates are installed in the levee at Longford, Tasmania.

skill**drill:** Data and information

Communicating your findings

When geographers have completed an inquiry it is important that they tell other people about what they have found. For example, a geographer studying the impacts of a major flood in Longford should communicate the results of their inquiry to the local council and perhaps also to local residents.

There are a few steps to follow when communicating your results:

Step 1 Think about the type of audience you will be communicating your findings to. Think carefully about who needs to know your results.

Step 2 Consider the purpose of your communication. What are you trying to achieve? This may differ according to your audience. You may, for example, be trying to convince a trained flood engineer at the council to install a levee, or you may be warning a family holidaying at the local caravan park.

Step 3 Decide on the most effective means of reaching your audience. This will differ depending on the audience. For example, the engineer may need information such as **land use maps** and rainfall data, whereas the family may need a simple brochure outlining what they should do in case of a flood. Depending on the audience your report may be verbal; it may use sound, pictures or video; it may use maps; or it may be a written report.

Step 4 Use the results of your investigation to reach your chosen audience.

Apply the skill

1 Identify the different groups of people in Longford that would be interested in the findings of a geographical inquiry into flooding there.

2 What would be the most effective ways of communicating your findings to each of these groups? Why?

3 Design a brochure to be given either to campers arriving at the Longford Riverside Caravan Park or to local residents. Follow the steps provided to inform campers or residents about the flood risk in the region and the ways in which they should respond if there is a flood.

Check your learning 3.14

Remember and understand

1 Describe how a levee can help reduce flooding.

2 Why is Longford at risk of flooding?

3 How would each of these people use the floodplain map of part of Longford North in Source 1:
- a flood engineer
- a person moving to Longford and intending to build a house
- a farmer who uses the land next to the river.

Apply and analyse

4 You are listening to the radio when a flash-flooding alert is issued for your local area. In teams of three, brainstorm the five most important items in a flood emergency kit. Compare your list with your classmates' lists. Were there any items that all teams named?

5 Examine Source 1.
- **a** How often are floods expected to affect the Longford Bowling Club?
- **b** Approximately how many buildings are affected once every 20 years?

3C rich task

Grantham floods, Queensland

In January 2011, the deadliest floods in Australia in over 70 years struck south-eastern Queensland. Beginning in late 2010, a combination of a tropical cyclone and heavy monsoon rains soaked Queensland's river catchments. The period from October to December 2010 saw some of the highest rainfalls on record for Queensland (see Source 2).

By early January, many Queensland rivers were in flood. Thousands of homes, businesses, schools and farms were damaged or destroyed and roads and railway lines were cut – but the worst was still to come.

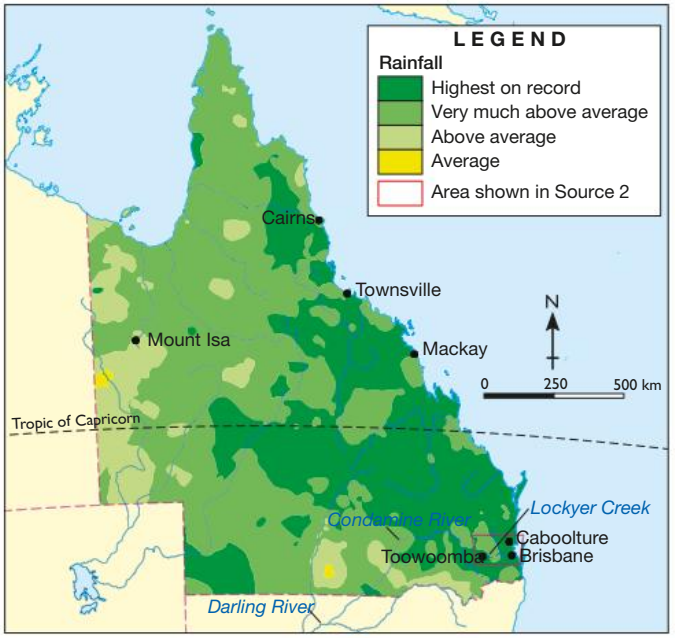
On 10 January 2011, a severe thunderstorm dumped more than 60 millimetres of rain on the Queensland city of Toowoomba in an hour. The storm caused flash flooding. As the thunderstorm moved east across the Lockyer Valley it continued to dump heavy rain. When combined with the run-off from Toowoomba, the already swollen creeks in the area could not cope. As the floodwaters moved down the Lockyer Valley with great speed and terrifying force, they slammed into the towns of Withcott, Murphys Creek, Helidon, Grantham and Gatton (see Source 1). A survivor described the flood as 'a wall of water', as creeks rose up to 15 metres above their normal level in a few minutes.

Thirty-five people died in the floods. More than 78 per cent of Queensland (an area bigger than France and Germany combined) was declared a disaster zone, with more than 2.5 million people affected. Floodwaters also affected the Bremer and Brisbane Rivers, with Ipswich and some Brisbane suburbs also flooding.

In Grantham, a small rural community in the Lockyer Valley, houses were swept away in the flood and people trying to escape in their cars were also caught. Twelve people died in Grantham as a result of the flood and 130 homes were damaged or destroyed.

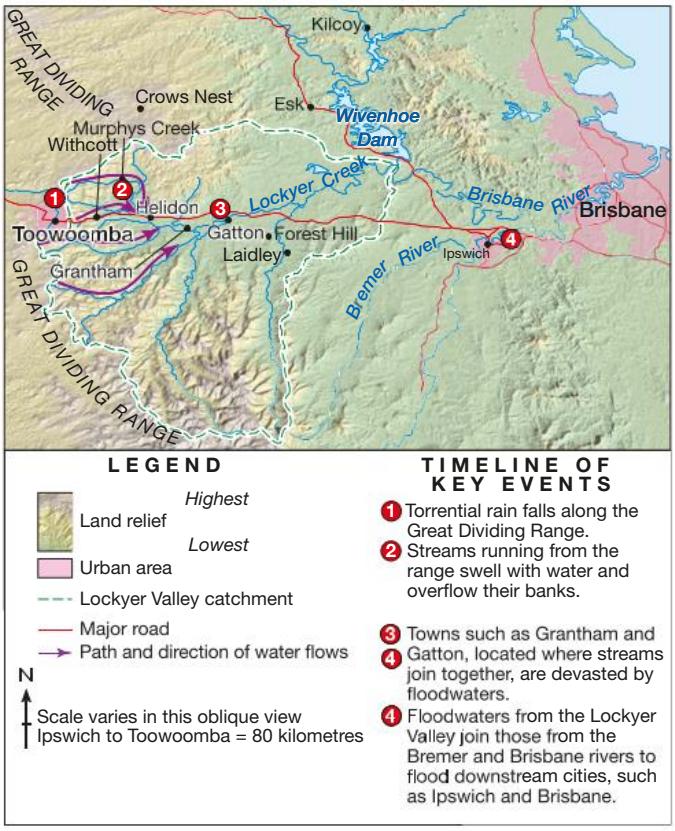
Source 1 This image taken on 10 January 2011 shows floodwaters raging through a popular shopping area of Toowoomba. The floodwaters moved down the Lockyer Valley over the next few days, devastating the towns of Withcott, Murphys Creek, Helidon, Grantham and Gatton.

QUEENSLAND RAINFALL, OCTOBER TO DECEMBER 2011



Source 2 Source: Oxford University Press

LOCKYER VALLEY FLOOD, JANUARY 2011



Source 3 Source: Oxford University Press

skill**drill:** Place, space and interconnection

Locating places on topographic maps

The grid lines, called eastings and northings, that are placed on topographic maps are very useful. They allow geographers to locate places very accurately and they also help them to communicate the location of places and things to other people easily.

Each line on the grid is given a two-digit number. The lines that run vertically (up the map) are called **eastings** (because the numbers increase as you move east). The lines that run horizontally (across the map) are called **northings** (because the numbers increase as you move north). The eastings and northings are shown clearly in Source 6.

There are two ways in which grid lines are used in geography – the first is called area referencing (AR) and the second is called grid referencing (GR).

Area referencing (AR)

An area reference will help you identify the general location of a place or feature on a topographic map. Area references have four figures and they will tell you that a place or feature on a map is located within a certain area. Once you locate that area, you need to search it for the exact location of the feature.

Follow these steps to help you communicate the location of a feature using a four-figure area reference:

Step 1 Pick a feature on the map that you want to locate (or communicate the location of to somebody).

Step 2 Put your finger on the bottom left-hand corner of the square in which the feature is located. The two-digit number of this easting line will give you the first two digits in the area reference. The two-digit number of the northing line will give you the second two digits in the area reference. For example, in Source 6 the Grantham sports ground can be found in the area AR2149.

Grid referencing (GR)

A grid reference will help you identify the specific location of a place or feature on a topographic map. Grid references have six figures and they will tell you exactly where a place or feature on a map is located on a topographic map.

Follow these steps to help you communicate the location of a feature using a six-figure grid reference:

Step 1 Pick a feature on the map that you want to locate (or communicate the location of to somebody).

Step 2 Put your finger on the bottom left-hand corner of the square in which the feature is located. The two-digit number of this easting line will give you the first two digits in the grid reference. For example, the first two digits for the location of the RFS (Rural Fire Station) building are 22.

Step 3 Now estimate the number of tenths that your feature is located between the first easting line and the one to the right of it. For example, if it is halfway between the lines it will be five-tenths. This number will become the third number in the GR. In the case of the RFS building, this number is 2. This means that the first three digits of your grid reference will be 222.

Step 3 Next, place your finger at the bottom left-hand corner of the square in which your feature is located. Follow the northing line to the side of the map to find out what the fourth and fifth digits in the area reference will be. For the RFS building, these are 49.

Step 4 Now estimate the number of tenths that your feature is located between this northing line and the one above it (i.e. 50). The feature is closest to the number 8. This is the sixth (and final) number in the grid reference.

Step 5 The six-figure grid reference for the RFS building is therefore GR222498.

Source 4 The railway bridge located near the town of Grantham during the floods in January 2011

Apply the skill

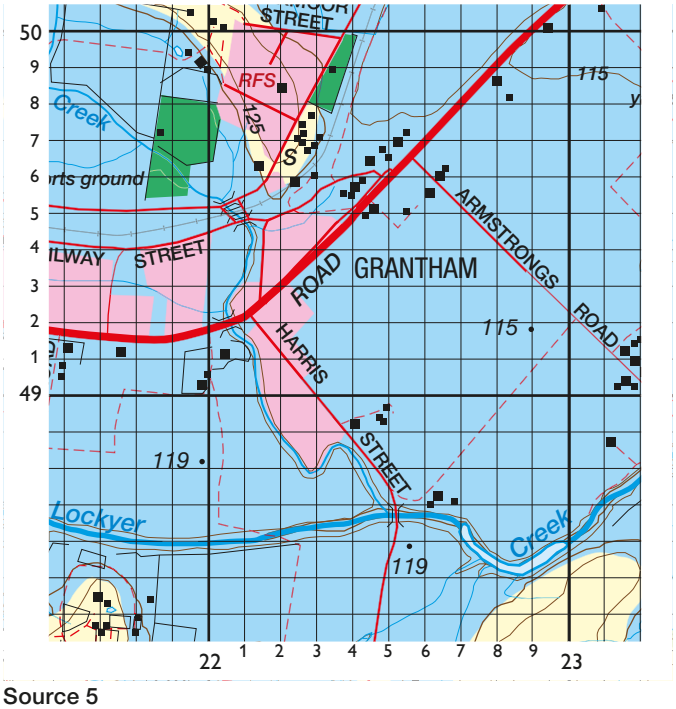
1 Use Source 6 to complete the following table:

Map feature	Four-figure area reference	Six-figure grid reference
Abattoir	1948	195483
		222496
Building at the sports ground		
Secondary road bridge on Harris Street		

Extend your understanding

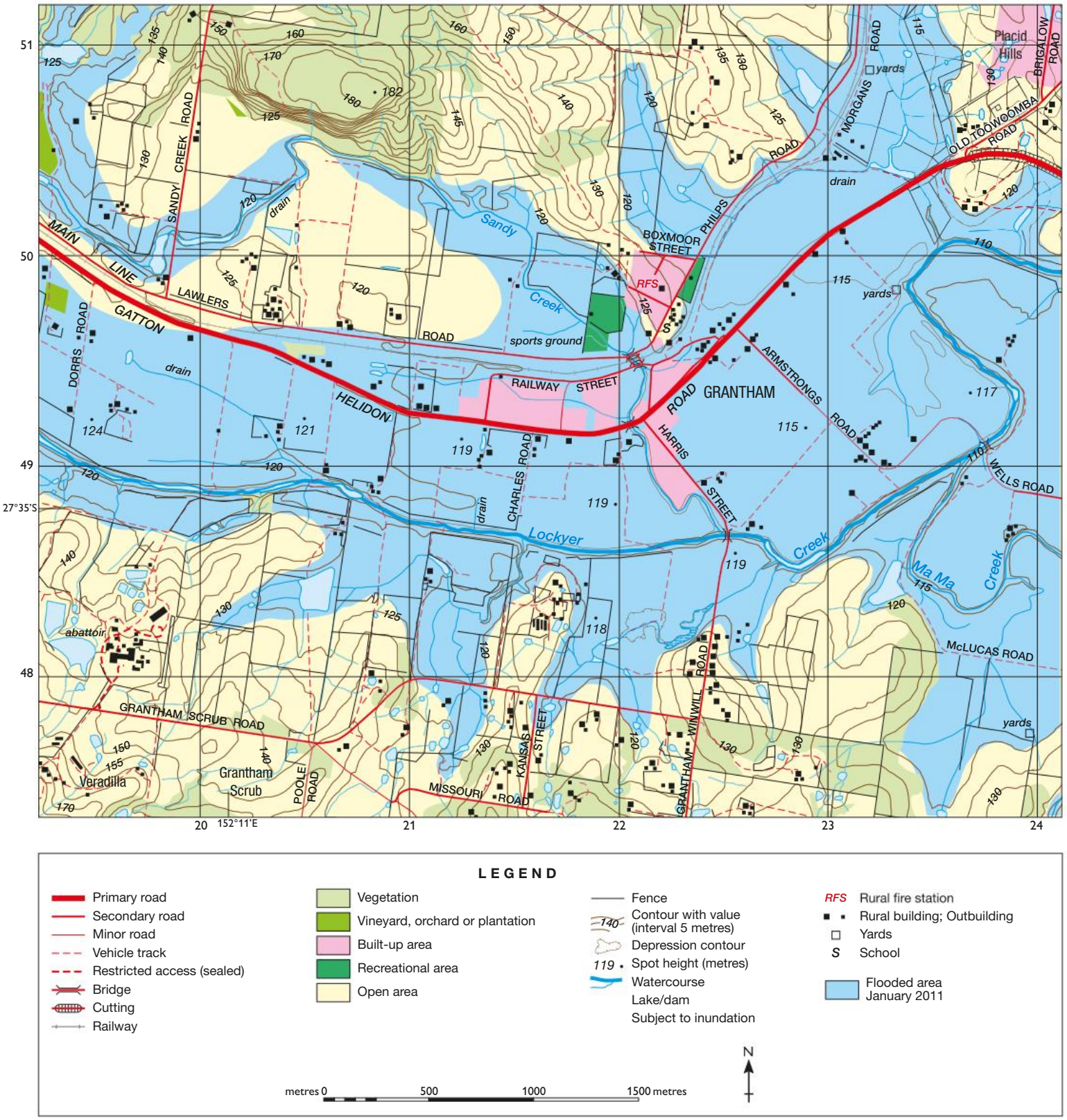
1 The rail bridge shown in Source 4 is located at GR221495 on the map. On which creek is this bridge located? In which direction is this creek flowing?

2 Following the flood in 2011, many Grantham residents built new homes in the town at GR240510. Why is this area less likely to flood than the town of Grantham?



Source 5

GRANTHAM TOPOGRAPHIC MAP SHOWING 2011 FLOODWATERS



Source 6

Source: Oxford University Press

Unit 2 Place and liveability

Living in Australia

Both Indigenous Australians and early European settlers to Australia made decisions about where to live based on the availability of resources they needed to survive – things like 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 things like 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.

4A

Where do Australians live and why?

1 What features shown in Source 1 tell you that many people live in the suburb of St Kilda?

2 Why do you think people choose to live in St Kilda?

4B

How do people connect to places?

1 What common interests or hobbies might people who live in St Kilda share?

2 How might the lifesavers at St Kilda Beach be considered a community of their own?

chapter 4

Source 1 An oblique aerial photograph of the Melbourne showing the suburb of St Kilda in the foreground

4.1 Why we live where we 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?

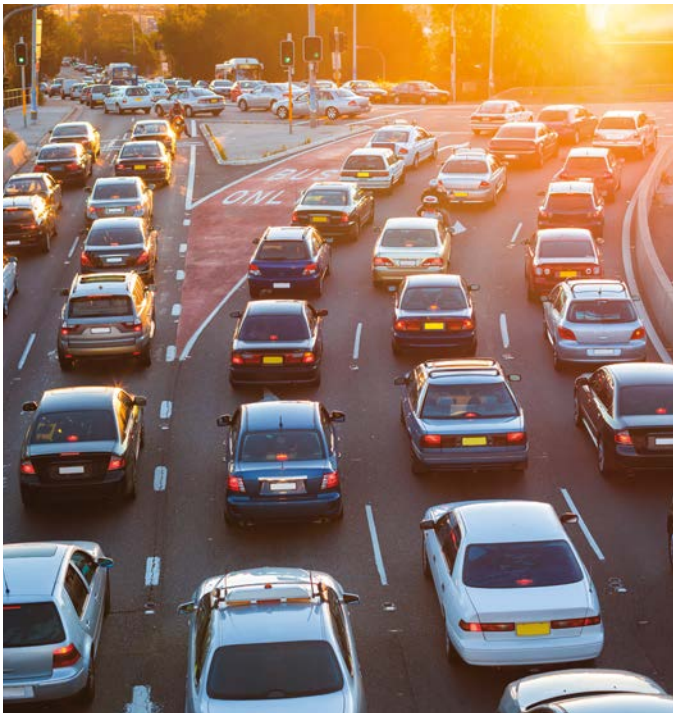
Access to services and facilities that allow us to do the things we enjoy has an effect on what we think of the place we live. This, in turn, increases how highly we rate its liveability.

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. Horse riders might prefer to live in a rural area or on the edge of a city, close to open spaces where they can keep their horses.

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.

Source 1 Some activities, such as horse riding, require lots of space.



Source 2 Busy streets in cities can make moving around difficult.

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.

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 particular place. Aboriginal and Torres Strait

Islander peoples have developed very strong connections with their places. Places are a dominant feature of their stories and their 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 similar to the replies of people from all around the world when asked the same question. Most people agree that a liveable place:

- offers a temperate (mild) climate
- is easy to get around
- is able to offer good health care, work and education opportunities
- is safe
- is affordable
- is diverse
- is sustainable
- is attractive.

Source 3 An Aboriginal boy fishing in Manbalbirrlarri billabong at Djukalajarrang, Arnhem Land. This is a very special place for the Ganalbingu clan because of important rock art, burial caves and secret and sacred sites. The Ganalbingu clan feel spiritually connected to this place.

Check your learning 4.1

Remember and understand

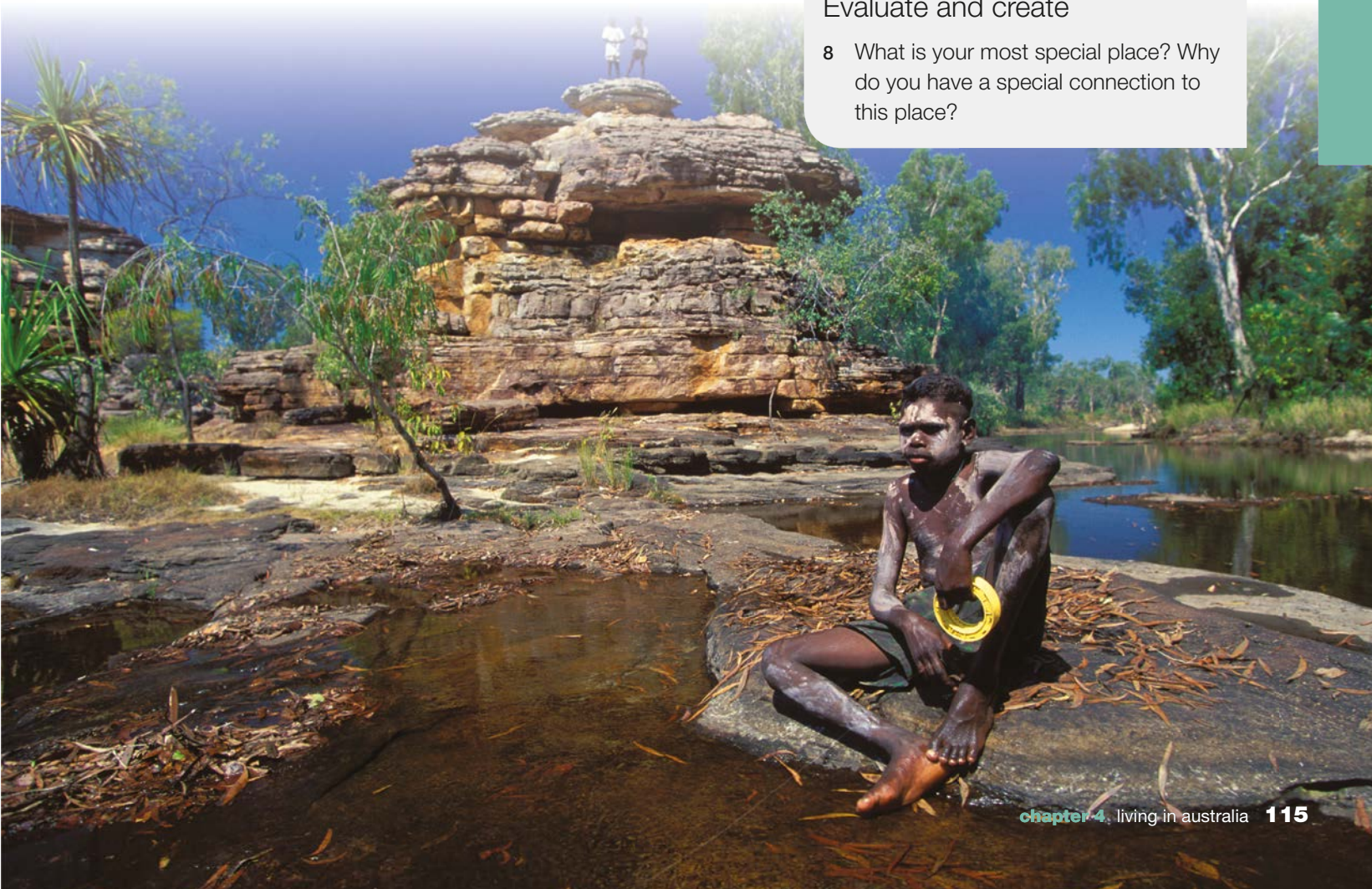
1 What is meant by the word 'liveability'?
2 What characteristics of a place attract us?
3 What do you like to do? Where would be a good place to live to enable you to do this?
4 Where do you like to go? Where would be a good place to live to enable you to do this?

Apply and analyse

5 Imagine that you could live anywhere. Where would you live and why?
6 What are the important aspects of liveability that don't need a lot of money?
7 Give an example of how a person of your age and a much older person might have different ideas about the liveability of a place.

Evaluate and create

8 What is your most special place? Why do you have a special connection to this place?



4.2 Where early Indigenous Australians lived

It is impossible to work out exactly when the first people arrived in Australia, but many historians estimate it was between 40 000 and 50 000 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 Indigenous Australians developed in isolation.

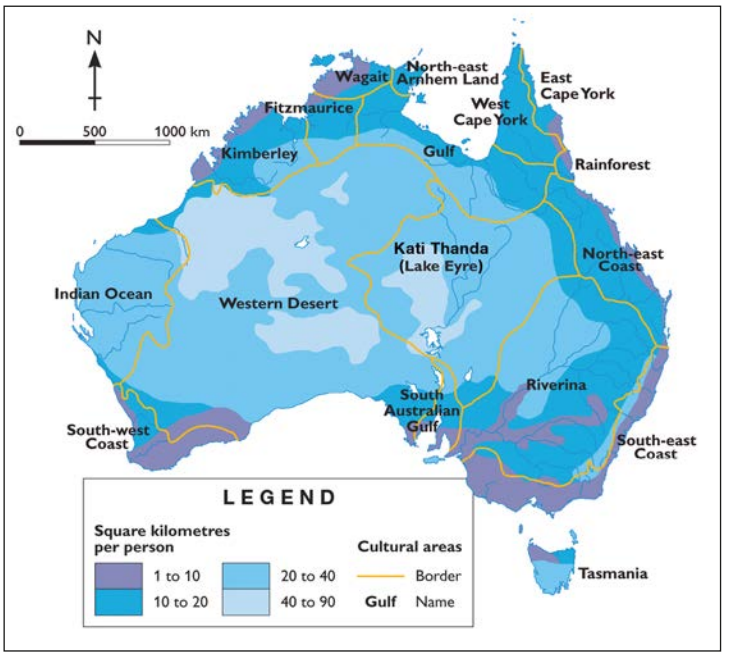
Factors that influenced where Indigenous Australians lived

Upon reaching the Australian continent, early Indigenous Australians looked for the most liveable places – those that supplied the resources they 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 they found the resources they needed to survive, particularly fresh water and abundant food.

Indigenous Australians 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.

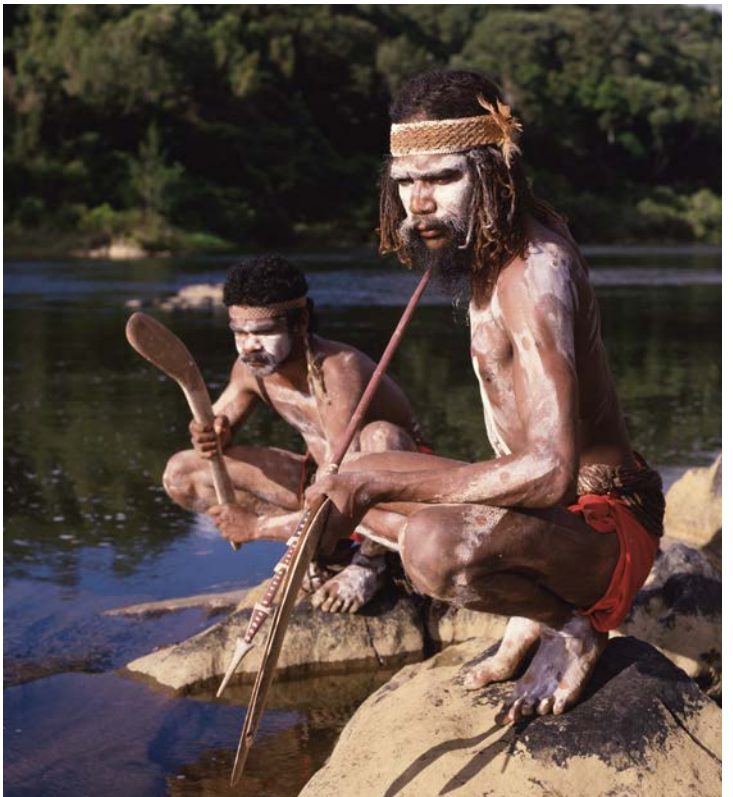
They fished the rivers, in some places building elaborate stone traps to catch eels and fish, and hunted larger game such as kangaroo and wallaby. Birds and lizards living in the trees also supplied much of their food. Early tribes used virtually every part of the natural environment to support their way of life – shells, stones, plant fibres, coloured clay and bones all had their uses, however, a reliable supply of fresh water, usually a river or stream, was perhaps the most important resource.

AUSTRALIA: LOCATION AND DISTRIBUTION OF INDIGENOUS AUSTRALIANS IN 1788



Source 1 Source: Oxford University Press

Source 2 Aboriginal men in northern Queensland demonstrating traditional fishing techniques using a spear



Source 3 In the Western Desert, Aboriginal people use fire to expose the hiding places of goanna.

Further inland, resources were much scarcer. Aboriginal communities living here developed a different way of life suited to the 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 people had a more seasonal way of life than the coastal and river peoples. Liveable places changed according to the season, so for most of the year they kept on the move, following natural cycles of monsoonal rains, the movement of animals or the fruiting of plants. They became superb trackers and hunters and were able to survive in some of the harshest environments on Earth. They found water in the most unlikely places, even in the roots of desert plants and the bodies of dormant (hibernating) frogs. Much of their 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. The land forms the core of their beliefs and spirituality and an integral part of their view of themselves. They do not see themselves as separate from the natural environment but as part of it. Rather than owning land or living off the land, they believe that they 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.

Part of the reason that Country is such an important concept to Aboriginal Australians is because their Dreaming stories, their way of life and their ancestors are all part of their homelands. When an Aboriginal Australian is in their Country, their spirits and their ancestors keep living through them. In fact, they see the Country as a living individual. Many Aboriginal Australians choose to live in their traditional homelands or dream of doing so. Like other Australians might long to see a favourite relative or return to a family home, Aboriginal Australians get their sense of belonging from their Country.

Check your learning 4.2

Remember and understand

1 How did Indigenous Australians first reach Australia?
2 Why did most Aboriginal people live near the coast or along rivers?

Apply and analyse

3 Compare the ways of life of inland desert Aboriginal people and those who lived near rivers in south-eastern Australia. What were some of the similarities and some of the differences?
4 Examine Source 2. What natural resources are these Aboriginal hunters using?
5 What factors influenced the liveability of places for early Indigenous Australians? Are these factors the same as those that influence your ideas on what makes a place liveable? Why/why not?

Evaluate and create

6 What do you think Indigenous Australians may have used each of these resources for: shells, stones, plant fibres, coloured clay and bones?
7 When Europeans arrived in Australia they had a different view of land ownership and use than Indigenous Australians. Why did these differences cause tensions and conflicts between these two groups of people?

Source 4 Many modern Aboriginal Australians are moving back to their traditional homelands to reconnect with their ancestors and their beliefs.

4.3 Where modern Australians live

In much the same way as the early Indigenous Australians did, modern Australians also make choices about where they live based on how liveable they perceive a place to be. Today, however, many things have changed. In the distant 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 parts of the country, such as the desert, that would have previously been uninhabitable. As a result, the factors that influence where modern Australians live have changed. Today, many Australians make decisions about where to live based on a series of lifestyle factors.

Source 1 Local shopping centres are an attractive feature to many people.

Factors that influence where modern Australians live

A person's perceptions of liveability often depend on his or her needs, wants or preferences. These needs and wants are changing all the time and are often dependent on what stage of life a person is at. Age has a big influence on what a person wants from where they live. Young adults, for example, often want access to educational opportunities and jobs, while retired people will not be so concerned about these things. The type of household a person is a part of is also significant, as families have different needs from single people.

Despite these differences, many of the factors that people take into consideration when deciding where to live remain constant. A range of these are discussed below.

Housing

Suitable housing is a key consideration for people. On a basic level, people make decisions about where they live depending on what they can afford, and the size of house they need. Personal choice also has a big influence, whether, for example, someone wants a modern home or a traditional home, a large garden or a low-maintenance apartment.

Access to services

People generally like to live within easy reach of the services they need. Public transport and well-maintained roads help people to get around with ease. Access to health care is also important, but even more so for people who need specialist care. Families with children often want access to good schools, childcare and playgrounds. Local shopping centres providing access to shops, banking and other professional services, as well as cafes and restaurants also play an important role in where people settle.

Access to jobs

People often move to a place because it offers them the best opportunities for employment, and generally the bigger the place, the more jobs there are. Many young people who have grown up in small country towns end up moving to cities to find employment. Big cities, however, are not the only places to find employment. In recent years, isolated mining towns with very few facilities and services have grown rapidly because of the high-paying jobs on offer there.

Source 2 A mild climate and attractive natural features such as beaches can play a key role in determining where people live.

The climate and environment

Most people in Australia live along the east coast, where the climate is more moderate than other parts of the country. Personal preferences, especially when it comes to climate, are a key factor in determining where people settle. For example, many older people follow the sun, sea and a warmer climate in their retirement by moving to the Gold Coast. Coastal places are very popular with young and old people alike, but on the other hand, someone who enjoys snow-skiing might prefer to live near the mountains.

Cultural connections

Many people choose to live near their family and friends, and for this reason may stay in the same town or city suburb for the whole of their lives. Those moving to a new place, particularly from another country, may be attracted to a neighbourhood where others from the same cultural and language backgrounds live. This can offer a sense of security and familiarity, with local shops selling products from home, and local services offered in their native language.

Entertainment

People also make choices about where they live based on their leisure activities; for example, whether they want easy access to the outdoors or to museums and theatres found in city centres. People of different ages often want different entertainment options. Many younger people are drawn to the variety of entertainment offered in big cities such as music venues, nightclubs, concerts, theatres, shops and big sporting arenas, whereas these facitilites may be of little use to older people.

Check your learning 4.3

Remember and understand

1 What are some of the factors that modern Australians take into consideration when deciding where to live?
2 How important are climate and environment in influencing where people in Australia live?

Apply and analyse

3 For each of the following groups, identity some of the liveability factors that would be most likely to influence where they want to live:
   a a family with school-age children
   b a retired couple
   c a surfer in his 20s.
4 Consider the local area in which you live.
   a What are its key liveability factors?
   b What types/groups of people commonly live in your local area?

Source 3 Large entertainment events attract big crowds of young people and play a role in where they choose to live.

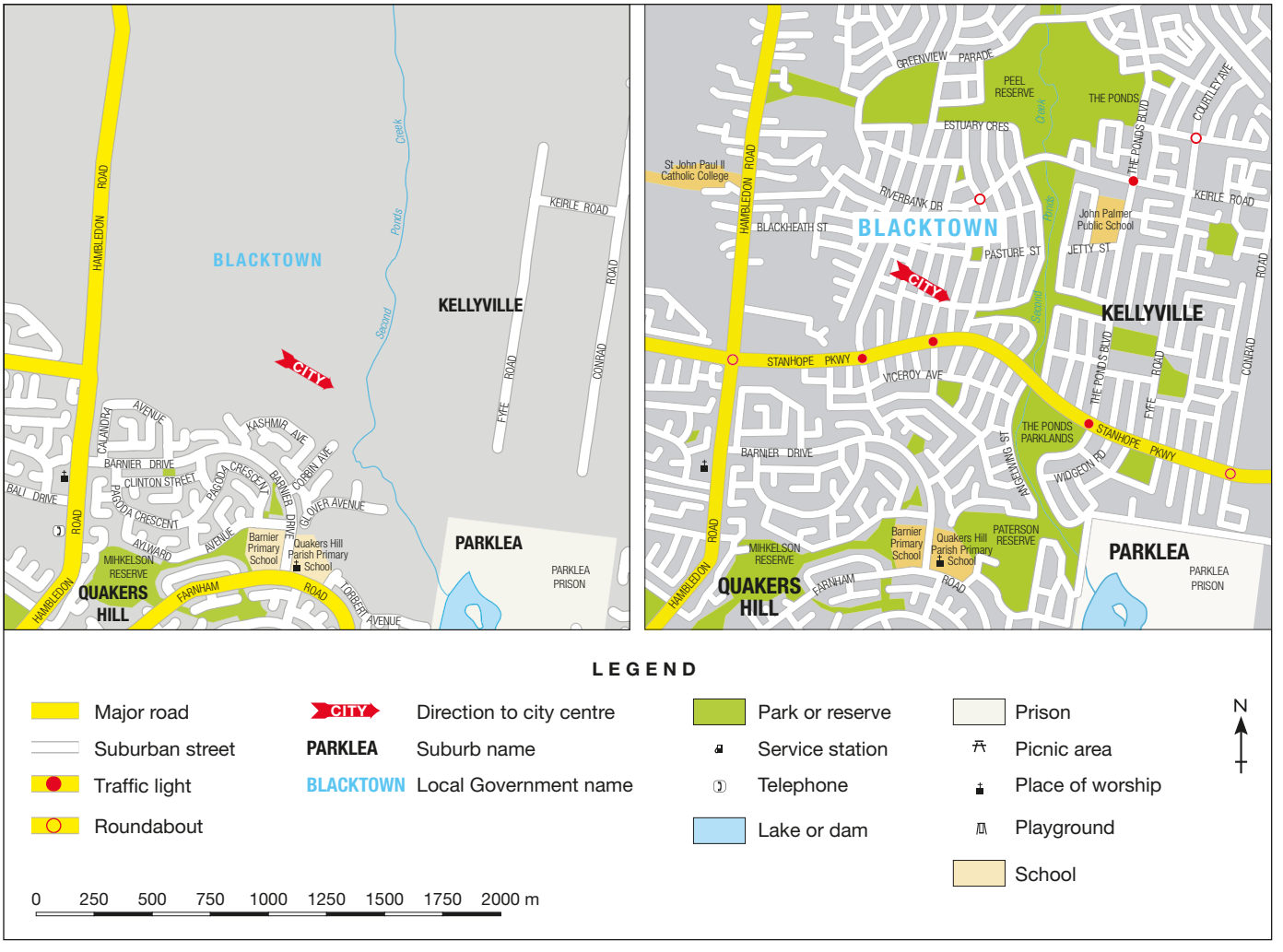
4.4 Living in large cities

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 along the **rural–urban fringe**. As new housing estates are built on the farmland or bushland adjoining the suburbs, other services are attracted to these new suburbs to service the growing population. Schools, shopping centres, medical centres and sporting facilities become established to meet the needs of the residents. Industries are also attracted to the cheaper land and rents of the outer suburbs.

Case study: Blacktown, New South Wales

The suburb of Blacktown is on the fringe of the metropolitan area in western Sydney. It is one of the fastest-growing areas in Australia. At the 2011 census, the area had a population of over 43 000. This population is growing rapidly and it is now one of Australia's largest suburbs. This is due to a range of factors, including the overall growth of Sydney, the relatively cheap land and the building of major roads, such as the Western Motorway, and other services. Source 1 shows the change in an area in the north of Blacktown between 1997 and 2015.

BLACKTOWN: 1997 (LEFT) AND 2015 (RIGHT)



Source 1

Source: Oxford University Press

There are a number of schools in the region along with other **amenities**, such as public pools, libraries and a university. Blacktown also has numerous shopping areas, including large shopping centres, shopping strips along major roads and its own central business district (CBD). Blacktown is linked to other parts of Sydney, including its CBD, by a road and rail network. In common with other regions of Australia with rapidly growing populations, Blacktown struggles at times to meet the demands of all its residents. It can be very difficult to find rental accommodation, and some public facilities, such as hospitals, have experienced problems in dealing with a large, growing and diverse population.

Many residents of the western suburbs work closer to the centre of the city and use private vehicles to travel to and from work. This puts hundreds of thousands of cars on the road during the morning and afternoon peak periods, causing traffic jams and long delays. The road system struggles to cope with this heavy demand; at peak hour, the average speed on the freeways and tollways slows from 100 kilometres per hour to less than 30 kilometres per hour. These problems are only set to become worse in the next few decades when the population of western Sydney is expected to reach 4 million.

Source 2 An oblique aerial photograph of Blacktown looking towards the Sydney CBD

Source 3 Blacktown has a large population of **refugees** and migrants. These girls are being introduced to AFL football at Blacktown Olympic Park.

Check your learning 4.4

Remember and understand

1 Where does the greatest growth in capital cities generally occur?
2 What change takes place as suburbs spread to the rural–urban fringe?
3 Why are some industries attracted to the outer suburban areas?

Apply and analyse

4 What problems do town planners in Blacktown face?

Evaluate and create

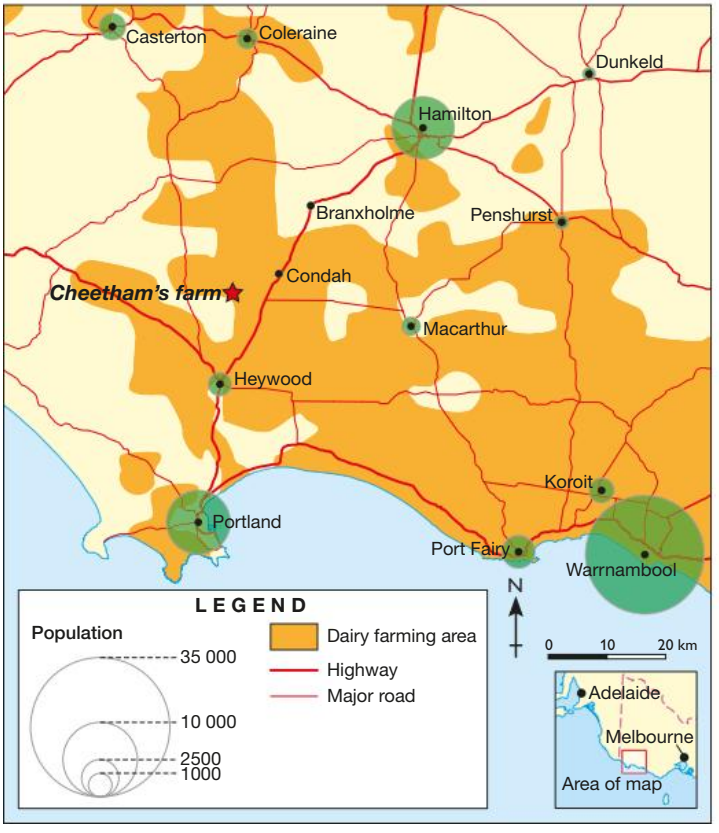
5 a Using Source 1, construct a sketch map of Blacktown in 1997. Show the main roads and label the schools and prison. Shade in green the area of the map used for housing. These are the areas with the short, curving streets.
b On your sketch map, add the changes that had occurred by 2015. Shade in red the new housing areas and label any new schools and main roads.
c Describe the changes that occurred in this area between 1997 and 2015.
d How do you think this area will change in the next 15 years?

4.5 Living in rural areas

Many parts of Australia are used to raise animals and grow crops for food. The type of farming carried out in different areas is generally determined by climate and the availability of water. Farms vary from small properties used to grow crops, such as grapes or vegetables, to huge stations the size of European countries where cattle are raised.

Living on a farm can be very different from living in a city. It can be more difficult to access services, such as schools, shops and doctors. The population of many rural areas is declining as people move to cities for better job opportunities and a wider range of education options. There are also many advantages to living on a farm. Farms are often family-run businesses and this gives 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 reduced the disadvantages of living in a rural place.

VICTORIA: WESTERN DISTRICT DAIRY FARMING REGION



Source 1 Source: Oxford University Press

Case study: Western District dairy region Victoria

The largest industry in rural Victoria is dairy farming. There are more than 1 million dairy cows in the state and they produce more than 6 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 centred on the city of Warrnambool.

Source 1 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 in this region and allows us to see a pattern in this distribution. These circles are called proportional circles.

Near the small town of Condah, in the western district of Victoria, lies the dairy farm of Sam and Kristy Cheetham. In common with 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, such as mending fences and looking after the grazing paddocks. These workers and their families also live on the Cheetham's farm.

The Cheetham's farm is located close to several small towns and 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. The closest supermarket is in Heywood, 24 kilometres away, as is the closest bank. Heywood has a population of 1300, 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.

Larger towns include Hamilton and Portland, and Warrnambool is the closest regional city. These places have a wide range of shops and other services, such as large hospitals and secondary schools. They need

only visit Victoria's capital city a few times a year for major services, such as an international airport or specialised health care. They also travel to Melbourne for sport and entertainment as most large events of this type are not held in regional areas.

Towns and cities in rural areas tend to be located a certain distance apart. This is determined by the size of the population and the services available in that town or city. Large towns (such as Warrnambool, Portland and Hamilton) offer a large range of goods and services and are spaced well apart. They need to draw in people from a bigger distance to support services they offer. Small towns, such as Condah, only have a few shops and services to support the local community.

Source 2 Heywood's main shopping street

Source 3 Warrnambool's main shopping street

Source 4 Branxholme's main shopping street

Check your learning 4.5

Remember and understand

1 How does living in a rural area differ from living in a city?
2 What are Victoria's three main dairy farming regions?
3 What different jobs are done on the Cheetham farm?
4 Where would the Cheetham family go to buy each of the following?
   - **a** a loaf of bread
   - **b** a packet of breakfast cereal
   - **c** a pair of jeans
   - **d** a new television
5 Look at Source 4. What services and supplies do you think might be available in Branxholme?

Apply and analyse

6 Look carefully at Source 1.
   - **a** List the three largest towns in the region.
   - **b** What is the approximate population of the largest town?
   - **c** Why do you think there are lots of small towns and only a few large towns?
   - **d** Why are proportional circles useful on a map?

Evaluate and create

7 List one good and one service that you think would only be available in the very largest towns in the region.
8 List one good and one service that people in the region might need to travel to Geelong or Melbourne to purchase.

4.6 Living in 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 huge 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, it's the Gold Coast and the Sunshine Coast, and in Victoria, it's the Surf Coast.

Coastal towns and cities are growing in size and population across Australia due to a range of factors. 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: Torquay, Victoria

Torquay lies on Victoria's Surf Coast about 100 kilometres south-west of Melbourne. It has long been a popular holiday destination, particularly during the warmer summer months.

VICTORIA: THE BELLARINE PENNISULA

Source 1 Source: Oxford University Press

Source 2 The main surf beach at Torquay in Victoria

On summer weekends, the population of the town can double, as people travel from Melbourne to take advantage of the beaches and relaxed lifestyle of this coastal town. As well as the holiday-makers, the number of permanent residents is also growing. In 2006, the town's population was about 8000. By 2025, the population of Torquay is expected to be three times that number. As with any change, there are both benefits and costs to this population increase.

Coastal towns close to large cities attract sea changers, because they offer the option of living in the coastal town and commuting to work in the city. Torquay's proximity to Melbourne makes it a popular choice for this reason and a new ring road around Geelong has reduced the journey to the Melbourne CBD from Torquay to about 90 minutes.

Torquay also attracts many retirees. In some cases, after retirement people are moving permanently into holiday homes they already own, and in other cases they are building 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 Torquay.

While real estate agents and builders welcome the new residents, not everyone feels the same way. Some people are concerned that the once small town of Torquay will become exactly the type of suburban development the sea changers are trying to escape.

Farmland, sand dunes and caravan parks are being redeveloped as retirement villages and housing estates. New businesses such as large hardware stores and food outlets are threatening the survival of smaller, well-established local businesses. Changes like this often cause conflict in the local community.

Source 3 A satellite image of Torquay and surrounding areas

Check your learning 4.6

Remember and understand

1 How does living in a coastal area differ from living in a city?
2 What has made it possible for residents in Torquay to enjoy both coastal and city life?
3 What is a sea change?
4 What is Torquay's population expected to be in 2025?

Apply and analyse

5 Examine Source 1.
   a What are the largest towns on the Bellarine Peninsula?
   b Where do you think people on the Bellarine Peninsula would go to shop at department stores or purchase expensive items such as cars?
   c How far is Torquay from Geelong?
6 Explain the following statement: 'Some people are concerned that the once small town of Torquay will become exactly the type of suburban development the sea changers are trying to escape.' Why might some people feel this way?

Evaluate and create

7 a Draw a sketch map of Source 3. Shade in the area covered by housing. In a different colour, shade those areas that you think may be developed for housing in the next few years. Provide a key and title for your map.
   b Now give reasons why you selected the land for new housing in part **a**. What type of land did you select? What type of land didn't you select? Why?

Source 4 New homes cover the hills behind the Torquay Golf Club.

4.7 Living in remote areas

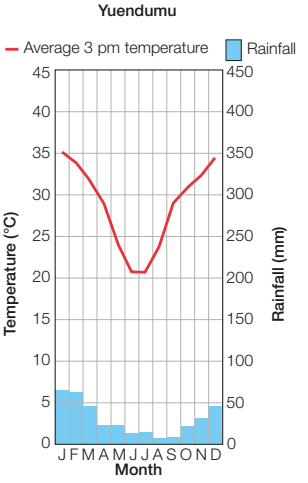
Most Australians live in large cities on the coast, with very few people living in the centre of the continent. Much of the interior of Australia is **desert** or semi-desert, with large distances between towns and settlements. Geographers refer to these areas as remote because people living in these areas have difficulty accessing some goods and services. Providing basic services (such as roads, food, water, telephone and Internet access) to remote communities can be difficult and expensive.

A high proportion of Indigenous Australians live in regional and remote areas – almost half of the population compared with just 13 per cent of the total population. For many Indigenous Australians this decision is based on a deep connection to the land that began thousands of years ago.

Living in the desert

Australia is the second-driest continent in the world, after Antarctica. Seventy per cent of our continent receives less than 500 millimetres of rainfall each year. This low rainfall has produced large deserts across much of inland Australia. Deserts are some of the harshest places on Earth. The people who live in desert communities must overcome many challenges.

Source 1 The Yuendumu Pool opened in 2008. Children can only swim here if they regularly go to school.



Source 2 Yuendumu climate graph

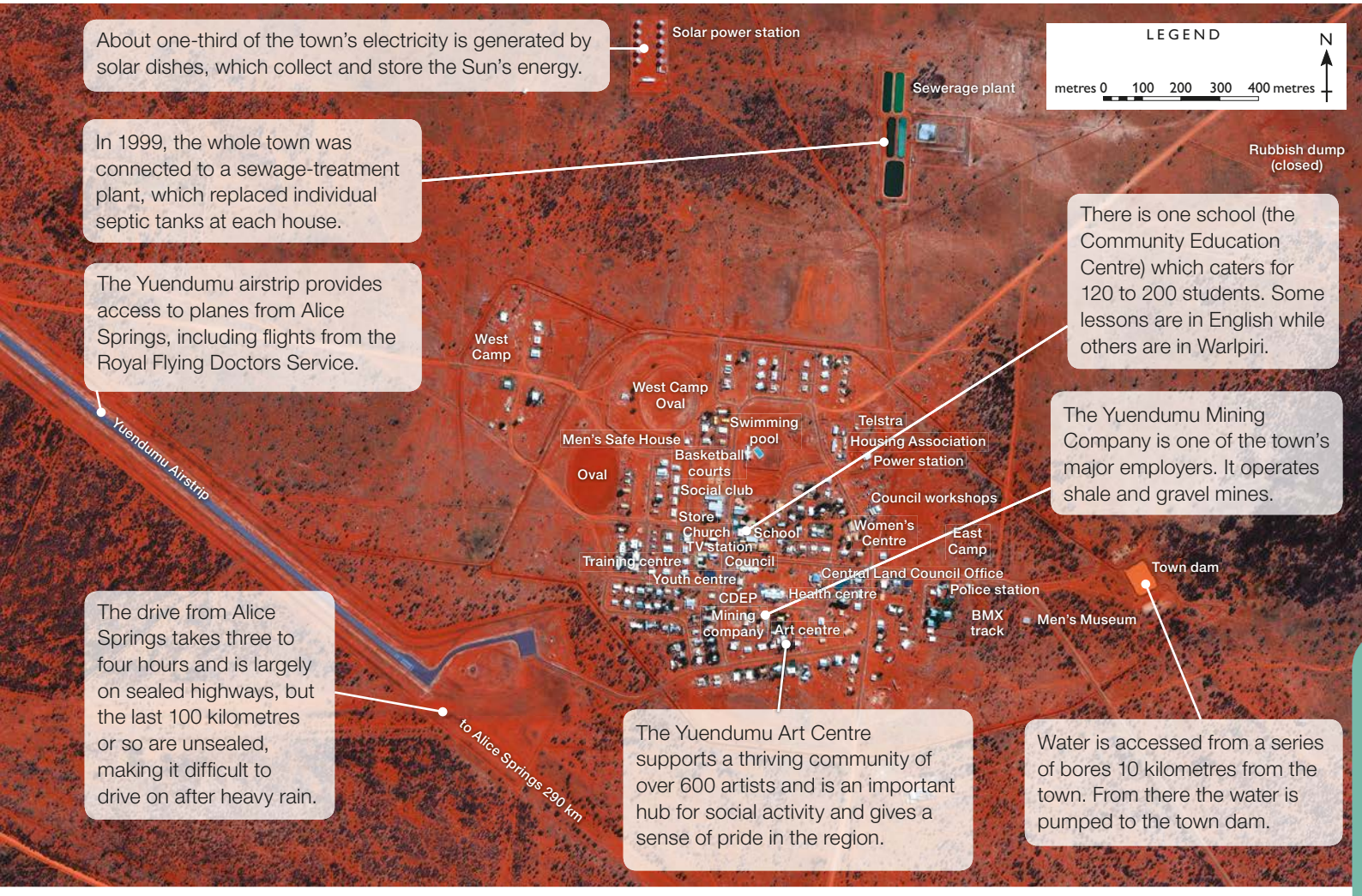
Case study: Yuendumu

One desert community is based in the town of Yuendumu, located 290 kilometres from Alice Springs in the Northern Territory. Not only is it located in the Tanami Desert, it is also one of the most remote places in the world. It is so remote that few locals have ever seen the sea.

The Warlpiri people

The Warlpiri people of Yuendumu do not see land as something to be owned. Instead, they believe that they belong to the land. This deep sense of connection to a particular place can be very difficult for non-Indigenous Australians to understand. In the same way, Warlpiri people find a system of land ownership difficult to understand.

The Warlpiri system of family and relationships is complex. A crucial part of any Warlpiri child's education is to learn about this system. It helps them to understand the natural and social world and a person's place within it. This system binds the Warlpiri people to each other and to the land.

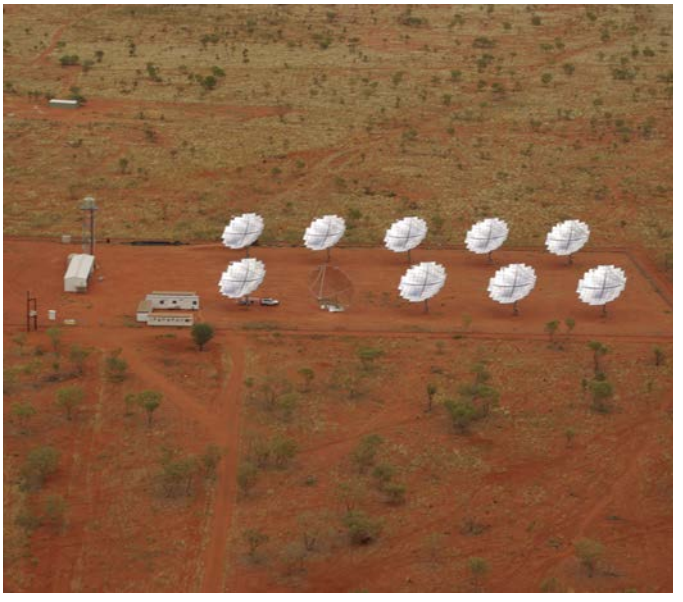


Source 3 Yuendumu satellite image

Problems and challenges

Living in Yuendumu presents many challenges. The isolation from other places is the most obvious of these, however, in recent years sealed roads, the airstrip, telephones, television and the Internet have helped to connect Yuendumu to the outside world. Many older people in the community, however, worry that better transport and communication will break down the customs of the Warlpiri people.

As with other remote Indigenous Australian communities, health problems, such as eye diseases, are common. Substance abuse among young people, particularly petrol-sniffing, was once a serious problem but a strong community response has largely brought an end to this practice. This involved providing young people with a better range of activities and making substance abuse unacceptable.



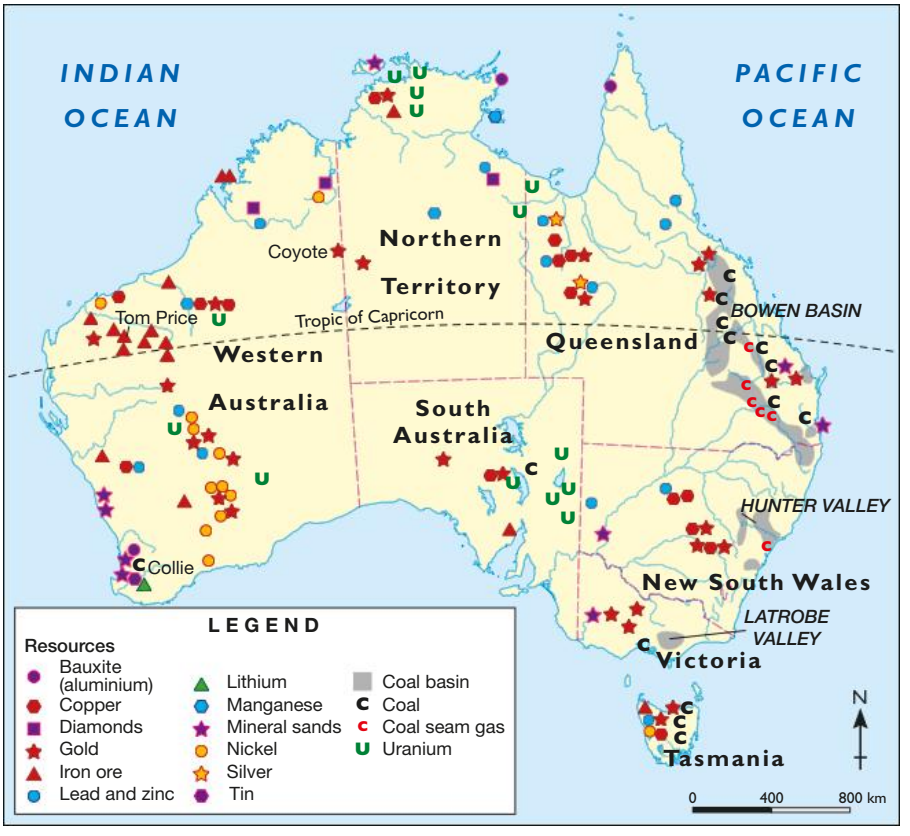
Source 4 The solar power station provides 50 per cent of daytime electricity needs to Yuendumu and enables significant reduction in the diesel fuel used in power generators in the community.

Living in the Pilbara

Australia is a mineral-rich country. We have the world's largest deposits of brown coal, mineral sands, nickel, uranium, zinc and lead. We also rank in the top six in the world for reserves of other minerals, such as bauxite, black coal, diamonds, copper, gold and iron ore. Iron ore is used to produce steel, which is an important part of many industries around the world. Some of the world's largest and richest iron ore deposits are in an area of Western Australia known as the Pilbara.

Some mining workers live in towns in the Pilbara close to the mines where they work, such as Tom Price, Newman and Paraburdoo. These towns can be hard places in which to live as they tend to be very isolated. Their remote location means that some goods and services can be difficult to access. The perception of these towns as less liveable than other centres in Australia means that workers are offered very attractive salaries and conditions to come and work in the remote Pilbara region. Many miners prefer to live a **FIFO** ('fly in, fly out') lifestyle. This means that they live in large cities, such as Perth, for two weeks and then fly to the mines to work for two weeks. While this type of routine may suit single workers, married workers generally find that this places a strain on their families.

AUSTRALIA: MINERAL, URANIUM AND COAL RESOURCES



Source 5

Source: Oxford University Press

Case study: Tom Price, Western Australia

In many ways Tom Price is a typical mining town. It is home to about 2700 people, almost all of whom are involved, directly or indirectly, in the mining industry. Of the workers in the town over the age of 15, almost 50 per cent work in the mines. Half of these workers categorise their jobs as machinery operators or drivers.

The children who attend one of the three local schools almost all have at least one parent employed at the mine. The local high school works in partnership with the international mining company that owns and operates the mine, Rio Tinto, to educate students about jobs in mining. The supermarket, milk bars, service stations, vets, chemists, doctors, hardware store and carpet cleaner all rely on the income from miners to keep their businesses running. While this is great for the town when the demand for iron ore is high, it can cause problems when demand falls. Industries and places that rely on selling one resource, such as a particular mineral, are sometimes referred to as being in a 'boom or bust' cycle.

Another problem facing the residents of Tom Price is a shortage of homes. During boom times, new workers and people looking for work at the nearby mine arrive regularly and need accommodation. This demand for housing means that house prices go up quickly, making it difficult for young adults in the town to buy a house. In the Pilbara mining town of Newman, for example, houses tripled in price between 2004 and 2008.

skill**drill:** Data and information

Understanding population pyramids

Population pyramids are bar graphs that show the percentage of males and females of different ages in a population. They help geographers compare different groups within a population and also allow them to identify trends and patterns of change (for example, in a city or country). Follow these steps in order to understand population pyramids:

Step 1 Be sure to read the title of the population pyramid carefully. This will tell you exactly what population is being studied. Also look at the labels running along the bottom (percentage or total population) and through the middle of the pyramid (age groups).

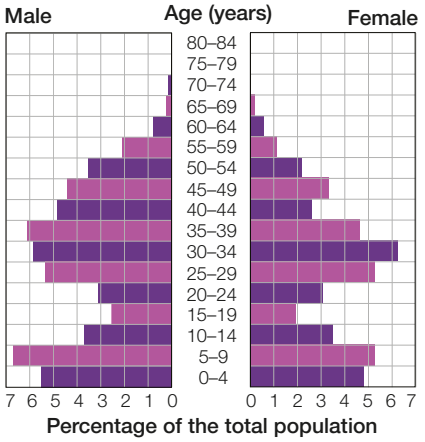
Step 2 Population pyramids are organised so that the younger age groups are at the bottom and the older age groups are at the top. Percentages (or numbers) of men are always shown on the left-hand side and percentages (or numbers) of females are shown on the right-hand side.

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.

Apply the skill

1 Using Source 7, complete the following tasks:
   - **a** What percentage of the population in Tom Price is girls aged 10–14?
   - **b** Are there more men or women aged 35 to 39 in Tom Price?
   - **c** Which is the largest single group in Tom Price?
   - **d** Is there a greater percentage of males or females in Tom Price? Why might this be the case?
   - **e** Which group in Tom Price is the smallest? Try to estimate what percentage of the total population is made up by this group.



Source 7 Population pyramid for the town of Tom Price Western Australia

Check your learning 4.7

Remember and understand

1 What services are difficult to supply to remote areas?
2 Why don't many people live in the centre of Australia?
3 Why don't the local Warlpiri people just move to a different area with more services?
4 How many people live in the town of Tom Price and what work do they do?
5 Why do some people choose FIFO?

Apply and analyse

6 Use the information provided in Source 3 to create a table listing all of the services available in Yuendumu. List each of the services under the following headings: water and sanitation; transport; power; industry; education; and recreation.
7 How does the land tie the people of Tom Price and Yuendumu to their remote locations?

Source 6 Tom Price iron ore mine in Western Australia

4A rich task

Living on Macquarie Island

Macquarie Island is one of the most remote places on Earth. It is located in the Southern Ocean, approximately halfway between Australia and Antarctica. Macquarie Island is an Australian territory and home to about 40 scientists in summer and about 20 in winter. They live and work in the research station on the northern tip of the island. At the station there are facilities such as buildings in which to sleep and eat, a diesel power station, a greenhouse for growing vegetables, helicopter pads and even a brewery. From here the scientists explore the island and try to find out more about the island itself and the animals and birds that live there.

Source 1 Oblique aerial view of the scientific base on Macquarie Island

skill**drill:** Data and information

Preparing fieldwork sketches

Fieldwork sketching helps geographers record and label important aspects of the landscapes they are investigating. It is a skill that you will need to practise before taking part in any field trips. Follow the steps provided below to prepare a fieldwork sketch:

Step 1 Boundaries and border
Establish the boundaries of your landscape and draw a border of the correct shape.

Step 2 Sketch outlines
With a graphite pencil, lightly sketch the main landscape lines. If there is a horizon in the scene put this about one-third from the top of the frame.

Step 3 Details
Keeping in mind the features on which you want to focus, add detail to your sketch. Label those parts of the scene that you consider to be most important.

Step 4 Shade
Add shading, which helps to establish depth in your sketch and to show the shape of objects.

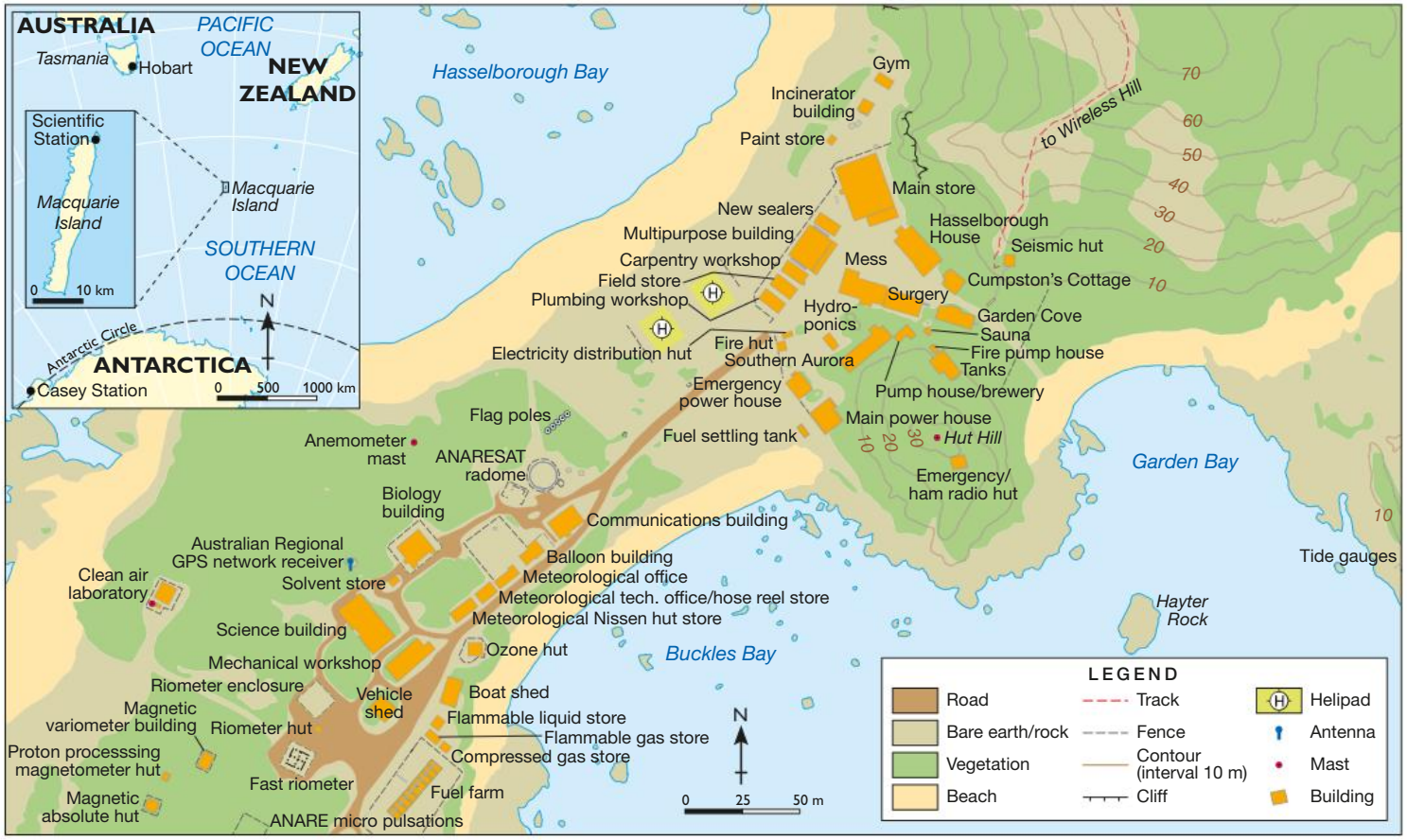
Step 5 Colour
Add some colour if you wish. Do not try to copy every subtle colour of nature; just give a hint of the right colour.

Step 6 Finishing touches
Label your sketch with the location and date.

Apply the skill

1 Imagine you are on a field trip to Macquarie Island and that the scene in Source 1 is in front of you. Prepare a fieldwork sketch by following the steps above.

MACQUARIE ISLAND SCIENTIFIC STATION (INSET: MACQUARIE ISLAND'S LOCATION)



Source 2

Source: Oxford University Press

Extend your understanding

1 Why is Macquarie Island considered remote?

2 Use the scale on Source 2 (inset) to estimate the distance from Hobart to Macquarie Island.

3 Consider the challenges faced by those living in remote places.
   - **a** What challenges do you think the scientists on Macquarie Island would face?
   - **b** In what ways are these challenges similar to those faced by people living in a remote region on the Australian mainland? In what ways are they different?

4 How do you think people on Macquarie Island access supplies?

5 How do you think modern communication technology, such as satellites and the Internet, help to overcome some of the challenges faced by scientists on Macquarie Island?

6 Macquarie Station is used for scientific research but is also a home to a team of scientists and researchers.
   - **a** Find three features of the station that show that this is a place where people live.
   - **b** Make a list of the buildings that are used for science and research.
   - **c** What do the names of these buildings tell you about the type of research that is undertaken on the island?

7 Compare the oblique aerial photograph of the station (Source 1) with the map (Source 2).
   - **a** What is the large circular object in the centre of the photograph?
   - **b** What colour is the hydroponics building? What is hydroponics and why is it important in this place?
   - **c** In which direction was the photographer facing?

4.8 Connecting through communities

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 take into account the features that all members of a community share. One way to classify these features uses the five Ps shown in Source 1.

A group of people who share the same goals and objectives often join together to form communities of purpose. They are able to achieve much more if they work together than if they work as individuals. One of Australia's largest communities of purpose is Surf Life Saving Australia (SLSA), which has over 150000 members, virtually all of whom are volunteers. The shared vision of SLSA members is 'to save lives, create great Australians and build better communities'.

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. Indigenous Australians 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 1 Classifying communities

Source 2 Surf lifesavers making one of the 12 000 rescues carried out in 2011 – they are an example of community of purpose.

Check your learning 4.8

Remember and understand

1 What type of community is a school?

Apply and analyse

2 Explain why SLSA can be considered to be a community of purpose.

3 Name three other communities of purpose.

4 Classify each of these groups under one of the five types of communities:

- **a** the Labor Party
- **b** employees of BHP Billiton
- **c** residents of Yamba in New South Wales
- **d** a Scout group
- **e** your family

5 The surf lifesavers in Source 2 are members of a community of purpose. Why is it likely that they are also members of a community of place?

skill**drill:** Data and information

Drawing a concept map

A **concept map** is a visual tool used to show the links between different ideas or pieces of information. Each idea (or 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.

Apply the skill

1 Construct 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 1, such as place.

Source 3 An example of a concept map

4.9 Community identity

Case study: Melbourne's Indian community

People who share similar histories (such as family, language and ethnic groups) are communities. Melbourne has Australia's second-largest Asian population, including Australia's largest Indian and Sri Lankan communities. The Indian community has influenced the character of Melbourne by sharing its culture, clothing, festivals, beliefs, celebrations and food.

Often communities of past, such as the Indian community, share the same religious and spiritual beliefs, so they are also an example of communities of perspective. Hinduism is the world's third-largest religion and one of its oldest. About 1 billion people today are Hindus and about 98 per cent of them live in India. As Indians migrate to other countries, such as Australia and New Zealand, the number of Hindus in those countries increases. Today there are more than 40000 Hindus in Melbourne and Hinduism has become the city's fastest growing religion.

Belonging to a religious community is a vital part of many people's identity. As a multicultural country there are a wide range of religious communities in Australia and, despite a few isolated examples of intolerance, religions here happily co-exist. This is not always the case overseas; in some countries, religion is often the basis of conflict and war.

Source 1 Shri Shiva Vishnu Hindu temple in Carrum Downs on the outskirts of Melbourne

Source 2 A bar graph comparing the percentage of overseas settlers to Victoria and Australia by country of birth, 2006–2011

skill**drill:** Data and information

Reading compound column graphs

A compound column graph divides each column into its different parts. This allows us to easily see patterns in the information. For example, in Source 3 the columns show religious affiliations in selected years.
The columns are divided to show the different religions, such as Anglican or Catholic.

To interpret Source 3 and other compound graphs, follow these steps:

Step 1 Read the title carefully so that you understand what is being shown on the graph.

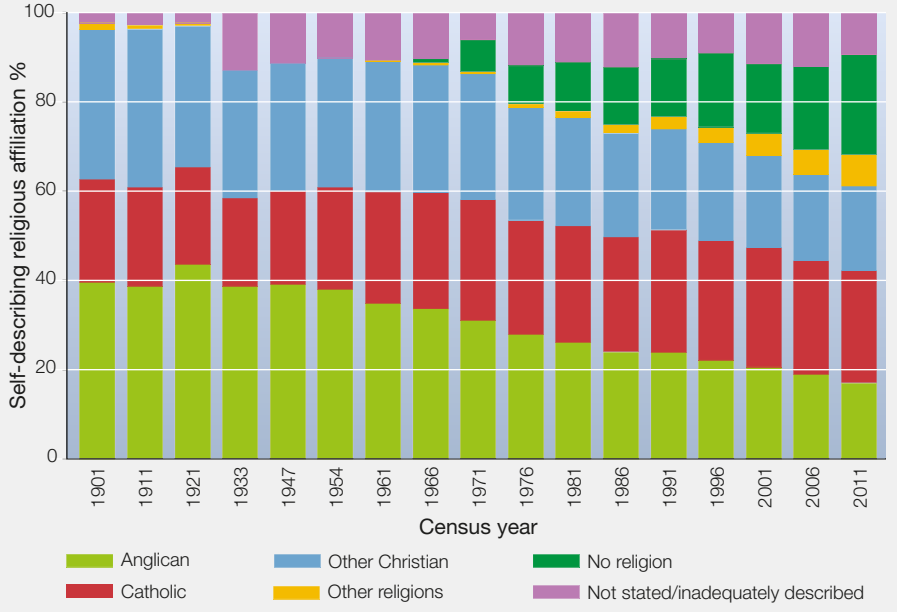
Step 2 Look closely at each scale. In this graph you will notice that the vertical axis shows percentages rather than numbers.

Step 3 Look closely at the legend and colours so that you understand the divisions within each of the columns.

Step 4 Look for major patterns. In this graph, there has been an obvious decline in the percentage of Australians who are Anglicans, and an increase in the percentage of people who practise no religion.

Apply the skill

1 Study Source 3. Which of these statements are true and which are false?
   - **a** Most Australians follow a religion.
   - **b** In 1921, most Australians were Anglicans.
   - **c** In 2011, there were more people with no religion than there were Catholics.
   - **d** Up to the 1970s, all Australians were Christians.



Source 3 A compound column graph comparing the percentage of Australians following various religions, 1901–2011

Check your learning 4.9

Remember and understand

1 Look carefully at Source 1. Suggest two ways in which the Indian community has influenced the character of Carrum Downs.
2 Look at Source 2. What percentage of settlers in Victoria were from India? How does this compare with settlers from other countries?
3 Settlers from China are the next biggest group of migrants moving to Victoria. What impact would you expect this group to have on communities in Victoria?
4 The Hindu community of Melbourne is a community of perspective. Explain what this means.

Apply and analyse

5 Carefully study the compound column graph (Source 3).
   - **a** Describe the changes over time in the religions followed by Australians.
   - **b** Why do you think these changes have occurred?
   - **c** Based on the pattern shown in the compound column graph, do you think Christianity will cease to be the dominant type of religion followed in Australia? If so, when do you think this will occur?

4.10 Indigenous communities

Indigenous Australian communities share an ethnic background, have strong family ties and centuries of shared history and beliefs. These factors make them an example of a community of past. Indigenous Australian communities are found throughout Australia and tend to have strong spiritual connections to the land. These factors also make them an example of a community of place.

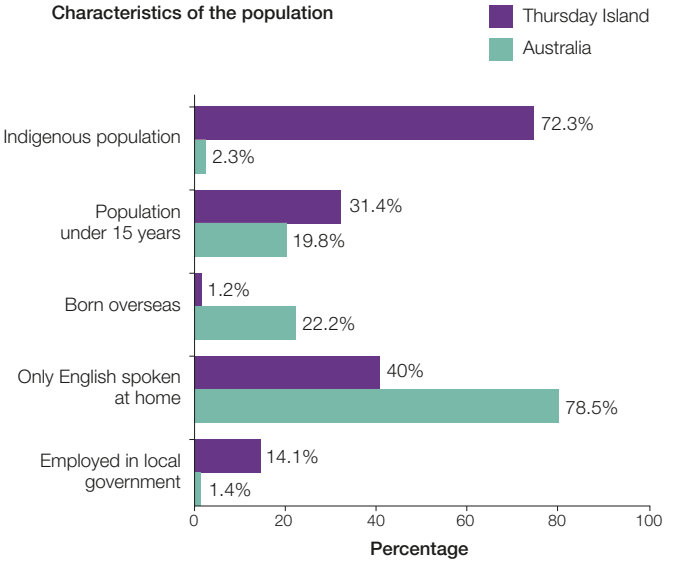
There are two distinct groups of Indigenous Australians. The largest group is Aboriginal peoples from mainland Australia and Tasmania. The second group is from the Torres Strait Islands, the islands between Australia and Papua New Guinea. Although they are more closely linked (in terms of ethnic origins) to the Melanesian people of Papua New Guinea than to Aboriginal peoples, Torres Strait Islanders are Australian citizens. 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.

Source 1 Children on Thursday Island play on the beach.

Case study: Thursday Island communities

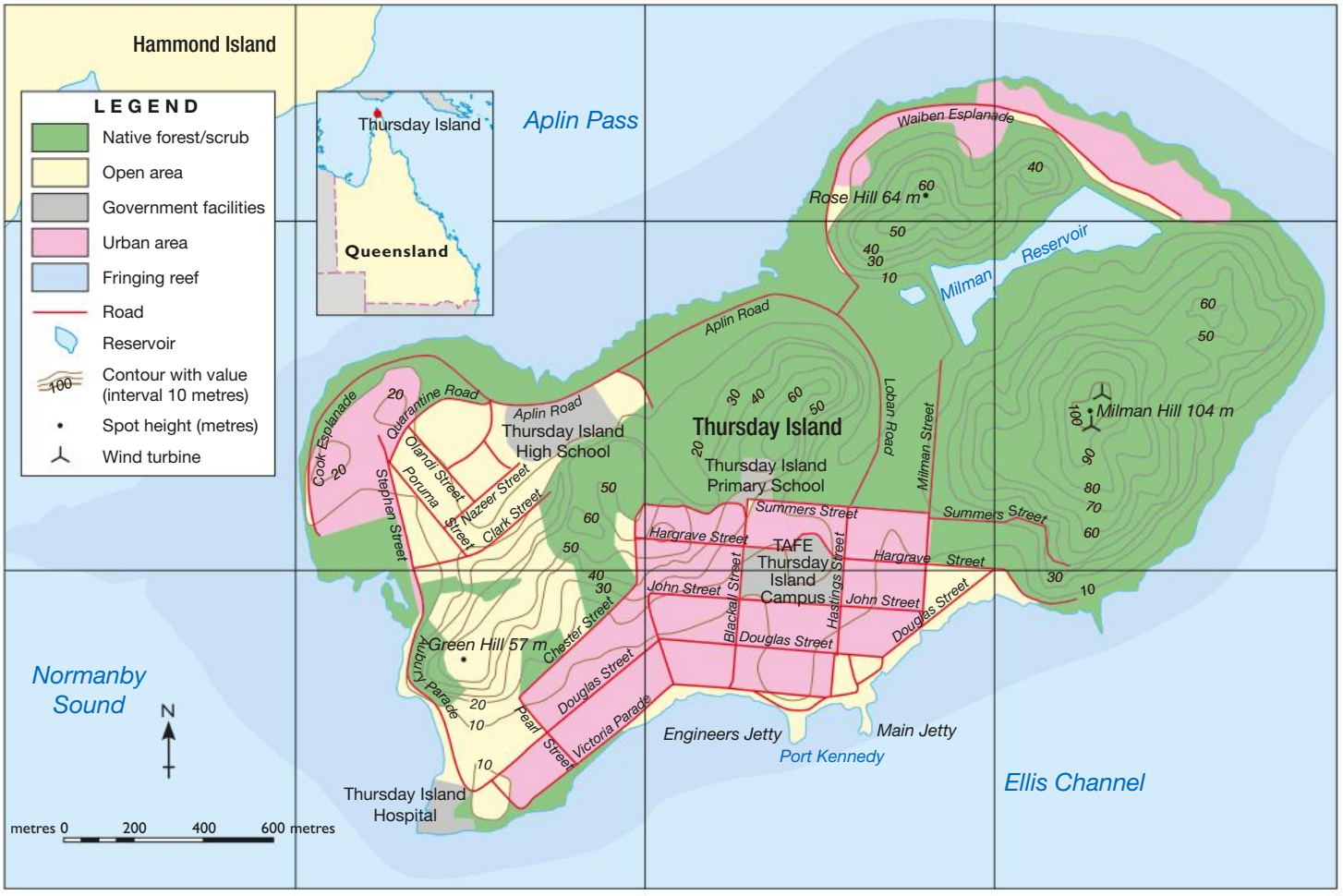
Thursday Island lies in a cluster of islands in the Torres Strait just off Cape York, the northernmost tip of Australia. Thursday Island has the largest population of all the Torres Strait Islands, and is where most of the local government functions for the islands are located. As the administrative centre, Thursday Island's 2500 people have access to excellent facilities, including several schools, a TAFE college, a hospital, a childcare centre, a library, a 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 fishermen and the warm waters support a great variety of marine life. Many islanders are also passionate about sports, with NRL player Sam Thaiday and basketballer Patrick Mills, both of Torres Strait Islander descent, being particular favourites.



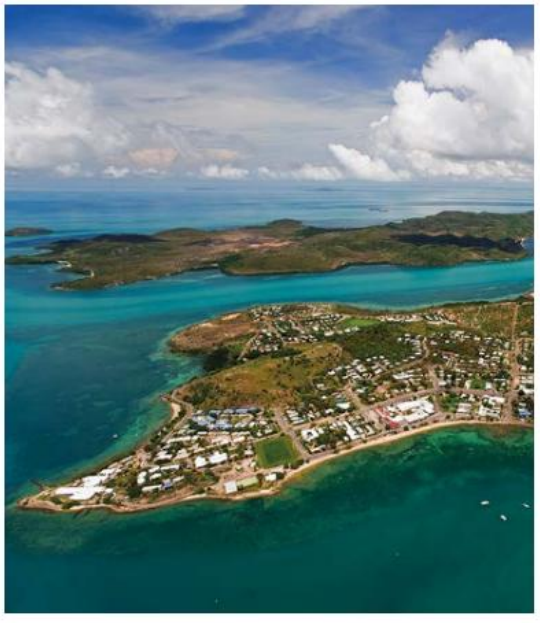
Source 2 A bar graph comparing some key characteristics of the population on Thursday Island with the population of mainland Australia

THURSDAY ISLAND: TOPOGRAPHIC MAP



Source 3

Source: Oxford University Press



Source 4 An oblique aerial photograph of Thursday Island showing the Thursday Island Hospital in the foreground (left) and Hammond Island in the background.

Check your learning 4.10

Remember and understand

1 Explain why Torres Strait Islander people have strong connections to Papua New Guinea even though they are Australian.

2 What community services are located on Thursday Island?

Apply and analyse

3 Examine Source 2.

- **a** Which of these statistics do you find most surprising? Why?
- **b** Explain why so many Thursday Islanders work in local government.
- **c** Write a 50-word paragraph comparing key characteristics of the population on Thursday Island with the wider Australian population.

4 Examine Source 3.

- **a** What are the advantages of the location of the main urban area on Thursday Island? What are the disadvantages?
- **b** Where would you have chosen to build the urban centre?

4.11 Liveability in communities

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. The word 'community' can be used to describe groups like neighbourhoods, towns, workplaces, schools, sports clubs, church groups, or very large groups like members of the same religion, or citizens of the same country.

People connect with places where they feel included and safe. They connect through community services (such as schools, hospitals and libraries), job opportunities (such as the type and amount of work available) and entertainment and recreation (such as concerts, sporting events and festivals).

Check your learning 4.11

Remember and understand

1 What is a community of place?

2 How is the liveability of a community measured?

Apply and analyse

3 Use Source 4 to provide a grid reference for:

- **a** a recreation facility
- **b** a transport hub
- **c** a source of employment
- **d** an education facility.

4 Altona and Altona North are largely populated by families. What evidence can you find using Source 4 that the local community is made up of many families?

Community services

We are all part of a broad community based on where we live. This may be a suburb in a city, a town or a small settlement, but it can even be as big as a whole country. Governments and local councils supply a range of services to these 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 facilities such as skate parks. An older community might require greater access to health care and retirement villages.

Job opportunities

Local communities provide employment opportunities or good access to places of work, training and education. Businesses and industries provide services for the community and jobs. Some examples of businesses found in many local communities include shops, hairdressers, plumbers, banks and solicitors. An industry may be a one-person operation or a large manufacturing business that employs hundreds of people. Industrial areas are usually grouped together. Industries generally require large areas of flat land and access to power, transport and parts.

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 1 Altona P–9 College, E9 on the map opposite

Source 2 The Toyota car factory in Altona North, G2 on the map opposite

Source 3 The Altona Youth Centre, G10 on the map opposite

Source 4 Street directory map of Altona

Source: *Melway*

4.12 Building safe communities

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. Every year, the Property Council of Australia surveys local residents across Australia about 17 different liveability factors. Each year the results clearly show that safety and security are the most important liveability factors for residents in our cities and towns.

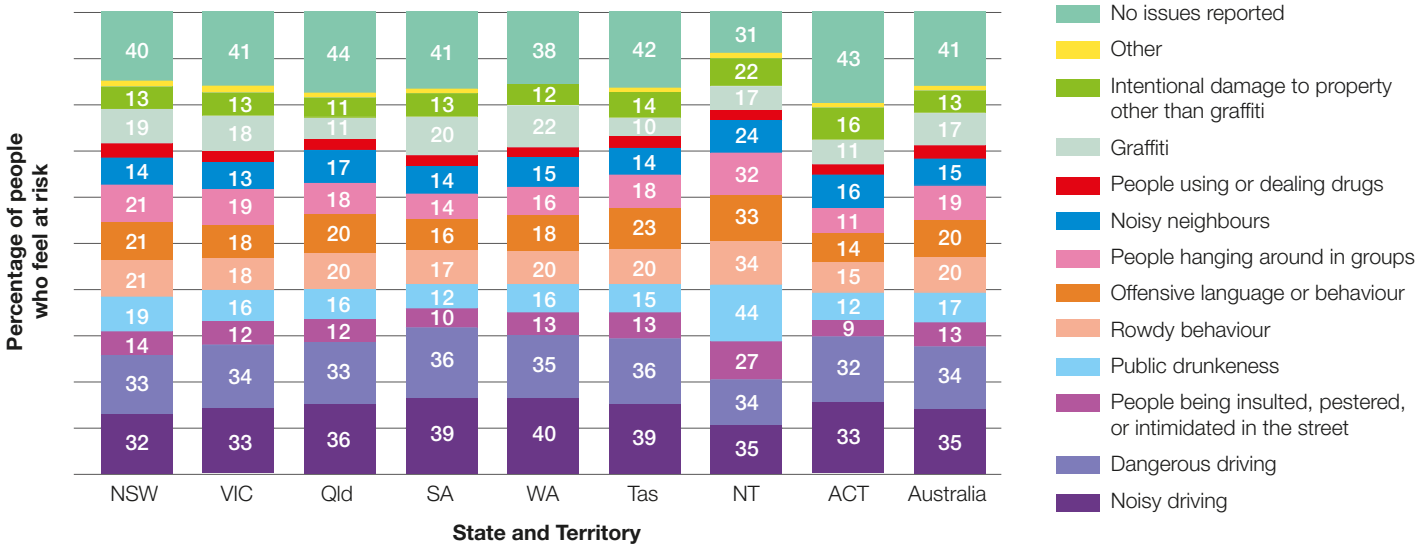
Safety in the community is not just about crime rates, but also about how safe people feel in their community. The compound column graph in Source 1 shows the percentage of Australians (in all states and territories) who feel at risk from a range of different crimes and anti-social behaviours taking place in their communities. (For more information on how to read compound column graphs refer to page 135.) For example, 32 per cent of people surveyed in the Northern Territory feel threatened by people hanging around in groups, whereas in the ACT, it's only 11 per cent.

Governments and local councils are always trying to improve the design of local environments to create safer places and encourage community-based activities. Surveys of local areas assist authorities to identify the key issues and map problem areas.

Safer community design

A key step towards improving local safety has been making public areas more visible. This has been achieved by 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.

Source 2 Dark alleyways and parks are places where crimes can go undetected. These areas are generally avoided by local residents.



Source 1 A compound column graph showing the percentage of people who feel at risk from crime and anti-social behaviour across Australia (by state), 2011

Source: Australian Bureau of Statistics

Community policing

In recent decades, the police have developed community programs to create stronger ties between the general community and the police. The goal here is to involve members of the community in keeping their own streets safe. The most successful of these programs has been Neighbourhood Watch. The police work with local communities to educate communities on safety and security issues and to encourage people 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 alcoholics and drug addicts, drop-in centres for disadvantaged youths, and 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 3 Neighbourhood Watch (along with other community policing programs) has been used to reduce crime in local communities and create stronger ties between the police and members of their communities.

Source 4 Soup kitchens and food vans provide meals for the homeless.

Check your learning 4.12

Remember and understand

1 Why do you think safety is the most important liveability factor for communities across Australia?
2 What example is given of police working with the community to reduce crime and increase feelings of safety?
3 How does increased visibility in streets and public spaces help to prevent crime? What strategies help to increase visibility?

Apply and analyse

4 Look carefully at Source 1.
   a What crime issues were most reported in the survey?
   b In which categories did the Northern Territory score the highest? What strategies might police introduce to try to reduce this behaviour?
   c In what state is graffiti considered to be the biggest problem? Why might this be the case?

4B rich task

Change in Casey

To deal with increasing populations, cities often establish new suburbs on their rural–urban fringes. Housing estates that are built on the edges of cities attract young families by offering cheaper land and affordable houses. As the population grows in a new suburb, services are attracted to the area as well. Schools, shopping centres, medical centres and sporting facilities open to meet the needs of the new community. As these services become more established, the opportunities for people to interact and feel like members of the community increase.

Source 1 An aerial photograph of Narre Warren in the municipality of Casey on the outskirts of Melbourne, 2007.

skill**drill:** Data and information

Drawing overlay maps from street maps

One of the best ways to show how a place has changed over time is to draw an overlay map of the area. An overlay map allows you to show a place at two different times so that you can see any changes that have occurred over time.

To construct an overlay map from the street maps of Narre Warren showing changes between 1985 and 2016, follow these steps:

Step 1 Draw a base map of Narre Warren in 1985 by tracing the important features from the 1985 street map (Source 2). Show the two main roads and the extent of the Fountain Gate Regional Shopping Centre. Design a legend showing residential areas, recreation areas, education facilities and vacant land and shade these areas on your map. Finish your map with BOLTSS.

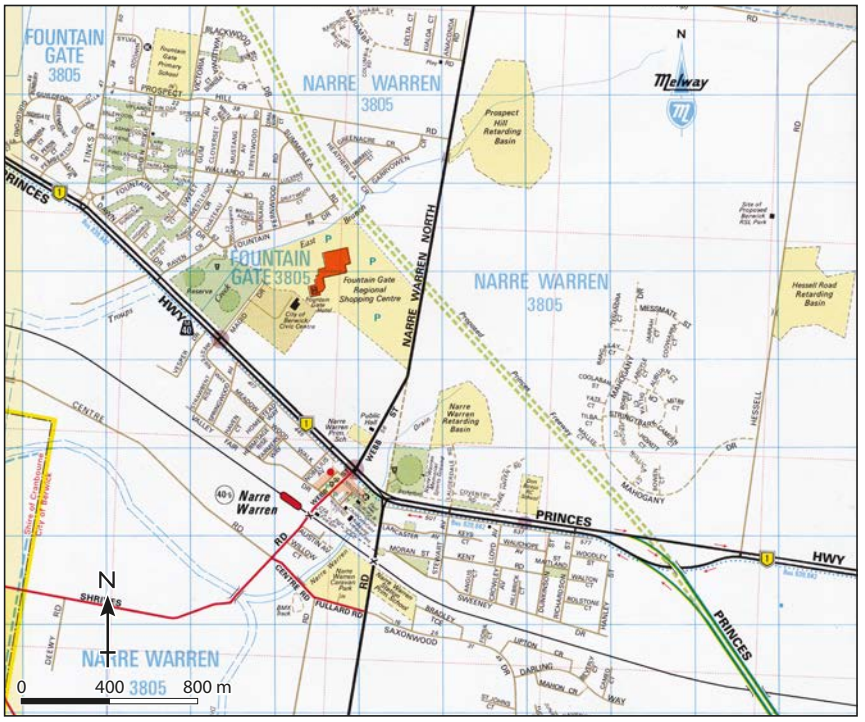
Step 2 Attach a piece of tracing paper to your base map using sticky tape along one edge like a hinge. This allows you to lift it up to easily see the map below. This top map is known as the overlay map.

Step 3 Use the same legend on the overlay map as you used on the base map to shade in the main land uses as shown in the 2016 street map (Source 3). You will need to give this map a different title, but as it has the same border, orientation, legend, scale and source as the base map you do not need to repeat these on the overlay map. Make sure that your overlay title does not cover any part of the base map title.

Apply the skill

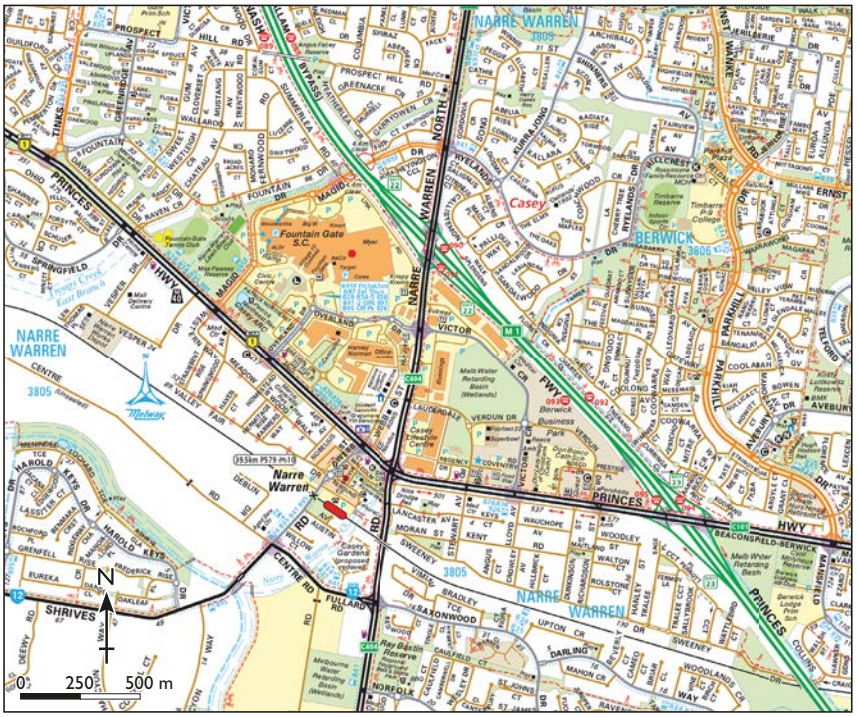
1 Using the steps outlined above, construct an overlay map from the street maps of Narre Warren (Sources 2 and 3).

NARRE WARREN, 1985



Source 2 Source: *Melway*

NARRE WARREN, 2016



Source 3 Source: *Melway*

Extend your understanding

1 Look carefully at the street directory maps (Sources 2 and 3).
   - **a** What type of land use increased the most between 1985 and 2016?
   - **b** What land use decreased the most?
   - **c** What happened to the shopping centre in this time?
   - **d** Describe the spatial change in the area east of Narre Warren North Road between 1985 and 2016.

2 Find the Fountain Gate Primary School in 1985 (Source 2). It had recently moved here when this map was drawn.
   - **a** What does a new primary school suggest about families moving to the area?
   - **b** What new services had been added north of the school by 2016?
   - **c** Why do you think these new services were required?
   - **d** Describe the distribution of schools in Narre Warren in 2016.

3 Source 1 is a **vertical aerial photograph** of a place in Narre Warren.
   - **a** Use clues in the photograph to identify the key features.
   - **b** What clues suggest this photograph was taken after 2016?

4 What are some of the factors bringing change to this community?

5 Describe the changes to transport links in this community between 1985 and 2016.

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 2015, the capital city of Bangladesh, Dhaka, was rated as the world's second-least liveable city. It scored poorly in health care, public transport, crime and sanitation. Only the war-torn city of Damascus, Syria, scored lower then Dhaka in terms of liveability. Melbourne, Australia, was rated the world's most liveable city for the fifth year in a row.

5A

What makes a city liveable?

1 What does this photograph tell you about the availability of services (such as water, housing and education) in Dhaka?

2 In Bangladesh there is widespread poverty and government corruption. How might this make it difficult to provide services such as water and public transport?

5B

Where are the world's most and least liveable cities?

1 What do you think is meant by the word 'liveability'?

2 Many European, North American and Australian cities tend to be rated highly in terms of liveability, whereas many Asian and African cities tend to be rated poorly. Why do you think this is the case?

chapter 5

Source 1 A young boy living in a slum in the Bangladeshi capital, Dhaka, uses a toilet built out over a river that is also used for drinking and bathing.

5C

How can we make cities more liveable?

1 In the 2015 survey, Melbourne was rated the world's most liveable city, but some suburbs of Melbourne are rated much higher in terms of liveability than others. Why do you think this is the case?

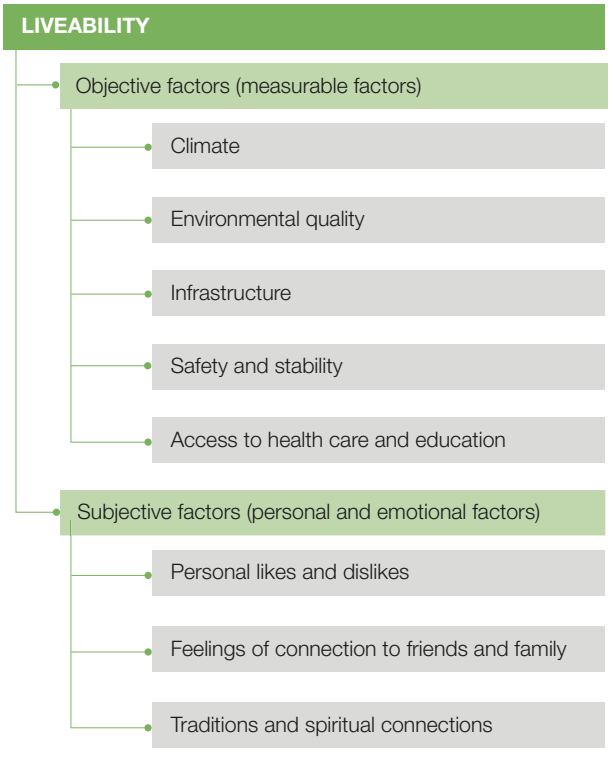
2 Think of a town or city you know well; what services and facilities could make this town or city more liveable?

5.1 Measuring liveability

The liveability of a place is generally measured by a number of different factors relating to quality of life. People's views about the liveability of a place can vary depending on their age, income, cultural background, lifestyle choices, values and beliefs.

The factors that influence people's ideas on liveability can be measured in two ways: by objective factors and subjective factors. Objective factors are things that can be measured and expressed as numbers, such as the cost of housing, the climate, the number of hospitals and schools, the availability of public transport, and the level of crime. Subjective factors are things that are personal, emotional and spiritual, and that cannot be easily measured or expressed as numbers. Examples of these factors are people's spiritual connections and sentimental attachments to a place (see Source 1).

Each year, a number of different companies review the liveability of cities around the world in terms of their objective factors, ranking them from the most to the least liveable. The most well-known of these surveys is conducted by an organisation called the Economist Intelligence Unit (EIU), which publishes an annual list of rankings. They rank cities based on a set of criteria using objective factors. Other organisations, such as Mercer and the Organisation for Economic Cooperation and Development (OECD), also produce regular reports. Unlike the EIU, the OECD incorporates more subjective factors into their surveys.



Source 1 Liveability can be measured by objective and subjective factors.

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 section of the chapter.

Climate

Climate is one of the most important factors affecting the liveability of a place. Although different people like different types of weather, most people agree that a mild climate without extremes of heat or cold is ideal. Places with mild (temperate) climates often score highly in terms of liveability. The amount of rainfall is also key when it comes to climate. Too little or too much rain has a negative effect on the liveability of a place.

Environmental quality

The environment is another key factor that determines how liveable a place is. Environmental quality can refer to a number of 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.

Infrastructure

The availability of services and facilities (such as roads, public transport, emergency services, post offices, water, sewerage-treatment plants, airports, housing, sporting and entertainment facilites, 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 taking into account 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 and Afghanistan, where crime rates are very high and there are very few police to enforce the law. For this reason, 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 is also free. Cities in Canada, the USA, Australia and Western Europe generally rank highly in both health care and education. African cities are the lowest ranked in the world in terms of these services.

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 in order to take some of these subjective factors into account when rating the liveability of different places. These surveys try to take into account how happy or sad people feel, and look for the factors in their lives and environments that cause these feelings. This information is then taken into account alongside more objective measures in order to give a more complete picture of liveability.

Source 2 Safety and stability are two of the most important factors affecting the liveability of a place. This photograph shows two Syrian children running with balloons past heavily damaged buildings in a neighbourhood of the Syrian capital of Damascus. A civil war broke out in Syria in 2011. In 2015, Damascus was declared the world's least liveable city.

Check your learning 5.1

Remember and understand

1 How do companies measure the liveability of places around the world?
2 What are the objective measures of liveability for countries? Why are these important?
3 What are subjective measures of liveability and how are they measured?

Apply and analyse

4 Safety is a key liveability measure in all communities.
   a What do you think are the most important safety issues for people living in large Australian cities?
   b What do you think are the most important safety issues for people living in Damascus (see Source 2).
   c Which safety issues are similar and which are different?

5.2 Climate

The **climate** of a place has a big effect on its liveability. Different climates suit different people, but it is generally agreed that mild temperatures (without extremes of heat or cold) help to make a place more liveable. Reliable rainfall, low humidity and low risks of weather-related disasters, such as cyclones and floods, increase the liveability of a place.

skill**drill:** Data and information

Comparing climate graphs

Climate graphs show the maximum and minimum temperatures as line graphs using the scale on the left-hand vertical axis, and rainfall as a column graph using the scale on the right-hand vertical axis. The months are shown on the horizontal axis. By comparing climate graphs, geographers can better understand climate differences and the reasons for them.

Step 1 Compare climate graphs for two locations.

Step 2 Describe the climate of one of these locations. Include the following elements of climate:

- The rainfall pattern: Mention whether rainfall is consistent throughout the year or whether there are clear wet and dry seasons. In particular, mention the highest rainfall month and any periods with little or no rainfall.
- The temperature pattern: Mention periods of warmer and colder temperatures, if these occur. State if there is a more, even temperature throughout the year. Use temperature figures in your description of the pattern.

Step 3 Describe the climate of the other location that you have chosen using the same method.

Step 4 Point out the obvious differences between the climates of the two locations.

Step 5 Try to explain these differences. Some of the most likely explanations are given below:

- Places nearer to the Equator are warmer than places closer to the poles. They also tend to be wetter with rainfall occurring throughout the year.
- Places near or beside oceans have milder climates with fewer extremes than places in the centre of large land masses.
- Places at high altitude are colder than places at sea level. They are often wetter as well.

Step 6 Point out any similarities between the two locations.

Apply the skill

1 Using the steps outlined above, compare the climate of two cities shown in Source 2.

Check your learning 5.2

Remember and understand

1 Name the city that is described as having acceptable temperature and humidity.

2 What is the connection between climate and liveability?

Apply and analyse

3 Why do you think Kathmandu's climate has been described as uncomfortable?

4 Which city has tolerable rather than acceptable weather?

5 Look carefully at Sources 1 and 2.

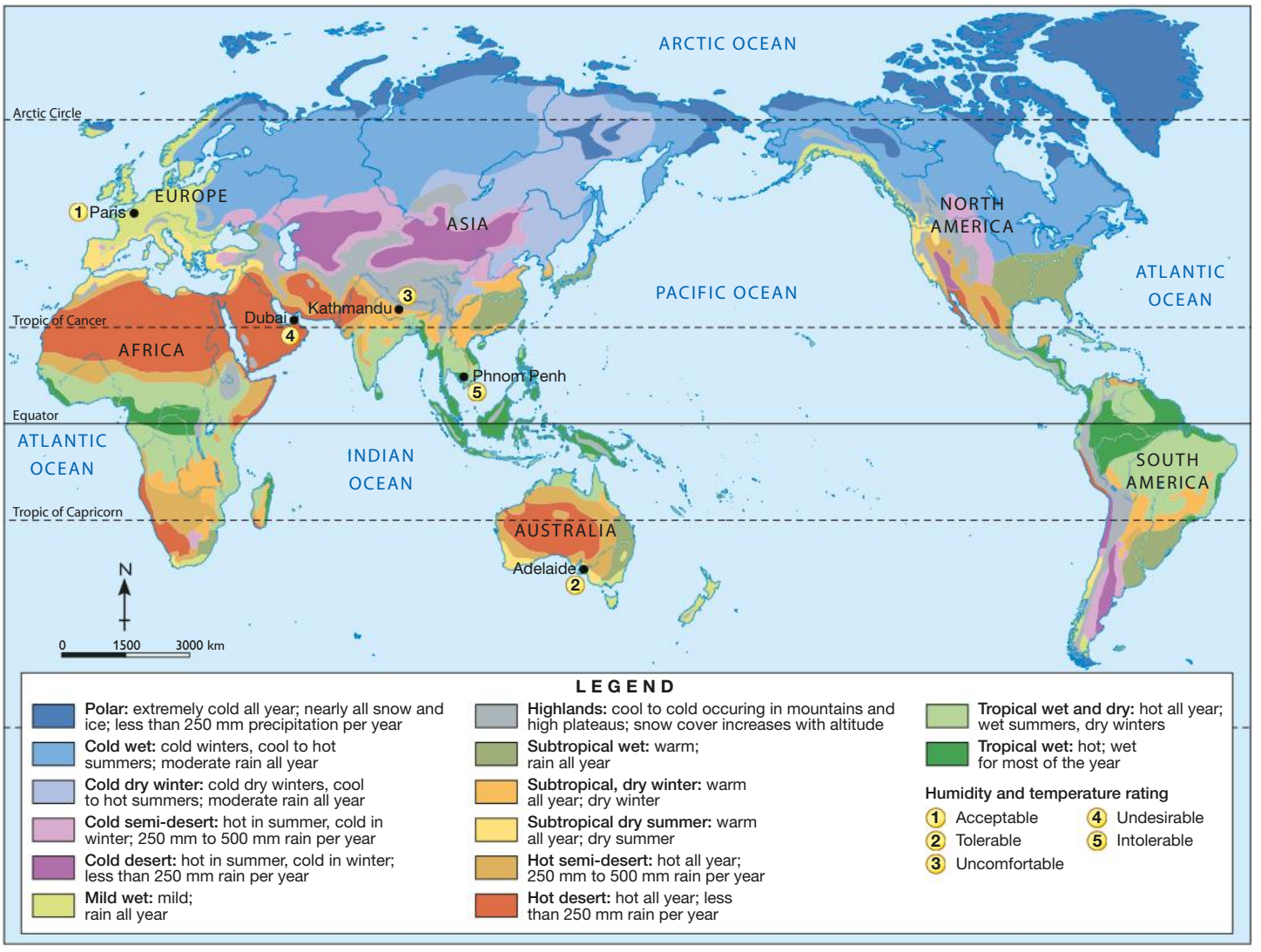
- **a** Which city has intolerable humidity and temperature?
- **b** What type of climate does this city experience?
- **c** What types of climate do cities with acceptable levels of humidity and temperature have?

Evaluate and create

6 How do people adapt to living in places with undesirable climates?

7 What features of the natural environment other than climate may affect a city's liveability?

WORLD: CLIMATE ZONES



Source 1

Source: Oxford University Press

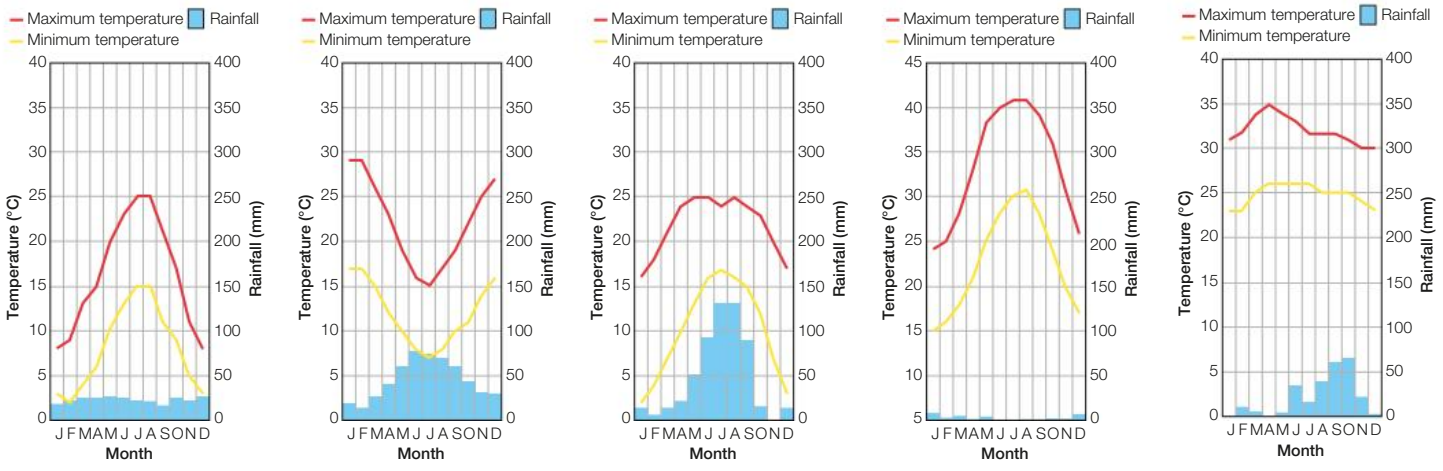
1 Acceptable humidity and temperature: **Paris**

2 Tolerable humidity and temperature: **Adelaide**

3 Uncomfortable humidity and temperature: **Kathmandu**

4 Undesirable humidity and temperature: **Dubai**

5 Intolerable humidity and temperature: **Phnom Penh**



Source 2 Climate graphs for five cities with different climates

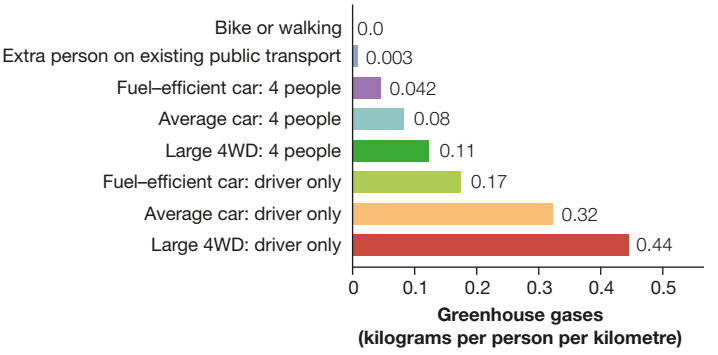
5.3 Environmental quality

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.

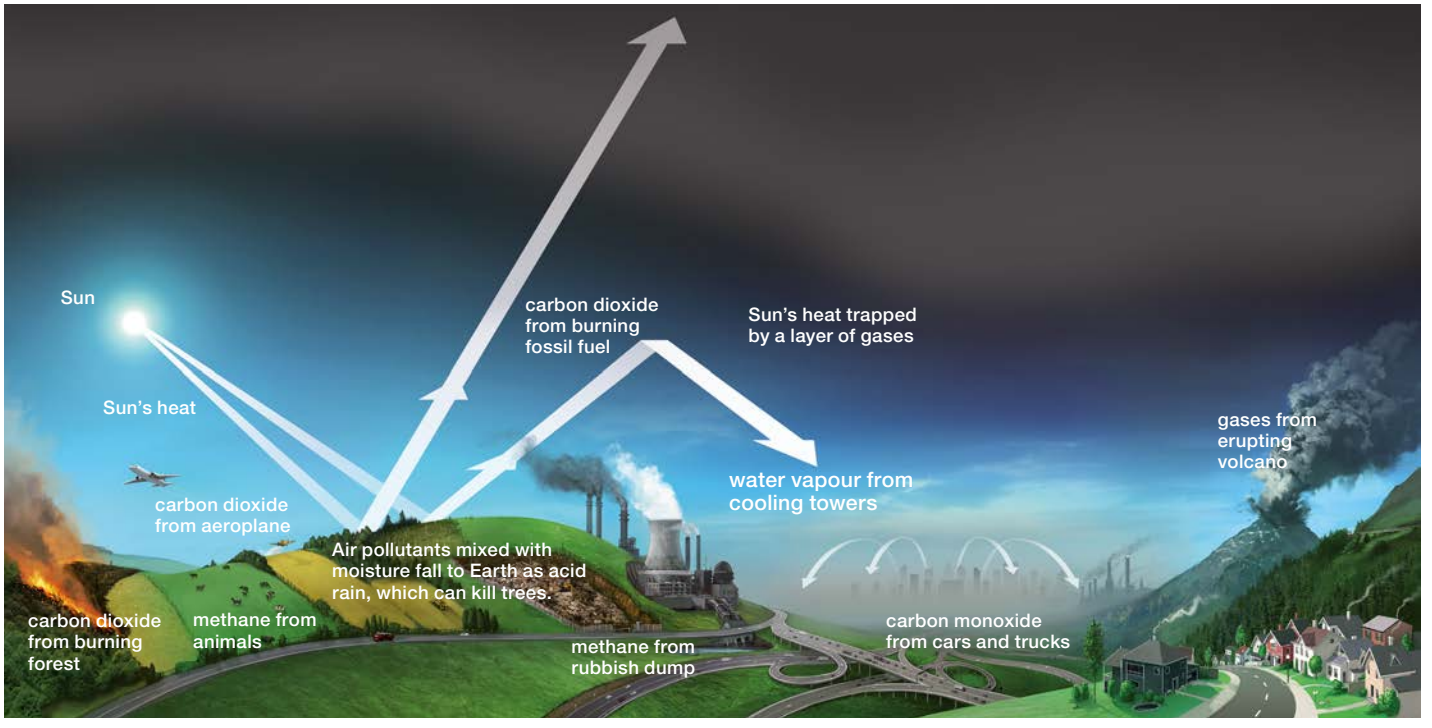
Air pollution tends to be worse in large cities where factories, power stations and motor vehicles spew harmful gases into the air. The polluted air can sometimes be trapped close to the Earth's surface as smog, or thrown high into the atmosphere where it may contribute to a layer of gases responsible for global warming.

Increasing numbers of people and cars on our roads mean 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 less than 10. Some years it can be much higher, however, particularly when air quality is negatively affected by other events such as bushfires.

Australian governments have now introduced laws to deal with air and noise pollution, however, urban air pollution still accounts for 2.3 per cent of all deaths in Australia. Motor vehicles are the main source of air pollution. Although unleaded petrol and hybrid cars that run partly on electricity are helping to reduce pollution from motor vehicles, these have been offset by the ever increasing numbers of cars on the road. Walking, riding a bike and using public transport remain the most environmentally friendly ways to get around.

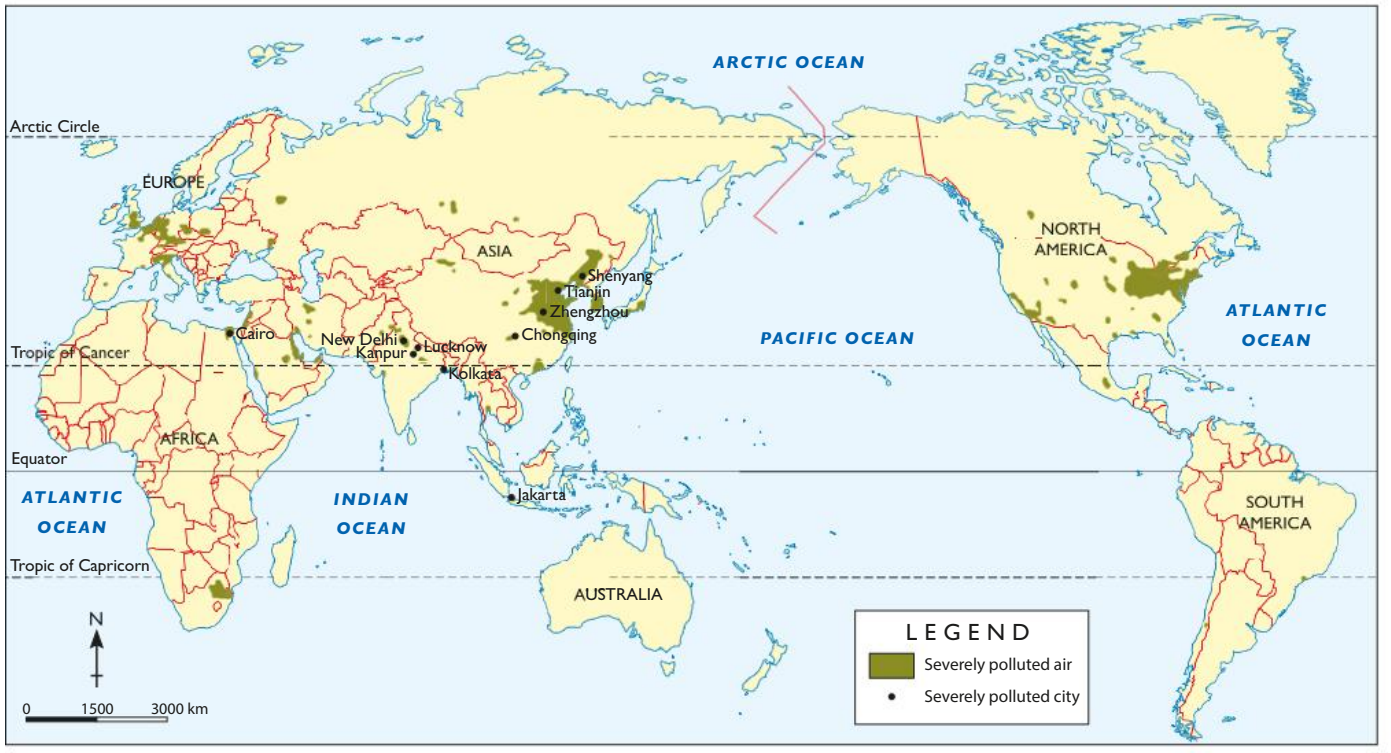


Source 2 Greenhouse gas emissions from different forms of transport



Source 1 Sources of air pollution

WORLD: MOST POLLUTED CITIES



Source 3

Source: Oxford University Press

Case study: Hong Kong

The city of Hong Kong in China is home to 7 million people. The liveability of Hong Kong is under threat from crippling pollution, three times the safe level set by the World Health Organization. Roadside pollution levels in Hong Kong are responsible for 90000 hospital admissions and 2800 deaths each year.

In 2013, a strategy for decreasing pollution in Hong Kong was announced by electric vehicle–maker BYD. The plan involves replacing Hong Kong's fleet of diesel buses and LPG taxis with fully electric vehicles that produce no exhaust fumes. Experts suggest that this strategy will reduce pollution from Hong Kong's vehicles by around 56 per cent. Replacing the 18000 LPG taxis and 12000 diesel buses with electric taxis and buses would lead to a reduction in emissions equivalent to more than 800000 private cars. The plan will reduce costs, lower vehicle emissions and improve air quality.

Check your learning 5.3

Remember and understand

1 Look carefully at Source 1.
   - **a** List the causes of pollution in cities.
   - **b** List the causes of pollution in rural areas.
   - **c** Why do cities such as Sydney, Los Angeles and Mexico City suffer from smog?

2 Look at Source 3.
   - **a** On which continent are most of the top 10 polluted cities located?
   - **b** Why do you think pollution is such an issue in these cities?

Apply and analyse

3 Study Source 2.
   - **a** What is the difference in the amount of greenhouse gases released per person between one person driving a 4WD and four people travelling together in a 4WD?
   - **b** What could governments do to encourage more people to share their cars as a way of reducing air pollution?
   - **c** List the ways in which car sharing could potentially improve the liveability of a city.

5.4 Infrastructure

Services and facilities (such as roads, public transport, emergency services, post offices, water, sewerage, airports, housing, electricity and communications) help make a place more or less liveable. Together these services and facilities are referred to as infrastructure.

The world's best infrastructure: Singapore

Singapore is considered to have some of the best infrastructure in the world. Singapore has been recognised for its excellent roads, and for producing 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 the majority 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, 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 per cent of workers in Singapore travel to work on public transport.

Source 1 Singapore's public transport system is considered one of the best in the world. It is clean, safe and efficient.

Source 2 The road network in Singapore allows commuters to move around the city easily.

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 a number of factors. Dhaka is a city of 16 million people and is growing at a rate of 4.2 per cent a year. This adds about 670 000 people to the city a year. By world standards, this represents rapid growth. Unlike other cities in Asia, the reason for Dhaka's growth is increased poverty not increased prosperity. 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 (see Source 4).

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 20 000 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 betwen Dhaka and other centres in Bangladesh (see Source 3).

Source 3 Dhaka's public transport system is considered one of the worst in the world. It is old, overcrowded and dangerous.

Source 4 More than 80 per cent of households in Dhaka do not own a car or motorbike and instead rely on rickshaws for moving around the city.

Check your learning 5.4

Remember and understand

1 What is meant by the word 'infrastructure'?
2 How does an efficient and reliable 'infrastructure' add to a city's liveability?

Apply and analyse

3 Compare the photographs of the road systems in Singapore and Dhaka (Source 2 and 4). What are some of the differences and some of the similarities?
4 What are some of the factors that have resulted in such poor infrastructure in Dhaka?
5 Why do you think the infrastructure in Singapore is so reliable?
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.
7 Compare the infrastructure of the city or town closest to you with the infrastructure in Singapore. What are the differences and similarities?
8 Is it possible to live in a city and not rely on or use any of its infrastructure?

5.5 Safety and stability

Like people all around the world, Australians want to feel safe. Even though it is tempting to believe everything that is presented in the media, if you did, you could think that Australian cities are in the grip of a crime wave and have become unsafe. While it is true that many crimes are committed in Australia, by world standards it is considered one of the safest places to live. Crime statistics even show that rates of some crimes, such as thefts, have actually declined in recent years.

Source 1 Tokyo – the capital of Japan, and the world's safest city in 2015

DRUGS SEIZED BY POLICE

A VARIETY of chemicals used in the production of the drug methamphetamine were seized from an Emerald residence early yesterday morning.

The search also located a rifle in the manhole of the Yamala St property.

BOMB FEAR DRAMA IN SEBASTOPOL

THE Victoria Police bomb squad defused a suspected explosive device at a home in Sebastopol on Saturday night during an incident which lasted more than five hours.

GOONDIWINDI CRIME JUMPS 10 PER CENT

ASSAULTS in Goondiwindi have jumped more than 10 per cent in 12 months.

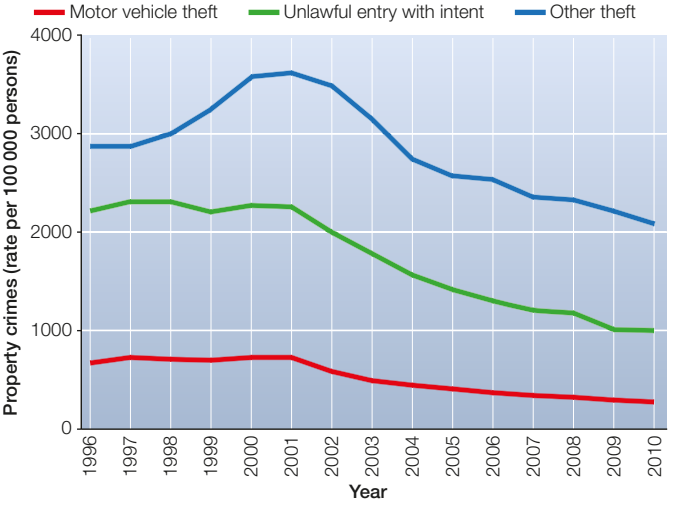
Source 2 Local news headlines in Australia can sometimes give the impression that Australia is a dangerous place.

The world's safest and most dangerous cities

In the 2015 liveability survey carried out by the Economist Intelligence Unit (EIU), 140 world cities were compared. Each city received a ranking for a range of different factors including infrastructure, health care, safety and stability. The world's safest and most stable city was found to be Tokyo in Japan. The world's most dangerous and unstable city was found to be Damascus in Syria.

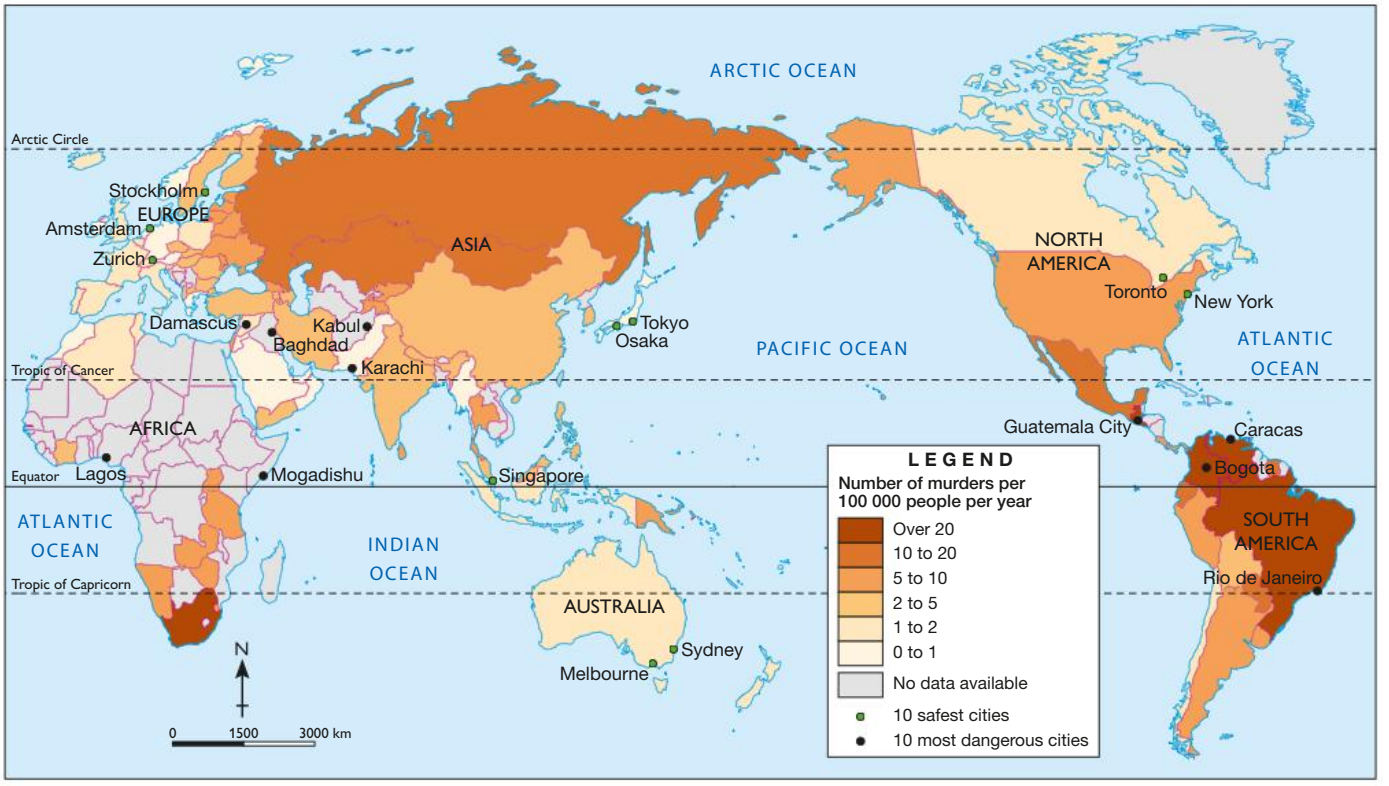
Unlike Tokyo – which has a low crime rate, high-quality health care and excellent infrastructure – Damascus has been at the centre of a violent civil war in Syria since 2011. As a result of the war, Damascus has very little infrastructure left. Many hospitals, schools and shops have been bombed and many innocent people have been killed in the fighting. It is estimated that 11 million people have been killed or forced to leave Syria as refugees to escape the fighting.

As shown in Source 4, many of the most dangerous cities are located in war-torn countries, such as Syria, Afghanistan and Somalia. In the capital cities of these countries – Damascus, Kabul and Mogadishu – the level of personal safety is classified as intolerable.



Source 3 Property crimes in Australia, 1996–2010

WORLD: SAFEST AND MOST DANGEROUS CITIES (INCLUDES MURDER RATES)



Source 4

Source: The Safe Cities Index; Economist Intelligence Unit, 2015

Source 5 Damascus – the capital of Syria and the world's least safe city

Check your learning 5.5

Remember and understand

1 Why are safety and stability important factors in determining a city's liveability?

2 Rank the following factors in order of what makes a place most liveable for you: safe, easy to get around, good health care, good work and education opportunities, affordable, diverse, sustainable, attractive.

3 In which regions are the world's least safe cities?

4 What makes some cities safer than others?

Apply and analyse

5 Collect reports of crime from your local newspaper. What impression do these reports give of safety in your community?

6 Visit the website of the Crime Statistics Agency (link available via your obook). Enter your postcode to learn more about the different crimes reported in your area.

- **a** Are the rates of the following increasing or decreasing in your area?
  - robbery
  - property damage
  - assault
  - drug dealing and trafficking
- **b** Do you think the media reports of crime rates you collected match the statistics? If not, why do you think they might differ?

5.6 Access to health care and education

People who live in the world's most liveable cities often have access to good health-care services, including doctors, public and private hospitals, specialist clinics and over-the-counter drugs. They also have access to a range of schools and other education facilities, such as training centres and universities. In many liveable cities, including those in Australia, education is not only compulsory; it is also free.

Often, cities in Canada, the USA, Australia and Western Europe rank highly for health care and education, while African cities are the lowest ranked in the world for these services.

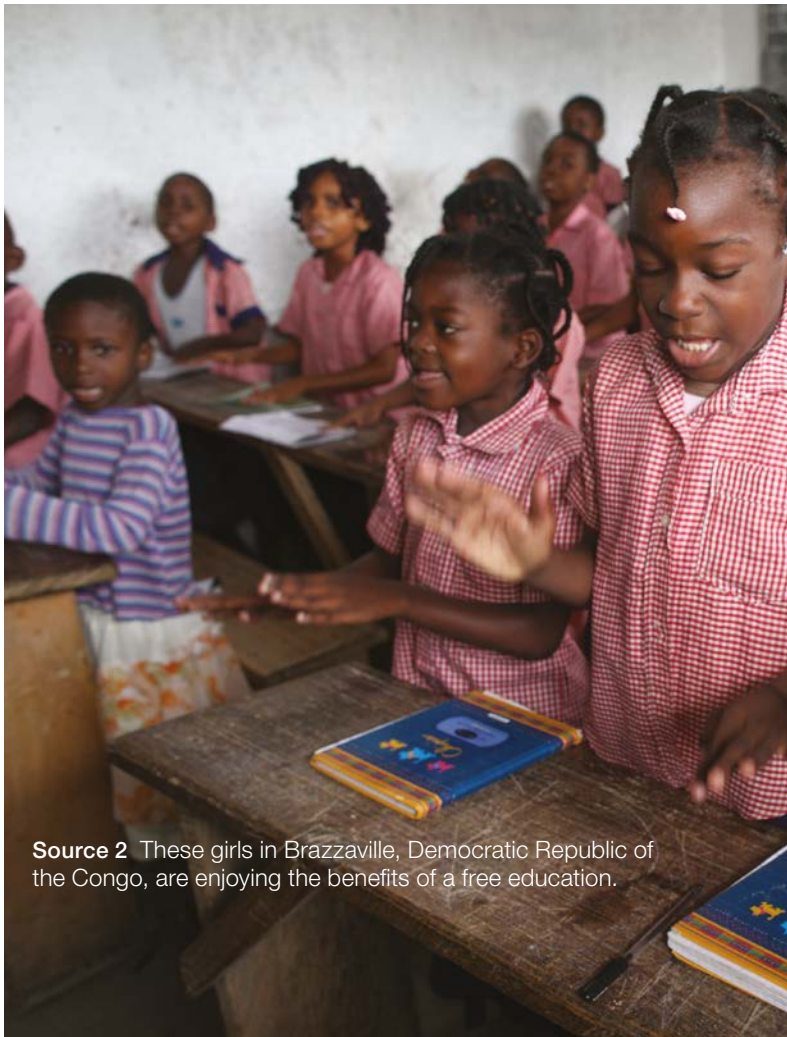
Source 1 A modern operating theatre at a hospital

The situation in the developing world

When examining access to health care and education in developing countries, it is easy to think that nothing can be done to improve the situation. Yet there have been some significant improvements in recent years.

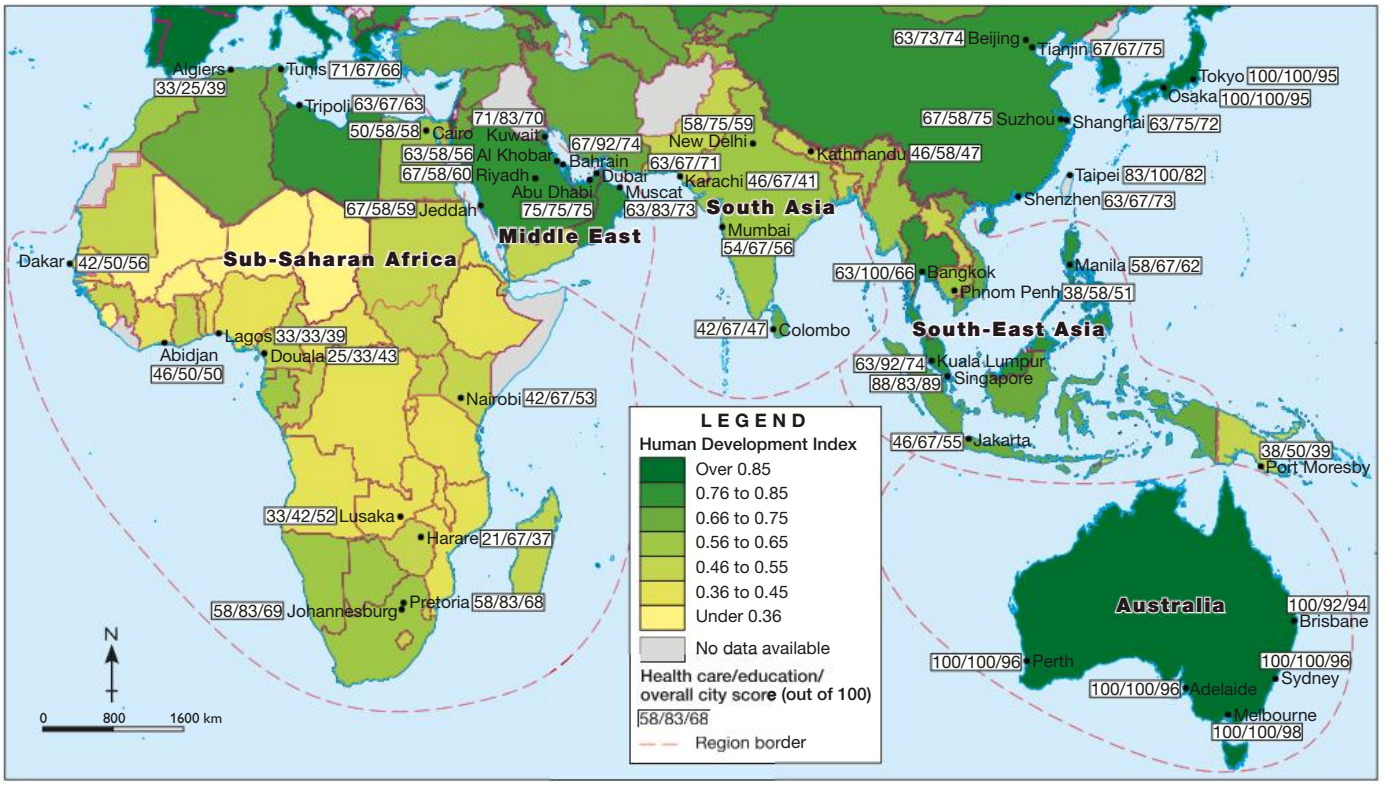
The number of mothers who die while giving birth each year, for example, has almost halved since 1990. The main reasons are thought to be improved care in hospitals and birth clinics; better education of girls and women; and better access to health-care professionals, such as maternal nurses and doctors. Though the current rate still means that 800 women a day die while giving birth, the improvements in the last two decades give hope that this rate will decline even further.

Worldwide, 89 per cent of all primary school aged children now attend school. Although 67 million children worldwide are not at school, this is a vast improvement on 1999 when the number of children not enrolled in primary school was 106 million. The countries that have made the greatest improvements in this area are the poorest countries of sub-Saharan Africa. In many of these countries, such as Rwanda and Mali, it is believed that abolishing school fees has been the main factor behind this improvement.



Source 2 These girls in Brazzaville, Democratic Republic of the Congo, are enjoying the benefits of a free education.

AFRICA, SOUTH AND SOUTH-EAST ASIA AND AUSTRALIA: HUMAN DEVELOPMENT INDEX



Source 3

Source: Oxford University Press

Check your learning 5.6

Remember and understand

1 What improvements have been made in health care and education in developing countries?

2 What changes have led to these improvements?

Apply and analyse

3 Why do you think educating girls is a key part of lowering the maternal death rate?

4 Examine Source 3. The map shows health-care and education scores in selected cities in Africa, Asia and Australia. The map also shows each country shaded according to the **Human Development Index (HDI)**. This uses measures of life expectancy, literacy and **gross domestic product (GDP)** to show the living standards in each country.

- **a** In which region is HDI the lowest?
- **b** How do cities in this region score for health care and education?
- **c** In which region is HDI the highest?
- **d** How do cities in this region score for health care and education?
- **e** Write a short paragraph describing the connection between living standards (as shown in the HDI), health care and education in the cities of the regions shown on the map.

5A rich task

The liveability of Mawson Station

Australia maintains three scientific research stations in Antarctica. The oldest of these stations is Mawson Station. It is located on Horseshoe Bay in one of the few places in Antarctica that stays relatively free from ice. The small community of scientists at Mawson Station face many challenges in one of the least liveable locations on Earth.

Because of its isolation from other places, it can be challenging to create a liveable environment at Mawson Station. 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. Sewage is treated on site and scientists who are away from the station return to the station carrying all solid human waste with them where it is incinerated.

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 is a range of ways for people in the Mawson Station community to communicate with friends, family and colleagues in other places. Orbiting satellites provide a reliable Internet connection as well as radio and telephone connections to the ANARESAT dome.

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 indoor climbing, a home theatre, a photographic dark room, a library and several communal sitting areas. There is a small gym, as well as sports equipment for volleyball and badminton and a range of cross-country ski equipment. A spa and sauna are also available.

skill**drill:** Data and information

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.

Source 1 Oblique aerial view of Mawson Station, Antarctica

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 about map scales, see page 23 of 'The geography toolkit'.

Apply the skill

1 Examine the map of Mawson Station in Source 2.

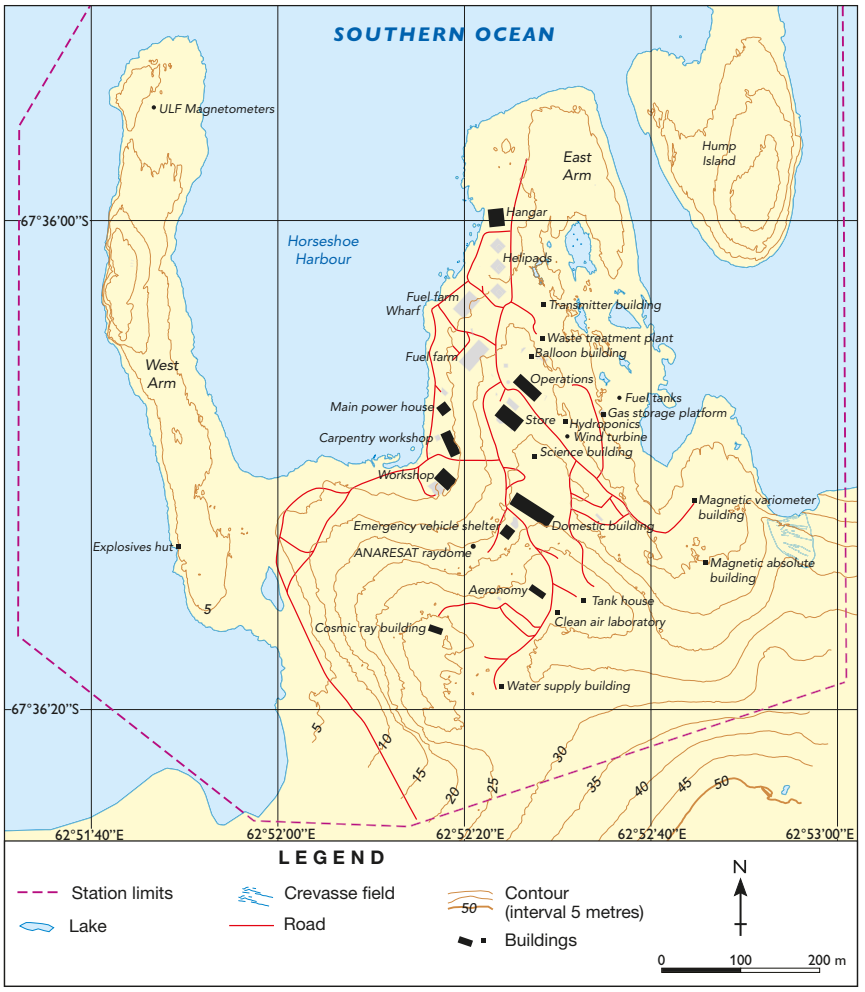
- **a** Which buildings are clustered together? Why do you think they are clustered in this way?
- **b** Two buildings are located away from other buildings. For each of these, estimate the distance to the nearest other building and explain why you think it is located where it is:
  - explosives hut
  - hangar (used to store aircraft)
- **c** What are the two main types of transport used to bring supplies to the station?

2 Examine the oblique aerial image of the station (Source 1). Do you think this photograph was taken in summer or winter?
Give two reasons for your answer.

3 Compare the map (Source 2) with the photograph (Source 1).

- **a** In which direction was the photographer facing when this image was taken?
- **b** What is the round building on the right of the photograph?
- **c** What colour is each of these buildings: domestic building, store and operations? Why do you think the buildings are different colours?
- **d** What do you think is stored in the tanks with the word 'Mawson' written on them? Why do you think they are located next to the wharf?

MAWSON STATION



Source 2 Source: Oxford University Press

Extend your understanding

1 Use the Internet to gather 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 your response.

2 Mawson Station is essentially a scientific community. Why do 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.

4 What are some challenges faced by people who live at Mawson Station? How do they overcome these challenges?

5 How liveable would Mawson Station be for you? What would be the advantages and disadvantages of living in this place? Discuss your answer with a classmate.

5.7 The world's most liveable cities

It is difficult to compare one city to another as people who live in one city 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 companies vary in what they study and measure. For example, one company may emphasise personal safety in their study, while another may put a greater emphasis on the climate of a place. This means their scores and rankings will differ.

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. The following map uses the scores from the annual survey by the Economist Intelligence Unit (EIU) of 140 of the world's cities. In its survey the EIU gives each city a score based on its stability (such as crime and terrorism threats); health care; culture and environment (such as climate, shopping and religious freedom); education; and infrastructure (such as roads, public transport and water).

WORLD: LIVEABILITY RATING, 2015

Source 1

Source: Oxford University Press

Case study: Vancouver, Canada

The Canadian city of Vancouver is usually near the top of any list of the world's most liveable cities. In fact, in 2015 it was ranked third-most liveable city after Melbourne and Vienna. In the 2015 survey, it was the only city in the top 10 to receive a perfect score in the culture and environment category. The culture and environment category includes climate, levels of corruption and censorship, religious freedom, sporting and cultural facilities, and shopping. The city also received a perfect score for its health care and education.

Because cities are given new scores every year, their rankings in liveability surveys can often change without any perceivable change to living conditions in that city. Vancouver, for example, has slipped from the most liveable city to the third-most liveable. This is largely because its infrastructure score fell as a result of increased traffic congestion in the city.

Source 2 Residential housing and a marina in downtown Vancouver

Check your learning 5.7

Remember and understand

1 Why can it be difficult to compare the liveability in different cities?

2 Why is Vancouver considered to be less liveable in recent years?

Apply and analyse

3 Examine Source 1 carefully.
   - **a** Compare the liveability of the cities shown in Africa with those shown in Western Europe.
   - **b** Describe three patterns that you observe on this map.
   - **c** Select one of these patterns and give an explanation for it.

4 Of the top 10 most liveable cities virtually all had perfect scores in education and health care but only one, Vancouver, had a perfect 'culture and environment' score. Why do you think so few cities would score perfectly for their culture and environment?

Evaluate and create

5 Some people are critical of comparing cities in this way and believe that it is unfair to the people who live there. Why do you think people would feel this way?

6 As well as companies looking to move employees to a new city and geographers, who else would find liveability rankings of the world's cities useful?

5.8 Vienna: a liveable city

Vienna, the capital of Austria, usually scores highly in any survey of the world's most liveable cities. In 2015, it was rated by the Economist Intelligence Unit as the second most liveable city (and by another organisation as the city with the highest quality of living in the world). It has topped this second list for three years in a row.

Infrastructure and safety

Vienna has excellent infrastructure, which has been designed to meet the changing needs of the city while ensuring sustainability. Vienna scores strongly in terms of its public transport and public housing. The city provides affordable public transport and has invested in an extensive bicycle network to keep traffic congestion in the streets low. Vienna has a large public housing system that provides high-quality housing for the majority of the Viennese population. This has kept housing affordable for everyone.

One of the features of Vienna that makes it liveable is the number of parks and other green spaces for people to enjoy. More than half the metropolitan area of Vienna is made up of these green spaces. This gives each resident of the city about 120 square metres of open space in which to socialise and exercise. (The World Health Organization suggests that at least 9 square metres of open space should be available to every city dweller.) Serious crime is rare and employment levels are high, creating a safe and stable environment for the city's residents.

Health care and education

Vienna has a wide range of hospitals offering different types of treatment and a high level of hospital care, and every worker in Vienna has health insurance. Education through the school system is provided to every child free of charge.

Source 1 Vienna is known for its shopping and safe public spaces.

key**concept:** Sustainability

Sustainability and liveability in Vienna

Vienna is leading the world in the reduction of the **greenhouse gases** that are changing the global climate. In 1999 they began a program that encouraged companies to change the way they used energy and water and also the ways in which they disposed of their waste. The aim was to reduce gases by 2.6 million tonnes a year by 2010. The program was so successful that the target was achieved four years early and new targets have been set for 2010–20. More than 9000 individual projects have been put into place to reduce greenhouse gases since 1999. These have resulted in some impressive reductions: more than 100 000 fewer tonnes of solid waste, 42 000 fewer tonnes of greenhouse gases and more than 1 million fewer cubic metres of drinking water used. This has resulted in less water and air pollution in Vienna, making it even more liveable than before.

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

Source 2 In this Viennese building, solid waste is incinerated to produce heat and electricity, which is used to power a nearby hospital.

Source 3 Vienna has a well-developed public transport network that includes buses, trains and trams.

Source 4 An amusement park in Prater Park near the centre of Vienna

Check your learning 5.8

Remember and understand

1 What are some of the features of Vienna that make it very liveable?

2 How is Vienna becoming more liveable?

Apply and analyse

3 The exterior of the waste incinerator in Source 2 was designed by an artist.
   - **a** What does this tell you about the people of Vienna?
   - **b** What do you think of the exterior of this building?

4 In what ways do open spaces make cities more liveable?

5 How is open space used in your community?

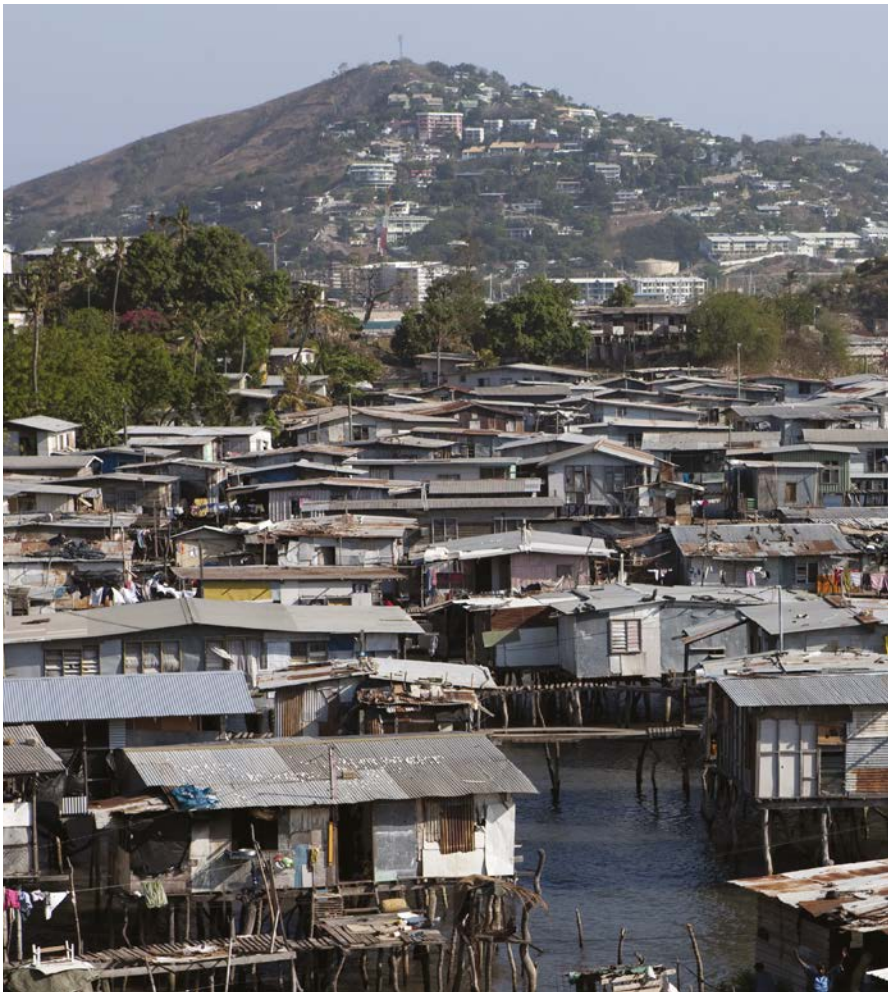
Evaluate and create

6 Imagine that you are designing a brochure advertising Vienna as the city with the world's best quality of life.
   - **a** Which of the photographs of Vienna would you use in the brochure and why?
   - **b** Which ones would you not use? Why not?

5.9 The world's least liveable cities

While cities in Europe, Canada and Australia dominate the top ranks of the world's most liveable cities, Asian and African cities tend to dominate the bottom ranks. It is important to remember, however, that most liveability surveys are paid for and conducted by companies in wealthy countries to provide their workers with a guide to lifestyles in cities around the world. The 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 2015, the Economist Intelligence Unit published its annual list of 140 cities ranked from most liveable to least liveable. Source 1 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, which is a measure of 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, now ranked as the world's least liveable city due to a violent civil war in Syria.



Source 2 Housing area near the Port Moresby harbour

Rank	Country	City	Overall rating (100 = ideal; 0 = intolerable)	Stability	Health care	Culture and environment	Education	Infrastructure
130	Iran	Tehran	47.2	55.0	62.5	36.6	50.0	33.9
131	Cameroon	Douala	44.0	60.0	25.0	48.4	33.3	42.9
132	Ukraine	Kiev	43.4	20.0	54.2	45.8	75.0	42.9
133	Zimbabwe	Harare	42.6	40.0	20.8	58.6	66.7	35.7
134	Algeria	Algiers	40.9	40.0	45.8	42.6	50.0	30.4
135	Pakistan	Karachi	40.9	20.0	45.8	38.7	66.7	51.8
136	Libya	Tripoli	40.0	30.0	41.7	38.2	50.0	48.2
137	Nigeria	Lagos	39.7	25.0	37.5	53.5	33.3	46.4
138	Papua New Guinea	Port Moresby	38.9	30.0	37.5	44.2	50.0	39.3
139	Bangladesh	Dhaka	38.7	50.0	29.2	43.3	41.7	26.8
140	Syria	Damascus	29.3	10.0	29.2	44.7	33.3	32.1

Source 1 Liveability scores for the 10 least liveable cities in 2015

Source: The Economist Intelligence Unit

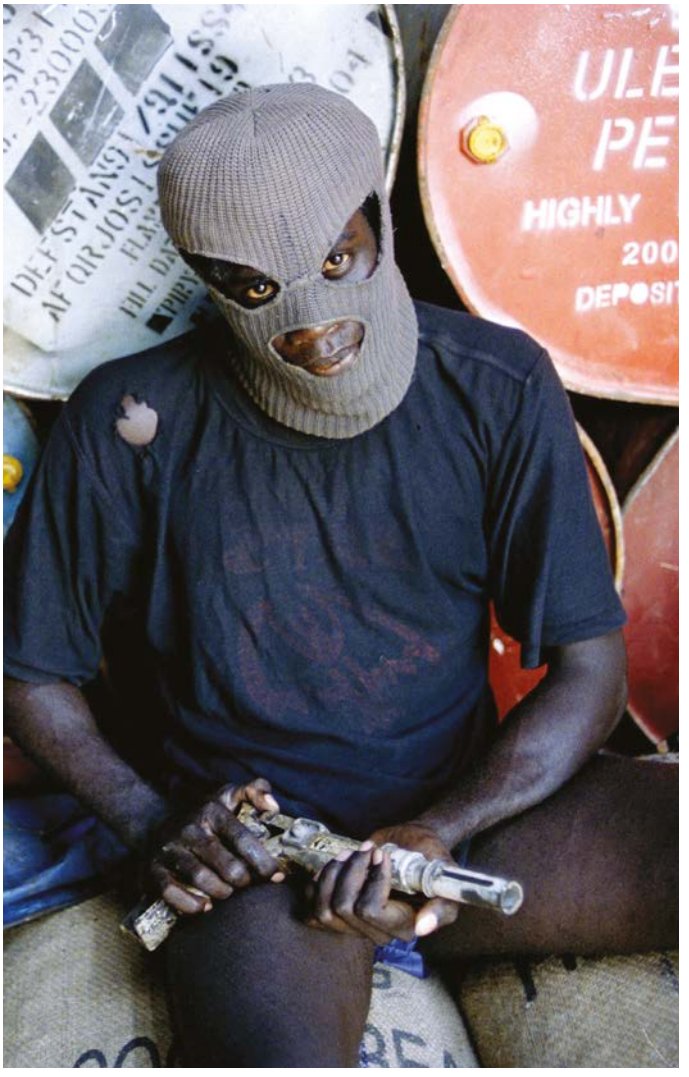
Case study: Port Moresby, Papua New Guinea

Port Moresby, the capital of Papua New Guinea, is often ranked as one of the world's least liveable cities. This is largely due to high crime rates and a lack of safety experienced by many residents and visitors.

In many developing countries, such as Papua New Guinea, large numbers of people move from rural areas to the cities hoping for a better life. They are attracted by the possibility of a steady job or the chance for their children to attend high school. This puts a strain on the city's infrastructure and services such as hospitals, schools and the police force.

In Port Moresby, many of the young men who have arrived in the city have not been able to find jobs. They join crime gangs to survive, to earn money to buy food and to gain a sense of belonging. The most notorious of these gangs is the Raskols (from the English word 'rascals'). Other gangs have names such as Mafia or Ook (Devils). These gangs are responsible for much of the violent crime in Port Moresby, such as robberies, car jackings, beatings, murders and rape.

Armed battles between the Raskols and the police are common, creating a dangerous environment. Many wealthier people in Port Moresby have responded to the dangers by building fences of razor wire and hiring armed security guards. The poorer people, having no access to these defences, have instead armed themselves with clubs and machetes.



Source 3 A Raskol gang member guards a stockpile of food and fuel.

Check your learning 5.9

Remember and understand

1 Why do people move to cities such as Port Moresby?
2 How can this movement affect a city's liveability?

Apply and analyse

3 Examine Source 1, showing the rankings and scores of the world's 10 least liveable cities.
   a Why do cities move up or down this list over time?
   b Which city is the least stable? Suggest a reason for this.
   c Of these cities, Tehran has by far the best health-care score. In what areas does it perform particularly poorly?
4 Refer back to Source 1 on page 160. Locate each of the 10 least liveable cities on this map. Investigate which of these 10 cities is not in Asia or Africa.

Evaluate and create

5 Draw a geographic sketch of Source 2. Add these labels to your sketch: central business district, poor housing standards, lack of sewerage, lack of electricity, houses built on stilts over the water, better quality housing.
6 What do Sources 2 and 3 tell you about inequalities in wealth in Port Moresby?

5.10 Harare: a least liveable city

Harare, the capital of Zimbabwe, was ranked at 133 out of 140 in terms of liveability in 2015. Harare is a city of great contrasts. Many people live prosperous, healthy lives there. They have good jobs, access to good health care and their children attend some of Africa's best schools. But this is not the reality for most Harare residents, many of whom live in extreme poverty.

Infrastructure and safety

Only 40 per cent of Harare residents have access to safe drinking water; most of the remaining 60 per cent collect their water from Lake Chivero, Harare's main water source. The lake is also the place where the city's untreated sewage is dumped as the treatment plant is unable to cope with the rapid expansion of the city's population.

Perhaps one of the greatest struggles facing many people in Harare is the struggle to find a secure home. In 2005, the country's president, Robert Mugabe, ordered the destruction of **slums** throughout the city. He claimed it was to restore order in the city but many others believe that it was done to intimidate his political opponents. It is estimated that about 700 000 people were made homeless or lost their jobs. As well as homes, the slum clearance program destroyed schools, shops, workplaces and pharmacies. Many people are reluctant to rebuild their homes in case this happens again.

A recent report that measured the liveability of 140 of the world's cities described Harare's level of petty crime, its threat of **civil unrest** or conflict, its public health care and its quality of public transport as intolerable. It also rated very poorly in other important areas, such as the amount of violent crime, the threat of military conflict and the provision of electricity and water.

For most of Harare's 3 million residents, daily life is a series of struggles. They struggle to find enough clean water to drink and with which to wash and they struggle to find enough food. They struggle to find work to earn money and they struggle to give their children a quality education.

Source 1 These boys are collecting water from a puddle in a Harare street.

Health care and education

Harare ranked the lowest for health care of all the cities surveyed. Many struggle with disease and illness. Fourteen in every 100 adult Zimbabweans have **HIV/AIDS**, the fifth-highest rate in the world. Poor **sanitation** and unsafe water supplies have led to outbreaks of cholera and typhoid in Harare, which have further strained the health services in the city and affected the ability of people to work.

A lack of government funding has made it difficult for hospitals and doctors to provide care for sick patients. The public health care system has collapsed and many common medical services are no longer available – patients cannot get prescriptions or drugs, hospitals have run out of medical supplies, and equipment has become unusable. The hospitals have had to stop performing operations and the wards are empty because the hospitals are unable to care for patients or even provide them with meals.

The only health care still available is in private clinics, which only the rich can afford. Poor patients are left without care and are dying as a result.

Source 2 Untreated sewage flows into a Harare street from an overflowing pipe.

Source 3 This cholera victim is being taken to a clinic in Harare.

Check your learning 5.10

Remember and understand

1 Why is Harare considered to be one of the least liveable cities?
2 Explain the connection between Source 2 and Source 3.

Apply and analyse

3 The boys in Source 1 are collecting water from the street. Discuss with a partner some problems that these boys may face every day and use your discussion to describe a day in their lives.

Evaluate and create

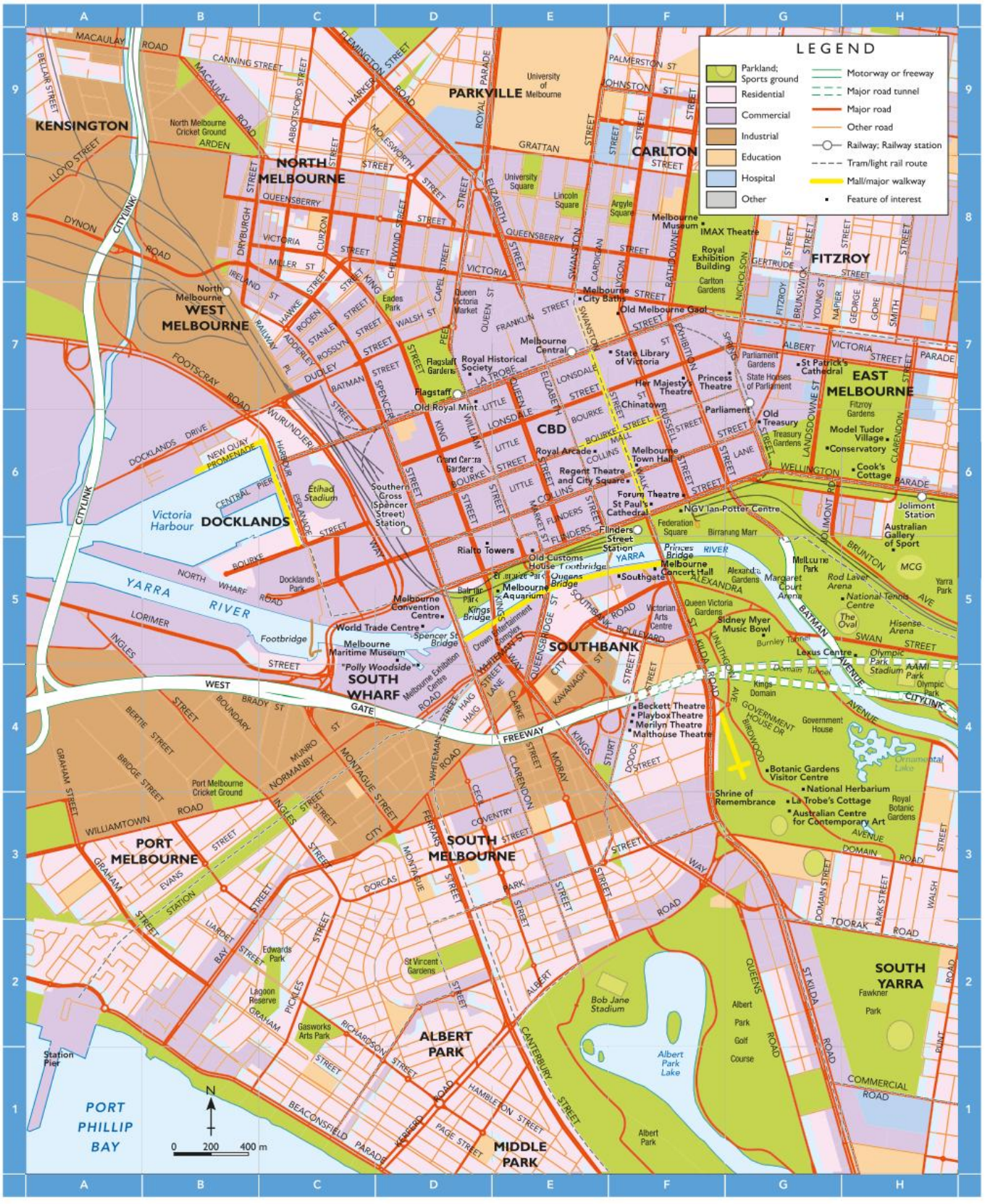
4 Make a list of the problems faced by many Harare residents. Rank them from the one that is the easiest to solve to the one that is hardest. Write a few sentences explaining why you have ranked them in this way.
5 For the problem you considered the easiest to solve, describe a possible solution. Why do you think this problem has not been solved in Harare?

5.11 Australia's liveable cities

In the 2015 Global Liveability Survey, Melbourne was rated as the world's most liveable city. Adelaide (5), Sydney (7) and Perth (8) were also ranked in the top 10. 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, such as Australia, also 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.

Source 1 Melbourne is rated as the most liveable city in the world.

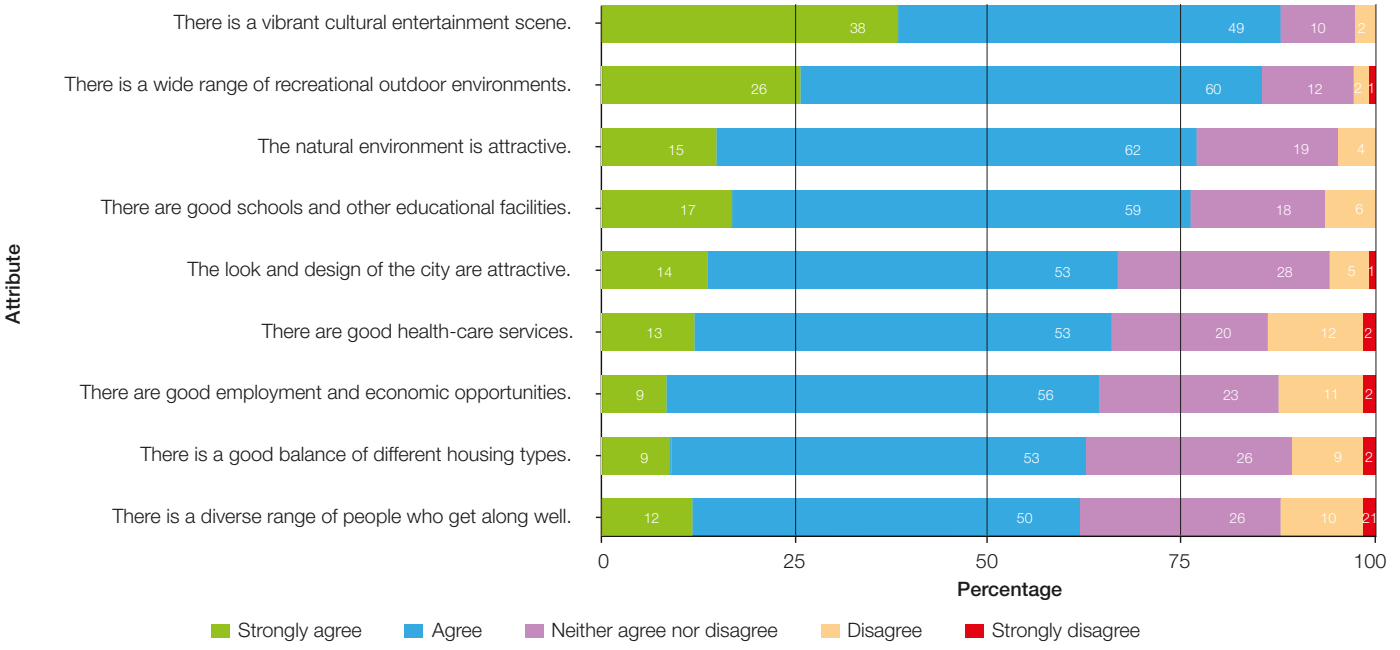
MELBOURNE: CBD AND INNER SUBURBS


LEGEND
Parkland; Sports ground
Residential
Commercial
Industrial
Education
Hospital
Other
Motorway or freeway
Major road tunnel
Major road
Other road
Railway; Railway station
Tram/light rail route
Mall/major walkway
Feature of interest
KENSINGTON
NORTH MELBOURNE
PARKVILLE
CARLTON
FITZROY
EAST MELBOURNE
WEST MELBOURNE
CBD
DOCKLANDS
SOUTHBANK
SOUTH WHARF
PORT MELBOURNE
SOUTH MELBOURNE
ALBERT PARK
MIDDLE PARK
SOUTH YARRA
Victoria Harbour
YARRA RIVER
PORT PHILLIP BAY
University of Melbourne
North Melbourne Cricket Ground
Melbourne Museum
IMAX Theatre
Royal Exhibition Building
Carlton Gardens
Queen Victoria Market
Melbourne City Baths
Old Melbourne Gaol
Melbourne Central
State Library of Victoria
Princess Theatre
Her Majesty's Theatre
Parliament
Old Treasury
St Patrick's Cathedral
Fitzroy Gardens
Model Tudor Village
Conservatory
Cook's Cottage
Chinatown
Royal Arcade
Melbourne Town Hall
Regent Theatre and City Square
Forum Theatre
St Paul's Cathedral
NGV Ian Potter Centre
Federation Square
Flinders Street Station
Rialto Towers
Old Customs House
Melbourne Aquarium
Melbourne Convention Centre
World Trade Centre
Melbourne Maritime Museum
"Polly Woodside"
Melbourne Exhibition Centre
Crown Entertainment Complex
Etihad Stadium
Southern Cross (Spencer Street) Station
Docklands Park
Victoria Arts Centre
Queen Victoria Gardens
Sidney Myer Music Bowl
Melbourne Cricket Ground
Australian Gallery of Sport
MCG
Rod Laver Arena
National Tennis Centre
The Oval
Hisense Arena
Olympic Park Stadium
AAMI Park
Lexus Centre
Kings Domain
Government House
Botanic Gardens Visitor Centre
National Herbarium
La Trobe's Cottage
Australian Centre for Contemporary Art
Shrine of Remembrance
Royal Botanic Gardens
Ornamental Lake
Beckett Theatre
PlayboxTheatre
Merilyn Theatre
Malthouse Theatre
Port Melbourne Cricket Ground
Edwards Park
Lagoon Reserve
Gasworks Arts Park
St Vincent Gardens
Bob Jane Stadium
Albert Park Lake
Albert Park Golf Course
Albert Park
Fawkner Park
Station Pier
Jolimont Station
Flagstaff Gardens
Royal Historical Society
Eades Park
Parliament Gardens
State Houses of Parliament
Treasury Gardens
Lonsdale Street
Bourke Street Mall
Collins Street
Flinders Street
Swanston Street
Elizabeth Street
Queen Street
Spencer Street
William Street
King Street
Exhibition Street
Russell Street
Lygon Street
Nicholson Street
Brunswick Street
Fitzroy Street
Gertrude Street
Victoria Street
Albert Street
Parade
Wellington Parade
Alexandra Avenue
Batman Avenue
Swan Street
Punt Road
Toorak Road
Commercial Road
Domain Road
Kings Way
City Link
Footscray Road
Docklands Drive
New Quay Promenade
Central Pier
Harbour Esplanade
Lorimer Street
Ingles Street
Graham Street
Bridge Street
Bertie Street
Boundary Street
Williamstown Road
Normanby Road
Montague Street
Clarendon Street
Whiteman Road
Moray Street
Sturt Street
Dodds Street
Kings Way
Queensbridge Street
Southbank Boulevard
Kavanagh Street
Clarke Street
Hanover Street
Haig Street
Melrose Street
Freeway
West Gate
Bridge
Footbridge
Princes Bridge
Queens Bridge
Kings Bridge
Spencer St Bridge
Evans Street
Dorcas Street
Coventry Street
Cecil Street
Ferrars Street
Pickles Street
Richardson Street
Beaconsfield Parade
Hamilton Street
Canterbury Street
Kerferd Road
Page Street
Albert Road
Park Street
Domain Street
Walsh Street
Punt Road
St Kilda Road
Queens Road
Albert Road
Clarendon Street
Spring Street
Nicholson Street
Lygon Street
Swanston Street
Elizabeth Street
Queen Street
Exhibition Street
Russell Street
Spencer Street
William Street
King Street
Lonsdale Street
Bourke Street
Collins Street
Flinders

How do Melbourne's residents view their city?

In a different survey, Melbourne residents were asked about the liveability of their city. The results are shown in Source 2. While the city performed poorly in affordability, public transport and road network, it scored well among residents for culture, environment and education.

Source 3 Results of a survey of Melburnians of the liveability of Melbourne, 2015: best performing attributes



Check your learning 5.11

Remember and understand

1 What Australian cities featured in the top 10 most liveable cities in 2015?
2 Why do Australian cities feature highly in these surveys?
3 What features of their city do Melburnians like the best? How do these features help to make the city more liveable?
4 What features of their city do Melburnians not like?

Apply and analyse

5 Look at the oblique aerial view of Melbourne (Source 1). What features shown in this photograph might suggest that Melbourne is a liveable city?
6 Examine the map of central Melbourne on the previous page (Source 2). Then copy and complete the following table. Add at least two examples to each category. The first example has been done for you.

Liveability category	Examples from Melbourne	Grid reference
Availability of public health care	The Royal Melbourne Hospital	D9
Recreation: sports		
Recreation: culture		
Availability of consumer goods and services		
Religious freedom		
Availability of schools		
Availability of higher education		
Quality of road network		
Quality of public transport		

5.12 Melbourne's liveable suburbs

In a 2015 study conducted by *The Age* newspaper, each of Melbourne's 321 suburbs was rated in terms of its liveability. The study used available data, much of it from the census, to score each suburb on 14 key indicators. These included factors such as the access to shops, schools, restaurants and public transport as well as crime rates, open space and traffic congestion. The study found the inner-city suburb of East Melbourne to be the most liveable suburb in the most liveable city in the world.

East Melbourne scored highly because of its closeness to the city centre as well as its good public transport and shopping. Unlike many other suburbs close to city centres, it also has a large amount of open spaces. Living in East Melbourne, however, can have its drawbacks. The study found that residents of East Melbourne have to tolerate terrible traffic jams and poor telecommunications coverage.

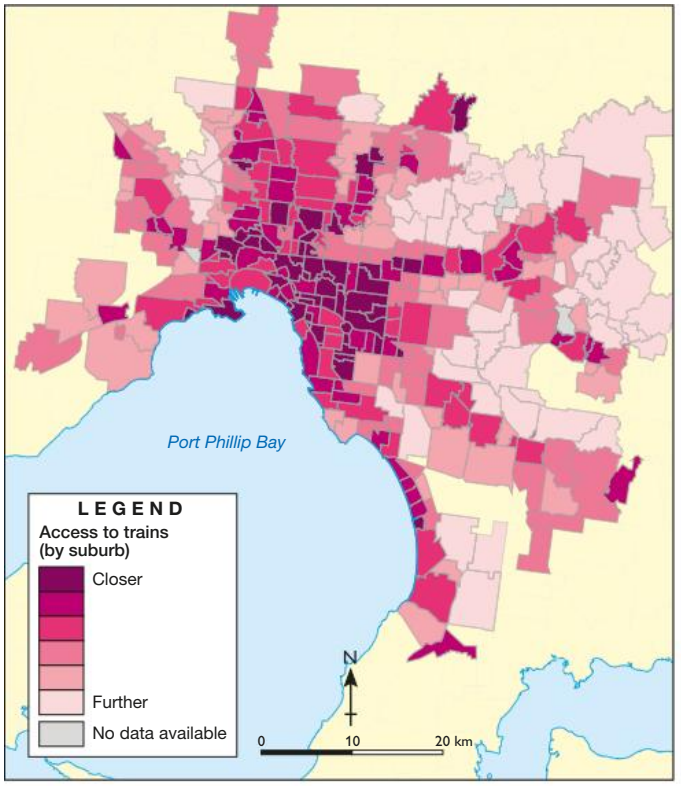
The suburb of Skye, in Melbourne's outskirts, was rated as the least liveable. A number of different factors contributed to this outcome. Skye rated poorly in terms of access to shops and open public spaces such as parks and playgrounds. Lack of good access to public transport and comparatively high crime rates were some of the other factors that resulted in a low rating. However, as Skye is a focus of state government funding to improve infrastructure (such as access to public transport), it may soon be moving up the ratings.

MELBOURNE: SUBURBS

Source 1 Source: Oxford University Press

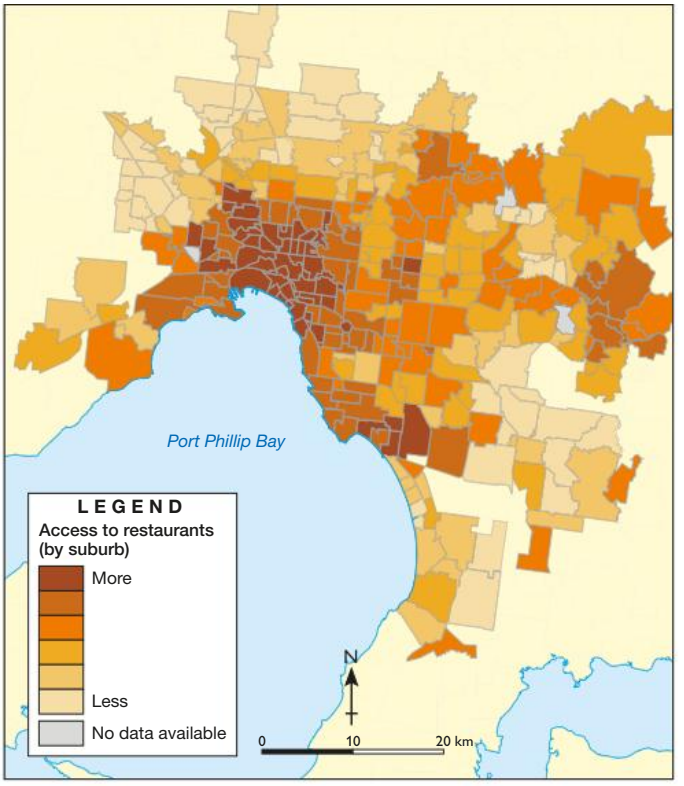
Source 2 Skye – Melbourne's least liveable suburb.

MELBOURNE: CHOROPLETH MAP SHOWING ACCESS TO TRAINS



Source 3 Source: Oxford University Press

MELBOURNE: CHOROPLETH MAP SHOWING ACCESS TO RESTAURANTS



Source 4 Source: Oxford University Press

skill**drill:** Data and information

Explaining patterns on maps

Geographers look for patterns on maps such as Sources 3–5 and then try to explain the patterns. By following these steps you will move from describing features of a map to explaining them.

Step 1 Look for an obvious pattern in the map you are exploring. This may be a cluster of similar features in a small region or a line of features. In the map showing the liveability of Melbourne's suburbs (Source 5, lighter colours (less liveable) tend to be near the fringes of the city whereas darker colours (more liveable) are nearer to the centre.

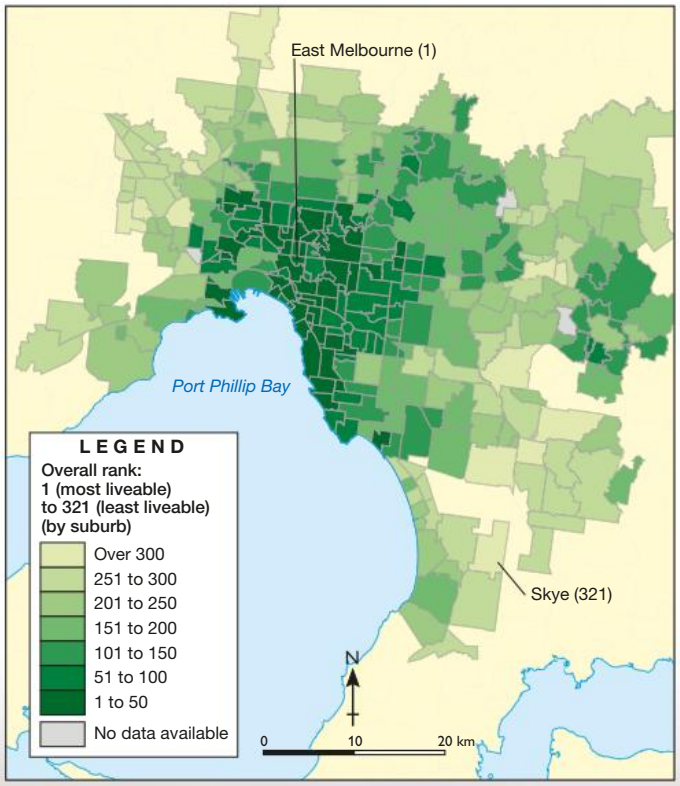
Step 2 Describe the pattern using names of specific places in your description.

Step 3 Look for clues that explain the pattern you have described. There may be clues in other maps or in the way the map has been drawn. In the case of the liveability map, the explanation for higher liveability in inner suburbs may be that there tends to be many restaurants, shops and train stations there. These factors were all taken into account in determining the liveability of each suburb.

Apply the skill

1 Explain the pattern in Source 4 showing access to restaurants in Melbourne's suburbs.

MELBOURNE: CHOROPLETH MAP SCORING EACH OF THE 321 SUBURBS ON ITS LIVEABILITY



Source 5 Source: Oxford University Press

Check your learning 5.12

Remember and understand

1 What pattern do you notice on the map showing access to trains (Source 3)? Describe this pattern using the names of specific places.

2 What feature on the key map (Source 1) helps to explain this pattern?

Apply and analyse

3 Examine Source 1.
   - **a** How has Port Phillip Bay affected the shape of Melbourne?
   - **b** What influence have major roads had on the shape of the outer suburbs?

4 These maps of Melbourne show that liveability is not the same for everyone in a city. Who would find these maps useful?

Source 6 East Melbourne – Melbourne's most liveable suburb

5B rich task

The liveability of your local area

Liveability applies not only to countries and cities but also to smaller local areas. Some areas are more liveable than others because of the infrastructure that is available or because of their culture and environment.

skill drill: Data and information

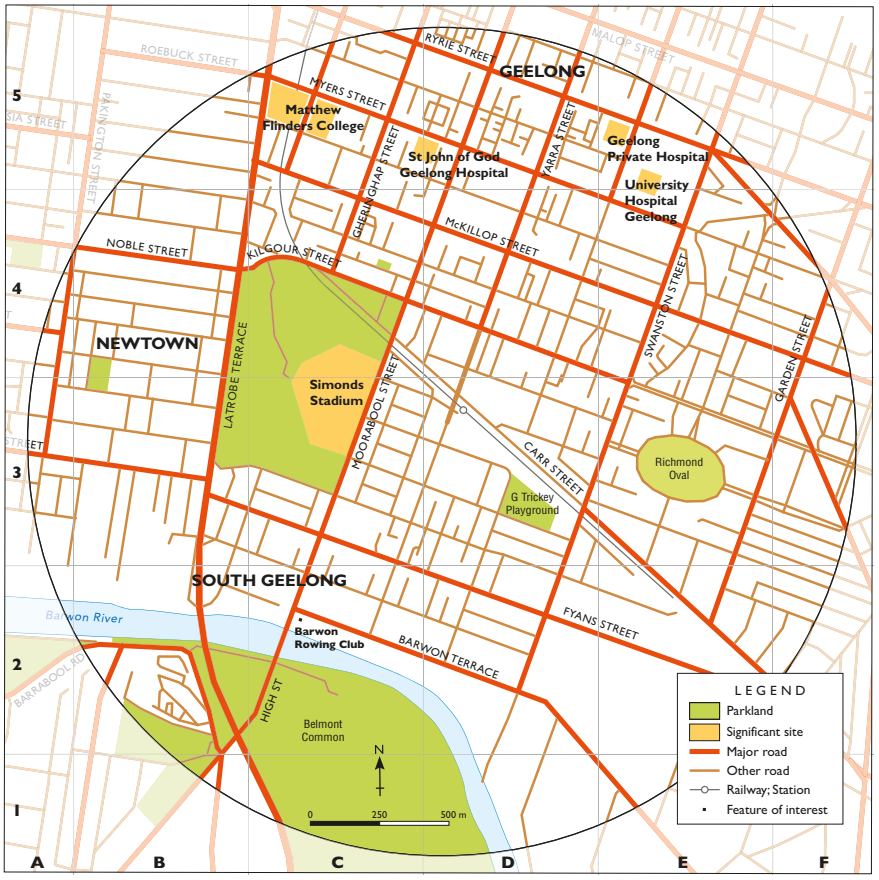
Completing a map survey

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 in inner Geelong and has chosen an area 1.5 kilometres from where she lives.

GEELONG: INNER SUBURBS



Source 1 Source: Oxford University Press

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.

Apply 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.

skill**drill:** Data and information

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. In a street survey you are assessing 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 2 to score your chosen street on a scale of 0 to 3 in a range of categories.

Apply 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?

Street name: _____ **Suburb:** _____

		SCALE				
Traffic	Free of 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	Trees shade half of 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 and 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 2 Street survey

Source 3 South Geelong is an inner-city suburb of Geelong. It contains a mix of residential and commercial land uses.

Extend your understanding

1. What health-care facilities are available to residents of South Geelong?
2. What education facilities are available to residents of South Geelong?
3. As an inner-city area, South Geelong is well served with public transport. What evidence can you find for this?
4. Comment on the availability of roads in this area.

5.13 Strategies for improving liveability

Over time, cities change and grow and the needs of people living in cities also change. To maintain and improve the liveability of a city, the services and facilities provided by governments and councils need to be regularly reviewed. Experts within government, universities, private business and community organisations, including geographers, are needed to identify problems in our cities and offer solutions.

In developing strategies to improve the liveability of our cities, planners must first identify the problems and their underlying causes, identify the impact on liveability, and then come up with strategies to try to overcome the problems. Source 1 shows some of the liveability issues currently facing people in Australian cities along with some of the strategies that have been suggested to cope with them.

The problem and underlying cause	The impacts on liveability	Some strategies for solving the problem
Traffic congestion As cities grow, people need to travel further to work and school. Higher rates of car ownership see more cars on the road, leaving the road network struggling to cope.	Traffic congestion results in people spending less time at home and more time in their cars; increases levels of air and noise pollution; increases levels of stress and frustration for drivers leading to increased incidents of road rage.	Strategies include 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 bike paths for cyclists.
Social inequalities As cities grow, some people within the community are left without work and are unable to access services such as schools, health care and housing.	Social inequalities can result in homelessness, unemployment and poverty; leaves some people with a sense of alienation from the community; can have a particularly negative impact on young people.	Strategies include 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.

The problem and underlying cause	The impacts on liveability	Some strategies for solving the problem
Environmental issues As cities grow, they have a greater impact on the environment. Water resources are used up, pollution increases and more and more energy is required to service the greater population.	Environmental issues include air pollution from increased energy usage, land contamination from landfill, water shortages and damaged waterways.	Strategies for sustainable use of the environment include recycling rubbish materials; restricting water use; developing buildings and cars to be more energy efficient; and using renewable energy sources.
Urban sprawl As cities grow, more and more housing is required at an affordable price. Housing estates on the outskirts of cities offer cheaper housing options, but they also push further and further outwards.	Urban sprawl reduces the amounts of productive farmland near cities; threatens the habitats of native plant and animal species; creates greater dependency on cars, which in turn increases levels of air pollution and traffic congestion. New housing developments can suffer from a lack of community services, providing poor liveability for their residents.	Strategies include 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 and establishing satellite business centres outside the CBD to encourage local employment and services for those living on city fringes.

Source 1 Some issues faced by modern city dwellers and some strategies for improving liveability

Check your learning 5.13

Remember and understand

1. How does traffic congestion reduce the liveability of a city?
2. What is urban sprawl and what causes it?
3. What is an alternative to urban sprawl when a city needs to increase its housing supply?
4. Name three environmental issues that have a negative impact on liveability.

Apply and analyse

5. Which urban issues described here affect people in the city in which you live (or in a city you know well)?
6. What would you describe as the biggest issue faced by people in that city?
7. Select one of the problems described in Source 1 and come up with a list of strategies of your own that you think could be used to reduce the problem and improve liveability.

5.14 Improving transportation

Australians are among the most car-addicted people in the world. About 90 per cent of all journeys made in Australia are made by car, with trains, trams, buses and bicycles accounting for the remaining 10 per cent. As the number of people in cities grows, so too does the number of cars. Many urban roads are struggling to cope. Road congestion, particularly during morning and evening peak times, is threatening the liveability of many of our large cities.

In 2010, federal Minister for Infrastructure Anthony Albanese described the problem like this: 'Urban congestion contributes to traffic delays, increased greenhouse gas emissions, higher vehicle running costs and more accidents. It is a tragedy that many parents spend more time travelling to and from work, than at home with their kids. Relieve urban congestion and we improve our quality of life.' He estimated that traffic congestion will cost Australian cities $20 billion a year by 2020 unless the problem is addressed.

Strategies for improving transportation

Here are some solutions that planners around the world are experimenting with to improve traffic flows:

- Change the roads
  - Build more ring roads and bypasses that take traffic around the city centre and other busy places.
  - Change the traffic flow in the inner city by introducing a one-way system for most of the roads.
  - Make the main roads smarter by installing overhead signs advising of variable speed limits; signs that use GPS satellites to provide drivers with traffic information; traffic lights on entry ramps; monitoring systems in the road surface to detect traffic incidents and congestion; overhead closed circuit television monitors; and traffic signals that give priority to public transport.
- Get people off the roads
  - Introduce a 'park and ride' system where drivers park their cars on the edge of the central business district (CBD) and then travel to the CBD by bus or train.
  - Ban cars from the CBD.
  - Charge car drivers a toll when they enter the city centre.
  - Develop a better public transport system that encourages people to get out of their cars into trams, trains, buses and ferries. The world's best public transport systems involve all these modes working together on a single ticket and with an integrated timetable rather than as individual pieces of different puzzles.
  - Encourage people to walk or cycle by building more footpaths and bike lanes and promoting the health benefits of walking and cycling.
- Keep doing what we're doing
  - Build more multi-storey car parks in the city centre.
  - Build more roads to carry the increased traffic.
  - Increase motoring taxes to pay for new roads through increases in petrol prices.
  - Encourage private companies to build toll roads.

Source 1 Traffic on the Westgate Bridge leading to the Princes Freeway in Melbourne

Source 2 Graphic representation of the paths taken by 380 taxis in a single day in London. Bright splashes of light show paths taken by many taxis while darker areas have seen few, if any, taxis.

Check your learning 5.14

Remember and understand

1 What does the graphic representation of London taxis (Source 2) reveal about transport flows in large cities?
2 What are the causes of traffic congestion?
3 What problems does traffic congestion cause for people and cities?

Apply and analyse

4 Here we have described many possible solutions to traffic congestion.
   a Which do you believe are the three solutions most likely to relieve congestion? Explain your response.
   b Which solutions do you think are most likely to make congestion worse rather than better? Explain your response.

Evaluate and create

5 As the planner responsible for traffic congestion in your city, you have chosen one of these solutions to put into place. Design an advertising campaign that explains this solution to drivers and the general public. Remember to explain it clearly and simply and to point out the benefits of this solution for drivers and for all the residents in the city. You may choose to create a poster, brochure, bumper sticker or short TV or radio ad explaining your campaign.

5.15 Improving liveability for young people

When trying to improve the liveability of a town or city, planners need to take into account the varying 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, however, benefits from having special attention paid to their particular needs. Here we will look specifically at strategies for improving the liveability of places for children and young people.

Source 1 Venues designed for young people can increase youth participation in the community.

Strategies for young people

The views of young people need to be taken into account when planning for more liveable cities. Some of the key liveability factors relevant to a younger population are discussed here:

- **Public transport**
  Young people are the community group most likely to be dependent on public transport services. 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.
- **An attractive and healthy natural environment**
  When cities experience environmental issues such as air pollution, children are often the worst affected, and negative impacts to their health can last a lifetime. With housing density increasing, the need for green spaces is 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.
- **Good schools and other educational facilities**
  Schools need to have teaching spaces that offer the flexibility for group work and individual work and also provide good outdoor spaces. As students use more technology in the classroom, schools need to adapt to meet the needs of this new technology by providing fast Internet and Wi-Fi.
- **A wide range of recreational environments for young people**
  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, and entertainment facilities including cafes, cinemas and music venues. Community festivals and events can also be organised to include activities specifically designed to interest young people.
- **Services for young people at risk**
  Vulnerable young people who are at risk from abusive family members, homelessness or substance abuse need special attention to ensure that they are not disadvantaged by their circumstances and can reach their potential. Community services can provide support through counselling and mentoring, or by helping to arrange alternative accommodation.

Case study: 'Happy, Healthy and Heard' – City of Port Phillip, Victoria

In Victoria, local councils are responsible for helping young people to connect with their local community. The City of Port Phillip in Melbourne is an example of a local council that has a well-developed youth strategy. The City of Port Phillip stretches from the suburb of Elwood (in the south) up to Port Melbourne (in the north) and includes the well-known suburbs of St Kilda and Albert Park.

The youth strategy for the City of Port Phillip is known as 'Happy, Healthy and Heard'. It includes a number of important goals designed to:

- strengthen the links for young people to their friendship networks and build stronger connections to family, school and community
- create safe programs and spaces that allow young people to explore, be supported and be themselves – and celebrate them!

City of Port Phillip Marina Reserve

One example of a community space that has been created specifically to appeal to young people and improve liveability in the City of Port Phillip is the Marina Reserve on the St Kilda foreshore. Opened in 2013, it includes a large skate park, toilets, barbeques and picnic tables, as well as being a space for people to exercise their dogs in an off-leash area.

An interesting feature of the park is the 24-hour streaming webcam that allows skaters and their parents to monitor the skate park. Not everyone in the local community supports the use of this webcam. Some people argue that it intrudes on people's privacy. Others feel that it helps to make the area safer and more liveable.

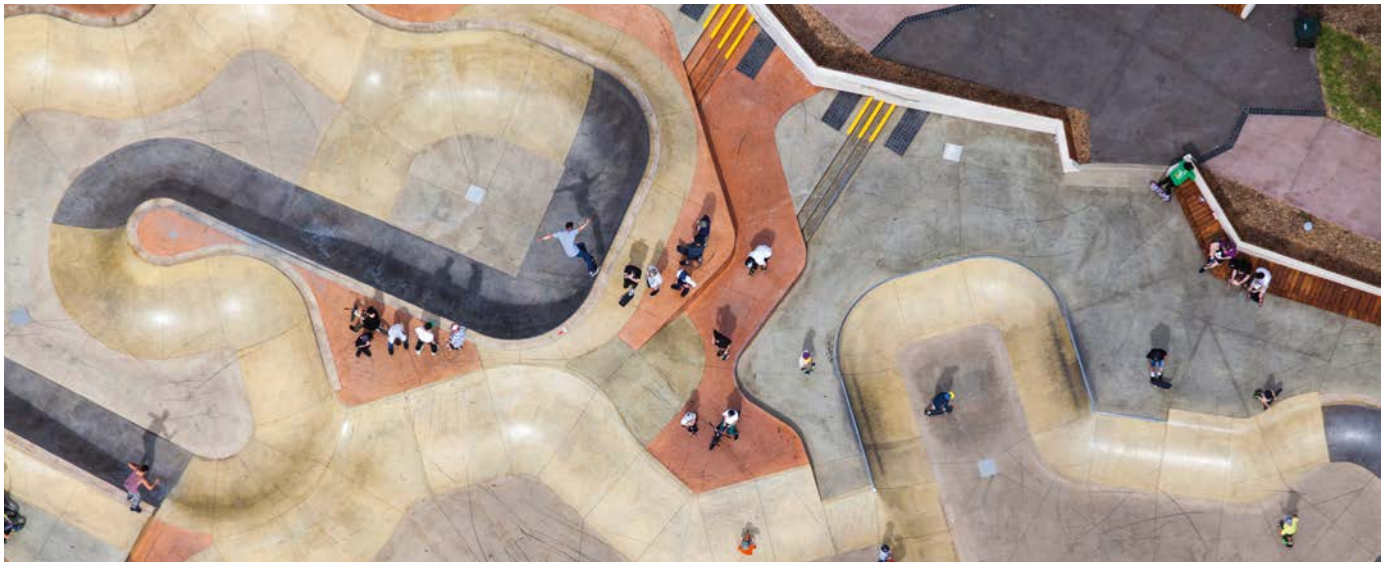
Check your learning 5.15

Remember and understand

1 What are three liveability issues that affect young people?
2 How does a skate park provide a more liveable community for some young people?
3 What facility or service would you like to see in your local community to make it more liveable for you?

Apply and analyse

4 Consider the 'Happy, Healthy and Heard' case study from the City of Port Phillip which of the council's goals have been addressed by the facilities at Marina Reserve?
5 Access the Marina Reserve webcam and have a look at what's currently happening at the skate space. Do you think the addition of a streaming webcam makes the park more liveable or less liveable? Explain your point of view.



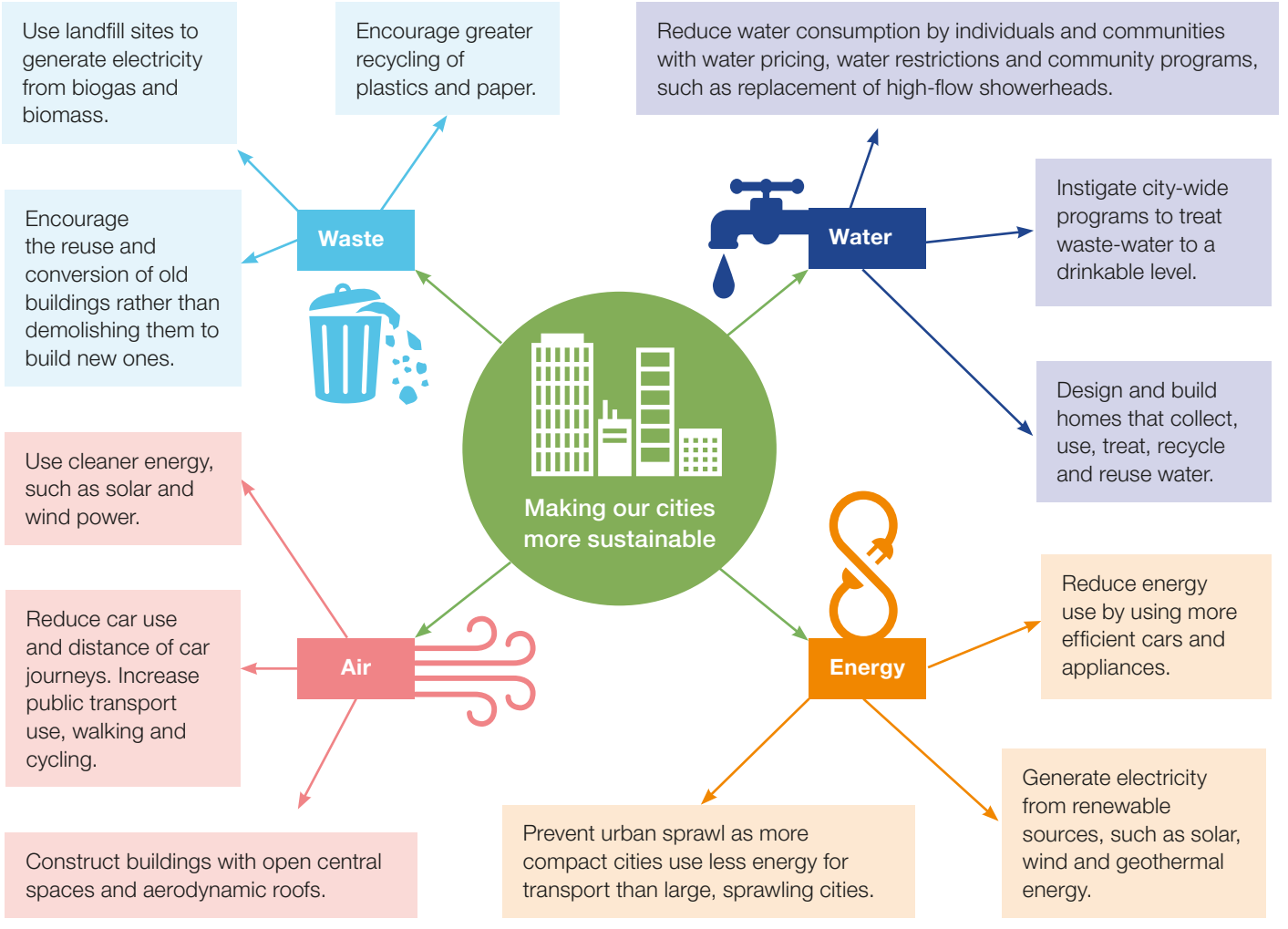
Source 2 Skate parks – like this one at the Marina Reserve in St Kilda – are a great way to make open spaces more appealing to young people.

5.16 Improving sustainability

The quality of the environment has a big effect on the liveability of a place. Cities consume large amounts of **natural resources**, such as water and energy. They also produce substances that are harmful to the environment, such as greenhouse gases, as well as solid waste, such as sewage and rubbish. Rapidly growing cities in developing countries are struggling to deal with these and other environmental issues.

In the last decade, Australian cities have become more sustainable by reducing their impact on the environment in many significant ways. We now use less energy, produce less rubbish, consume less water and have cleaner air than was the case at the beginning of this century. This is largely due to new technologies in such things as power stations and the phasing out of old technologies such as less efficient cars that pollute more.

There have also been changes in behaviour that have been encouraged by governments. City dwellers, for example, now take for granted that recyclable material is not waste and should be separated out in the weekly rubbish collection. Local restrictions on the use of water in households have also helped to make our cities more sustainable. But there is still much more that can be done.



Source 1 Concept map showing strategies for a more sustainable city

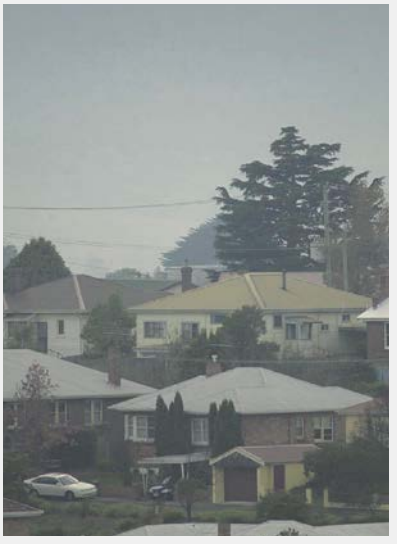
key**concept:** Sustainability

Clearing the air in Launceston

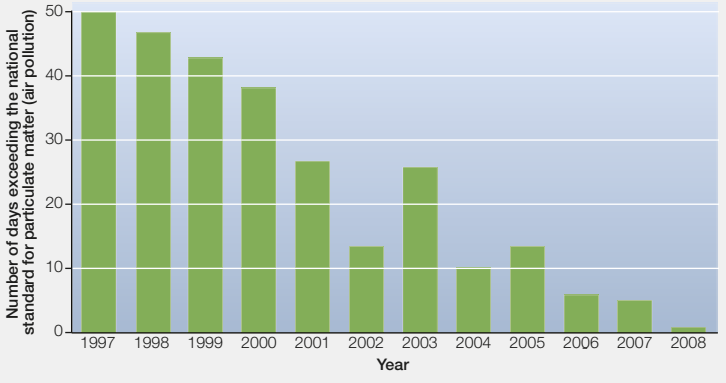
The city of Launceston in northern Tasmania was once one of Australia's most polluted cities. This was due to a combination of natural processes and human activities. About two-thirds of households in the early 1990s used wood fires to heat their homes and this produced large quantities of smoke, particularly during winter. Launceston's location in a valley meant that the smoke was trapped and people's health began to suffer. Researchers linked Launceston's smoke to high rates of asthma and lung disease and likened it to the effects of tobacco smoking.

In 1997 there were 50 days in which Launceston's air exceeded the national standard for the amount of pollution. By 2008, this had fallen to only one day a year. This was due not to wood heaters but to a nearby bushfire. This dramatic change is largely because of a government scheme where Launceston residents were given $500 to change their home heating from wood fires to other methods, such as a gas fire or electric heater. More than 2000 residents have so far taken advantage of the scheme and thousands of others have changed their heating methods because of the publicity generated.

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



Source 2 The hills that surround Launceston trapped wood smoke, making it one of the world's most polluted cities.



Source 3 Air pollution in Launceston, 1997–2008

Check your learning 5.16

Remember and understand

1 Why did Launceston have such poor air quality?

2 How did the people of Launceston improve their air quality?

Apply and analyse

3 Solutions to some of the environmental problems faced by city dwellers can be easy to find but hard to put into place. Give some examples of solutions that have been difficult to put into place.

4 Select one of the four environmental issues shown in Source 1.
   - **a** Explain why this is an issue in cities.
   - **b** Which of the three solutions given do you think has the best chance of helping to address the issue?
   - **c** Can you think of two more solutions? Share these with your classmates and use the discussion to describe how cities can be made more sustainable.

5 Examine Source 3.
   - **a** Describe the change in air pollution in Launceston from 1997 to 2008.
   - **b** Give a possible reason for the sudden increase in pollution in 2003.

Evaluate and create

6 Cities are one of the main causes of global climate change, as much of the gas that traps heat comes from burning **fossil fuels** in cities. In a small group discuss how cities can lead the way in reducing the emission of these gases.

5C rich task

Hamburg – a green city

The city of Hamburg in Germany is one of the most environmentally friendly cities in the world. Green spaces, parks, woodlands and nature reserves make up 16.7 per cent of the urban area, and 17 per cent of the city's total power usage comes from renewable sources like wind and solar. Hamburg is one of the 20 most liveable cities in the world and, in 2011, was named the European Green Capital.

Hamburg is currently building an inner-city development called HafenCity in the location of the old port warehouses. HafenCity will provide housing for 12 000 residents and jobs for around 45 000 people. It will create 10.5 kilometres of new waterfront and 26 hectares of public parks, squares and promenades.

The HafenCity community will use 30 per cent less power thanks to environmentally friendly design and materials, and wind- and solar-power technologies. Many rooftops will be covered in greenery to slow stormwater run-off and reduce heat from the development.

skill**drill:** Data and information

Interpreting oblique aerial images

The photograph and illustrated plan provided are both what geographers call oblique aerial images. Oblique aerial images are taken on an angle from a high point. They can be taken looking down from a hill or mountain, or from an aircraft or hot-air balloon. Oblique aerial images are useful for geographers because they can show a much larger area than photographs taken from ground level (known as ground-level images) because the view is not interrupted by trees, houses or mountains. They are also useful because all of the features shown in them are easily recognisable. This is not always the case with images taken from directly above (known as vertical images or 'plan view' images).

When interpreting oblique aerial images, it is important to be aware of the following points:

- Oblique aerial images allow you to see the height and width of features on the ground. As a result it is possible to get an idea of the steepness of the ground or the height of a building.
- A major disadvantage of an oblique aerial image is that scale is inconsistent. This means that distances in the foreground and distances in the background cannot be calculated using the same scale. If you want to make a map or take accurate measurements of distance, you should not use oblique aerial images. Use vertical images instead that show the area in plan view.

Source 1 An oblique aerial photograph of the HafenCity development in Hamburg, Germany. It will be Europe's largest inner-city development project.

Apply the skill

1 Examine the photograph of HafenCity shown in Source 1.
   - **a** Are the buildings in HafenCity (in the foreground) generally lower or higher than those in the background? How can you tell?
   - **b** Would the width of the channel behind HafenCity be easier to measure on a plan or oblique view?

Extend your understanding

Conduct some research on the Internet to find out more about the HafenCity development in Hamburg.

1 In what year was the project first announced?

2 When do the developers estimate the project will be completed?

3 How many homes will HafenCity contain once the project is complete?

4 Find some images of the HafenCity site before it was developed and compare them with Source 2.
   - **a** In what ways has the HafenCity site changed since development began?
   - **b** How has the HafenCity development improved the liveability of the city of Hamburg?
   - **c** HafenCity has been designed to be highly sustainable – using environmentally friendly building materials and wind and solar power. Using Source 1 on page 182, suggest three more ideas that could be introduced to improve the sustainability of HafenCity.

Source 2 A compuer-generated plan of HafenCity from an oblique aerial view

part 2

history

Concepts and skills

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Concepts and skills

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.

Historians are time detectives; they follow a process of **historical inquiry** in order to better understand the past. They ask questions, locate and analyse **sources**, and use **evidence** from these sources to develop theories about the past.

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.

6A

What are the historical concepts?

6B

What are the historical skills?

chapter 6

Source 1 Many facts about the Great Sphinx at Giza in Egypt remain a mystery.

6C

What is history?

6.1 Historical concepts

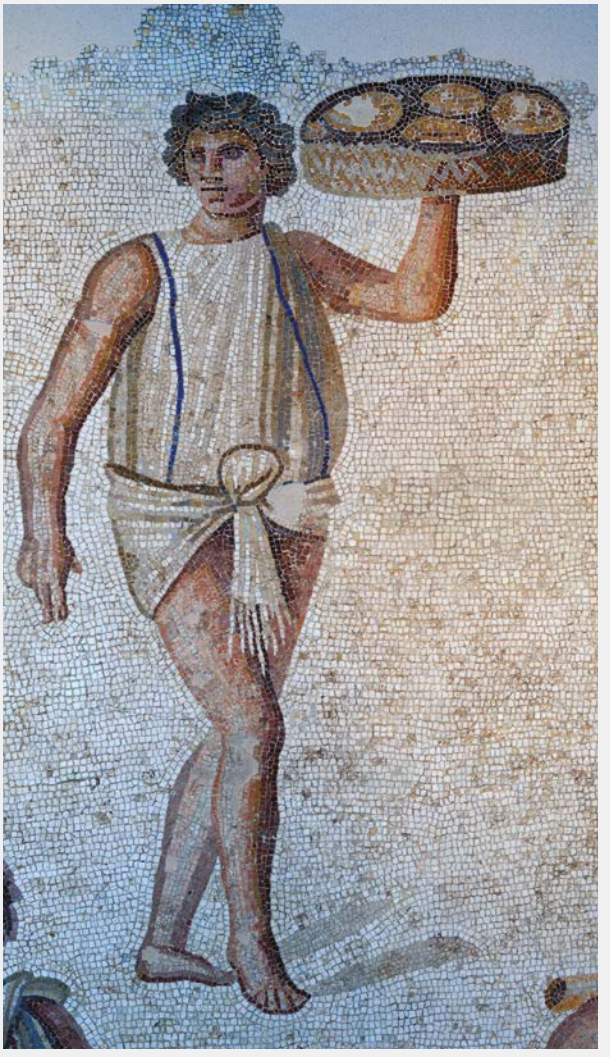
Historians use seven concepts to help them investigate and understand the past. At times you will use several of these concepts at once; at other times you may focus on just one. As you learn to apply each concept, you will begin to think like a historian. The seven key concepts in History are:

- **perspectives**
- **empathy**
- **continuity and change**
- **significance**
- **cause and effect**
- **contestability**.
- **evidence**

Perspectives

The concept of perspectives is an important part of historical inquiry. 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 anyone 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.

For example, many people today would share the belief that slavery is wrong. They would be shocked and outraged by the fact that about one quarter of the population of ancient Rome were slaves. However, slavery was an accepted part of life in ancient Rome, from the perspectives of slaves themselves and society in general. Today, a logical assumption is that slaves led poor lives just because they were slaves. This was not always the case. Some masters took great care of their good slaves, as replacements could be hard to find – and expensive. A slave who could cook banquets was especially prized because entertaining was very important to Rome's elite families. Those slaves who had few skills were less well looked after because they were easier and cheaper to replace.



Source 1 This Roman floor mosaic shows a young slave carrying a tray of food for a banquet. It dates back to around the 2nd century CE.

It is important to consider aspects of the past from the perspectives of people living at the time. By taking this into account you begin to see that owning slaves was a natural part of life in ancient Rome rather than a terrible abuse of a person's rights and freedoms. By today's standards it could be considered similar to employing a cleaner or a babysitter to help out around the house.

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. Examples of continuity and change can be seen across every civilisation and any given period of time.

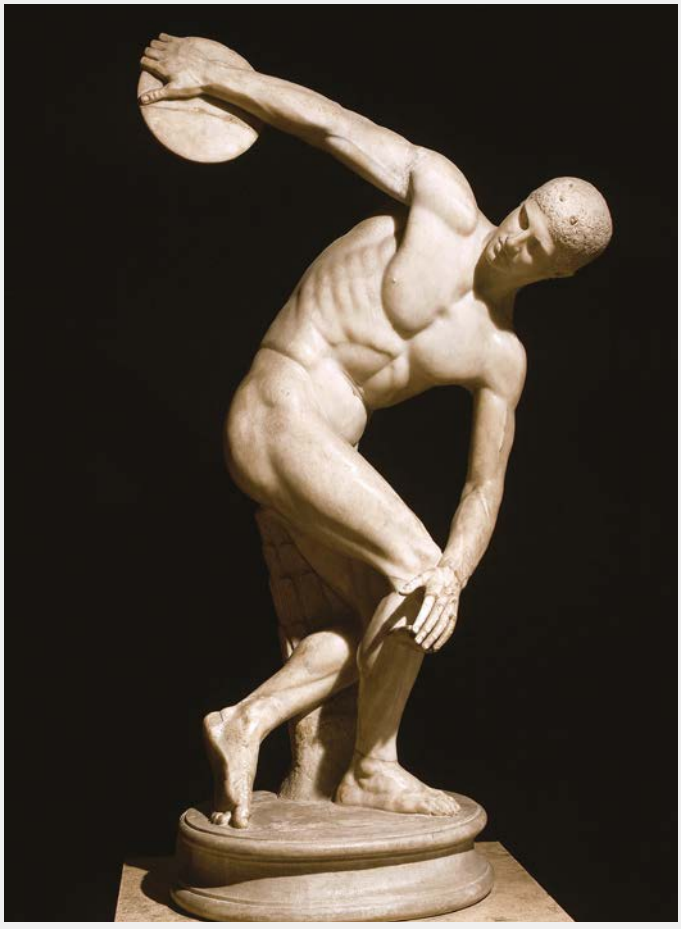
Historians refer to aspects of the past that have remained the same over time as continuities. Aspects of the past that do not stay the same are referred to as changes. Change can occur within a certain civilisation or specific time period, but also across different civilisations and time periods.

Many historical continuities influence how we act and live today. For example, look at Source 2. You will instantly be able to tell what this man is doing. Discus throwing is an ancient sport that dates back to the 5th century BCE. The sport originated in ancient Greece, but is now a routine part of every modern track-and-field competition, not to mention a popular event at the Olympic Games. Discus throwing is a good example of a historical continuity.

Now look at Sources 2 and 3 together and try to identify some of the differences between them. Even though both people are shown competing in discus throwing:

- one is a man, the other is a woman
- one is naked, the other is wearing clothes
- the ancient discus is larger than the modern discus.

These differences are historical changes. In ancient Greece only men were allowed to compete, they were required to compete naked, and the technique and equipment (the discuses) they used were not as sophisticated as those used today.



Source 2 This statue created by the Romans in the 2nd century BCE is a reproduction 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 Dani Samuels of Australia competes in the Women's Discus Throw Final on Day 8 of the London 2012 Olympic Games.

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.

Sometimes the link between cause and effect is very clear. For example, heavy rain over many weeks (cause) leads to flooding and the destruction of crops (effect). However, often this link is not quite so obvious. Generally, there are many causes (reasons) that lead to an event or action. There can also be many effects (outcomes). Sometimes the effects are simple to identify, while in other cases they are more difficult to predict and may not even be observed until long after the event.

One of the strongest defensive structures in the world is the Great Wall of China. It is also a good example for explaining cause and effect. 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).

Source 4 The Great Wall of China was built to protect China from invading hordes of Mongols. This was the cause of its construction.

Source 5 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. Could Emperor Qin Shi Huang ever have predicted these effects when he ordered the Great Wall to be built?

Evidence

Evidence is the information gathered from historical sources. The concept of evidence is an essential part of historical inquiry. Evidence can come from many different sources; for example, interviews and accounts from people who lived at the time, letters, diaries, films, maps, newspapers, artefacts and objects, buildings, paintings, photographs, song lyrics, nursery rhymes, clothing, photographs and even cartoons. But how do we use these sources to piece together the story of the past? We can make an educated guess (called a **hypothesis**) and then look for evidence to support it.

Evidence can be gathered from two types of sources:

- **primary sources** – objects created or written at the time being investigated, for example during an event or very soon after. Examples of primary sources include: official documents, such as laws and treaties; personal documents, such as diaries and letters; photographs or films; and documentaries. 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, encyclopaedia entries, documentaries, history textbooks and websites.

Historians do not always agree on evidence, even when it is gathered from the same source. They often have different opinions or points of view. 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 6 This photograph taken in 1922 shows British archaeologist Howard Carter leaving the tomb of Tutankhamun. He is holding a box of artefacts made by ancient Egyptians. Both the artefacts shown in the photograph and the photograph itself are primary sources because the artefacts were made during the rule of the ancient Egyptians and the photograph was taken at the time of the discovery of the tomb.

Source 7 This illustration shows Howard Carter inside the tomb of Tutankhamun. The illustration is a secondary source because it was drawn by an artist long after the discovery of the tomb in 1922. It is only a representation of the inside of Tutankhamun's tomb, even though it is based on a photograph taken at the time of its discovery.

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.

Emphathising brings history to life. It connects us as human beings regardless of how much time has passed. For example, the ancient Chinese custom of foot binding can be better understood by putting yourself in the position of those who did it and had it done to them. Foot binding was designed to improve a woman's social status and the status of her family. Tiny feet were considered beautiful and improved a woman's chances of securing a 'good' marriage.

Binding the feet prevented them from growing naturally. When a girl was between the ages of four and seven, the bones in her feet were broken and strapped tightly with a long bandage, forcing the four small toes under the sole of the foot (see Source 8). The entire process usually took about two years to complete. After this time, the feet were largely useless. Walking was at best painful and at worst impossible. After this process, the feet needed daily care. If they were not washed and manicured properly, the toenails could cut into the soles of the feet and cause infection. If the bindings were too tight, they could cut off blood flow and cause the flesh to rot.

It is difficult to imagine how much pain these women, and their families, had to go through, but the Chinese saying 'Every pair of small feet costs a bath of tears' gives some insight. Why then did people carry out the practice for so long? Even though many lower-class families could not afford to bind their daughters' feet (because they needed them to work in the fields), they did so anyway in the hope that they would be able to marry into the middle class. In reality, very few women succeeded in this. Instead, these women would end up suffering as they tried to work in the fields on their bound feet. Nevertheless, mothers were obligated to bind their daughters' feet because they would never find a husband otherwise. Applying the concept of empathy helps you to put yourself in the position of the girls who had this done to them, as well as their families who were essentially forced to inflict terrible pain on their own children.

Source 8 The practice of foot binding was carried out for around 1000 years. Applying the concept of empathy helps us to understand the pain these women went through, and what motivated their families to do this.

Source 9 These women, photographed in 1998, wear tiny 'lotus shoes' on their bound feet. Foot binding was officially outlawed in 1911, but is said to have continued for some time after that.

Significance

The concept of 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 so many important events, significant people and interesting places that we could never study all of them. Instead, we need to make a judgement about which of these is worthy of study. In order to determine if an event, development, discovery, movement, person or site is historically significant, historians may ask the following questions:

- 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, nationality and family background, different events and people from the past will be significant to a greater or lesser extent. For example, the development and spread of the Roman Empire is significant because it affected large areas of the Mediterranean world, its people and their way of life.

Some of the legacies of ancient Rome that are still significant today include:

- Latin – the language of ancient Rome forms the basis of many modern languages such as English, French, Italian and German
- **aqueducts** – these structures built to carry fresh water from springs in the country to Roman cities form the basis of our modern plumbing
- architecture – ancient Romans invented concrete and other innovative building techniques such as domed roofs.

Source 10 This Roman aqueduct in the south of France was built between 40 and 60 CE. Aqueducts carried a constant flow of fresh water from distant sources into cities and towns, supplying public baths, public toilets, fountains and private households. Aqueducts form the basis of our modern plumbing.

Source 11 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.

Contestability

The concept of contestability relates 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 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 widely 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.

The discovery of Tutankhamun's tomb in 1922 was a highly significant historical event. It helped historians uncover many important details about life in ancient Egypt, but also ignited fierce debate. An examination of the pharaoh's mummified body led historians and archaeologists to argue for many decades about the cause of Tutankhamun's death. Many believed that the boy king had been murdered. Others believed his death was accidental. It was not until modern scientific methods allowed for a proper examination of the corpse that it was decided that Tutankhamun had died as a result of an infection from a broken leg. **DNA** analysis conducted in 2010 also showed the presence of malaria in his system. It is believed that these two conditions combined led to his death. To this day, some historians still contest the accepted explanation.

Source 12 Egyptian archaeologists supervise the removal of Tutankhamun's mummy from the stone sarcophagus in his underground tomb in the Valley of the Kings in Luxor, Egypt. The exact cause of Tutankhamun's death has been contested by historians since the discovery of his tomb in 1922.

Source 13 The use of modern CT scans and DNA analysis in 2010 have finally put an end to decades of debate. These tests have allowed historians to say with some certainty how Tutankhamun died.

Check your learning 6.1

Remember and understand

1 Name the two different sources from which historians may gather evidence.

2 Discus throwing is still an important event in the modern Olympic Games. What historical concept would this be an example of?

3 A study of the past always involves looking at why an event took place and what happened as a result. What is the name of this historical concept?

4 Five different people saw a fight in the schoolyard. Why might their accounts of what happened be quite different? What historical concept would this be an example of?

Apply and analyse

5 Look again at the questions that help historians decide which events from the past are worthy of study (see page 195 of 'The history toolkit'). Working in pairs or small groups, use those questions to decide if the following events are historically significant.

- Your family moved to a new house last week.
- A new shopping centre was built in your local area.
- The prime minister of Australia gave a speech declaring Australia will allow China to build a military base in Sydney.
- The Olympic Games were held in London.
- News reports confirmed that over half the world's population is connected to the Internet.

Report your findings to the class. Did each group reach the same conclusions? Why or why not?

6 Historians are constantly trying to understand what motivated people from the past to act the way they did. This relates to the historical concept of empathy. Look at the example of foot binding in ancient China. Imagine you are the mother or father of a four-year-old girl. List three reasons why you believe you must bind your daughter's feet. Beside each reason, write how this would make you feel.

7 Why did Egyptian archaeologists use scientific methods to examine the mummy of Tutankhamun? Do you think all historians would accept these findings? Why or why not?

Evaluate and create

8 You are planning a museum exhibit about your own life. Choose three artefacts you will include in the display. Explain how each of these artefacts has played a significant part in your life.

9 Look again at the Great Sphinx (Source 1 on page 189). Conduct your own research and formulate your own hypothesis (theory) about why it was built. Support your hypothesis with one primary and one secondary source.

10 Choose one of the key concepts discussed in this section. Design a poster for your History classroom to help you and your classmates remember what this concept is and to help you apply it as you study History this year.

6.2 Historical skills

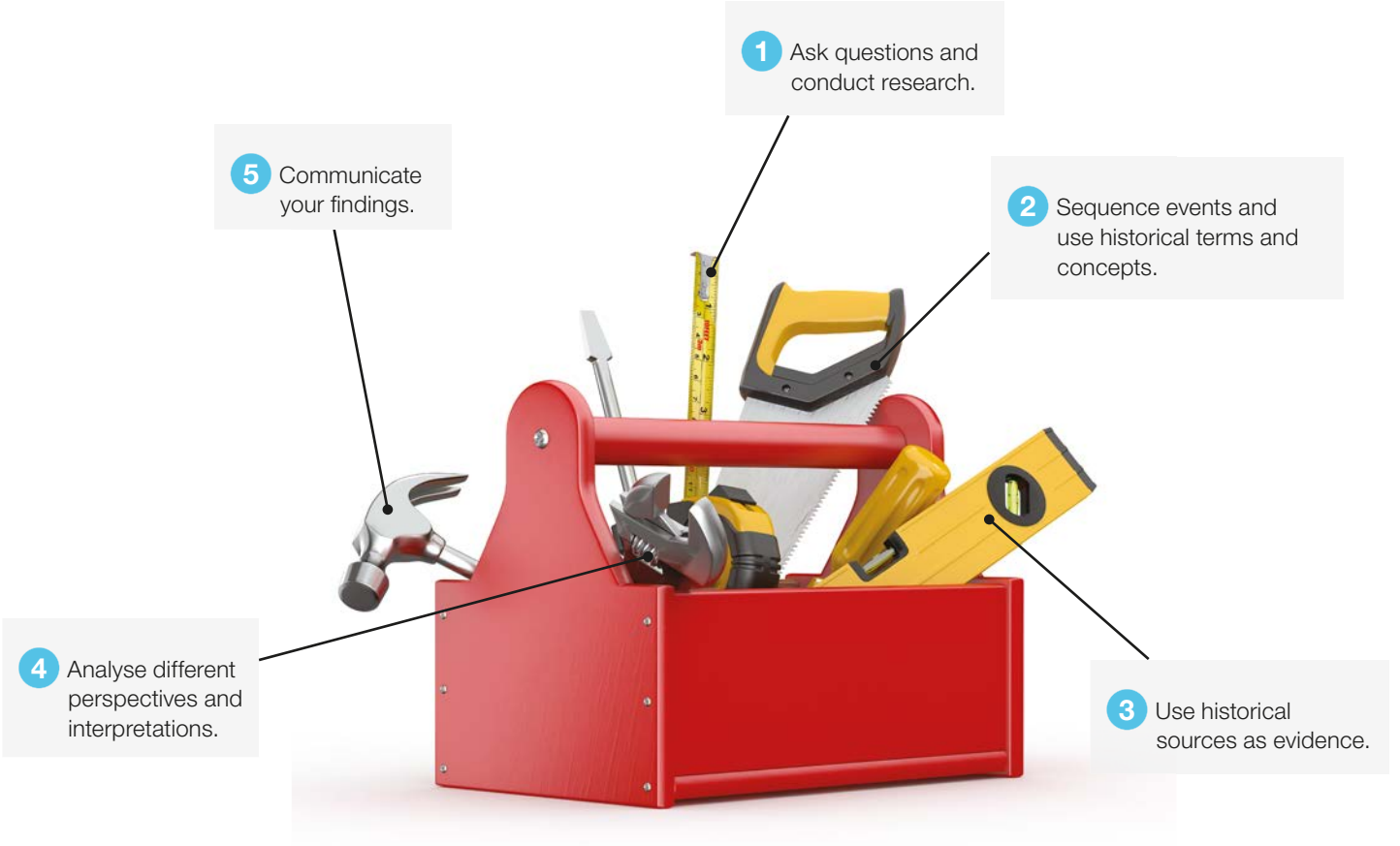
History has been described as 'who we are and why we are the way we are'. Historians examine the past and try to explain what they find. Like detectives at the scene of a crime, they follow a process of historical inquiry.

As shown in Source 1, there are five stages in any historical inquiry. They are:

1. Ask questions and conduct research.
2. Sequence events and use historical terms and concepts.
3. Use historical sources as evidence.
4. Analyse different perspectives and interpretations.
5. Communicate your findings.

To conduct a historical inquiry, historians need a range of skills. By studying history 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 have gained another important tool for understanding and explaining events and people that have shaped our world.

Each of the skills you will learn over the course of this year is explained below. Each one represents a stage in the process of historical inquiry. These skills are organised into five stages. Each stage has a number of specific skills that you will be learning. It might help you to think of each of these skills as individual tools in your toolkit. For some historical inquiries, you may only need to use one tool; for others, you may need to use many.



Source 1 There are five stages in any historical inquiry. At each stage, historians use a number of different skills. Each of these skills is like a tool in a toolkit.

6.3 Ask questions and conduct research

Identify a range of questions about the past to inform a historical inquiry

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. These questions then help to frame the process of inquiry and act as a guide for the collection of evidence.

Source 1 Developing historical questions is an important part of a historical inquiry.

skill**drill:** Historical significance

Generating questions to inform a historical inquiry

Look closely at Source 1. This visitor to the Great Sphinx at Giza in Egypt is asking some important historical inquiry questions. You can learn to do this too by starting your questions with the words 'what', 'where', 'how', 'when' and 'why' before beginning your inquiry.

For example, big questions such as the following help to guide the steps in the research process:

- What is the Great Sphinx?
- Who built it?
- When was it built?

The very 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 historical 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.

Apply the skill

1 Based on what you have read and seen, generate four big questions of your own that will help guide your investigation into the Great Sphinx.

2 Once you have generated your inquiry 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?

Identify and locate relevant sources, using ICT and other methods

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, which usually involves a number of different search methods, such as:

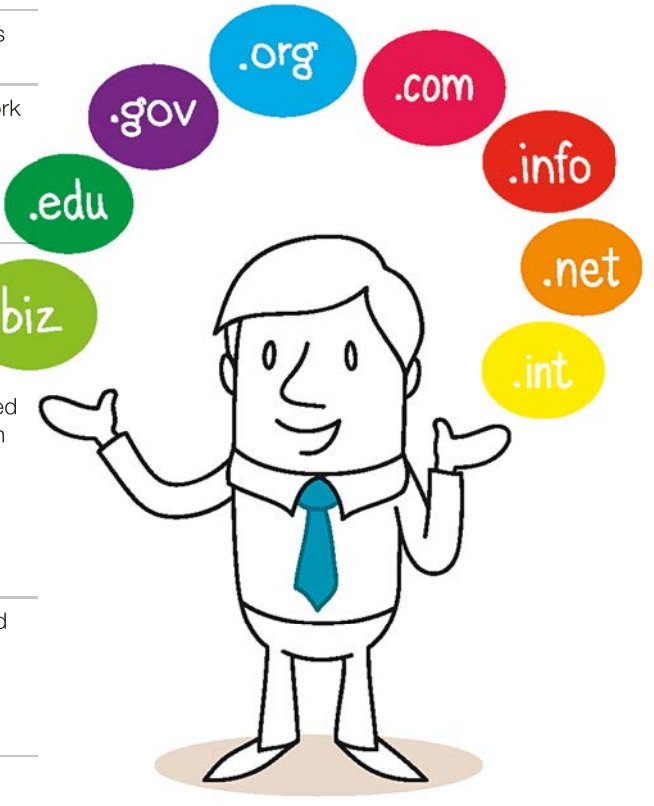
- checking catalogues at your school and local library
- using online search engines such as Google, Yahoo and Bing
- visiting museum and government websites
- looking at newspaper and magazine archives
- contacting local historical societies
- interviewing older family members about the past, and examining family antiques and keepsakes.

Using ICT to locate relevant sources

Although printed books and newspapers are valuable sources of information, most research today is conducted online. In order to ensure that sources gathered online are accurate, reliable and relevant, a number of guidelines should be followed:

- Search engines such as Google are useful research tools, but much of the material on these sites is not reliable and may contain inaccuracies, false and misleading information or material that is out of date. When using search engines like Google or Yahoo, be sure to define your search using keywords. Your librarian is a good person to ask for help and information. Most schools will also have a website devoted to providing information about developing good research skills.

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 and generally there is no one to regulate the information posted on the site. 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 and can be contacted, it generally means that the information provided has been checked and verified 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. If you are unsure about the reliability of information found on a website with this domain name, check with your teacher or librarian.
.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.



Source 2 Some domain names and their characteristics

- A reliable way of searching for sources is to use sites linked to educational institutions, government departments, reputable companies, museums, universities and educational institutions. A quick way of telling if a site is reputable is to look at the domain name in the URL (Internet address). Some of the most common domain names are listed in Source 2 along with some information about their reliability.
- Avoid blogs posted by unknown individuals. If you happen to find information relevant to your investigation on a blog or social media site, always verify it by using a more reliable source.
- Never cut and paste information from the Internet 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.

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, in this order, if available:

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:

Easton, M. & Saldais, M., 2016, *Oxford Big Ideas Humanities 7 Victorian Curriculum*, Oxford University Press, Melbourne, pp. 18–19.

When citing an online source in a bibliography include the following information, if available:

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 <…>.

Examples:

British Museum, 'Papyrus from the Book of the Dead of Ani', accessed 6 September 2012, <www.britishmuseum.org/explore/highlights/highlight_objects/aes/p/book_of_the_dead_of_ani.aspx>.

Williams, A.R., 2005, 'King Tut Revealed: Modern forensics and high-tech imaging offer new insights into his life – and death', June, National Geographic, accessed 17 July 2012, <http://ngm.nationalgeographic.com/2005/06/king-tut/williams-text>.

Check your learning 6.3

Remember and understand

1 List three different examples of sources.
2 Beside each source, write where it can be found.

Apply and analyse

3 Using the table below give two advantages and two disadvantages of using the different search methods shown.

Search methods	Advantages	Disadvantages
Using the library catalogue	• •	• •
Google search	• •	• •
Interviewing older family members	• •	• •

4 Examine the following sites. Explain whether you think they are reliable. Explain why.
   a British Museum
   www.britishmuseum.org
   b Coca-Cola
   www.coca-cola.com.au
   c University of Tasmania
   www.utas.edu.au
   d History of Egypt – Ask Aladdin
   www.ask-aladdin.com/history1.htm

Evaluate and create

5 Create a handbook or class wiki providing tips on good research techniques to share with other students in your year level or post on your school intranet.

6.4 Sequence events and use historical terms and concepts

Sequence historical events, developments and periods

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, like a day or week, or huge periods of time, like 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.

Chronology allows us to develop an ordered sense of time. Once events have been ordered chronologically, we are able to use a range of historical concepts such as cause and effect, significance, and continuity and change to analyse them in detail.

Sequencing time

Examples of how historians sequence time are shown in Sources 1 and 2. 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 21st century. These tables will help you as you work through Year 7 History. Refer to them as often as you need to.

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 1 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 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

Source 2 More than 2000 years of history in the Common Era (CE) divided into centuries. When ordering time CE, remember to count forwards from 1.

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 3 provides a simple example for ancient Egypt. Follow these basic steps when creating a timeline:

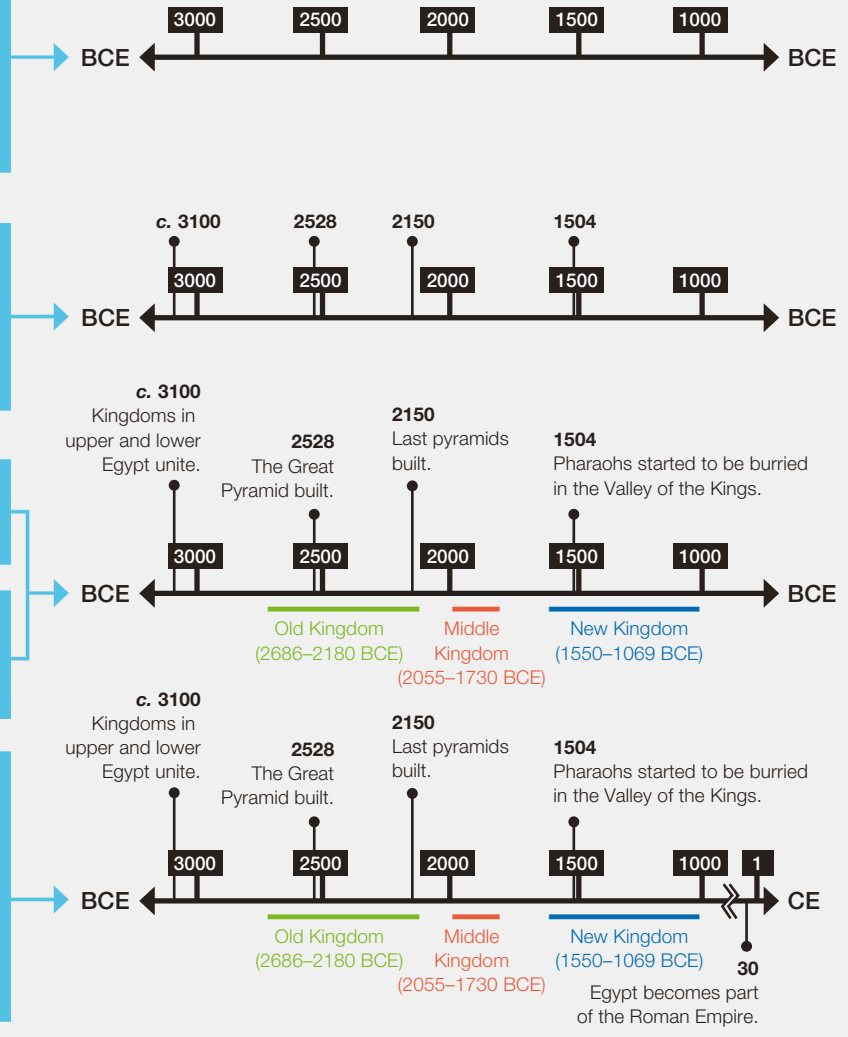
Step 1
Work out the length of time you want to represent on your timeline, such as from 3000 BCE to 1000 BCE. Then divide the timeline evenly into suitable blocks of time – in this case 500-year blocks. A timeline showing what you did yesterday might be divided into hours; one showing key events in the 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 3 A step-by-step guide to creating a timeline

Apply 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 or close friend)

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.

Use historical terms and concepts

Just like scientists, historians share a common language. They use historical terms and concepts to clarify what they are talking about and share their findings. Source 4 lists and defines some commonly used 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

Source 4 Some useful historical terms

Check your learning 6.4

Remember and understand

1 What is a timeline?
2 What century are we living in?
3 What does BCE after a date mean?

Apply and analyse

4 Arrange the following dates in chronological order.
1 CE 200 BCE 1200 CE 2012 CE c. 8000 BCE
5 Which centuries were the following years in?
a 2012 BCE
b 1 CE
c 1920 CE
d 1200 CE
e 902 BCE
f 654 BCE

Evaluate and create

6 Make a human timeline by forming a line with your classmates from youngest to oldest. Before you begin the activity, you will need to organise yourselves in groups based on:
a your years of birth
b your months of birth
c your dates of birth
d your times of birth (if two or more people are born on the same day and year).
7 Create a rhyme to help you remember one of the following:
- the difference between CE and BCE
- the definitions of year, decade, century, millennium, era and age.

6.5 Use historical sources as evidence

Identify the origin and purpose of primary and secondary sources

As explained earlier (see page 193), historians use two types of sources to gather evidence about the past:

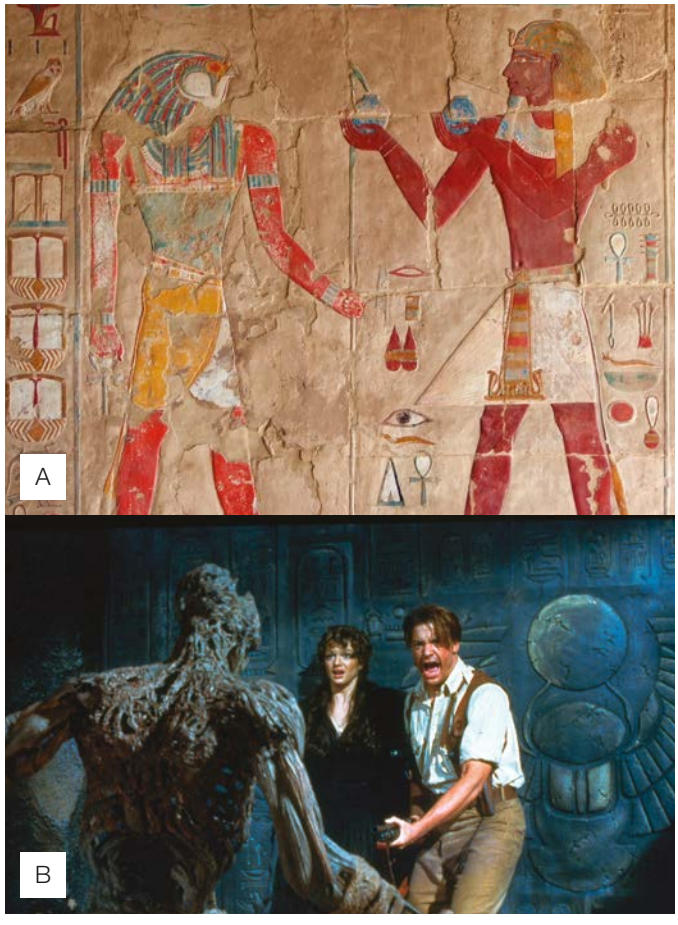
- primary sources – objects created or written at the time being investigated; for example, during an event or very soon after
- secondary sources – accounts about the past that were created after the time being investigated and which often use or refer to primary sources and present a particular interpretation.

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 'who', 'what', 'when' and 'why' questions will help you identify the origin and purpose of the sources. For example:

- 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 type of source is it?
  - Was the source created at the time of the event or afterwards?
- 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 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?



Source 1 The origin and purpose of these primary (A) and secondary (B) sources are very different even though they are both linked to ancient Egypt.

Locate, compare, select and use information from a range of sources as evidence

By this stage of your historical inquiry, 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 to support your hypothesis.

There are a number of different ways to organise large amounts of information so that you can decide quickly and easily which sources provide the most useful, relevant and reliable evidence.

Graphic organisers to help you compare, select and use information

Organisation charts are very useful tools for collecting, comparing and selecting suitable resources that you have located. A source evaluation chart like Source 2 can help you do this.

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 2 A source evaluation chart showing an example of how you might compare and select sources

Draw conclusions about the usefulness of sources

A useful source, whether primary or secondary, is one that will add to your understanding of a historical inquiry. 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 inquiry 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', 'believe', 'think' and 'suggests' all indicate that an opinion is being expressed. For example:

- **Fact:** Tutankhamun was a pharaoh who ruled Egypt.
- **Opinion:** Many historians believe that Tutankhamun was murdered.

Check your learning 6.5

Remember and understand

1 Which of the following is an example of a primary source?
   - **a** an Egyptian tomb painting
   - **b** an article written about tomb painting by a historian in 1907

   Give a reason for your answer.

2 Historians may never be absolutely sure of the building methods used to construct the Great Pyramid of Giza. Why might this be?

Apply and analyse

3 Give two reasons why it is important to know the origin of a particular source of information.

4 What words may indicate that a writer is expressing an opinion rather than presenting a fact?

Evaluate and create

5 Conduct an online search to locate other graphic organisers that may be useful to help you locate, compare and use information from a range of sources as evidence. Some graphic organisers of use to you may include KWL charts, fishbone diagrams and PMI charts. Once you have examined other types of graphic organisers, make an assessment of which is most useful to you.

6.6 Analyse different perspectives and interpretations

Identify and describe points of view, attitudes and values in primary and secondary sources

Primary and secondary sources reflect and represent 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 the following account of how the Great Pyramid of Giza was constructed:

Source 1

> [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)

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.

Historians now know that Herodotus' account is incorrect. At the time of his visit, the pyramid had been standing for over 2000 years and its construction was almost certainly not achieved with the use of slave labour as he described.

Modern historians have excavated skeletons and believe that the pyramid was built by Egyptian labourers who worked on it during flood time, when they were unable to farm. 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'.

What could have motivated Herodotus to deliberately write this false account? As a citizen of Athens, Herodotus' view of the world was shaped by his own democratic background. He resented the fact that so much power was held by one man, the pharaoh, and may have been trying to discredit him by blackening his name.

Source 2 The Great Pyramid of Giza, Egypt

Check your learning 6.6

Remember and understand

1. Historical sources always reflect the perspective of their writers. Give two examples of factors that may influence a writer's point of view or perspective.
2. Why might the Greek historian Herodotus have written that the Great Pyramid at Giza was constructed using slave labour?

Apply and analyse

3. When explaining why an event occurred in history, would it be acceptable to present your own opinions? Why or why not?

6.7 Communicate your findings

Develop text types (such as descriptions and explanations) that use evidence from a range of sources

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.

Different types of sources need to be used to ensure that historical writing presents a balanced view and is supported by reliable evidence.

Writing descriptions

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**.

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.

Source 1

Writing explanations

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.

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.

Source 2

Use a range of communication forms

The final stage of any historical inquiry is the presentation of your findings. This is one of the most important aspects of your inquiry because it draws together all of the sources, evidence and findings of your investigation.

There are a number of ways to effectively and impressively communicate your findings. For example:

- oral – speeches, class presentations, re-enactments, interviews and role plays
- graphic – posters, cartoons, graphic organisers and models
- written – descriptions, explanations, class newspapers, scripts, letters and diaries
- digital – audiovisual presentations, websites, films, blogs, wikis and apps

Check your learning 6.7

Remember and understand

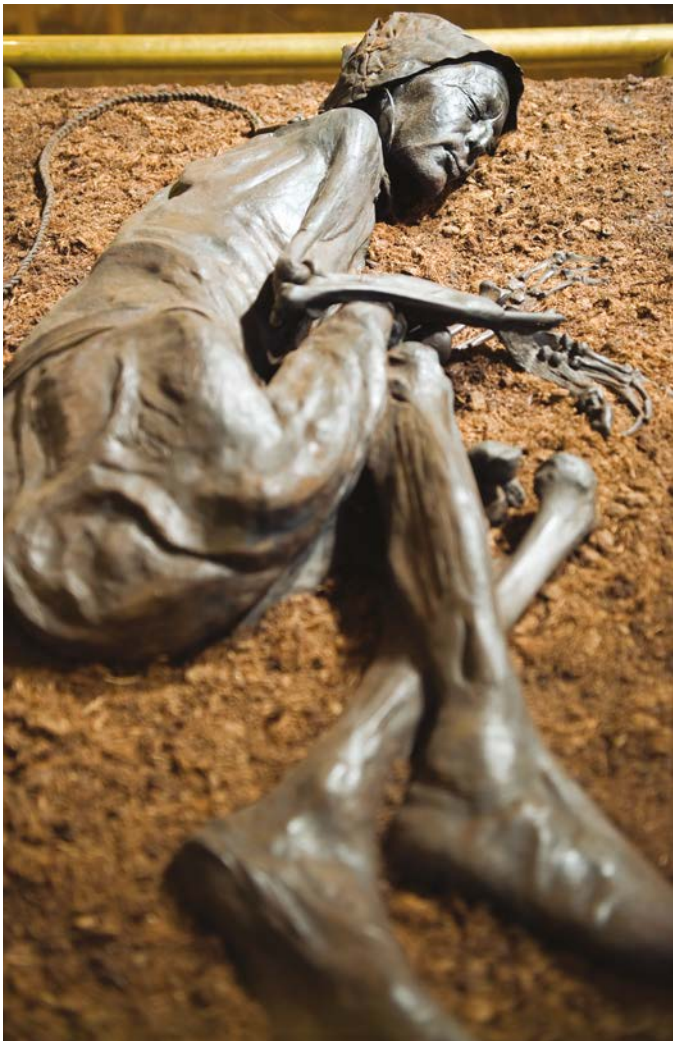
1 What is the purpose of both of descriptions and explanations?

Apply and analyse

2 Your teacher has asked you to write an essay on the life of a slave in Egypt. Would you use a description or an explanation for this task? Why?

6.8 How we know about the ancient past

History is the study of the past. Historians try to understand and explain the past by examining its remains – fossils, bones, books, ruins – known as sources. Historians use sources to generate theories (known as hypotheses) about people and events from the past. The process of investigating history therefore involves finding sources, asking questions about these sources, and then creating hypotheses. In order to prove these hypotheses, historians continue looking for more sources and gathering more evidence.



Some historical sources are easier to find than others. Some groups of people from the past have left behind more primary sources than others. No matter how many sources a historian finds, each piece can only tell part of the story. And regardless of whether the source is a small fragment of ancient pottery or a detailed book, it will only represent a small piece of the puzzle or one person's perspective. To combat this problem, historians need to research widely, recognise **bias** and accept that there are periods in history for which we cannot gather evidence. Increasingly, historians work with experts in other fields – such as scientists, biologists, translators, palaeontologists, geologists and archaeologists – to construct a more accurate and complete picture of the past.

What sources can be used in a historical investigation?

Historians use a variety of sources in historical investigations. These are usually divided into primary sources and secondary sources.

Primary sources

Primary sources are things that existed or were written or made during the time being studied. They have a direct link to the event, period or person being studied.

Source 1 Tollund Man, found near Tollund in Denmark in 1950, has allowed us to unlock important information about the past. Scientists, archaeologists and historians working together have determined when he died, what he had eaten, how he died, how ancient people in his society mourned the dead, as well as other information about his life.

Source 2 Archaeologists excavate ancient sites in order to find artefacts, buildings or even human remains that will help them understand the past.

Source 3 This spearhead is a primary source that provides evidence about our Indigenous Australian past.

Secondary sources

Secondary sources are things that have been created after the time being studied. A secondary source interprets and analyses primary sources. These sources are one or more steps removed from the event. A secondary source for one historical inquiry may be a primary source for another. For example, a painting of a 10th-century battle by a 17th-century artist is a primary source for that artist's life but a secondary source for the battle.

Primary sources	Secondary sources
Anything that existed or was written or made *during* the time being studied, such as: • skeletons or corpses • buildings • paintings • documents or inscriptions • music, songs or stories • costumes, clothing and jewellery • household items.	Anything that interprets or explains primary sources, and was created *after* the time being studied, such as: • textbooks, including this one • books, magazines, articles and websites • films and documentaries • maps • timelines.

Source 4 Some examples of primary and secondary sources

Check your learning 6.8

Remember and understand

1 Describe some of the sources historians use to investigate the past, and what they can tell us.

Apply and analyse

2 Examine Source 1 and make a decision about whether it is a primary or secondary source. Explain why you think a source like this might be important for historians and archaeologists.

Evaluate and create

3 Imagine you are a historian in the 25th century, researching life in the early 21st century. Create a list of historical sources that you think would have survived. For each source, describe what it would tell you about life at that time. What would those sources *not* tell you about? Write a historical report outlining what you have 'discovered' about life 400 years ago, and how you did so.

6.9 Archaeological digs

If you missed the grand final of your favourite sport and wanted to know what happened, you probably would not get reliable information if you spoke to just one person. You would need to check many sources of information – newspapers, television reports, game replays, fan blogs and so on. Likewise, historians cannot just rely on one source of evidence for an investigation. Historians 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.

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 specified. 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.

Source 1 Indigenous art at Injalak Hill, Northern Territory. This is evidence of Australia's ancient Aboriginal people. A historian might investigate the age of these paintings, who painted them and why.

Sources of evidence

- Archival material (e.g. letters, reports, documentaries, voice recordings, newspapers, official documents) found in libraries, archives and on specialised Internet sites
- Textbooks and journals by experts relating to the 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) and so on

Source 2 Sources of evidence for a historical investigation. Some can be found at archaeological digs. Others can be used to make sense of objects found at digs.

key**concept:** Significance

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.

Source 3 The remains of Ötzi the Iceman

For more information on the key concept of significance, refer to page 195 of 'The history toolkit'.

Source 4 Some archaeological excavations can be quite deep because the sources being excavated may be covered by many layers of dirt, rock and debris.

Check your learning 6.9

Remember and understand

1 Identify what kinds of sites archaeologists excavate.
2 Explain how archaeologists investigate a dig.

Apply and analyse

3 Analyse how Ötzi the Iceman's body could be used to provide information about life in the Ötzal Alps more than 5000 years ago.
4 Sketch an archaeological dig and label the different types of evidence that could be found there.

Evaluate and create

5 Imagine you are an archaeologist. Briefly explain why your job is important to the study of history.

6.10 Scientific techniques

When archaeologists and historians find objects from the past, they often need 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 2. 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 1 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.

Source 2 Three skulls – front: *Homo habilis* (Kenya, 1.88 million years old); centre: *Homo erectus* (Kow Swamp, Victoria, 13000 years old); back: *Homo sapiens* (Keilor, Victoria, 13000 years old)

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 3). 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.

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.

Source 3 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, over time, it 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.

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 5). 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 5 Trees grow a new ring every year.

Source 4 Radiocarbon dating would determine the likely age of mummified human remains such as these. This corpse was found in central Asia.

Other scientific techniques

DNA analysis

All living organisms (except some viruses) contain deoxyribonucleic acid, or DNA. DNA 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. They can also tell 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.

Ice-core sampling

This technique works in a similar way to stratigraphy. Ice-core samples are long cylinders of ice that have been drilled from thick ice sheets. These samples are most commonly taken from the polar ice caps of Antarctica and Greenland, or from high mountain **glaciers** all over the world. As ice forms in the gradually increasing build-up of annual layers of snow, lower layers are older than upper layers. This means that an ice core contains ice formed over many years. Air trapped at various sections along an ice core, such as the one shown in Source 6, provides evidence of what the atmosphere was like at different periods in the past. Scientists can then form conclusions about the climate at a particular time.

Source 6 Scientists collecting ice-core samples in Antarctica

Source 7 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.

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 a particular area has changed over thousands of years (see Source 7).

Check your learning 6.10

Remember and understand

1 In your own words, describe each of the scientific techniques covered in this section.
2 Describe how DNA analysis can help historians to better understand a source.

Apply and analyse

3 Explain why it is important to be able to date sources.
4 Imagine you found human remains at an archaeological dig. Which methods would be best suited to dating these remains and why?

Evaluate and create

5 Explain which dating technique you think is the most accurate or the most reliable. Justify your answer.
6 Study the evidence about the age of the Sphinx on the next page. Determine how old you think the Sphinx is. Make sure you support your decision with evidence.

The mystery of the Sphinx

Historians and archaeologists disagree about how old the Sphinx is. Different forms of evidence point to different answers, and historians look at various forms of evidence in combination to form an opinion about the Sphinx's age.

Most archaeologists believe that the Sphinx is about 4500 years old, having been built around 2500 BCE, but there are some who believe it is much older.

The Sphinx lies among Egypt's pyramids at Giza. It was carved from an outcrop of limestone rock and was probably once painted. The Sphinx has been studied by many scholars and scientists. There is much we know but also a great deal we do not. For example, whose face is represented on this monument? How and why were the face and nose of the Sphinx damaged? Are there tunnels beneath it? How old is it?

HISTORICAL EVIDENCE

Between the front paws of the structure there is a tablet inscribed with **hieroglyphs** (similar to those in Source 9). The hieroglyphs describe a dream of the Egyptian king Thutmosis IV, who ruled Egypt between 1424 and 1417 BCE. He ordered that this inscription be made. It includes the statement that the Sphinx was made 'in the days of Khafre, when the world was young'.

The Sphinx lies close to the tomb of the Egyptian pharaoh Khafre, who lived *c.* 2603–2578 BCE. It is also believed to resemble Khafre.

EVIDENCE FROM EROSION

Some archaeologists and scientists believe the Sphinx was built about 9000 years ago. They argue that the erosion on the Sphinx could only have been caused by steady rainfall. The last time it rained steadily in the Sahara was about 8000 years ago.

Other scientists **contest** this evidence. They argue that the erosion could have other causes. The erosion could also have been caused by water rising in the ground under the Sphinx. It moves up into the limestone, and when it evaporates it leaves behind salt, which can cause the limestone to break down.

Finally, there is no evidence of an Egyptian civilisation that existed in 7000 BCE. For the Sphinx to be 9000 years old, there would have to have been an ancient civilisation that pre-dated the Egyptians. This is a tantalising idea, but is it true?

For more information on the key concept of contestability, refer to page 196 of 'The history toolkit'.

Source 8 The Sphinx, with the body of a lion and the head of a man

Source 9 Stone relief of Egyptian hieroglyphs found at the entrance to a tomb

6.11 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. If a source is important, it needs to be conserved to secure its value for future generations.

Tourist numbers are growing rapidly in places such as Pompeii and the Indigenous 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 sometimes cause offence to others, or show disrespect to others' beliefs.

Conservators are now taking a range of measures to protect certain objects and places from overexposure. For example, Indigenous cave art is often fenced off. Such an action respects the spirituality of Indigenous people 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. Some examples include:

- the Mitchell Library in the State Library of New South Wales, which houses a huge collection of historical sources on Australiana
- the Bunjilaka Aboriginal Cultural Centre at the Melbourne Museum, which aims to 'keep alive' the oral stories and history of Victoria's Koorie people. In this case, conservation is about making sure stories are not forgotten.

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. Think how your clothes fade when you wear them outside in the sun a lot. It is important to protect historical sources from such damage. 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.

key concept: Evidence

Preserving our heritage

Historical sources are part of our heritage. They are a reminder of the glories and terrors of past times, and the mistakes and great advances made. They remind us where we have come from and what shaped our societies and cultures. They give us a sense of who we are as a people. Conserving these remnants of the past ensures that future generations will be able to appreciate a shared heritage.

Source 1 A conservator restoring an ancient statue of Marcus Aurelius' horse. Marcus Aurelius (121–180 CE) was Roman emperor for the last 19 years of his life.

Source 2 The Gallery of First Australians in the National Museum of Australia in Canberra includes this display, which provides evidence of the strong connection Torres Strait Islanders had with the sea. The museum conserves these sources in order to maintain this part of Australian history.

Source 3 The Pintupi people women's Dreaming site

It is important to conserve not just our recent past but also our ancient past. Some groups want to ban access to significant Indigenous sites in order to aid their conservation. Large numbers of tourists visiting a site can both physically damage it and can be regarded as disrespectful.

Source 3 shows a sacred women's Dreaming site belonging to the Pintupi people. Some people think public access to such sites should be limited in order to conserve it.

For more information on the key concept of evidence, refer to page 193 in 'The history toolkit'.

Check your learning 6.11

Remember and understand

1 In your own words, describe what conservation is.
2 List the different reasons for conserving historical sources.

Apply and analyse

3 Explain what precautions museums put in place for fragile artefacts and why.
4 Outline the reasons for banning access to popular Indigenous sites.

Evaluate and create

5 Justify whether you think access to significant Indigenous sites (like the one shown in Source 3) should be limited.
6 Create a plan for conservation of an important source of history in your community. Think about why it is important and what factors may cause it to be damaged.

Unit 1 Aboriginal and Torres Strait Islander peoples and cultures

Introduction to Aboriginal and Torres Strait Islander peoples and cultures

Thousands of years before ancient civilisations in Egypt, Greece and Rome developed, Aboriginal and **Torres Strait Islander peoples** were living successfully in Australia. In fact, **Indigenous Australian** cultures are the oldest continuous cultures in the world – beginning at least 60 000 years ago and continuing to this day.

All over the harsh and dry continent of Australia, separate groups of Indigenous peoples developed different ways of living in harmony with the land. The natural environment provided the food and materials they needed to survive and prosper. It also shaped every aspect of their social and spiritual lives.

7A

Who are the Indigenous peoples of Australia and the Torres Strait Islands?

1 There are two main groups of Indigenous peoples in Australia. Suggest two ways in which these main groups may be different.

7B

How do we know about ancient Australia?

1 Over the past 30 to 40 years, historians have learnt a great deal more about ancient Indigenous peoples in Australia and how they lived. How do you think this information was gathered?

chapter 7

Source 1 Indigenous Australian cultures are the oldest continuous cultures in the world – beginning at least 60 000 years ago and continuing to this day.

7C

Why is it important to study Aboriginal and Torres Strait Islander peoples and cultures?

1 As a class, discuss why it might be important for modern Australian students to learn about the traditional cultures of Aboriginal and Torres Strait Islander peoples. What can we learn from them?

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 because they believe it disturbs the spirits of those who have died.

7.1 The first Australians

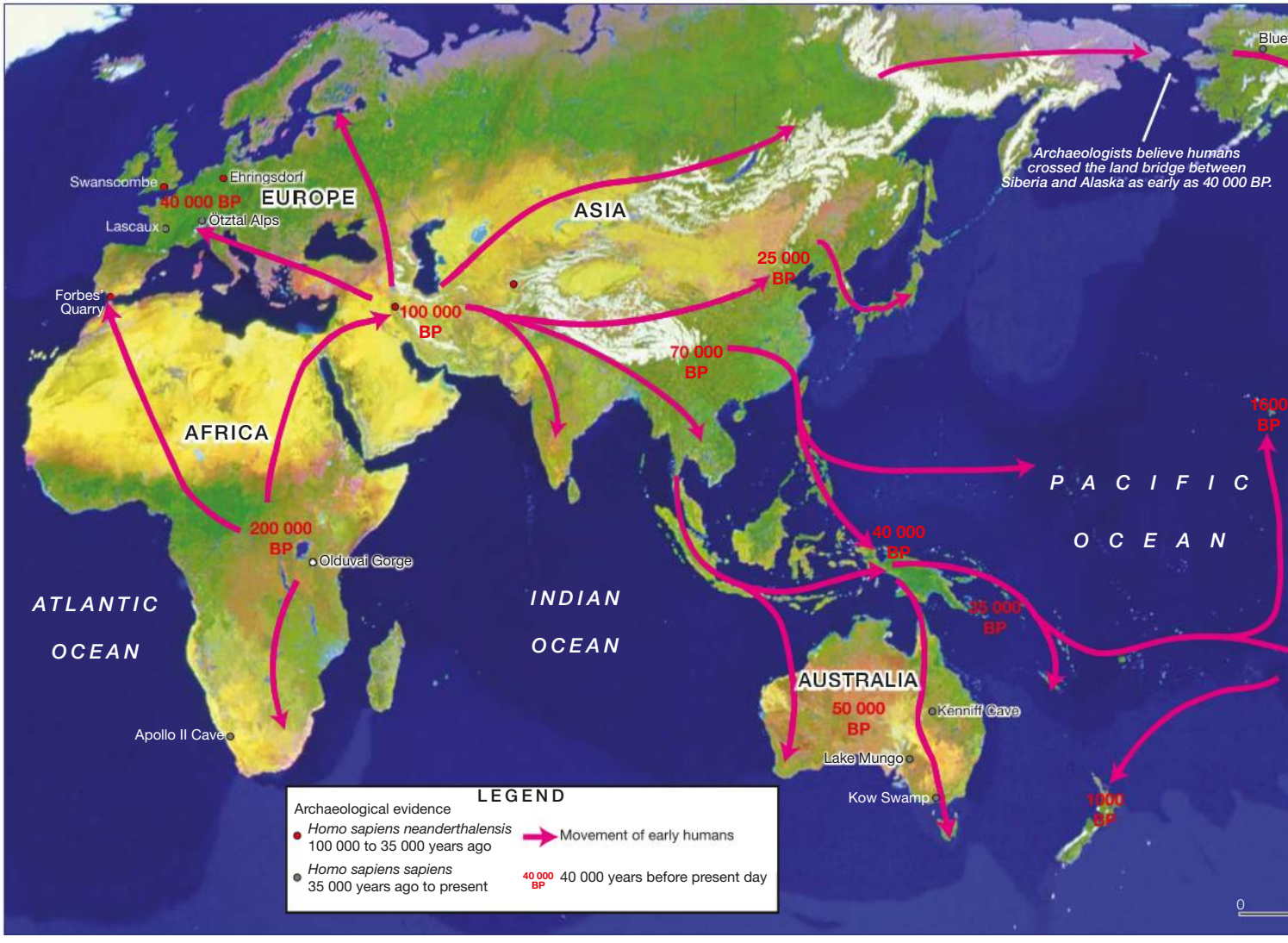
Aboriginal and Torres Strait Islander peoples have been living in Australia for at least 60000 years. They are sometimes called the **first Australians** because they were here long before the first Europeans arrived in 1788.

The 'Out of Africa' theory

Scientists and historians believe that modern humans have existed on Earth for around 200000 years. They also have evidence that modern humans, or ***Homo sapiens***, originally came from Africa. According to the **'Out of Africa' theory**, about 100000 years ago, the first *Homo sapiens* started moving out of Africa in search of new hunting areas and places to settle. They moved in different groups over many thousands of years (see Source 1). 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 Indigenous 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 was 150 metres lower than it is today. Other groups may have travelled from Asia to Australia on boats or canoes.

WORLD: LOCATIONS AND MOVEMENT OF EARLY HUMANS



Source 1 According to the 'Out of Africa' theory, the first humans started moving out of Africa around 100000 years ago. Scientists now believe that the first humans arrived in Australia at least 60000 years ago.

Based on fossils, artefacts and ancient paintings, historians believe that *Homo sapiens* reached Australia at least 60 000 ago. Many historians believe this date marks the beginnings of Indigenous cultures and peoples in Australia.

Aboriginal people in Tasmania are thought to have travelled down through eastern Australia up to 40 000 years ago. At that time, the two areas were also connected by land. Tasmania became isolated from the mainland around 11 000 years ago when Bass Strait was flooded at the end of the last ice age.

Indigenous creation stories

The Indigenous peoples of Australia have a different view of how people first arrived here. Their creation stories tell of how the world was created and how people came to walk the land. According to these stories, the **ancestors** of Indigenous 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.

Source: Oxford University Press

Source 2 Many Aboriginal rock engravings tell how ancestor spirits came to Earth in human form and created the land and all living things.

Check your learning 7.1

Remember and understand

1 What is the 'Out of Africa' theory? According to this theory, when did people first arrive in Australia?

2 How do scientists think the earliest Indigenous peoples travelled from Asia to Australia?

3 Why did the earliest humans begin moving out of Africa around 100 000 years ago?

Apply and analyse

4 According to the beliefs of many Indigenous Australians, when did people first arrive in Australia? How did they arrive?

Evaluate and create

5 Use the Internet to research the history of Indigenous peoples in Tasmania. List three ways in which their cultures and ways of life were different from groups on the mainland of Australia. What were the reasons for these differences?

7.2 The environment and climate of Australia

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 more than 200 islands that lie between the northern tip of Queensland and Papua New Guinea – known as the Torres Strait Islands.

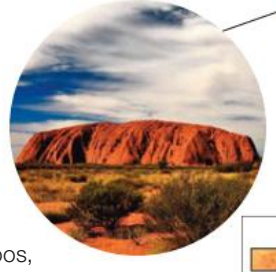
As you can see in Sources 1 and 2, each region of Australia has its own environment and climate. This means that the plants, animals and landforms in these regions are different. For example:

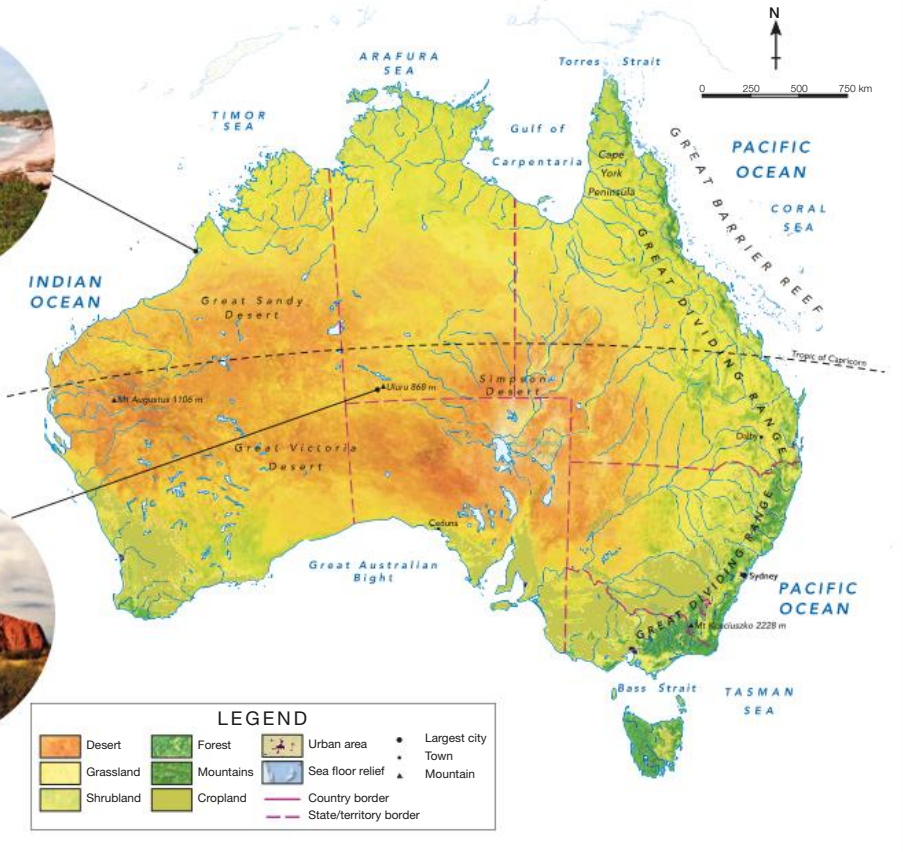
- Regions in the north – such as parts of Queensland, the Northern Territory and the Torres Strait – are tropical, meaning they are very warm and wet. They are covered with tropical forests and shrublands. There is plenty of water available.
- Regions in the south – such as parts of Victoria and Tasmania – 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.

AUSTRALIA: ENVIRONMENTS

Yawuru people
Broome region, Western Australia
- The Yawuru slept in the open or in simple shelters.
- They ate food from the sea, including turtles, oysters, eels and shellfish.

Pitjantjatjara people
Central Australia, Northern Territory
- The Pitjantjatjara found water in trees and plants.
- They hunted kangaroos, wallabies, goannas and smaller mammals, and found berries and seeds.





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 gather and animals they could hunt. Climate also influenced the types of shelter and clothing people needed. For example, Indigenous peoples in the tropical regions of Australia needed different clothing from the people in the colder regions of Victoria and Tasmania. Indigenous groups in the dry regions of Australia would have eaten different foods and had different hunting techniques from groups in other places. Source 1 and 2 show how different environments and climates influenced the lives of various Indigenous groups around Australia.

Check your learning 7.2

Remember and understand

1 Australia is made up of more than just the mainland and Tasmania. How many islands are part of Australia?

2 Where are the Torres Strait Islands and how many are there?

3 The Pitjantjatjara people live in a very dry region of Australia. How do they find water to drink?

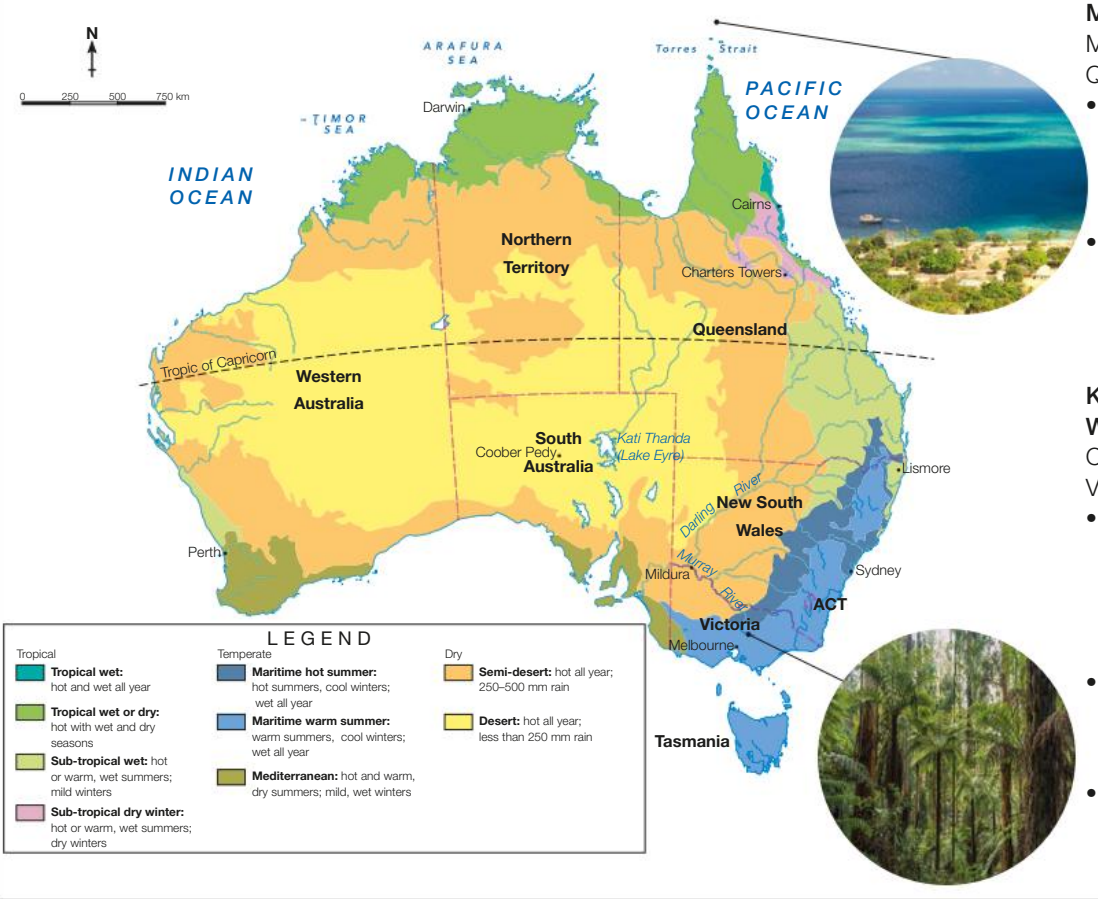
Apply and analyse

4 Australia has many different climate zones. What zone is Melbourne located in?

5 In your own words, describe how environment and climate in Australia influenced the way Indigenous groups lived.

6 Look carefully at Source 2. What are the main differences between tropical regions and temperate regions?

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

7.3 One continent, many nations

Although Australia is a single **continent**, the Indigenous peoples and cultures that developed here over thousands of years were complex and very different. They were not a single group of people, but many different groups. Most had their own distinctive languages, cultures and beliefs. For that reason, different Indigenous cultural groups are often referred to as nations. Historians believe that there were about 600 different nations around Australia when Europeans arrived in 1788.

Aboriginal peoples and cultures

The term '**Aboriginal peoples**' is used to describes all of the different Aboriginal nations and language groups that have lived on mainland Australia, Tasmania and many of Australia's islands for thousands of years.

The earliest Aboriginal people are believed to have arrived in Australia at least 60 000 years ago from Asia. At that time a land bridge connected the two continents.

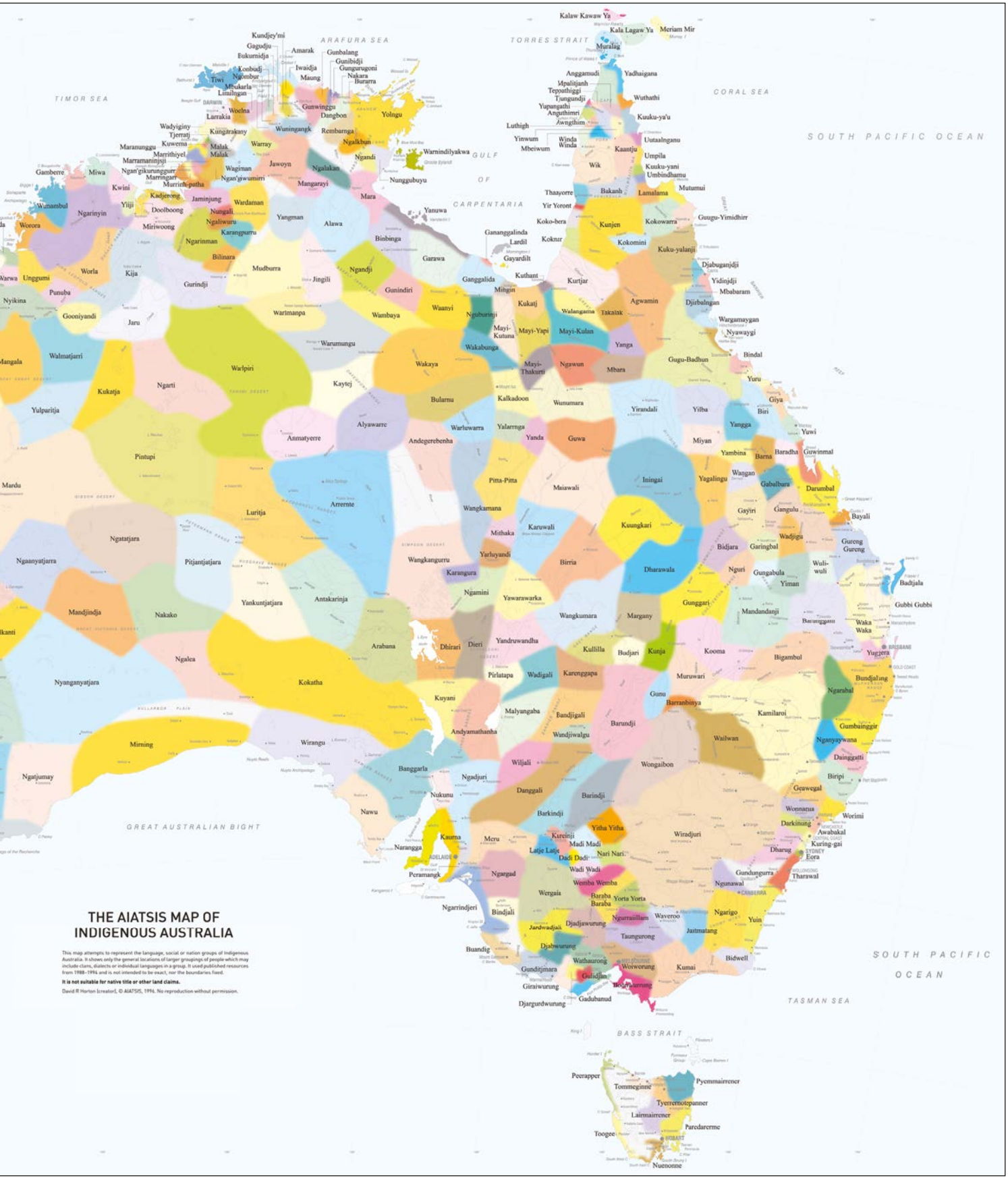
Australia's huge size meant that many Indigenous groups never came into contact with one another. As a result, the customs of these different groups – the languages they spoke, the foods they ate, the stories they told and the art they created – were very different. For example, there were around 250 Indigenous languages. Each had many different dialects, producing up to 700 varieties. This makes Aboriginal Australia one of the most linguistically diverse areas on the planet. In some districts, within a distance of 80 kilometres you could hear three languages as different as English, Russian and Hindi.

When Europeans arrived, there were approximately 750 000 Indigenous people living in Australia. Most Indigenous groups were **hunter-gatherers**. This means they moved around with the seasons, hunting animals and gathering other foods such as fruits, nuts, yams and insects. Shortly after Europeans began colonising Australia, the number of Indigenous people declined dramatically. Today, there are approximately 450 000 people in Australia who identify as Indigenous. Source 1 shows the location of Indigenous nations and language groups across Australia. It was created in 1996 and shows only the general locations of larger groupings of people (which may include clans, dialects or individual languages in a group).

AIATSIS MAP OF INDIGENOUS AUSTRALIA

This map is just one representation of many other map sources that are available for Aboriginal Australia. Using published resources available between 1988 and 1994, this map attempts to represent all the language or tribal or nation groups of the Indigenous people of Australia. It indicates only the general location of larger groupings of people, which may include smaller groups such as clans, dialects or individual languages in a group. Boundaries are not intended to be exact. This map is NOT SUITABLE FOR USE IN NATIVE TITLE AND OTHER LAND CLAIMS. David R. Horton, creator, © Aboriginal Studies Press, AIATSIS and Auslig/Sinclair, Knight, Merz, 1996. No reproduction without permission.

Source 1



Source: AITSIS map of Indigenous Australia, AITSIS (1994). A fully interactive version of this map can be found at http://aitsis.gov.au/explore/articles/aboriginal-australia-map

The Australian Aboriginal flag

The Aboriginal flag is one of the official flags of Australia. It was designed by Aboriginal Elder Harold Thomas in 1971. Since then, it has become a widely recognised symbol of the unity and identity of Aboriginal people. The flag is made up of three parts:

- The top half of the flag is black to symbolise the Aboriginal peoples of Australia.
- The bottom half of the flag is red to symbolise the earth and the colour of ochre – a natural pigment (colour) used by the Aboriginal people in art and body painting.
- The circle in the centre of the flag is yellow to represent the Sun.

Source 2 The Australian Aboriginal flag

Source 3 Aboriginal peoples have lived on mainland Australia, Tasmania and many of Australia's offshore islands for thousands of years. Before Europeans arrived, there were around 600 separate Aboriginal cultural groups (also known as nations).

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 10000 years ago, there was a land bridge between Australia and 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.

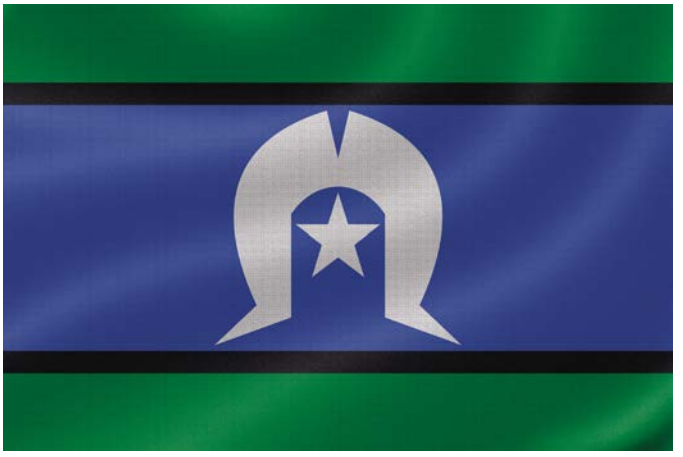
It's important to know that Torres Strait Islanders are not mainland Aboriginal people who just live on the Torres Strait Islands. Instead, they are separate people with different cultural heritage and backgrounds. Unlike Aboriginal people, Torres Strait Islanders are of Melanesian origin. Melanesia 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 40000 live on mainland Australia, mostly in Queensland.

Source 4 Torres Strait Islander people come from the islands of the Torres Strait. Unlike Aboriginal people, Torres Strait Islanders are of Melanesian origin. This boy is wearing a headdress know as a *dhari*.

The Torres Strait Islander flag

The Torres Strait Islander flag is also one of the official flags of Australia. It was designed by Bernard Namok in 1992 and since then has become a symbol of unity and identity for Torres Strait Islanders.The flag is made up of five parts:

- The green stripes at the top and bottom symbolise the land.
- The blue strip across the middle symbolises the water.
- The two black stripes symbolise the Indigenous people of the Torres Strait Islands.
- The central design symbolises the traditional headdress of the Torres Strait Islands, known as a *dhari*.
- The white star inside the *dhari* has five points to symbolise the five major island groups. The white of the star also symbolises peace.



Source 5 The Torres Strait Islander flag

Check your learning 7.3

Remember and understand

1 Why are separate Aboriginal cultural groups often referred to as nations?

2 Explain why Aboriginal Australia is considered one of the most linguistically diverse areas in the world.

3 How many islands are there in the Torres Strait? How many of them are populated?

Apply and analyse

4 In your own words, explain the difference between Aboriginal and Torres Strait Islander people.

5 Look at Sources 3 and 4. What differences can you see between the traditional clothing of the Aboriginal people and that of the Torres Strait Islander boy?

Evaluate and create

6 Look carefully at Source 1. Find the area where you live and give the name of the Indigenous people (or nation) who were the first custodians of the land. Use the Internet to collect some more information about this group and answer the following questions:

a How do you say hello in their language?

b What types of food did they traditionally eat?

7.4 Aboriginal culture and beliefs – the Dreaming

The Dreaming is a belief system at the centre of all Aboriginal cultures. It is a difficult concept for non-Indigenous people to understand. During the Dreaming, Indigenous 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.

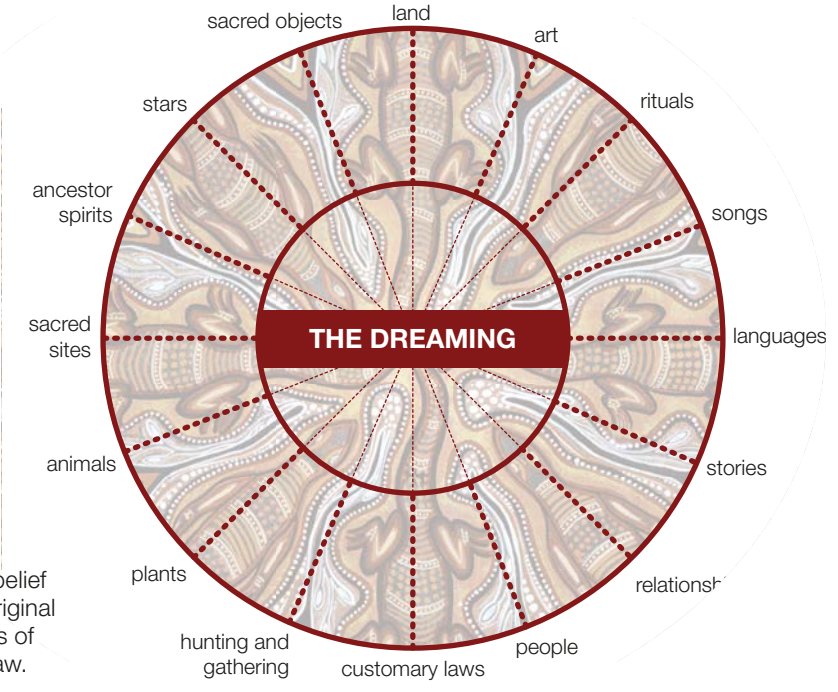
These ancestors were spirits who appeared in a variety of forms. When their work was completed, the ancestor spirits went back into the earth and sky, and also into the animals, landforms and rivers. The spirit ancestors are alive in all Australian Aboriginals. The Dreaming is ongoing – it began with the creation of the Earth and continues to the present day. For Indigenous Australians, all living things are part of the deep and spiritual tradition of the Dreaming.

Dreaming and the land

Aboriginal people do not see themselves as separate from the natural environment. Instead, they see themselves 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. They 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 Indigenous Australian is in their Country, their spirit and the spirits of their ancestors live through the features of the land. In fact, they see Country as a living individual.



Source 1 The Dreaming is a belief system at the centre of all Aboriginal cultures. It connects all aspects of Aboriginal life, spirituality and law.

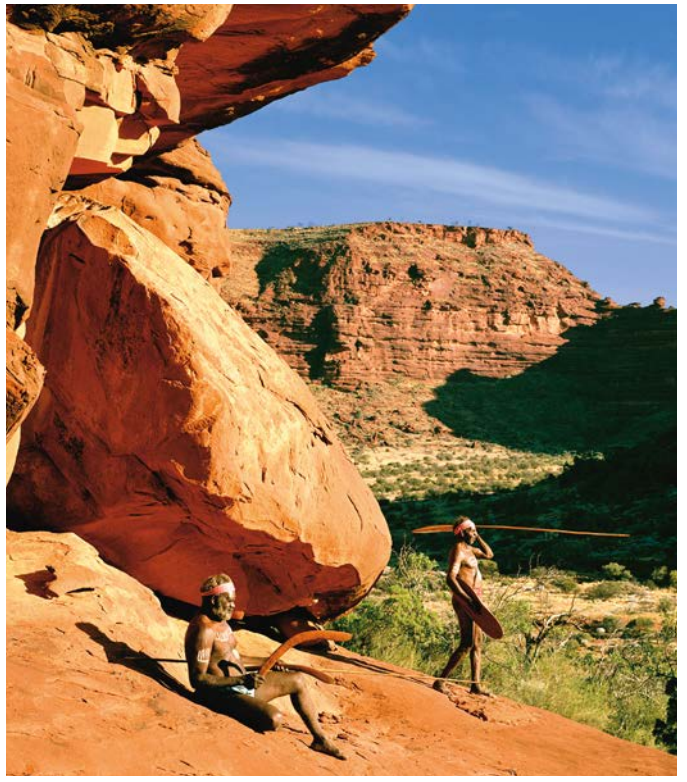
Dreaming and the law

Stories from the Dreaming also pass on important knowledge, values and codes of behaviour for Indigenous people 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 Indigenous customary laws is that they developed from different starting points.

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.

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 Indigenous peoples look at the world.



Source 2 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.

European view of the world	Indigenous view of the world
• Progress and change is valued – the world progresses and things improve.	• Continuity is valued – things stay the same.
• People own the land – individuals own and use the land for their own gain. It is theirs to use however they like.	• People do not own the land – individuals and groups are custodians (caretakers) of the land and then pass it to the next generation.
• People own things – individuals or groups own property and decide if they will share or sell it.	• People share things – groups use things but do not own them. Things are shared between members of the group.
• Things are counted, measured and analysed – science forms the basis of society.	• Things are spiritual, connected, cultural and environmental – the Dreaming forms the basis of society.
• Written culture – things are recorded and written down.	• Oral culture – things are passed down by word of mouth.

Source 3 World views of Europeans and Indigenous Australians

Check your learning 7.4

Remember and understand

1 How do Indigenous Australians believe the mountains, rivers, forests and deserts were created?

2 When was the Australian Aboriginal flag created? What do its colours symbolise?

Apply and analyse

3 In your own words, explain the concept of Country.

4 Look carefully at Source 3. How do the world views of Europeans and Indigenous Australians differ in relation to land and property?

Evaluate and create

5 Conduct some research on the Internet to learn about the creation stories of Torres Strait Islander peoples. How are these stories different from those of Australian Aboriginal peoples?

7.5 Studying ancient Australia

Studying ancient cultures is never easy for historians. Over thousands of years, the historical **sources** that they rely on for **evidence** (such as paintings, pottery, carvings and tools) can be lost or damaged. This can make it very difficult to piece together the stories and secrets of ancient cultures.

How we know about ancient Australia

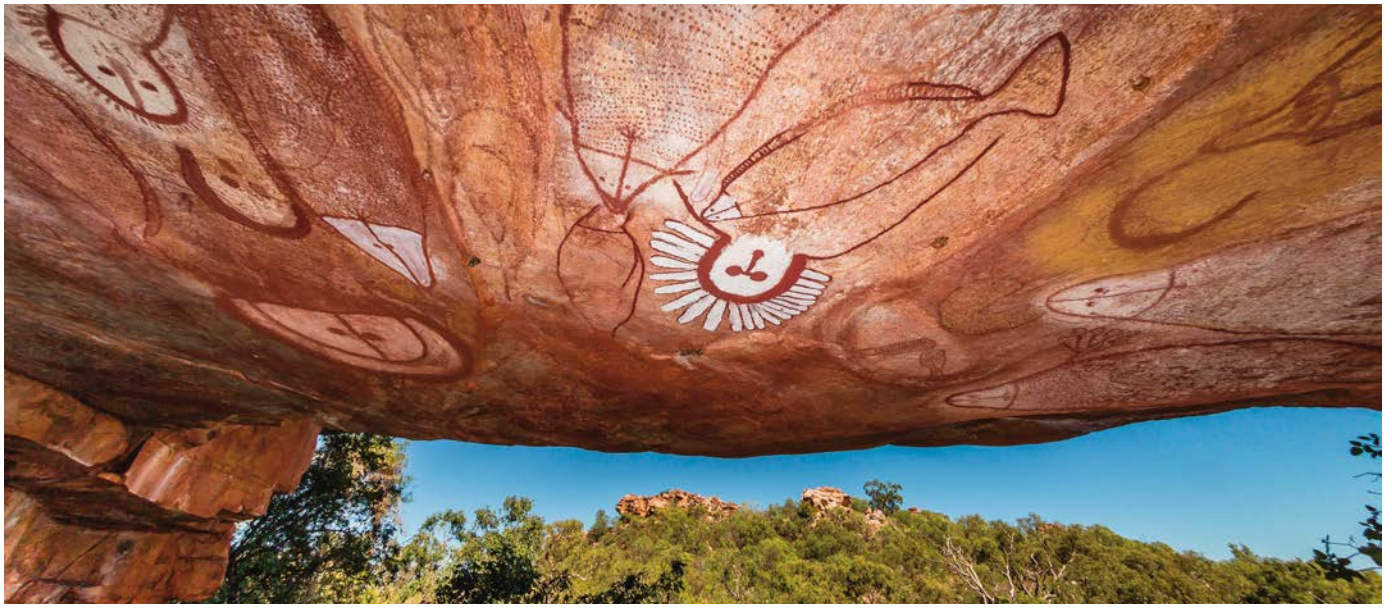
When studying traditional Aboriginal and Torres Strait Islander cultures, historians have to overcome many challenges. For example:

- While many ancient civilisations left permanent structures behind (such as buildings and temples), most Indigenous cultures in Australia did not.
- While many ancient civilisations such as those in Egypt, Greece and Rome left written records, Indigenous cultures in Australia did not.
- When Europeans arrived in Australia in 1788, many Aboriginal groups were forcibly moved off their lands, many died from European diseases, and many more were killed. As a result, a great deal of cultural knowledge was lost.

So how is it that we know so much about ancient Australia?

The answer lies in a range of different historical sources. Some of these sources were created during the time being studied. These are known as **primary sources**. Others were created after the time being studied. These are known as **secondary sources**. A combination of primary and secondary sources must be used if historians are to create a more complete picture of what life was like in ancient Australia.

Source 1 Aboriginal peoples have an oral tradition. Elders are responsible for passing down the stories, knowledge and beliefs of their people by word of mouth.



Source 2 These paintings of Wandjina are located in sandstone caves at Raft Point, Kimberley, WA. They are a valuable source of evidence for historians investigating ancient Australia.

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 Indigenous societies of ancient Australia had an oral tradition. With no form of writing, their records were preserved in other ways. Instead of writing, the cultural and spiritual knowledge of the Indigenous Australians has been passed down over many generations through stories, music, dance, song, ceremonies and rituals.

The **elders** of different Indigenous groups passed important information down to young men and women. An Aboriginal or Torres Strait Islander elder is someone who has a respected position in their group and has permission to pass on knowledge and beliefs. Aboriginal elders tell stories of the Dreaming, which include explanations of how the Earth was formed and how humans came to be. Although the details of creation stories varied from place to place, there were many common themes. Many groups told that ancestor spirits had created the trees, rocks, rivers and mountains, and that they still live in the sacred places. Children and young people were taught these stories. When they grew up and became elders themselves, they passed on these complex and detailed stories to the next generation.

Thanks to oral traditions, most Indigenous people in Australia today still have a deep understanding of their cultural heritage.

Rock paintings and traditional works of art

In addition to oral traditions, ancient Indigenous Australians 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.

An image frequently found on rock faces in the Kimberley region in northern Western Australia is the Wandjina. To the Mowanjum people from this region, a Wandjina is a spiritual ancestor and supreme creator. Wandjina have large eyes and no mouths. They are to encourage rain and fertility. The oldest Wandjina images in the Kimberley are believed to be up to 40 000 years old.

Mungo Lady and Mungo Man

Lake Mungo is a dry lake in the south-west corner of New South Wales (about 90 kilometres from the Victorian town of Mildura). Until about 10 000 years ago, the lake was full of water and was used by Indigenous Australians as a source of food and water.

Archaeological evidence – in the form of human remains – found in the area in 1969 and 1974 supports the theory that Indigenous peoples have lived in Australia for over 40 000 years. As well as helping to prove Indigenous existence in Australia, these discoveries provided important information about how ancient Indigenous Australians lived.

The first discovery was made in 1969. It was the cremated (burned) remains of a female – who became known as Mungo Lady. The second discovery was made in 1974.

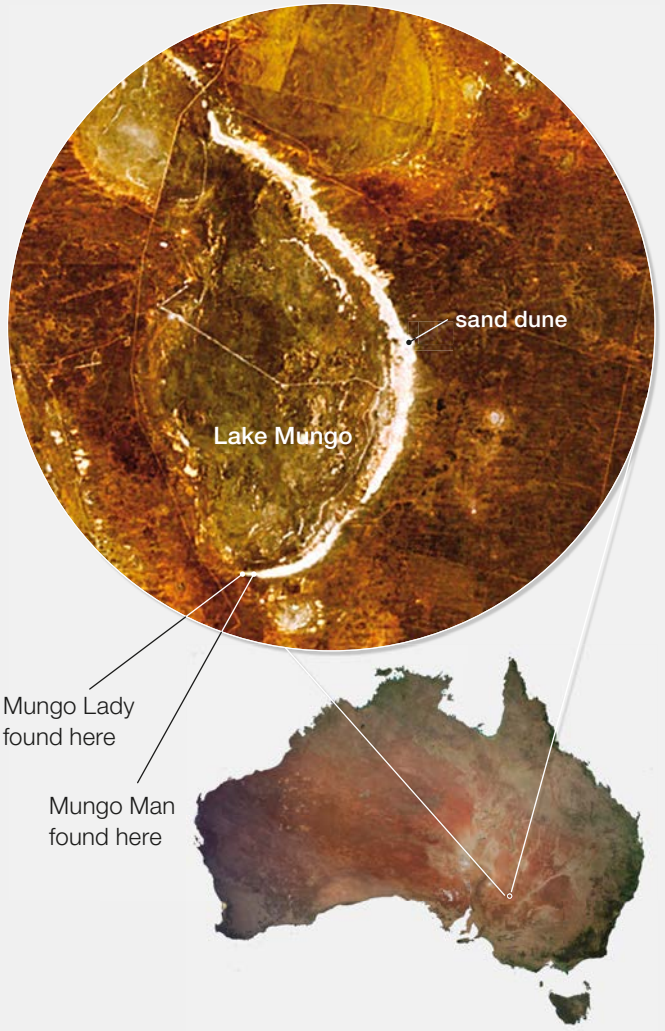
Source 3 Archaeologists carefully excavating the remains of Mungo Man in 1974

It was the bones of a male – who became known as Mungo Man. Both discoveries have added to our understanding of the lifestyle, diet, health and culture of the earliest humans in Australia.

From the 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.

Less information is available about the life of Mungo Lady because her body was cremated and her bones crushed. Despite this, evidence suggests that her cremation was part of a detailed ritual. One theory is that her family prepared her body because they wanted her to rest peacefully. Another theory is that this burial practice was designed to prevent her returning from the spirit world to haunt the living.

For more information on the key concept of evidence, refer to page 193 of ‘The history toolkit’.



Source 4 The location of Lake Mungo and the area where Mungo Lady and Mungo Man were discovered

Source 5 Middens are ancient rubbish heaps where people have left the remains of their meals (such as a shells and bones). This midden was found at Boulder Point in Tasmania. Middens are valuable archaeological sites for historians because they show what foods ancient peoples ate. The charcoal remains of fireplaces and other artefacts (such as tools) were also found at this site.

Archaeological and historical evidence

Much of the information available to us about ancient Indigenous 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 the first Australians lived. In some areas, archaeological digs have revealed many layers of different artefacts. Archaeologists use a technique known as **stratigraphy** to learn about changes and adaptations over time. For more information on stratigraphy, see page 214 of 'The history toolkit'.

Secondary sources

In addition to primary sources, historians 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 Indigenous people 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 Indigenous life in the early years of European colonisation. In particular, the early writings and paintings of early British colonists are being used as historical evidence. Many of these sources present a picture of the Indigenous people as clever and efficient land managers.

Check your learning 7.5

Remember and understand

1 How have modern Australians been able to gather evidence and information about how ancient Indigenous Australians lived?

2 What types of primary sources exist from Australia's ancient past?

3 What can rock paintings tell us about the beliefs of ancient Australians? What are the key features of the Wandjina figures shown in Source 2?

Apply and analyse

4 How do you think the oral traditions of Indigenous Australians were affected by the arrival of Europens in 1788?

5 What are middens and why are they used by historians?

Evaluate and create

6 Conduct some additional research about Mungo Lady and Mungo Man.

- **a** What other theories have historians developed about the daily lives of these people?
- **b** Is there any evidence to suggest why Mungo Man's teeth were so damaged at the time he died?
- **c** Where are the remains of Mungo Lady and Mungo Man located today?

7.6 Protecting and conserving Australia's ancient past

When Europeans first began colonising Australia in 1788, the Indigenous peoples of this land were treated very badly. The British declared Australia to be ***terra nullius*** (from Latin, meaning 'land belonging to no one') and set out taking the land for themselves. The British forcibly removed Aboriginal people from their lands and many more died from European diseases (to which they had no immunity). As a result of colonisation, the traditional cultures and lifestyles of the Aboriginal peoples were changed forever, and many sacred sites and ancient practices were stolen. Many negative attitudes towards Indigenous Australians carried on until the 1960s, when new laws and rights protected Aboriginal people and granted them control over their traditional lands. Since this time, a new respect for Aboriginal and Torres Strait Islander peoples and cultures has developed, together with a renewed interest in protecting and conserving their **sacred sites**, cultural practices, art and artefacts.

Source 1 Traditional Aboriginal shields on display in the Ian Potter Centre, National Gallery of Victoria, Melbourne

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. If not, they could be lost forever. Conserving ancient **artefacts** and protecting ancient sites ensure that future generations can access them. It also means that modern-day Indigenous Australians are given control over the artefacts and sacred sites that are culturally important to them. There are different ways of preserving sources, and historians need to decide which sources are important enough to conserve, because it can be time-consuming and expensive.

Although Indigenous 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 Indigenous Australians have already been destroyed by building and development that has taken place since British colonisation. In recent decades, however, there have been determined efforts by Indigenous groups, local communities and governments to preserve and protect sacred sites.

Source 2

> 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. This body of tradition is mainly concerned with the activities of ancestral beings, collectively known as 'Dreamings' whose travels across the land and sea created the physical and social world that people now inhabit.
>
> 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.

Museum displays are one of the main ways in which artefacts from Australia's ancient past are protected and preserved. At the Melbourne Museum, the Bunjilaka Aboriginal Cultural Centre is dedicated to celebrating the history and culture of Aboriginal peoples. Every day, people come to learn more about the nations of Aboriginal Victoria 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. Visitors to Brambuk can also learn about the Jardwadjali people's creation stories, songs and other customs.

Source 3 Aboriginal culture and artefacts on display at the Bunjilaka Aboriginal Cultural Centre

Source 4 Traditional Indigenous 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.

Check your learning 7.6

Remember and understand

1. How have attitudes to Indigenous cultures in Australia changed since the 1960s?
2. Read Source 2. In your own words, explain the meaning and significance of sacred sites. You may refer also to sacred sites in your own life.
3. Why is it important to conserve traditional Aboriginal artefacts and sacred sites?

Apply and analyse

4. Why do you think that museums and galleries are increasingly keen to include Indigenous art and artefacts in their collections?
5. Identify five examples of more respectful and inclusive attitudes towards Indigenous cultures in today's society.

Evaluate and create

6. Find out more on the Internet about the Brambuk Living Cultural Centre. Use the information you collect to prepare a short segment for a TV travel show about the importance of Indigenous sites at Gariwerd. You may wish to film the segment or present it to your class.

Unit 1 Aboriginal and Torres Strait Islander peoples and cultures

Ancient Australia

Victoria, like the rest of Australia, is home to many different groups of Aboriginal peoples who have their own languages, cultures and histories. To provide a deeper understanding of the way people lived in ancient Australia, this chapter will focus on the people and culture of the Kulin nation.

The Kulin nation is made up of five different language groups, which were the custodians or caretakers of a large part of central and southern Victoria. Using techniques developed over thousands of years, the Kulin people carefully managed the land, which was their source of food, shelter, clothing and Dreaming stories.

8A

How did geography influence life in the Kulin nation?

1 The Kulin people lived according to the climate and natural features of the area they belonged to. Think about where you live and imagine that there are no buildings, transport or technology there. Suggest several aspects of your life that would be influenced by your natural environment.

8B

What was traditional life like for the people of the Kulin nation?

1 Over thousands of years, the Kulin people developed rich spiritual and cultural traditions that helped to shape their daily lives. Birth, adolescence and death were all marked by special rites and ceremonies. Give two examples of rites of passage from your own culture or religion.

chapter 8

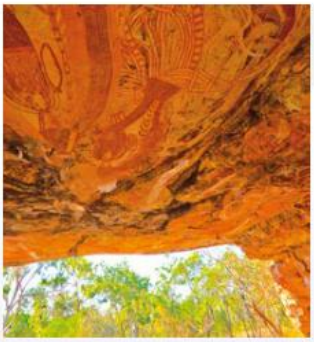
Source 1 *Figures in possum skin cloaks* by William Barak, of the Wurundjeri people in Victoria, was painted in the late 1890s. It shows pairs of elders wearing patterned cloaks.

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 because they believe it disturbs the spirits of those who have died.

8.1 Ancient Australia: a timeline



Rock art at Narwala Gabarnmung

***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.

***c.* 60 000**
The earliest date historians have found evidence of humans in Australia.

***c.* 29 000**
Evidence exists of humans living in the area now known as Keilor, Victoria.

60 000 BCE

c. 30 000

c. 20 000

Mungo Man remains

***c.* 38 000**
Clear evidence exists of humans living in Australia (Lake Mungo) around this time.

***c.* 28 000**
Axe heads, tools and other artefacts found at the Tower Hill site near Warrnambool indicate Indigenous presence in the area from this time.

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 peoples who share the same language. This can include smaller groups or clans who do not live together but speak the same language.
Woiworung	A language, or the name of the language group, in central to eastern Victoria. The Woiworung are part of the Kulin nation.
Wurundjeri	The group of peoples that speak Woiworung. They are made up of smaller groups or clans who mostly lived separately but who shared many customs and socialised together.

The Landing of Captain Cook at Botany Bay, by William MacLeod, 1899

The Torres Strait

c. 14 000
Ice caps begin to melt and sea levels rise.

c. 6000
The area between Northern Australia and New Guinea is flooded, creating the Torres Strait Islands.

1770
Lieutenant James Cook sails along the east coast of Australia and claims the continent for Britain. He acknowledges the presence of the Indigenous people but fails to recognise their ownership.

1835
John Batman signs a treaty with the Kulin nation to 'buy' their land.

c. 10 000 | 1 CE | 1500 | 1850 CE

c. 11 000
Tasmania is cut off from the mainland by rising sea levels.

c. 4000–7000
The flooding of Port Phillip Bay, originally Kulin nation land

c. 400
Tools made of bone found in the Otway Ranges, Victoria, suggest Aboriginal people were working with animal skins.

1606
Dutch and Spanish explorers reach the Torres Strait and are believed to be the first Europeans to have contact with Indigenous Australians.

Check your learning 8.1

Remember and understand

1 How long do historians believe there have been people living in Australia?
2 When was Tasmania cut off from the mainland?
3 What impact did the last ice age have on where people lived in Australia?

Apply and analyse

4 Do you think cultures became different when Tasmania or the Torres Strait Islands were cut off from the mainland? Why?

Evaluate and create

5 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 What does the painting show?
   b How realistic do you think it is? Explain your answer.

8.2 The environment and climate of the Kulin nation

The people of the Kulin nation have been living in Victoria for at least 40000 years. They are made up of an alliance of five language groups: Wathaurong, Djadjawurung, Taungurong, Woiworung and Boonwurrung.

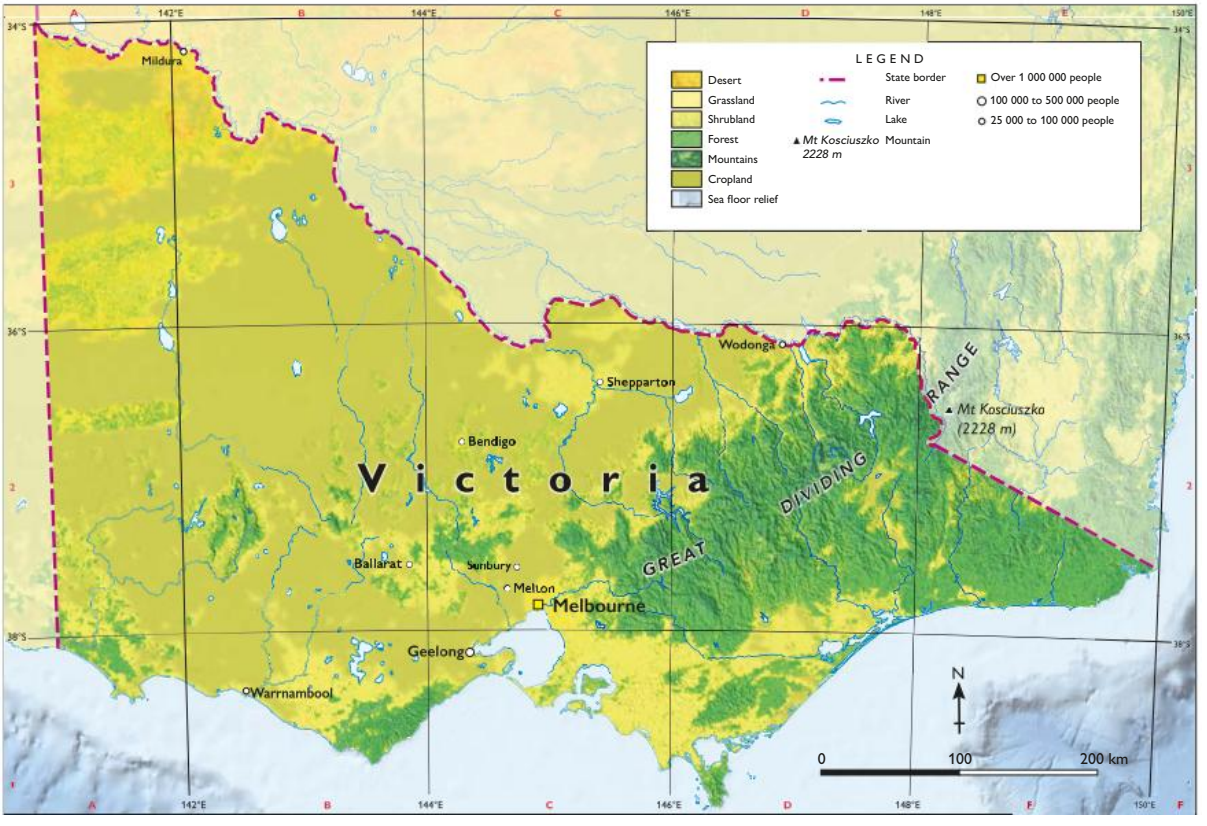
Geography and environment

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 Indigenous Australians who lived around Melbourne were the Wurundjeri people from the Woiworung 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 and 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 Woiworung and Boonwurrung groups who lived in this area.

VICTORIA: ENVIRONMENTS

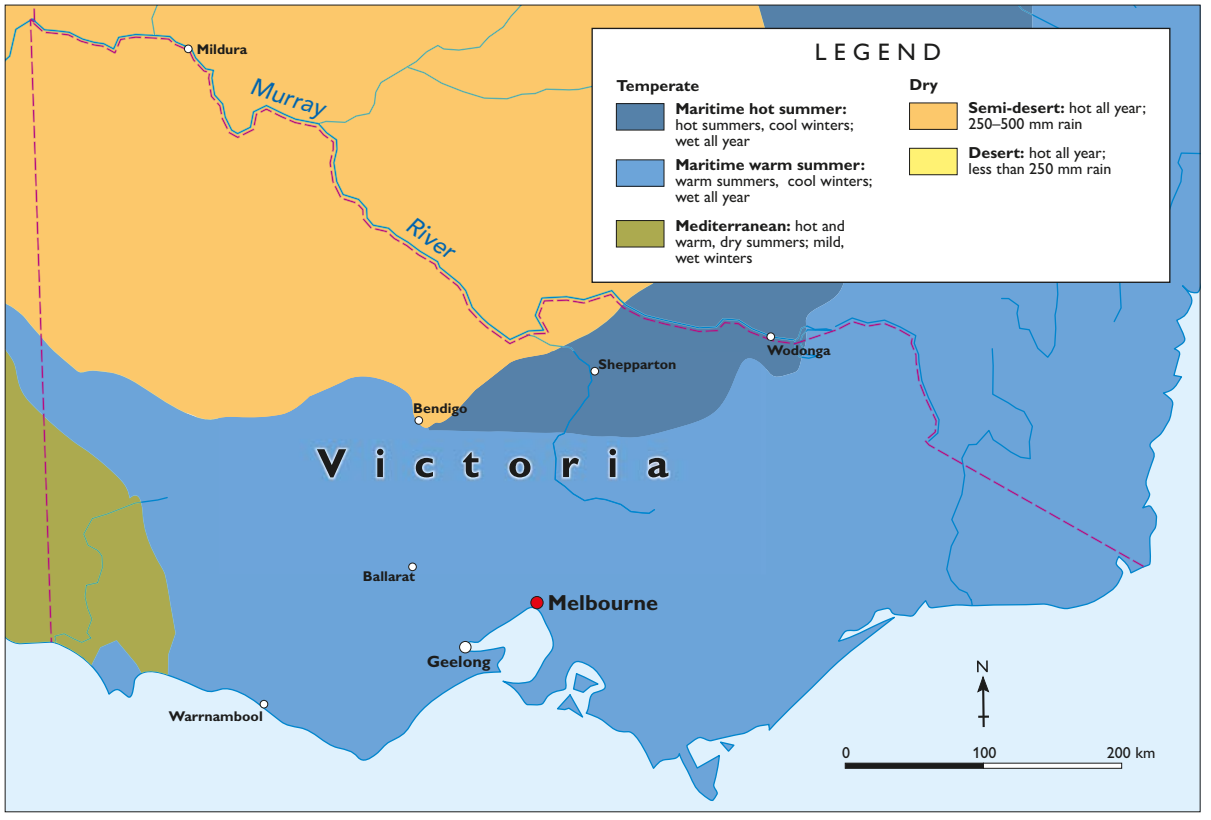


Source 1 Source: Oxford University Press

VICTORIA: INDIGENOUS LANGUAGE GROUPS AND NATIONS

Source 2 Source: Oxford University Press

VICTORIA: CLIMATE ZONES



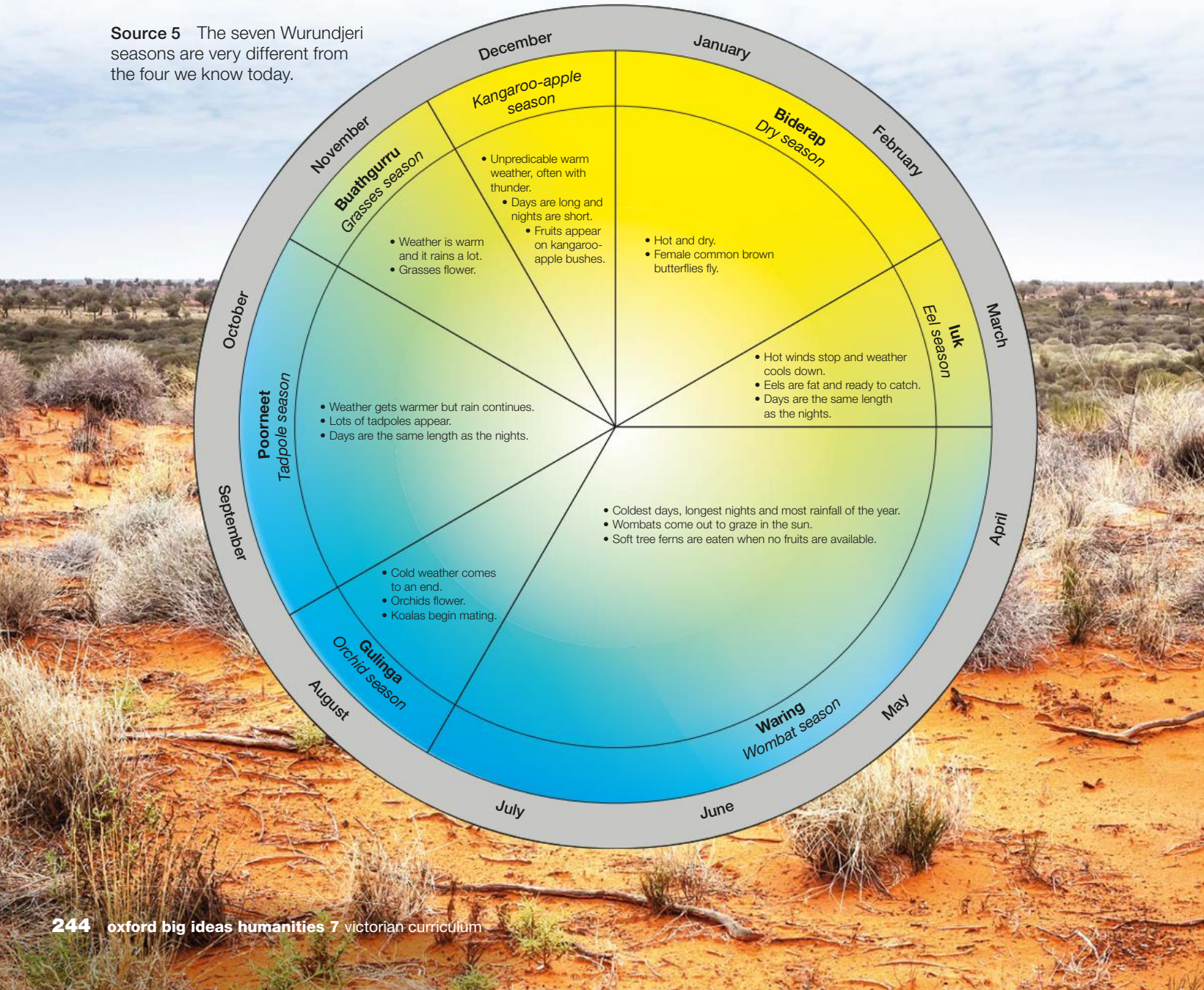
Source 3 Source: Oxford University Press

Seasons

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.

The Wurundjeri 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 lived in different areas throughout the year. Some 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, they could camp on the coast, taking advantage of abundant supplies of fish and other seafood.

The types of foods they could eat 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.



Source 5 The seven Wurundjeri seasons are very different from the four we know today.

Source 6 Members of the Wurundjeri, a group of the Kulin nation, wearing traditional possum-skin cloaks

Source 7 *Aborigines on Merri Creek* by Charles Troedel, 1865. This picture reflects the richness of the natural environment of the Kulin people who lived around Port Phillip Bay.

Check your learning 8.2

Remember and understand

1 What are the five groups that made up the Kulin nation?

2 Identify two ways in which the lives of the Kulin people were affected by the climate and geography of the region.

Apply and analyse

3 What impact do you think the seasonable nature of food supplies would have had on the diet of the Wurundjeri people?

Evaluate and create

4 Think about the area where you live. Draw up a seasonal chart that you believe better reflects climatic and environmental changes than the traditional four seasons.

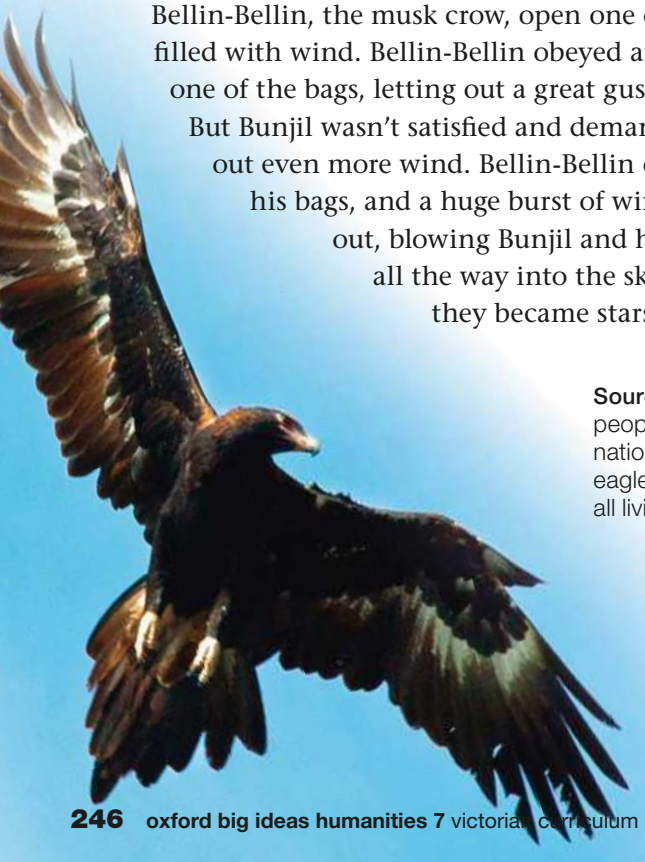
8.3 Creation stories of the Kulin nation

The people of the Kulin nation believe the land was created as part of the **Dreaming**. The creation stories they pass from generation to generation describe how their spiritual ancestors created the landscape and all its living creatures. The main spiritual ancestor 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 story of Bunjil the eagle

In the beginning there was nothing but the stars in the night sky. One star fell from the sky and, as it was falling, it became the body of an eagle. The eagle was Bunjil. As Bunjil fell, he spread his wings and blew air from his beak, creating Mother Earth. After creating Mother Earth, Bunjil created the animals. Bunjil then created man and woman.

When Bunjil had finished creating the landscape and animals, he grew tired of being on Earth. He collected his two wives and son and demanded that Bellin-Bellin, the musk crow, open one of his bags filled with wind. Bellin-Bellin obeyed and opened one of the bags, letting out a great gust of wind. But Bunjil wasn't satisfied and demanded he let out even more wind. Bellin-Bellin opened all his bags, and a huge burst of wind flowed out, blowing Bunjil and his family all the way into the sky, where they became stars.



Source 1 To the people of the Kulin nation, Bunjil the eagle is the creator of all living things.

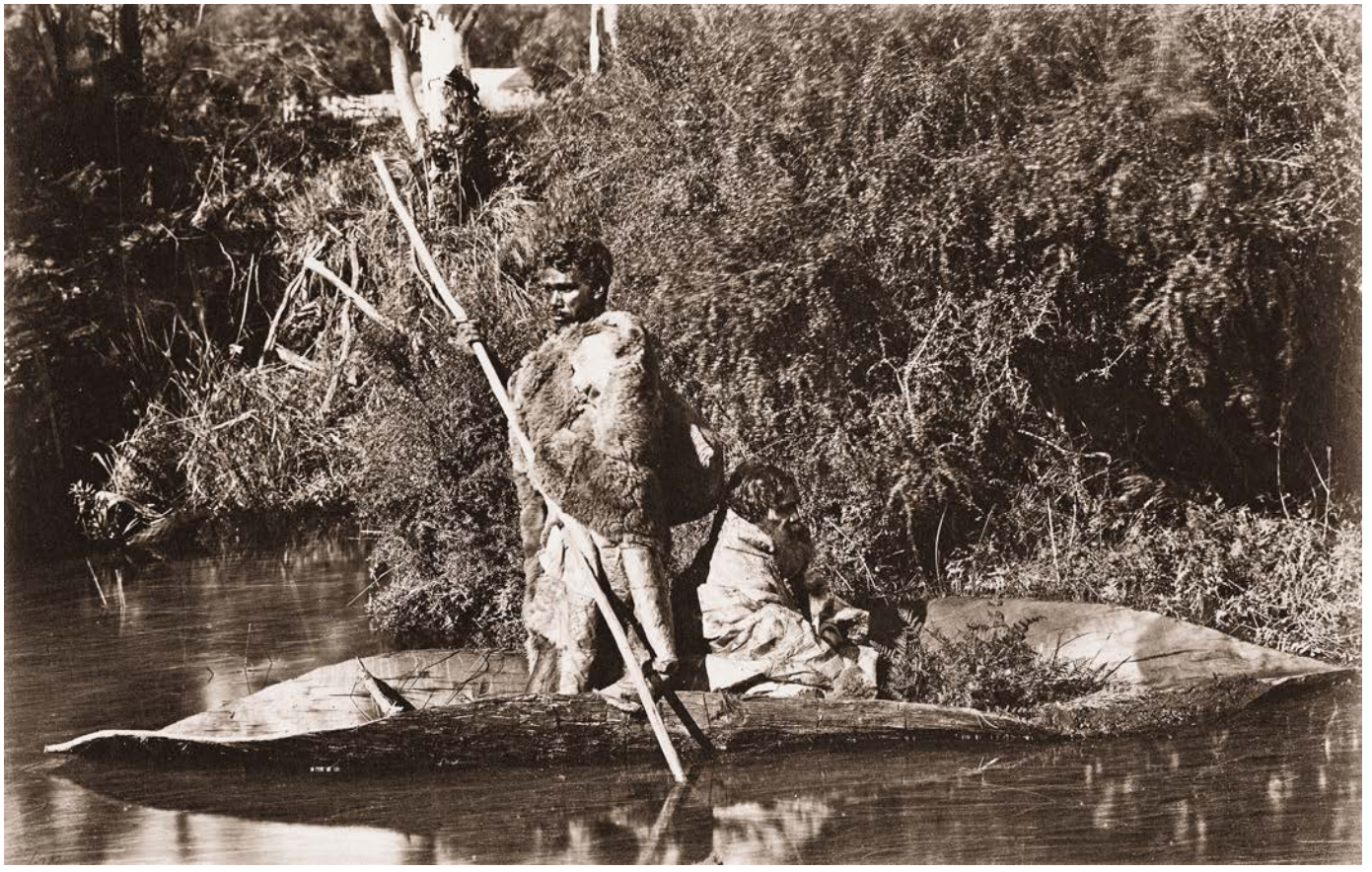
Source 2 This large sculpture of Bunjil the eagle by Bruce Armstrong was unveiled in Melbourne in 2002. It looks out over the Docklands and Wurundjeri Way.

The story of Birrarung (the Yarra river)

According to stories passed down through the generations, the creation of Birrarung was the work of a Wurundjeri elder, Barwool.

A long time ago, the water of Birrarung was trapped in the mountains. Barwool wanted to release the water, known as Moorool, that was locked in a mountain. Barwool used a stone axe to cut a channel into the valley below and let the water run out.

Barwool later met Yan-yan, another Wurundjeri elder, at the place now known as Warrandyte.



Source 3 Birrarung was an important part of Wurundjeri life.

Yan-yan was also trying to free a large body of water, known as Morang. Using their stone axes to free the water, the elders joined Moorool and Morang to form Birrarung. They then continued to use their axes to cut a winding path for the water across the land, all the way to Port Phillip.

Birrarung, which means 'river of mists', is the Woiworung word for the Yarra river. In 1835, European settler and explorer John Helder Wedge named the river 'Yarra Yarra', because he thought it was the Wurundjeri word for the river. In truth, *yarra* means waterfall, and Wedge had made a mistake.

Check your learning 8.3

Remember and understand

1 Who is Bunjil to the Kulin nation?
2 What do the creation stories of the Kulin nation describe and explain?
3 According to the Dreaming story, which two bodies of water joined to become Birrarung?

Apply and analyse

4 What can you learn from the fact that a large sculpture of Bunjil has been placed in a newly developed area of Melbourne?
5 Look up 'Bunjil the eagle' on the Yarra Healing website and listen to Joy Murphy-Wandin speaking about Bunjil. Explain in your own words how Bunjil continues to be of significance to the Wurundjeri people. A link to this website is provided on your obook assess.

Evaluate and create

6 Use photographs or drawings to prepare a step-by-step illustration of the story of Bunjil's creation or the creation of Birrarung of the Kulin nation.
7 Using the Internet, select one other creation story from another language group or nation. Identify and describe differences and similarities in comparison to the creation story of Bunjil the eagle.

8.4 Managing the land

The Wurundjeri people have a deep connection with **Country**. It provided them with everything they needed to live. As a result, they developed ways to respect and maintain the land and environment so that it could keep providing for them into the future.

The Wurundjeri developed techniques to care for the land based on a thorough understanding of the way nature worked. This understanding came from thousands of years of observation and oral tradition. The Wurundjeri knew how much food to gather and how much to leave, taking only what was needed. This knowledge meant that they did not overhunt or destroy animal and plant populations. Instead, animals and plants had time to recover or regenerate, so that there was always enough for people to hunt and gather in the years to come.

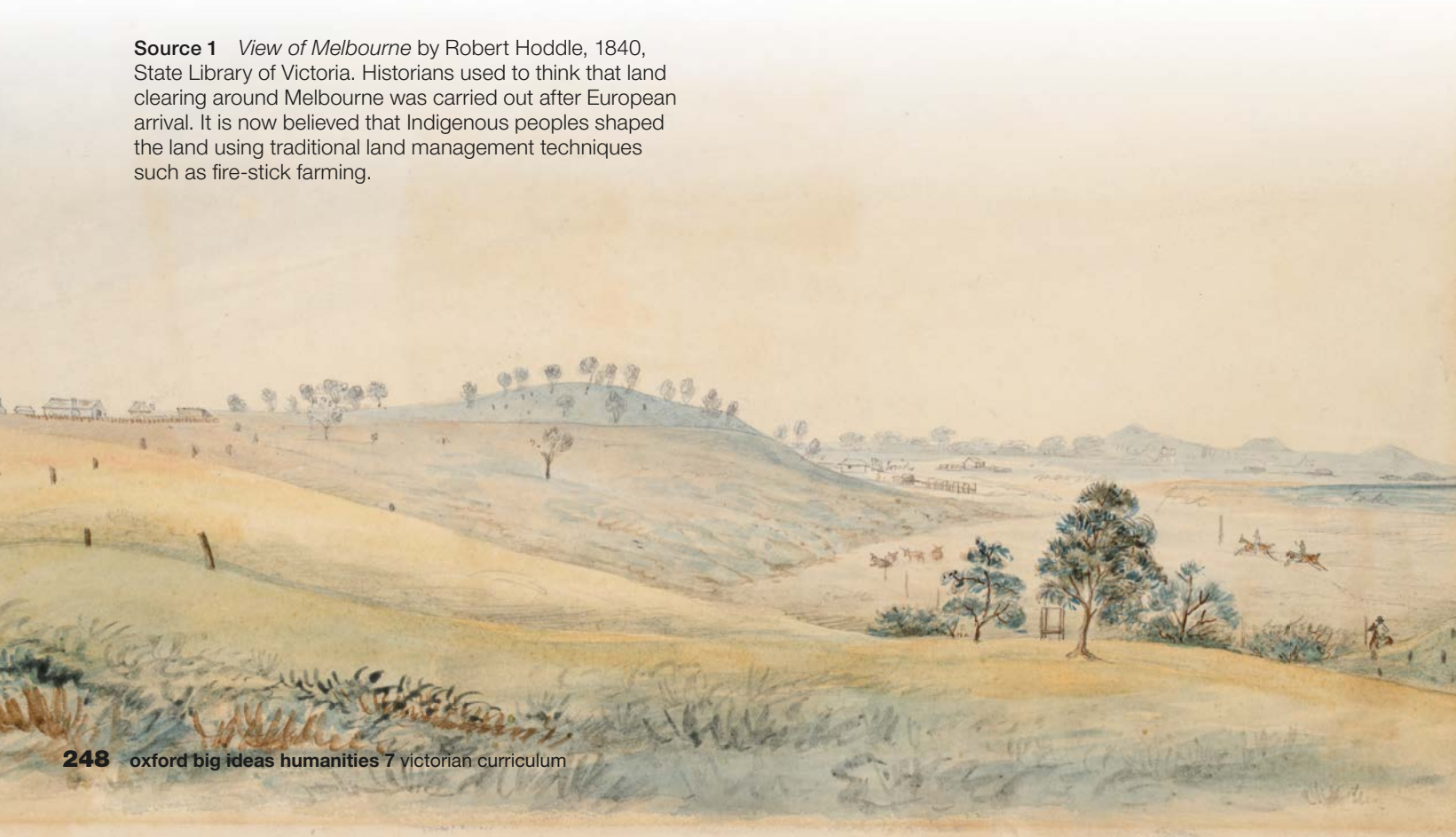
But the Wurundjeri's careful use of the land was not the only way they looked after their environment. The use of fire was one of the most important elements of land management for many Aboriginal peoples around Australia.

Fire-stick farming

One of the Wurundjeri's most important land management techniques was fire-stick farming. They 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 *wulunj* (digging stick) looking for edible roots and tubers, such as yam daisies. In the process, they would thin out clumps of soil and replace roots.



Source 1 *View of Melbourne* by Robert Hoddle, 1840, State Library of Victoria. Historians used to think that land clearing around Melbourne was carried out after European arrival. It is now believed that Indigenous peoples shaped the land using traditional land management techniques such as fire-stick farming.

Source 2 Using sticks to start a fire

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. Eventually the fuel smoulders and catches fire.

Source 3 The use of controlled burning is an important part of modern bushfire control. This is a technique that Indigenous people have understood and used for thousands of years.

Check your learning 8.4

Remember and understand

1 How did the Wurundjeri people manage the land so that they would have enough to eat every year?

2 Give three reasons for fire-stick farming.

Apply and analyse

3 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

4 Follow the link in your obook to view a film about Indigenous fire-starting techniques. Write a step-by-step guide on how to light a fire without matches or other modern methods of ignition.

8A rich task

Caring for Country

For many Aboriginal Australians, land management is known as 'caring for Country'. Caring for Country was an important part of their connection to the land that gave them life. A common idea in Aboriginal cultures is that you should only take from the land what you can give back. This is shown in the way they looked after and preserved the environment that provided for them. Historians use a range of **primary sources** and **secondary sources** to learn about how the Kulin peoples took care of the land they lived on. These sources include artefacts, paintings, oral accounts and other historical records.

Source 1 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 2

> 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.

Source 3 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 4 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.

skill**drill:** Historical sources as evidence

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 argue something? Does its creator have anything to gain personally from producing the source? What may have influenced its creator?

Apply the skill

1 Can modern historians develop a complete understanding of the ways that Wurundjeri people lived before Europeans arrived?

2 Examine Sources 1–4 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 5 and complete the questions below to get a better idea of how this process works.

Source 5

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.

'Wurundjeri-willam: Aboriginal Heritage of Merri Creek', by the Merri Creek Management Committee, accessed 15 July 2016, http://mcmc.org.au/index.php?option=com_content&view=article&id=31&Itemid=216.

1 What can you learn about the Wurundjeri people's way of life from this source?

2 How would you go about finding out how accurate or reliable this source is?

3 Suggest two additional sources that you could investigate to get a better understanding about the way of life of 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 1					
Source 2					
Source 3					
Source 4					

8.5 Spiritual connection to the land

Aboriginal peoples have a strong spiritual connection to the land through their 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. For the Wurundjeri people, their beliefs are present in different sacred objects and cultural practices, such as totems, sacred sites, initiation rites and funeral rituals.

Totems

In Aboriginal culture, a **totem** is the sacred object or symbol of a person or an entire group. When something is sacred, it means it has important 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 their 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 could also have a totem that would guide and protect them. Wurundjeri 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's social structure. For example, people with the same moiety were considered siblings and were not allowed to marry.

Sacred sites

All of Country was special to the Wurundjeri peoples, but some places were particularly spiritual or significant. These **sacred sites** included 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 were places where 'secret men's business' or 'secret women's business' would take place. 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:

- Bolin Bolin Billabong – a place for sacred or social gatherings between groups
- Dights Falls – a meeting place for trade and settling disputes

Source 1 The crow and the eagle were common totems for the Wurundjeri people.

- Pound Bend – a significant living and gathering place
- Hanging Rock – a site for male initiation ceremonies
- natural amphitheatres such as the site of the Melbourne Cricket Ground (MCG) – a place for social gatherings and ceremonies.

Around Australia, other sacred sites include places such as Uluru in the Northern Territory, Wilpena Pound in South Australia and the Pinnacles in Western Australia.

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 goes on.

For the Wurundjeri, boys being initiated were given items to signify their manhood, such as strips of possum skin and a narrow bone for their nose.

Funeral ceremonies

All Aboriginal communities had a deep respect for the dead. Some groups believed that the spirit of the dead person remained near the place of death. Others believed 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 Indigenous Australians observe this practice to this day.

Source 2 Hanging Rock, a sacred site for the Djadjawurung, Taungurong and Wurundjeri peoples of the Kulin nation.

Check your learning 8.5

Remember and understand

1 What kind of totem might a Wurundjeri person be given?
2 What does an initiation ceremony celebrate?
3 Why don't non-Indigenous people know a lot about initiation ceremonies?

Apply and analyse

4 Why were the names of people who had died not allowed to be spoken aloud in some Aboriginal communities?
5 In your own words, describe what is meant by the term sacred site.
6 Can you suggest why there were separate ceremonies for men and women in many aspects of Aboriginal life?

Evaluate and create

7 Using what you have learnt in this unit, create a mind map of the different ways Wurundjeri people are spiritually connected to the land.

8.6 Daily life

People of the Kulin nation relied on Country for their everyday life. To get the best out of their environment, they knew all about the changes of the seasons and the features of the land. They worked with the cycles of nature, rather than against them, to develop a way of living that was in harmony with Country.

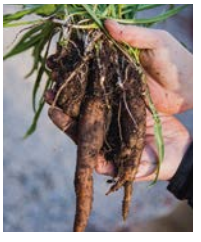
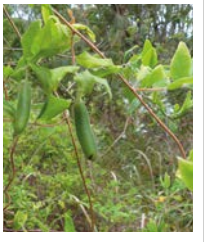
Bush tucker

The Kulin people found their food in the environment around them. Men hunted large animals, including kangaroos and emus. Women also hunted, but mostly smaller animals. The women also gathered plants, eggs, seeds and fruits. In coastal areas and near rivers and lakes, people could catch things such as fish, shellfish and eels.

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 used wattle trees to create boomerangs and spear throwers for hunting. Wattle branches were often bent at the perfect angle for a boomerang. They 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).

Source 1 A grinding stone

Another important food was the yam daisy, or *murnong* in Woiworung. Women would gather the tubers (the fleshy stems growing underground) of these plants using digging sticks. They 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.

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.

Source 2 Examples of bush tucker in the Kulin nation

Hunting

The Kulin people developed many techniques for hunting and trapping animals and fish. For example, they used controlled burning to flush out animals such as kangaroos from thick bush. They would then use spears and boomerangs to hunt them down (see Source 4).

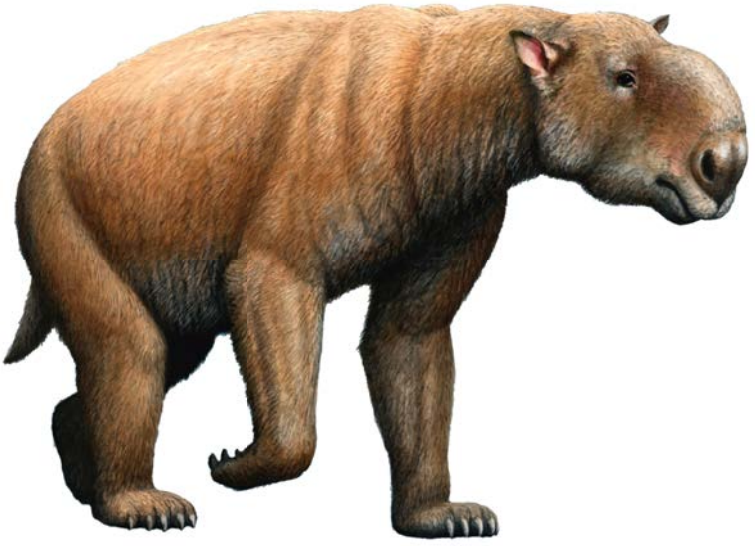
Spears in the Woiworung region were often made from tea-tree branches and were about 3 metres long. A straight stem would be chosen and crafted with a stone scraper. The spear tip could have a sharpened point or a stone flake attached to it. These spears could be thrown with amazing accuracy when used with a throwing stick.

Wurundjeri people living along the Birrarung 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. Source 3 shows how some Aboriginal groups used woven branches to trap and catch fish.

Source 3 A fish trap made of woven branches

Source 4 In this painting by Joseph Lycett, c. 1820, Aboriginal men use fire to find and hunt kangaroos.

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 50000 years ago (see Source 5).



Source 5 Diprotodon lived in Victoria around 50000 years ago.

Bush medicine

The Kulin people also relied on the land to keep them healthy, using **bush medicine** if they were sick or hurt. Bush medicine was based on knowledge handed down through generations. This knowledge taught them how their surroundings could help them 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 clever techniques for creating tools and other items needed for everyday activities. For example, they wove baskets, bags, mats and nets from reeds, root fibres or bark. They even used human hair and animal fur to twist it 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 clothing.

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.

Source 6 Examples of bush medicine from the Kulin nation

Source 7 A traditional shelter at Coranderrk, near Healesville, Victoria

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 collecting many food items. Some baskets could be woven so tightly they could carry water in them.

The Wurundjeri 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 gather and hunt. Some groups also used the caves and rock formations of the region to shelter. Other groups who moved around more frequently built their 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 (see Source 7). 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. Their shelters consisted of circular stone foundations on which dome-shaped huts were built. It is believed this settlement was home to around one thousand people.

Check your learning 8.6

Remember and understand

1 Identify three types of bush medicine used by the Kulin people.
2 Why did the Kulin people build different types of shelter?

Apply and analyse

3 Why was the manna gum so important to the Wurundjeri people?
4 Why do you think different groups would have had different techniques for hunting and fishing?

Evaluate and create

5 Using what you have learnt in this unit, create a Venn diagram on the similarities and differences of the roles of men and women in gathering food for the community.

8.7 Kinship and family relationships

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.

Traditional 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, traditional 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, their 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 Indigenous groups across Australia.

Source 1 Family relationships are an important part of kinship in Aboriginal and Torres Strait peoples' lives. A child could have many mothers, fathers, aunts and uncles within the community.

Elders

In ancient time's, **elders** were a very important part of each cultural group within the Kulin nation. This is still the case today. Elders played a key role in running the community from day to day. Elders would lead by example. It was their role to show young people the importance of the natural world.

They 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. Wurundjeri elders can be either men or women. The leader of a Wurundjeri clan's elders was known as the *Ngurungaeta* (headman).

Source 2 Elders play an important role in passing down knowledge and keeping order in Aboriginal communities.

Marriage

There were strict rules about marriage in the Kulin nation as part of the kinship system. Love was not the most important factor when a marriage was arranged. Relationships in the Kulin nation had a lot to do with their 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.

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.

Check your learning 8.7

Remember and understand

1 What is kinship?

2 Who were the important people in Aboriginal families or groups? How did they become so important?

Apply and Analyse

3 Why was it important to have strict rules about marriage?

4 Consider what it means to be an elder in our society, such as your grandparents. How is their role different from the role of elders in the Kulin nation?

Evaluate and create

5 Think about your family at home. How is it different from or similar to the families of the Kulin nation?

6 Using the information in this unit, create a mind map identifying the different elements of the kinship system.

8.8 Contact and conflict between Indigenous groups

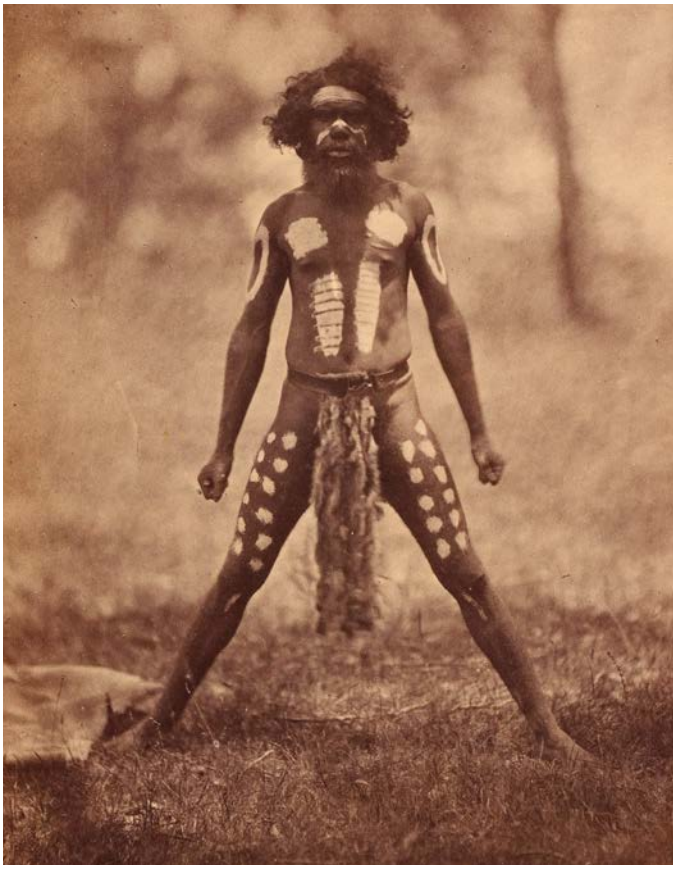
For thousands of years, Indigenous peoples in Australia largely lived in harmony with each other. Most of the time, Indigenous groups travelled and hunted within their own traditional lands and maintained separate cultures, but they also had contact with other groups in their region. There were many 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

For groups within the Kulin nation, social contacts were common and an important part of daily life. They 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.

Source 1 *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.

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 2). 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 traditional Aboriginal laws.



Source 2 This photograph taken in the 1850s shows an Aboriginal man in Victoria wearing traditional clothing and body paint for a corroboree.

keyconcept: Significance

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 the key concept of significance, refer to page 195 of 'The history toolkit'.

Source 3 A *tanderrum* is held every year to welcome visitors to Dreamtime at the 'G match between AFL teams Richmond and Essendon. The match takes place at the MCG on the traditional lands of the Wurundjeri people.

Trading contacts

Long before Europeans arrived in Australia, Indigenous peoples had developed a complex network of overland pathways (trading routes). These pathways criss-crossed the country and even 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 the Aboriginal people, trade wasn't just limited to physical objects, such as tools and clothing; it also included stories, songs, dances, art, rituals and ceremonies. Unlike other ancient civilisations, the Aboriginal people never developed a system of money. Instead, they bartered (exchanged) 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 didn't 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 Woiworung 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 discovered as far away as Adelaide and parts of central New South Wales, meaning that they were traded far and wide across Australia.

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 Indigenous groups

Contact between different Indigenous 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. There are also stories of revenge attacks for murders believed to have been the result of sorcery.

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 almost unthinkable.

Weapons and warfare

The types of weapons used by Indigenous groups varied throughout Australia, but in the Kulin nation the most common weapons used for fighting included:

- spears (and spear throwers) – spears were generally about 3 metres long and made from the strong wood of the tea tree. The Kulin 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 also used during warfare. These were also carved from different types of hardwood.

Source 4 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.

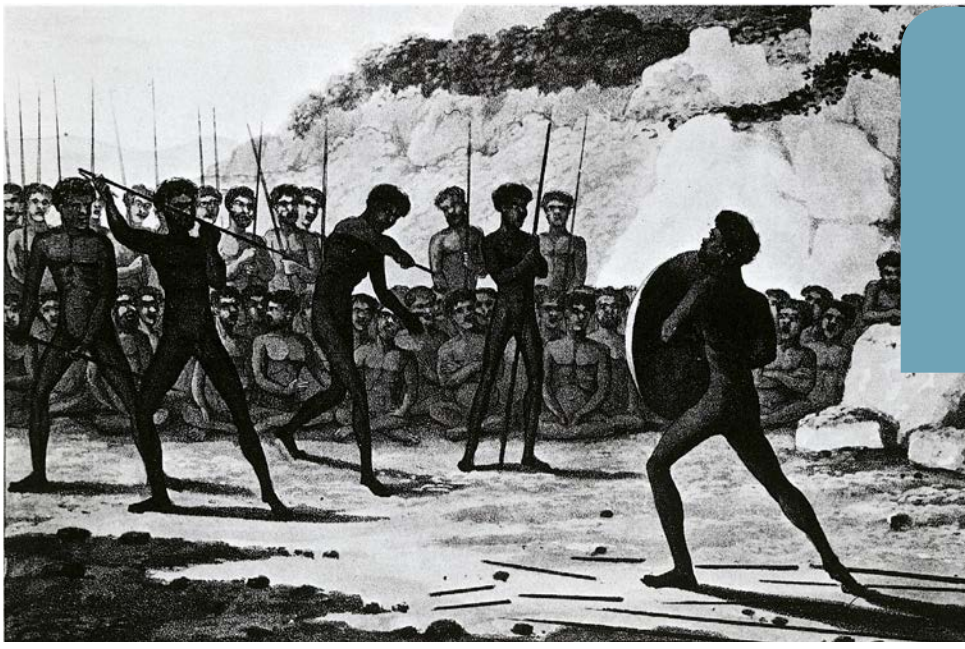
Settling conflicts

Indigenous peoples, including those from the Kulin nation, had well-developed laws and systems to settle conflicts and maintain peace and order. Much of the **customary law** (traditional Aboriginal law) was based on the Dreaming stories. 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.

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 – this could be carried out directly on an individual or 'sorcery' could be used. Sorcery involved something similar to 'casting a spell' on the wrongdoer.



Source 5 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.

Check your learning 8.8

Remember and understand

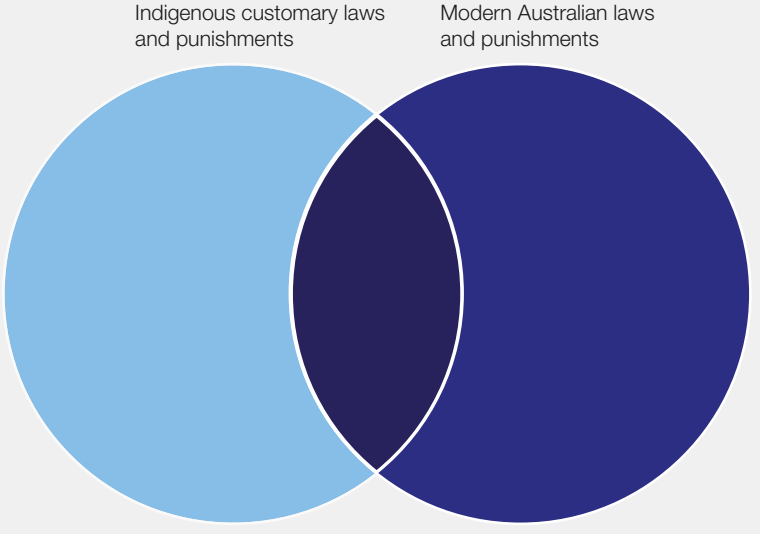
1 What is a *tanderrum?*
2 What types of activities take place at corroborees?
3 What are songlines and how did they help people find their way across large distances?
4 What types of fighting weapons were most commonly used by the Kulin people?

Apply and analyse

5 What evidence is there to suggest that items such as axes and tools were traded over large distances?
6 In your own words, describe what is meant by the term customary law. Who administered customary law and what were some possible punishments?

Evaluate and create

7 Copy the Venn diagram below into your notebook and use it to compare Indigenous customary laws and punishments with modern-day Australian laws and punishments. Place the things you know about the two systems that are unique in the left and right circles. Place the things common to both systems in the middle section.



8.9 Contact and conflict with outsiders

Historians have small amounts of evidence of the first Australians having contact with outsiders – both from Asia and Europe – before the arrival of British colonists in 1788.

Contact with Asia

Northern Australia's closeness to Asia has led some historians to believe that contact between Indigenous Australians and traders from China and Indonesia was highly likely. Evidence suggests that sailors from a region in modern-day Indonesia called Makassar visited Australia as far back as 800 years ago, travelling on sailing boats known as *proa*. Initially they came to fish and collect sea cucumbers to trade with the Chinese, but historians believe that Makassan sailors also traded with the Indigenous people in northern Australia such as the Yolgnu in Arnhem Land. They are believed to have brought fishing and cooking tools with them and exchanged these for pearl shells. It is also likely that some Chinese and Makassan visitors remained in Australia.

Indigenous 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 Indigenous groups. Today, a strong Papuan influence on traditional Indigenous items such as ornamental masks provides evidence of this contact. It has also been noted that the languages of Indigenous 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 19th 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 explored the Australian coastline in the 17th century. Some of these Dutch explorers landed on Australian soil and made contact with the Indigenous peoples. There are also suggestions that some shipwrecked Dutch sailors even lived with Indigenous peoples in Western Australia.

Source 1 Many examples of Indigenous rock art around Australia record the arrival of ships from Europe. This example from Arnhem Land in the Northern Territory shows a British ship, but historians believe other examples may show the arrival of earlier Europeans such as the Portuguese and Dutch.

Arrival of the British

When the British arrived in 1788, everything changed for the Aboriginal peoples of Australia. Within years of the colonisation of Sydney, the destruction of traditional Indigenous life and culture had begun. At the heart of the conflict between the two groups were two radically different ideas about land ownership. Indigenous people believed that they belonged to the land and that its gifts were there to be shared. Europeans believed that they owned the land and that its resources were there to serve their needs alone. Physically, socially and spiritually, these two ways of

Source 2 *The founding of Australia by Captain Arthur Phillip*, a painting by Algernon Talmage, 1939. The arrival of the British in 1788 had a devastating effect on the Indigenous peoples and cultures of Australia.

life could not coexist. Shortly after their arrival, the British set about disrupting the traditions and cultures of Indigenous Australians, pushing them off the lands they had occupied for thousands of years. European diseases such as smallpox and influenza (which Indigenous people had never been exposed to before) also spread rapidly, killing many people.

Contact between the Kulin nation and Europeans

The first significant contact between European colonists and the Kulin people occurred along the southern coast of Victoria around 1800. British colonists hunting seals and whales were common in Bass Strait around this time. Contact with local Indigenous peoples including the Boonwurrung often led to violence and the spread of European diseases through the local Indigenous population.

Port Philip District 1836

The establishment of a colony in Melbourne in 1836 had terrible effects on the Wurundjeri people. By 1839, most of the Wurundjeri people had been displaced from their land. John Batman 'purchased' 600 000 acres around Melbourne in June 1835. Although the 'purchase' was declared invalid only 2 months later, the land was still taken from the Indigenous owners and leased or sold to colonists.

By 1850, estimates suggest that only about 3000 Wurundjeri remained. 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.

Source 3 *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 Wurundjeri did not understand at that time that Batman wanted to take their land from them.

Check your learning 8.9

Remember and understand

1 What were the main reasons for the decline in Indigenous populations after the arrival of the British in 1788?

2 Name the different groups of people believed to have visited Australia before the British arrived.

Apply and analyse

3 Explain the different concepts of land ownership of the Europeans and the Indigenous people.

4 Examine the painting in Source 2.

- **a** How reliable is this painting as a historical source? Support your answer.
- **b** What aspects of the beginnings of Sydney are not included in this painting? Can you offer an explanation for this?

8B rich task

Keeping culture strong

For almost 200 years, many non-Indigenous Australians denied the history, culture and beliefs of Indigenous Australians. 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 fly alongside the Australian flag, and the traditional custodians of the land are acknowledged at most public gatherings. However, Indigenous 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 and events have been put in place to keep Indigenous cultures strong. For example:

- Many landmarks, parks and regions are being renamed in the Indigenous language of the region (e.g. Uluru, Kata-Tjuta, Gariwerd).
- Indigenous art programs are run through schools or by elders to teach young Indigenous people about the culture and beliefs of their people.
- Indigenous languages are now being taught in more than 260 schools across Australia.
- Major organisations, companies, government departments and sporting clubs are developing policies and programs to increase the visibility of Indigenous people and awareness of Indigenous issues.

These programs are designed to:

- educate non-Indigenous Australians about the traditional customs of the first Australians
- build better relationships between Indigenous and non-Indigenous Australians
- help repair some of the damage caused by colonisation and keep Indigenous culture, language and spiritual beliefs strong.

Source 1 The Laura Aboriginal Dance Festival is held every 2 years in far north Queensland. Over 20 communities participate across the region, with up to 500 performers.

Source 2 Indigenous AFL player Adam Goodes and Qantas support the RECOGNISE campaign to recognise Indigenous Australians in the Constitution.

skill**drill:** Historical significance

Creating and delivering an audiovisual presentation

Audiovisual presentations are a good way to 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 fun. To create and deliver an interesting and relevant 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 reliable and accurate.

Step 3 Plan and create your presentation. Plan your presentation to make sure that it 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 film, a website or a talk supported by a poster. You could also use suitable and relevant music.

Step 4 Deliver your presentation.

- Make sure that you have rehearsed 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.

Apply the skill

Prepare an audiovisual presentation on one or more local programs or initiatives taking place in your local area that are designed to increase the awareness of Indigenous issues and keep Indigenous culture 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 Indigenous culture strong?
2 Conduct 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 out this change is called RECOGNISE (see Source 2).

Conduct some research on the RECOGNISE campaign and answer the following questions:

1 What is the main goal of the RECOGNISE campaign?
2 Who is involved in the campaign?
3 Are all Australians (both Indigenous and non-Indigenous) in favour of the campaign? Why or why not?

Unit 2 The European and Mediterranean world

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 geography, 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.

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?

chapter 9

Source 1 The Acropolis in Athens, Greece, is one of the most important sites from the ancient Mediterranean world. It was built around 2500 years ago as fortress where the people could retreat when the city was attacked.

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

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 of 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 2, 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.

Source 2 shows the location and size of these ancient civilisations and provides some key information about each of them. The timeline (Source 1) 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.

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** (ruling families) and 70 **pharaohs** (leaders).

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.

Ancient Rome
(753 BCE–476 CE)

The civilisation of ancient Rome lasted approximately 1300 years. It was centred around 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.

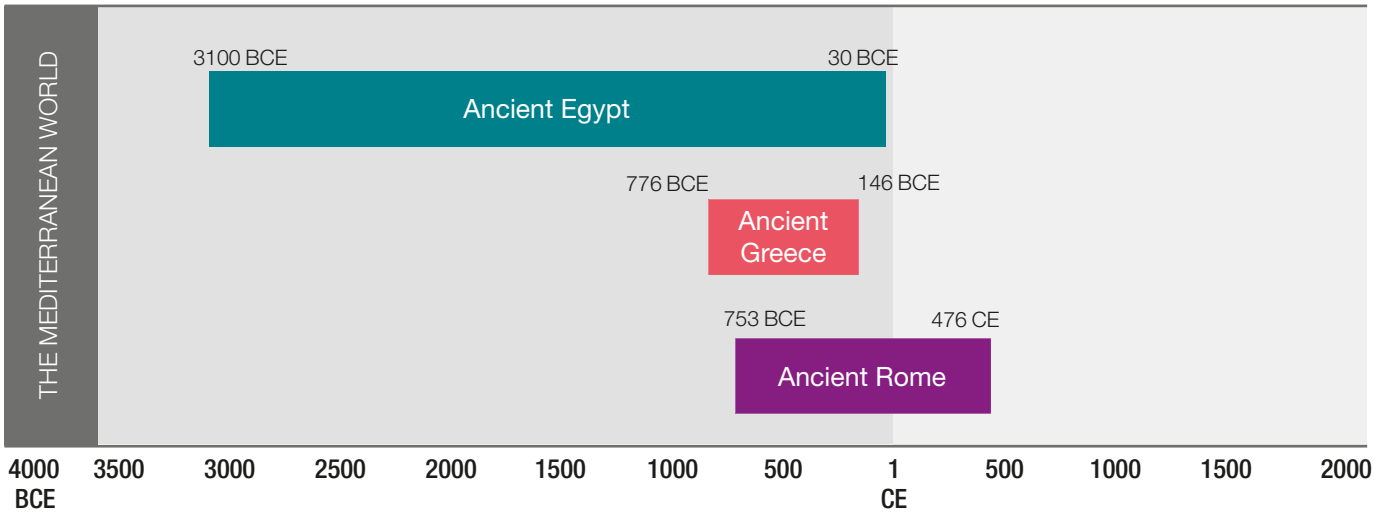
Check your learning 9.1

Remember and understand

1 What is the meaning of the word 'Mediterranean' and what language does it originate from?
2 What geographical feature did ancient Egypt, ancient Greece and ancient Rome have in common?
3 Which ancient civilisation lasted longer, ancient Egypt or ancient Rome?

Apply and analyse

4 Name one legacy of ancient Greece.



Source 1 A timeline showing the rise and fall of ancient civilisations in the Mediterranean world

MEDITERRANEAN WORLD: KEY CIVILISATIONS

Source 2 Source: Oxford University Press

9.2 Key features of ancient societies in the Mediterranean world

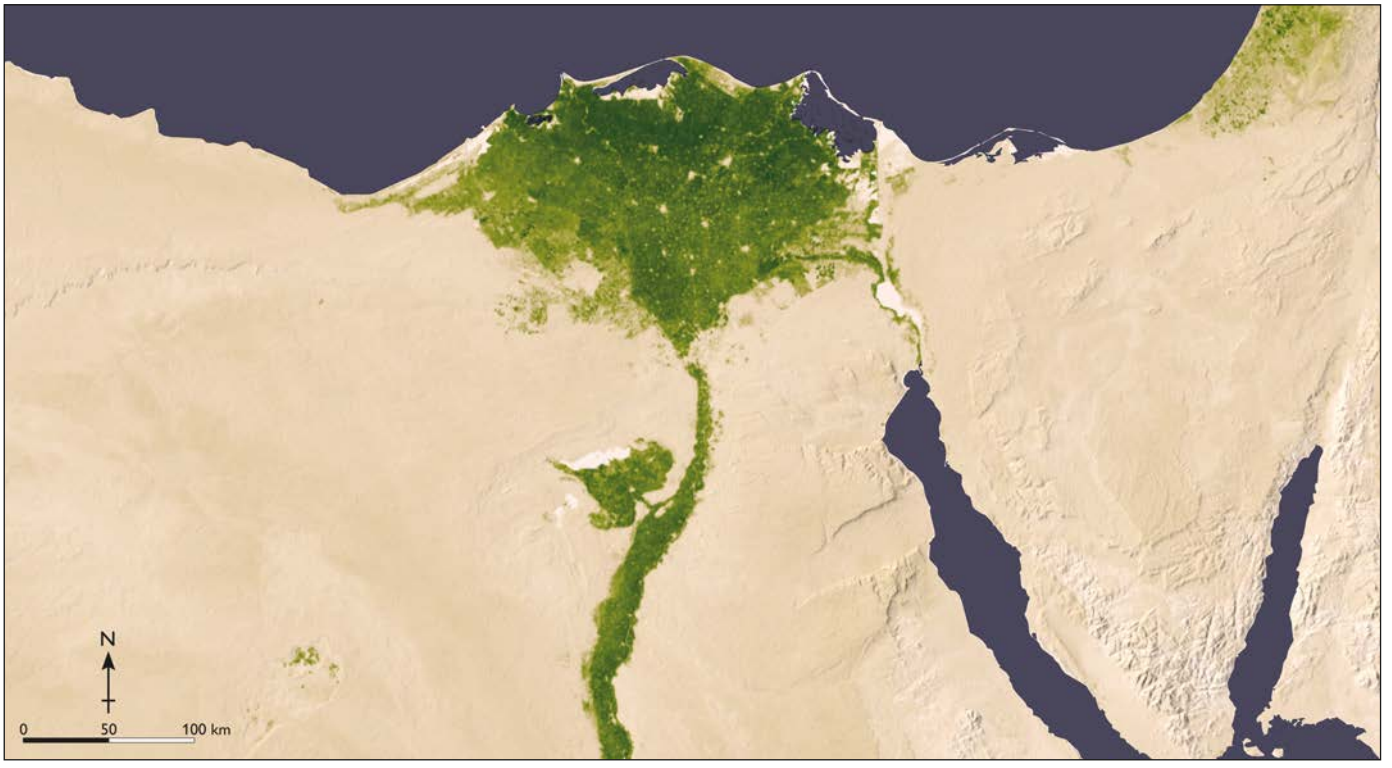
Even though ancient societies across the Mediterranean world were very different, they were all influenced by some common factors, including geography, social structures (like governments), religion and wars. We will look briefly at some of these factors now and see how they influenced different societies in the Mediterranean world.

Geography

The geographical 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 (see Source 1). Egyptian architecture and fashion were adapted to life in a hot, dry climate.

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 and the climate moderate throughout the year, with wet winters and warm, dry summers – a very different geography and climate from Egypt (see Source 2). The fertile coastal plain allowed agriculture.



Source 1 A satellite image of Egypt showing the fertile Nile valley and delta in green

Source 2 Steep mountains and flat farmland in the Peloponnese, Greece

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, comprising 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 3 A satellite image of the Italian peninsula

Social structure and government

A common element of Mediterranean **societies** was that they were **hierarchical**. 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.

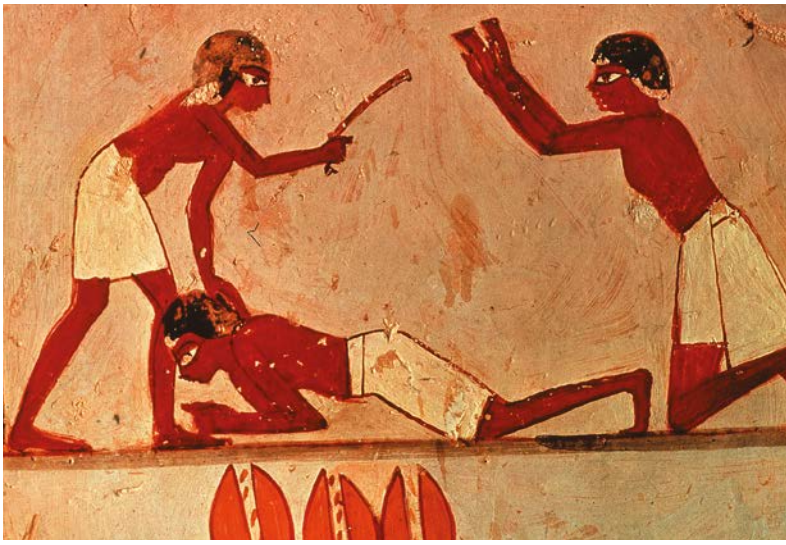
Ancient Egypt was ruled by a pharaoh (a person similar to a king) who owned all the land and its resources. His power was passed on to his son. Other social groups were defined by their jobs, such as priests, merchants and scribes. Slaves, who were often captured as prisoners of war, did most of the hard work in Egyptian society. The role of women was generally to raise a family, but they nevertheless 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 its early history, the **city-states** were ruled by kings who exercised total power. Later, that power passed to a small group of **aristocrats**. In the 6th 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 that women, foreigners and slaves could not have full citizenship. Roman women had few rights and led restricted lives that centred around 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.

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.



Source 4 An ancient Egyptian painting of slaves

Source 5 An ancient Roman mosaic showing a slave serving wine

Art, iconography and pottery

Ancient civilisations practised art for tens of thousands of years. The oldest rock paintings are believed to be 32000 years old, and pottery has existed for more than 20000 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 characteristically depicted red or orange images on black backgrounds or vice versa (see Source 7). 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). Similarly to the Greeks, they depicted gods, important people or scenes from everyday life (see Source 9).

Source 7 A *krater* – a pot used to dilute wine in ancient Greece

Source 8 An ancient Egyptian plaque

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.

Source 6 A clay tablet displaying a cuneiform script, developed by the ancient Sumerians

Source 9 An ancient Roman mosaic depicting street musicians

Source 10 Hieroglyphs from an ancient Egyptian tomb

Religion

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** (god). 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. Christianity spread to Rome after it was founded. Despite Christians facing around 300 years of brutal persecution in Rome, by 394 BCE Christianity had become the official religion of ancient Rome.

Source 12 A depiction of the Egyptian god Anubis

Source 13 A marble carving showing the Greek god Apollo and the hero Heracles

Source 11 A 17th-century painting of the Roman god Neptune

War and conflict

In its early years, Egypt was a peaceful society, but by 1550 BCE it possessed 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.

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 ultimately conquered the Greeks and the Egyptians.

Check your learning 9.2

Remember and understand

1 What was the name given to the rulers of ancient Egypt?
2 What was the name given to ordinary citizens in ancient Rome?

Apply and analyse

3 Choose a social group (such as women or slaves) and describe its role in each of the three ancient societies.
4 Discuss some of the ways religion and beliefs influenced ancient societies in the Mediterranean world.

Source 14 An artist's impression of the Roman army at war

Source 15 A painting showing the Egyptian pharaoh Tutankhamun on his war chariot

Source 16 A 17th-century representation of a scene from the Peloponnesian War

9.3 Legacies of societies in the Mediterranean world

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.

Source 2 A modern painting showing men of ancient Greece taking part in a democratic process

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 – continue 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.

There is evidence that the ancient Egyptians employed 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.

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 road-building techniques of the Romans continue to impress modern engineers. Some of the principles used by the Romans in building their huge road network are still relevant today.

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.

Check your learning 9.3

Remember and understand

1. Name the most significant legacy of ancient Greece. How has this influenced the system of government in modern-day Australia?
2. What was the name given to ancient Rome's largest sporting and entertainment arena? Look at Source 3. How did the design of this building influence modern-day stadiums?

Apply and analyse

3. The work of ancient Greek philosophers like Socrates, Plato and Aristotle has had a significant impact on modern society. Conduct some research on one of these philosophers and list three ways in which they have influenced the world we live in today.

Unit 2 The European and Mediterranean world

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.

10A

How did geography influence the development of ancient Egypt?

1 The Nile provided the ancient Egyptians with many benefits that allowed their society to develop and prosper. What do you think some of these benefits were?

10B

What shaped the roles of key groups in ancient Egypt?

1 The temples at Abu Simbel contain many statues of the pharaoh Rameses II. Why do you think it was common practice in ancient Egypt for pharaohs to immortalise themselves in such ways?

chapter 10

Source 1 A statue of the pharaoh Rameses II in one of the two temples built at Abu Simbel, in southern Egypt, in the 13th century BCE. The temples were a monument to Rameses II and his queen, Nefertari, as well as many Egyptian gods.

10C

How did beliefs, values and practices influence ancient Egyptian lifestyles?

1 Many Egyptian temples were dedicated to various gods. What does this tell us about the importance of religious beliefs to the ancient Egyptians?

10D

How did contacts and conflicts change ancient Egypt?

1 Ancient Egypt was built around the Nile River. The Nile made it easy for people to access the major cities. How do you think this would have helped Ancient Egyptians to trade?

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.* 3000**
Egyptians start building walled towns and villages; the first buildings are made of mud brick.

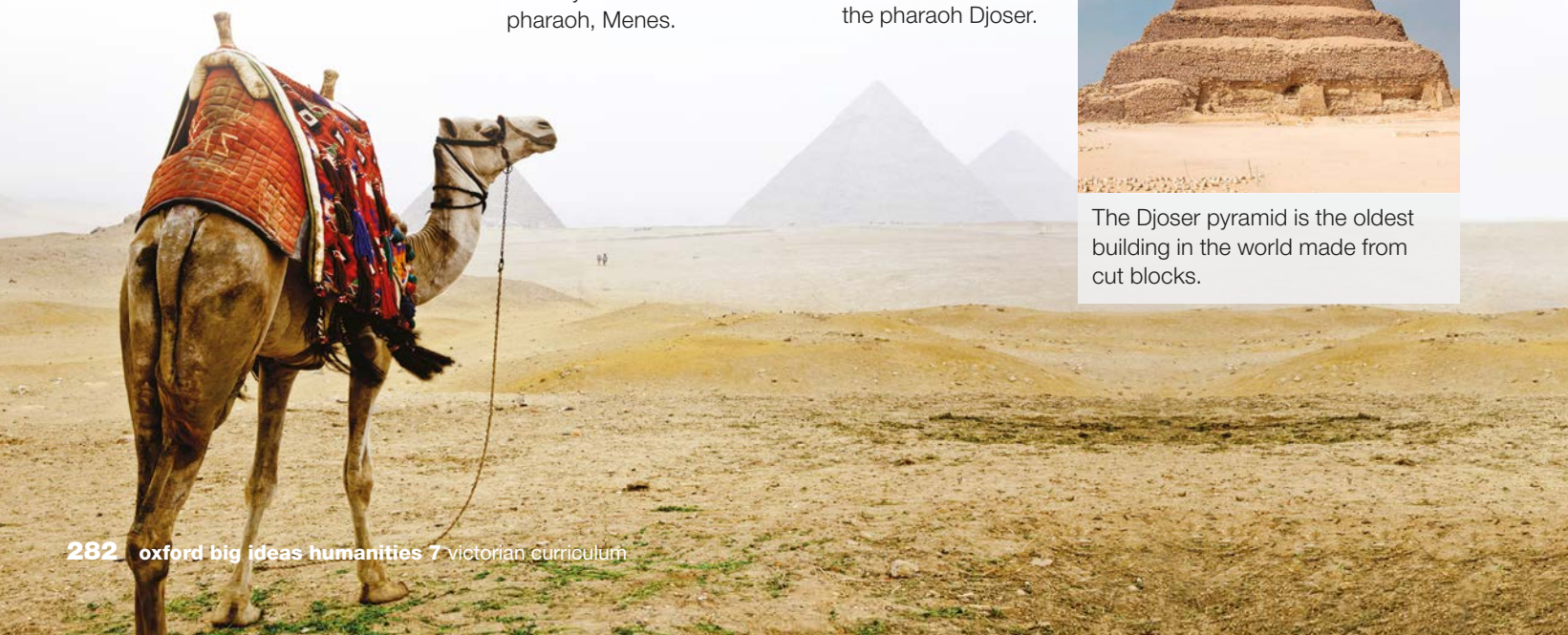
***c.* 2100**
Book of the Dead starts being used in funeral ceremonies.

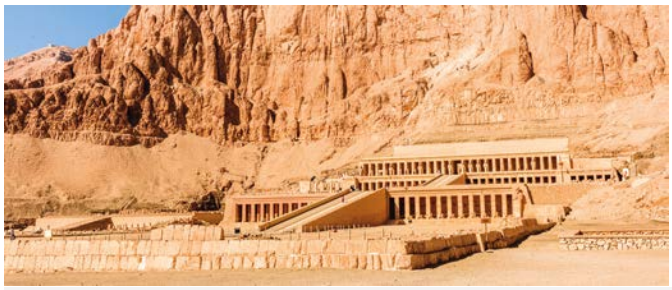
Source 1 A timeline of some key events and developments in the history of ancient Egypt

***c.* 3100**
Kingdoms of Upper and Lower Egypt unite as one country under the first pharaoh, Menes.

***c.* 2650**
First stone pyramid is built in Saqqara for the pharaoh Djoser.

The Djoser pyramid is the oldest building in the world made from cut blocks.





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.

1479
Hatshepsut, a woman, becomes pharaoh.

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.

1 CE

New Kingdom 1550–1069 BCE

***c.* 1550**
Construction of many of the royal tombs in the Valley of the Kings

1332
Tutankhamun ascends the throne at the age of nine; he dies just 10 years later.

The inner coffin of Tutankhamun has become one of the most recognisable artefacts from ancient Egypt.

30
Cleopatra commits suicide, and Egypt becomes part of the Roman Empire.

Check your learning 10.1

Remember and understand

1 When did people first begin to settle in the Nile valley?
2 When were the Great Sphinx and the Great Pyramid at Giza built?
3 Who was Cleopatra? In what year did she die?

Apply and analyse

4 Using the timeline, calculate the year in which Tutankhamun was born.

Evaluate and create

5 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:
   a the Predynastic period **b** the Old Kingdom
   c the Middle Kingdom **d** the New Kingdom.
   Conduct some Internet research to find out why these periods were named in this way.

10.2 The Nile

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'.

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 its banks and leave a pile of dark, fertile soil all over the land nearby. 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.

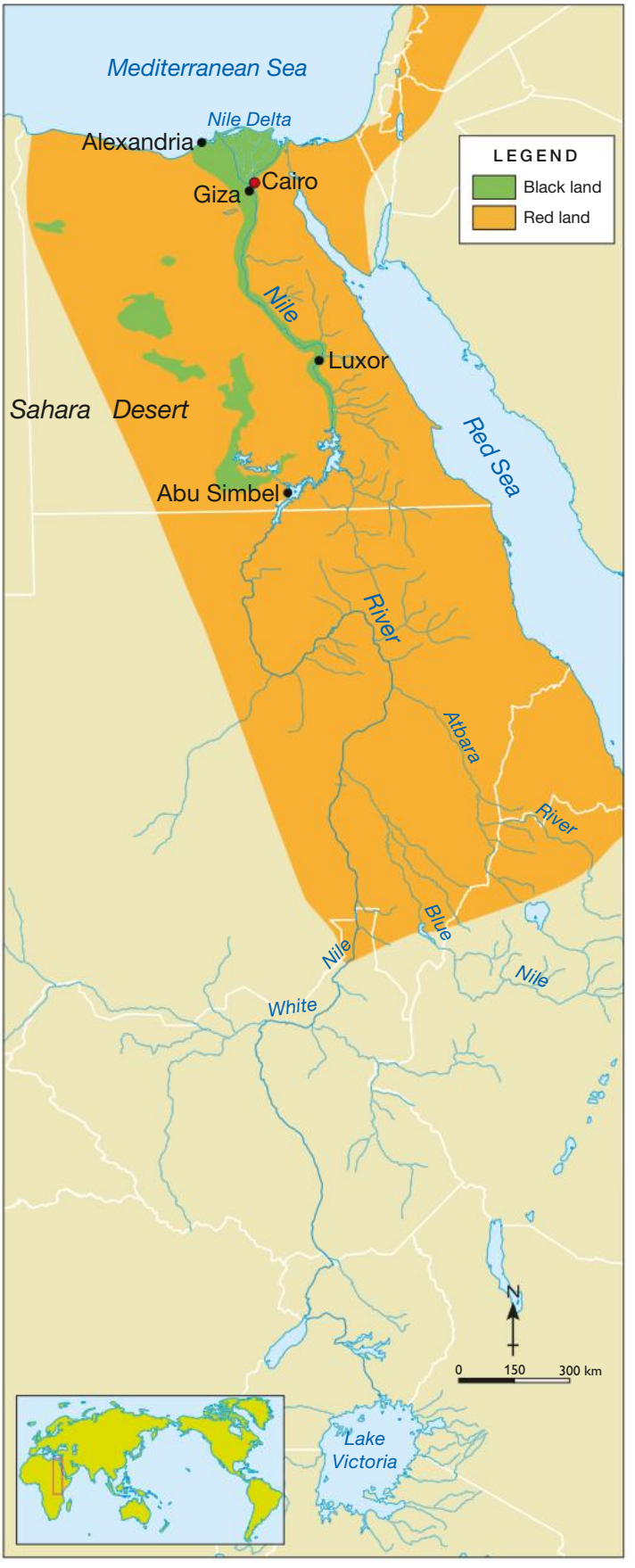
The ancient Egyptians called the fertile land with rich dark soil around the river the 'Black Land'. This was where most people lived. On each side of the Nile, beyond the Black Land, were large areas of desert. The ancient Egyptians named these areas the 'Red Land'. Hardly anyone lived in the Red Land.

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.

Source 1 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 2 An aerial photograph of the Nile showing the fertile valley (Black Land) and the bordering desert (Red Land)

ANCIENT EGYPT AND THE NILE

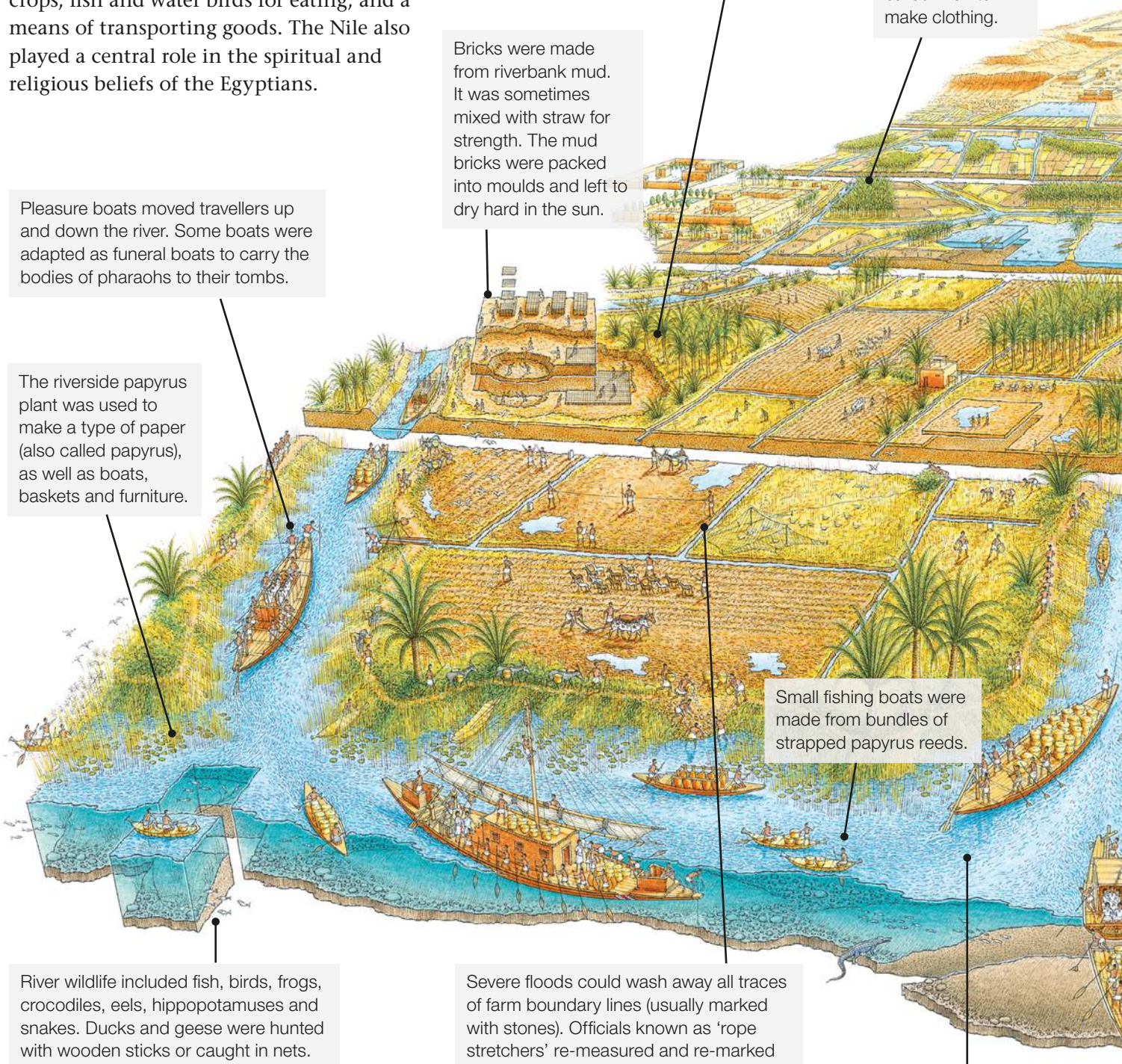


Source 3

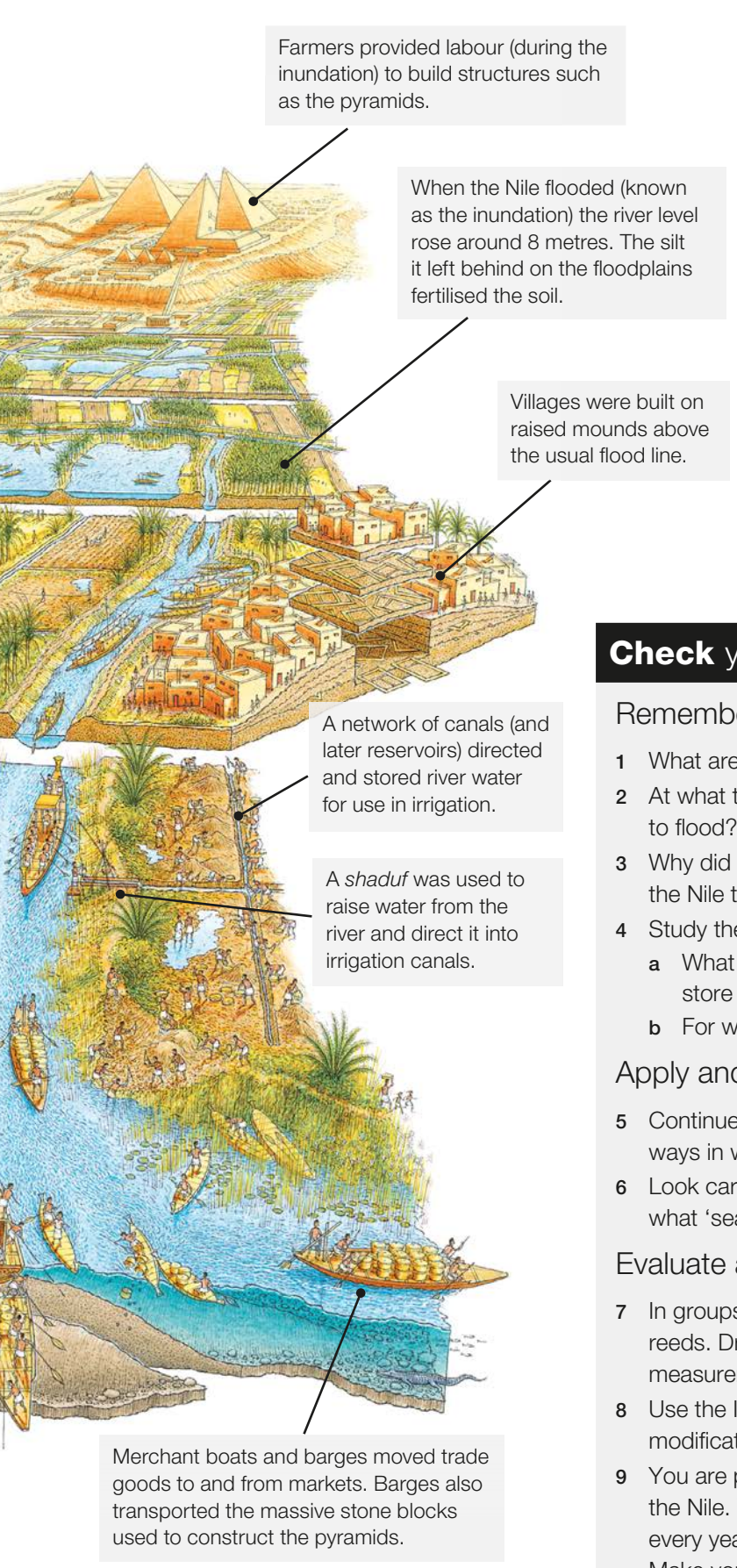
Source: Oxford University Press

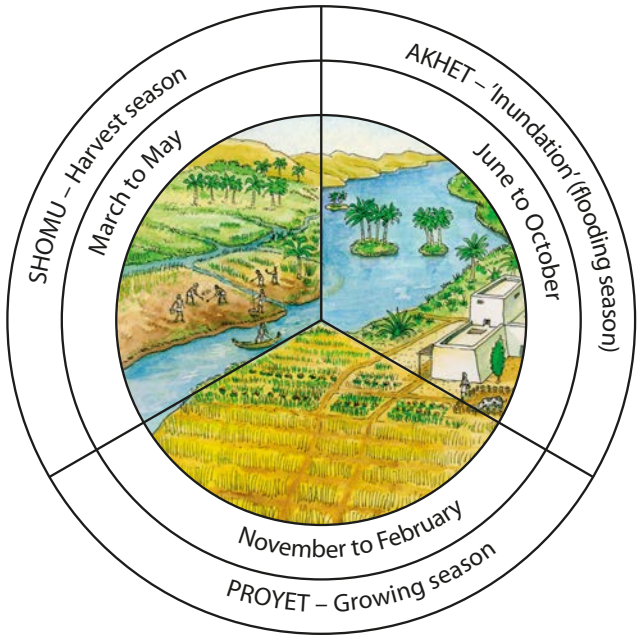
The importance of the Nile

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.



Source 4 An artist's impression of the central role that the Nile played in ancient Egyptian life





Source 5 The ancient Egyptian 'seasons'

Check your learning 10.2

Remember and understand

1 What are the three main sources of the Nile?
2 At what time of the year would the Nile flood? What caused it to flood? Why does the Nile no longer flood?
3 Why did the ancient Egyptians call the land along the banks of the Nile the 'Black Land'?
4 Study the illustration and labels in Source 4.
   a What devices did the ancient Egyptians use or make to help store and distribute water to fields?
   b For what different purposes were boats used?

Apply and analyse

5 Continue to study Source 4. How did the Nile influence the ways in which buildings were made and villages designed?
6 Look carefully at Source 5. If you had lived in ancient Egypt, what 'season' would it be now? What would be happening?

Evaluate and create

7 In groups, discuss how people would have built boats from reeds. Draw sketches and suggest likely design, tools, measurements and so on.
8 Use the Internet to discover how a *shaduf* worked. Suggest a modification or addition that would have made it work better.
9 You are providing the voiceover for a feature documentary on the Nile. Write the segment in which you explain 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

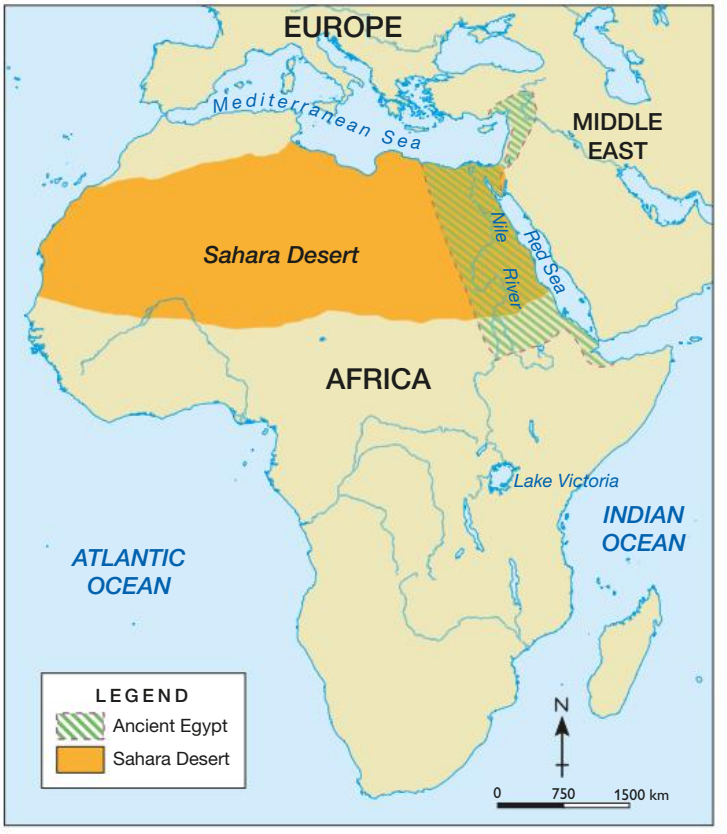
Ancient Egypt was located within what is now the biggest desert in the world – the Sahara. This meant that the climate of Egypt was incredibly hot and dry.

The desert

Being surrounded by desert provided Egypt with some security against attacks. Any army that wanted to attack would have had a long, hot walk if invading from the east or the west.

The desert around ancient Egypt 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.

LOCATION OF ANCIENT EGYPT IN THE AFRICAN CONTINENT



Source 1

Source: Oxford University Press

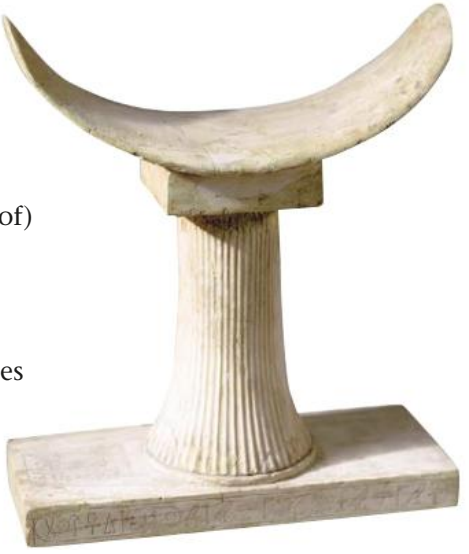
How the climate influenced lifestyle

Living in a very hot and dry climate, the ancient Egyptians mostly lived an outdoors 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.

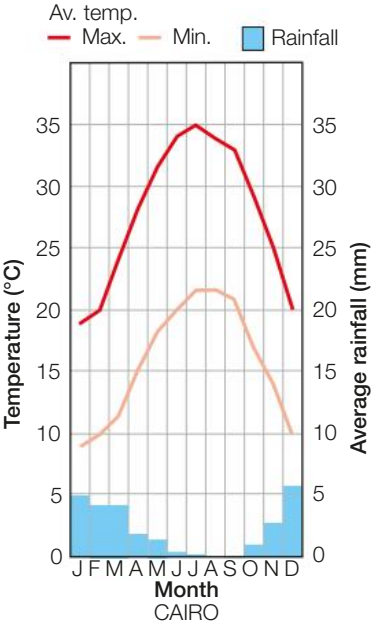
Houses

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 2 A headrest used by the wealthy while sleeping. It allowed air to circulate around the head and neck.



Source 3 Climate graph for the city of Cairo (near the pyramids at Giza)

Fashion

Because of the heat the people of ancient Egypt dressed very lightly. 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 perspiration 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.

Source 4 Papyrus sandals from ancient Egypt. These would have been very cool to wear.

key concept: Evidence

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 5). As it slowly melted in the heat, sweet-smelling liquid dripped over the face and upper body, cooling the skin.

For more information on the key concept of evidence, refer to page 193 of 'The history toolkit'.

Source 5 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.

Check your learning 10.3

Remember and understand

1 Where did the people of ancient Egypt often cook and sleep? Why?

2 List three different resources provided by the deserts to the people of ancient Egypt.

Apply and analyse

3 If you lived in a location such as ancient Egypt, what might the advantages and disadvantages be in shaving your head and wearing a wig?

4 Examine Source 3.

- **a** During which months, on average, is there no rain in Cairo? What is 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. Write a few sentences describing some of the differences between average rainfall in Cairo and average rainfall in Melbourne.

Evaluate and create

5 A link to a video of Egypt and its desert environment is available on the obook. Prepare a creative response to this experience by writing one of the following:

- a short poem
- a diary entry that you might have recorded if you had been there.

10A rich task

Irrigation in ancient Egypt

The annual inundation (flooding) of the Nile was so important to the ancient Egyptians that they based 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, 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 growing season, 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.

Source 1 Canals were a very important form of irrigation in ancient Egypt. A simple Egyptian canal system is depicted in this painting, found in the tomb of a commoner by the name of Sennedjem.

skill**drill:** Historical sources as evidence

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 be able to 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 him or her 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, ask yourself which specific words or phrases show how the writer feels about what he or she is describing.

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 us with a range of 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 at different times throughout ancient Egyptian civilisation. Use the steps described above to complete the tasks that follow.

For a detailed description of this skill, refer to pages 205–8 of 'The history toolkit'.

Source 2 *Shadufs* were an important form of ancient Egyptian irrigation technology. 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 3 Wooden waterwheels were another important irrigation technology in ancient Egypt. 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 4

> 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

Apply the skill

1 Read Source 4 carefully.

- **a** What factual information is conveyed in this source?
- **b** What does it tell you about the writer's beliefs and attitudes regarding 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 infer about the writer's values?

2 Use Sources 1, 2 and 3, together with information gathered on the Internet, to compare different irrigation methods in ancient Egypt. You should look at canals, *shadufs* and waterwheels.

	When was this form of irrigation technology invented?	How did it work?
Canals		
Shaduf		
Waterwheel		

Extend your understanding

Using the results of your research, write a short report on the history of irrigation technology in ancient Egypt. Make sure you:

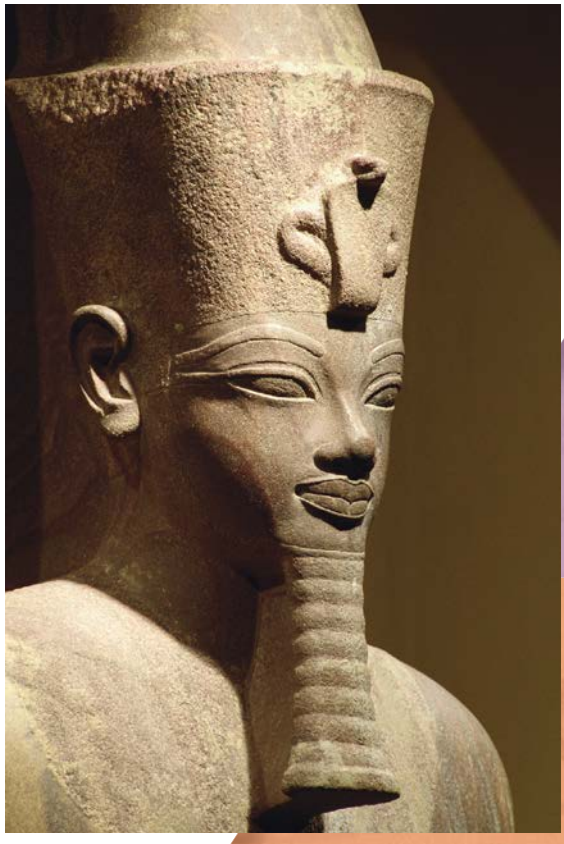
- include an introduction explaining why irrigation was so important in ancient Egypt
- include a main body, broken into sections (with subheadings) that describe each main type of ancient Egyptian irrigation technology (for example, 'Canals', '*Shadufs*' and 'Waterwheels')
- explain within each section when this particular type of irrigation technology was invented and how it worked. Include diagrams if you wish.

10.4 Key groups in Egyptian society

The society of ancient Egypt was well organised. Ancient Egyptians had a central government and, from the 15th 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.



Source 1 A stone head of pharaoh Amenhotep III, made in the early 14th century BCE. Pharaohs were at the top of the social hierarchy in ancient Egypt.

Check your learning 10.4

Remember and understand

1 Place 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 How might a farmer's social role and standing potentially change if he learnt to read and write?

3 Explain why almost all scribes in ancient Egypt were men.

Apply and analyse

4 Compare and contrast the roles of a chief priest and the vizier in ancient Egypt.

Evaluate and create

5 a In groups, use Source 2 as a guide to help you draw up what you think the social hierarchy in Australia today might look like.

b Discuss your findings as a class. Decide to what extent your modern social hierarchies are an example of continuity and change when compared with the social hierarchy of ancient Egypt.

Source 2 The social hierarchy (structure) of ancient Egypt

Pharaoh
- Kept life in balance
- Was considered a god-king
- Had great wealth
- Was the highest priest in the land

Vizier
- Was second-in-command to the pharaoh
- Was the main adviser to the pharaoh
- Supervised other officials and acted as judge for law breakers

Chief priest
- Represented the pharaoh
- Was permitted to enter the inner temple where the statues of the gods were kept
- Was responsible for cleaning the temple god every day and bringing it food

Nobles
- Governed smaller regions within the kingdom
- Collected taxes

Priestesses
- Were married to nobles and senior officials
- Were responsible for the care of the temple goddess and required to sing and play music if the pharaoh visited their temple

Scribes
- Could read and write
- Were responsible for recording the decisions and orders of the pharaoh
- Kept tax records for the vizier and the accounts for the army

Soldiers
- Were professional, full-time soldiers

Merchants
- Traded goods such as linen, papyrus and grain from Egypt to other places
- Imported goods such as wood (e.g. ebony), ivory, copper and animals

Craftsmen
- Were skilled workers such as potters and stonemasons who made necessary goods for everyday use and objects for the temple

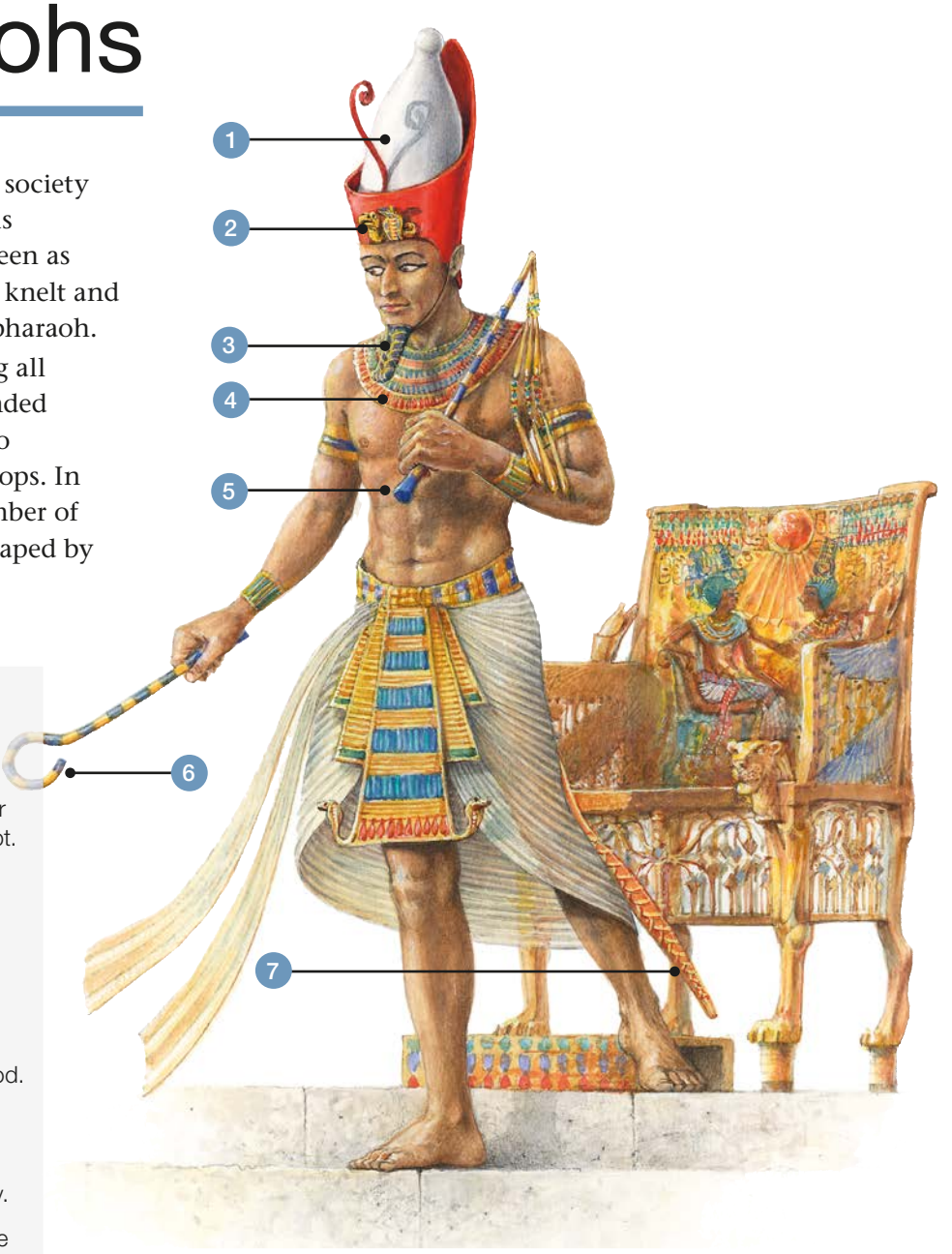
Farmers
- Grew crops such as wheat and barley
- Tended animals used for food and work
- Took on building work during the inundation

Slaves
- Were usually foreigners (captured in wars)
- Were used as domestic servants, farmhands or mineworkers
- Some worked in the pharaoh's palace

10.5 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 2).



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 1 An artist's impression of a pharaoh with his symbols of power

Earthly responsibilities (shaped by the law)	Divine responsibilities (shaped by religion)
The pharaoh was responsible for: • directing the government • commanding the army and leading them 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.

Source 2 Responsibilities of the pharaoh as god-king

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.

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, 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 the only 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 was very ambitious. In her time as pharaoh, she ordered the construction of many buildings, paid for many trading expeditions, and rebuilt trade routes that had been damaged by former invaders.

Source 3 An ancient stone carving of the female pharaoh Hatshepsut

Check your learning 10.5

Remember and understand

1 Give two examples each of the pharaoh's divine role and earthly role.
2 What was a dynasty, and why did a dynasty usually change?
3 How did the Ptolemaic Dynasty end?
4 Look carefully at Source 1. Copy and complete this table in your notebook, adding as many entries as you can.

Item worn or carried by the pharaoh	What it symbolised

Apply and analyse

5 Pharaohs had religious, legal and political responsibilities. Explain how this would have influenced the way Egyptians behaved towards their ruler.
6 Think about some of the items the following people wear or carry to reflect their social position and/or role. For each item, indicate what it symbolises:
- the Queen of England
- the captain of the Australian cricket team
- an Australian High Court judge
- the principal of your school.

Evaluate and create

7 a How and why did Hatshepsut adjust her appearance to suit her role as pharaoh?
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

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, buck teeth 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. He also reversed Akhenaten's decision to move the capital of ancient Egypt to Memphis. Tutankhamun declared that Egypt's old gods could again be worshipped. He restored their temples, priests and festivals.

Source 1
The mummified head of Tutankhamun

Source 2
The reconstructed head of Tutankhamun

Source 3 The gold mask found fused to Tutankhamun's head and upper body

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.

The discovery of Tutankhamun

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.

Since then, **conservators** (people responsible for preserving important historical sources) have been getting more and more worried about the damage 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 4 This pectoral (piece of jewellery like a pendant) was found in the tomb of Tutankhamun. He wore it at his coronation as pharaoh.

key**concept:** Contestability

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 the key concept of contestability, refer to page 196 of 'The history toolkit'.

Check your learning 10.6

Remember and understand

1 In one paragraph, explain who Tutankhamun was.
2 Why is he regarded by historians as significant?

Apply and analyse

3 a Why were Tutankhamun's uncovered remains at risk?
  b What has been done to help conserve them?
4 Explain why the cause of Tutankhamun's death has been contested by historians since his mummy was discovered in 1922.

Evaluate and create

5 Compose a letter that Howard Carter might have written to his family the day after discovering and entering Tutankhamun's tomb. Check some websites to learn more about the discovery and the tomb's contents.
6 Look at the coronation pectoral of Tutankhamun (Source 4). Use this image as inspiration to design a pendant suitable to be worn by the Australian Prime Minister. Use the Internet to research suitable images and icons to include on the pectoral.

10.7 Other key groups in ancient Egyptian society

To gain a more complete understanding of the ancient Egyptian civilisation, we also need to look at the roles of other key social groups, including women, slaves, scribes and craftsmen.

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. Yet Egyptian 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** (gods and 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 down 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.

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 such as those shown in Source 1 from the Nubian kingdoms south of Egypt. Others were bought and sold at markets, or were unlucky travellers captured by slave traders.

The role of slaves

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 1 A stone carving from a tomb at Saqqara, showing Nubian slaves, an Egyptian guard and an Egyptian scribe

Source 2 Tomb art, painted about 4500 years ago in Thebes, showing Egyptian women celebrating at a feast, attended by servants

Source 3 This limestone painting from the 19th Dynasty shows an Egyptian carpenter at work.

Scribes

The **scribes** in ancient Egypt were usually men. They were an elite group, and their profession tended to be passed from father to son. Scribes had to attend a special school where they would learn how to read and write hieroglyphs and hieratic script (simplified text). This study would take a lot of hard work and time – four to five years. Scribes generally wrote on papyrus with reed brushes using red and black ink made from ground minerals.

The role of scribes

Scribes kept detailed records of administrive and economic activities. They also supervised the building of monuments and infrastructure projects, and could write wills and other documents for illiterate people. Much of what we know about ancient Egyptian civilisation comes from the records of scribes.

Craftsmen

This group of ancient Egyptian society included skilled labourers such as carpenters (see Source 3), stonemasons, sculptors, painters, potters, metalworkers and jewellers. Craftsmen had their own hierarchy depending on their skills. The most talented craftsmen were employed in royal or temple workshops. They were highly respected and generally lived quite comfortable lives. Many other craftsmen set up their own small workshops to make objects for ordinary people, which earned them a more modest livelihood. Like scribes, a craftsman's skills and profession were usually passed down within the family.

Check your learning 10.7

Remember and understand

1 Explain some of the ways in which religious beliefs in ancient Egypt shaped the role of women.
2 What were the main differences in work opportunities for wealthy women compared to poorer women?
3 What type of lives could most slaves in ancient Egypt expect to live? What types of duties were they expected to carry out?
4 What types of duties were less fortunate slaves expected to carry out?
5 Name three important responsibilities that scribes would have had in ancient Egyptian society.
6 Why has the work of scribes been so important to the development of our knowledge about the society of ancient Egypt?

Apply and analyse

7 List the physical or mental qualities or skills that you think would have made a slave an ideal person for each of the following:
   a the pharaoh's household
   b working in the desert mines
   c working in a local temple.

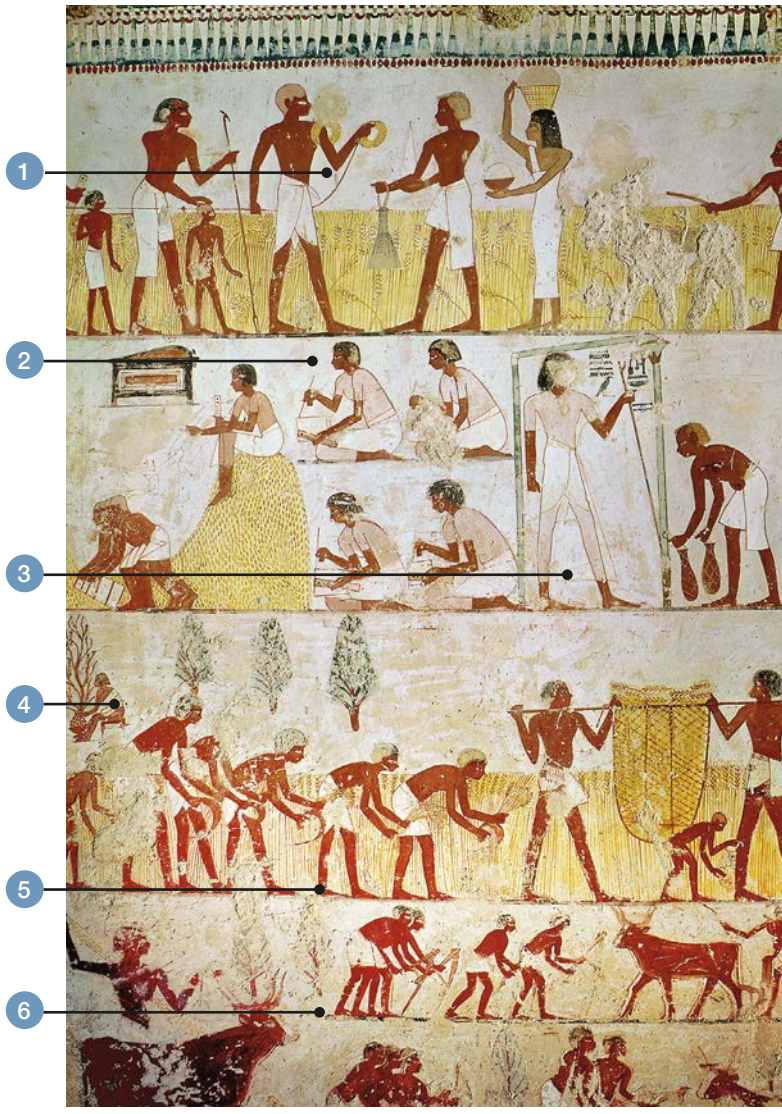
Evaluate and create

8 The powerful roles in ancient Egyptian society were those of people who were wealthy, had political power or had religious authority. Discuss as a class to what extent this represents the situation in Australia today.

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 their calendar, the design of their 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.



skill**drill:** Historical sources as evidence

Using primary sources as evidence

Historians focus their research on sources that are relevant to their inquiry. 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 step you must undertake 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 skill drill, your inquiry 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 detailed description of this skill, refer to page 205 of 'The history toolkit'.

Source 1, 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 1 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.

Apply the skill

1 Each farming activity listed below has an identifying letter beside it. Locate the section of the painting that you think best corresponds to each activity and match the corresponding letter and number in your notebook.
   - **A** Cutting down 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? List 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?

4 How 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.

Extend your understanding

1 Work in small groups to prepare a 2-minute role play between one of the farmers in Source 1 and a noble who has come to check grain stores. Your dialogue should reflect the differences between these social roles as you understand them. Once finished, perform your role play for the class.

2 Brainstorm three other types of primary sources that might provide useful evidence in our inquiry into what farming practices were like in ancient Egypt and the role of farmers in the social hierarchy.

10.8 Religious beliefs and practices

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). Their 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 depicted with the Sun symbol on his head. He is said to travel alongside Nut, the universal mother, during the day and night. Endlessly, she swallows the Sun at night and gives birth to it again next morning.

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.

Ordinary people made shrines within their homes where they said prayers and left offerings. People played instruments such as **sistra** (metal rattles; see Source 2 on page 304) to keep away evil spirits. They also wore amulets to attract the protection or goodwill of the gods.

Source 1 Detail of a statue showing the god of water, Sobek, alongside pharaoh Amenhotep III. Sobek is shown with the features of a crocodile.

Source 2 An ancient painting on papyrus showing some of the most important gods of ancient Egypt

Source 3 Many animals in ancient Egypt were mummified as a sign of respect, or as offerings to the gods. Cats, such as this one, were mummified in large numbers.

Animal gods

Many gods throughout ancient Egypt were represented 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.

Check your learning 10.8

Remember and understand

1 Which Egyptian god was the most significant? Why?
2 Name one way in which ordinary people tried to keep evil spirits away.
3 How did ordinary people try to attract protection from the gods?
4 How were gods worshipped in ancient Egypt?

Apply and analyse

5 Through research, find out how some of the Egyptian deities were depicted. Look particularly at their heads. Draw sketches to show how you would depict each of the following: god of peace, god of greed and god of courage.

Evaluate and create

6 Create a new deity for ancient Egypt. Sketch his or her appearance (use labels and stick figures if you cannot draw). Describe this deity's role. List the different ways in which your deity would have affected the lives of the ancient Egyptians.

10.9 Everyday life

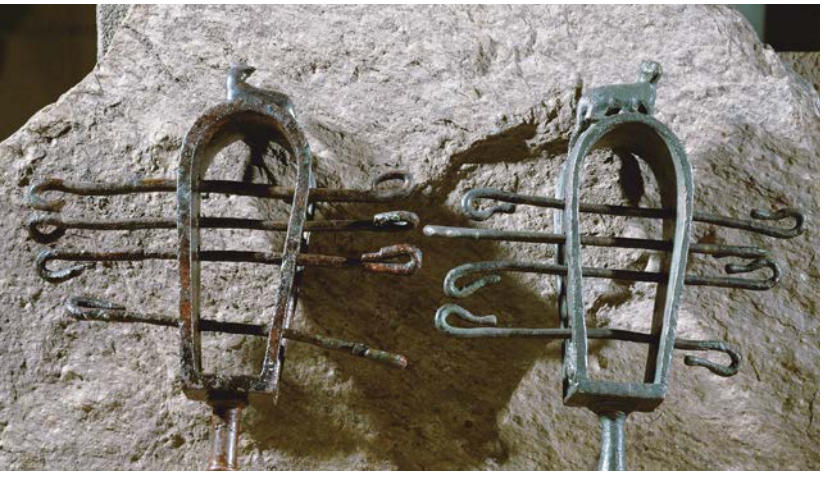
Ancient Egypt was a highly organised civilisation that was deeply influenced by its people's beliefs, **values** and practices. This influence was evident in various aspects of the ancient Egyptians' daily lives.

Marriage, love and childbirth

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 1 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 of 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 1 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 among Egyptian paintings and carvings.



Source 2 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 2). 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 the sistrum 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 'Other key groups in Egyptian society').

During the period of the Old Kingdom, the ancient Egyptians used a script called hieroglyphs. 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.

Source 3 Ancient Egyptian hieroglyphs in the Temple of the Dead of Rameses III, Luxor

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.

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:

- lots of 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 regular outbreaks of 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.

Check your learning 10.9

Remember and understand

1 In what ways did ancient Egyptians show that they valued cleanliness and their physical appearance?
2 Explain why ancient Egyptians often suffered from each of the following: bacterial infections, bad teeth and silicosis.
3 Why were scribes so highly valued?

Apply and analyse

4 What practice of the ancient Egyptians helped to advance their knowledge of anatomy?
5 What gods might a woman giving birth in ancient Egypt call on? Why?
6 In which ways did written forms of communication develop and change over time in ancient Egypt? Why were these changes necessary?

10.10 Warfare

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 pharoah'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 kept law and order in Egypt, protected the pharaoh and the pharaoh's palace, and guarded borders. The head of Egypt's army was the pharaoh – only he led troops into battle.

One of the pharaoh's main responsibilities was to protect the Egyptian people from attack. Because he was considered to be a god, 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 and impressive 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 1). 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). Because of this, only wealthy men could become charioteers. Successful charioteers were looked on as heroes.

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.

Source 1 The remains of a wall painting showing pharaoh Rameses II charging into battle. The horse-drawn chariot was an important weapon in ancient Egypt.

Source 2 A model of Egyptian foot soldiers from the tomb of Mesehiti, an important official in Egypt during the 11th Dynasty (*c.* 2134–1991 BCE)

Treatment of enemies

Ancient Egyptians could be very harsh in their treatment of enemies they fought and conquered. There are accounts of corpses being mutilated, 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.

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 a series of leather straps. It seems that only the pharaohs wore metal armour, but not all the time. This armour was made from a series of 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 1).

Many weapons also served as farming tools. For example, axes might chop down palms 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 3 Some weapons used by soldiers in ancient Egypt

keyconcept: Perspectives

Army life

Many men in ancient Egypt chose to join the army as a way to become rich. Wealth would give talented soldiers a chance to improve their social position. After a battle, goods from the defeated army would often be taken and given to officers, priests and worthy soldiers. There are papyrus texts that describe soldiers being given items of gold jewellery. There was also a commonly held belief that the memory and name of a war hero would live forever.

However, not everybody had the same perspective on life as a soldier. Scribes, who often travelled with the army, saw it as an awful existence. Many encouraged young Egyptians not to join the army.

Source 4

> Come, let me tell you the woes of the soldier … He is awakened at any hour … He is hungry, his belly hurts; he is dead while yet alive … He may not rest. There are no clothes, no sandals … His march is uphill through mountains. He drinks water every third day; it is smelly and tastes of salt. His body is ravaged by illness …

Translated extract from the writing of the scribe Wenemdiamun, in Miriam Lichtheim, *Ancient Egyptian Literature*, University of California Press, Berkeley, 1976, vol. 1

For more information on the key concept of perspectives, refer to page 190 of 'The history toolkit'.

Check your learning 10.10

Remember and understand

1 Why did the Old Kingdom of ancient Egypt only need a small army?

2 The army of ancient Egypt had two main types of soldiers. Name them and describe how they fought.

Apply and analyse

3 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. Why do you think they might have done this?

Evaluate and create

4 With a partner, write and perform a role play that demonstrates the different perspectives that might be held about army life by an ambitious young Egyptian soldier and the scribe Wenemdiamun (see Source 4).

10.11 Death and funeral customs

Religion played a major part in the life and death of ancient Egyptians. For those who were 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 in order to ensure a smooth journey into the afterlife. These included:

- preserving the body after death through a process known as mummification
- reciting the appropriate 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.

The mummification process

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 1 on page 310).

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.

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 2.

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.

Source 1 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.

Source 2 An ancient Egyptian painting showing the 'weighing of the heart' ritual

1. Anubis, god of embalming and the dead, leads the dead person to judgement.
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.

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.

Source 3 This boat was found in the Great Pyramid at Giza, burial place of the pharaoh Khufu, who ruled from 2551 BCE to 2528 BCE. A boat was needed so that the pharaoh could sail across the sky with the god Ra.

Check your learning 10.11

Remember and understand

1 Explain why the corpse shown in Source 1 is surrounded with goods. Why is it so well preserved?
2 What were mastabas and pyramids?
3 What was the *Book of the Dead* and what role did it play in Egyptian funeral customs?
4 Why was it so important to ancient Egyptians to preserve the body when someone died?

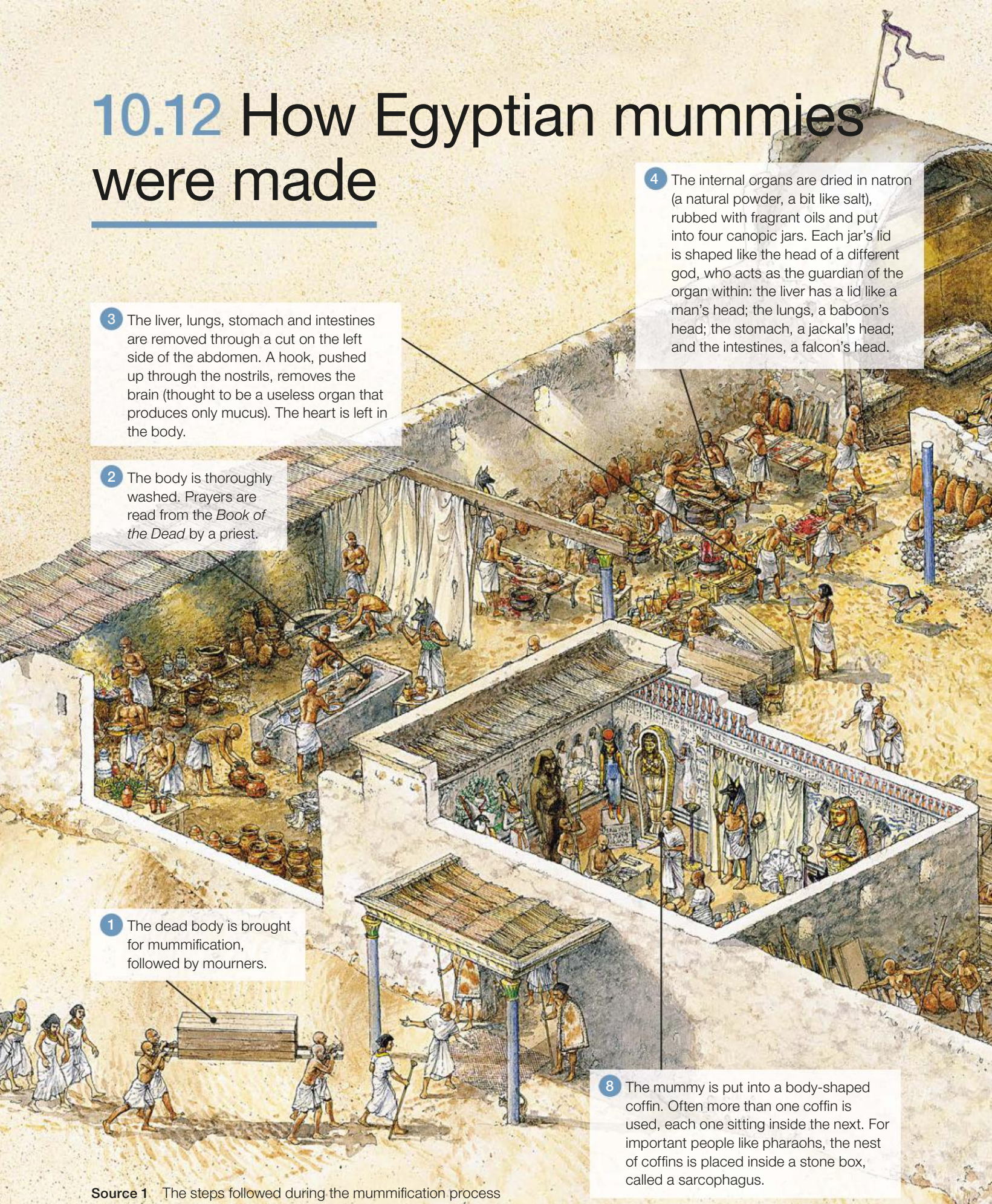
Apply and analyse

5 Look at Source 2. Why do you think 'having a heavy heart' might indicate that the life a person has led has not been a good one?

Evaluate and create

6 Source 3 shows a boat (now reassembled) that was found in the Great Pyramid. Write a statement that might have been read by the priest speaking at Khufu's funeral. Include reference to this boat.

10.12 How Egyptian mummies were made



1 The dead body is brought for mummification, followed by mourners.

2 The body is thoroughly washed. Prayers are read from the *Book of the Dead* by a priest.

3 The liver, lungs, stomach and intestines are removed through a cut on the left side of the abdomen. A hook, pushed up through the nostrils, removes the brain (thought to be a useless organ that produces only mucus). The heart is left in the body.

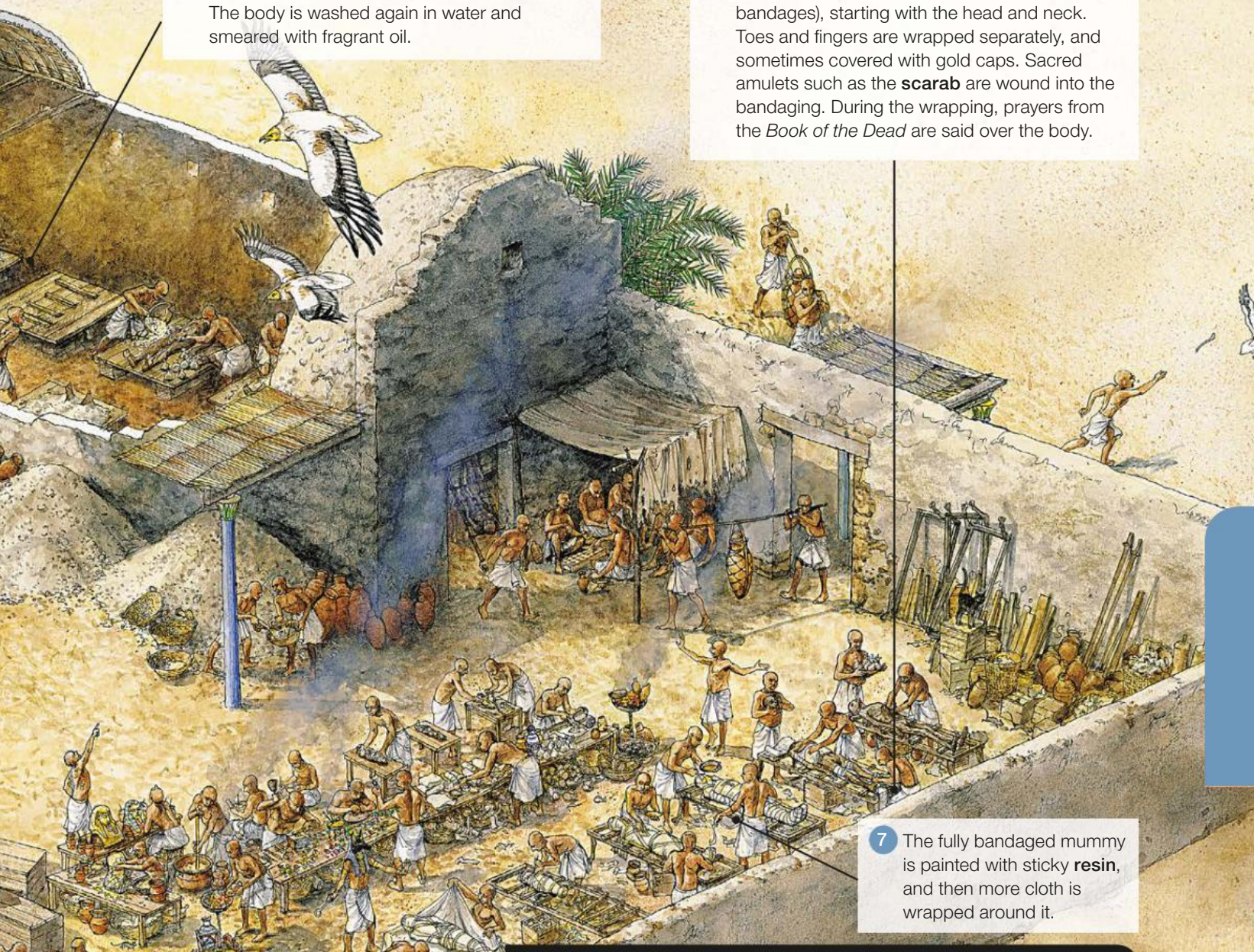
4 The internal organs are dried in natron (a natural powder, a bit like salt), rubbed with fragrant oils and put into four canopic jars. Each jar's lid is shaped like the head of a different god, who acts as the guardian of the organ within: the liver has a lid like a man's head; the lungs, a baboon's head; the stomach, a jackal's head; and the intestines, a falcon's head.

8 The mummy is put into a body-shaped coffin. Often more than one coffin is used, each one sitting inside the next. For important people like pharaohs, the nest of coffins is placed inside a stone box, called a sarcophagus.

Source 1 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.

Check your learning 10.12

Remember and understand

1 What was done with a dead person's internal organs during the mummification process?
2 Why were bodies covered with salt for 70 days?
3 What religious ritual was conducted as the bodies were wrapped in cloth?

Apply and analyse

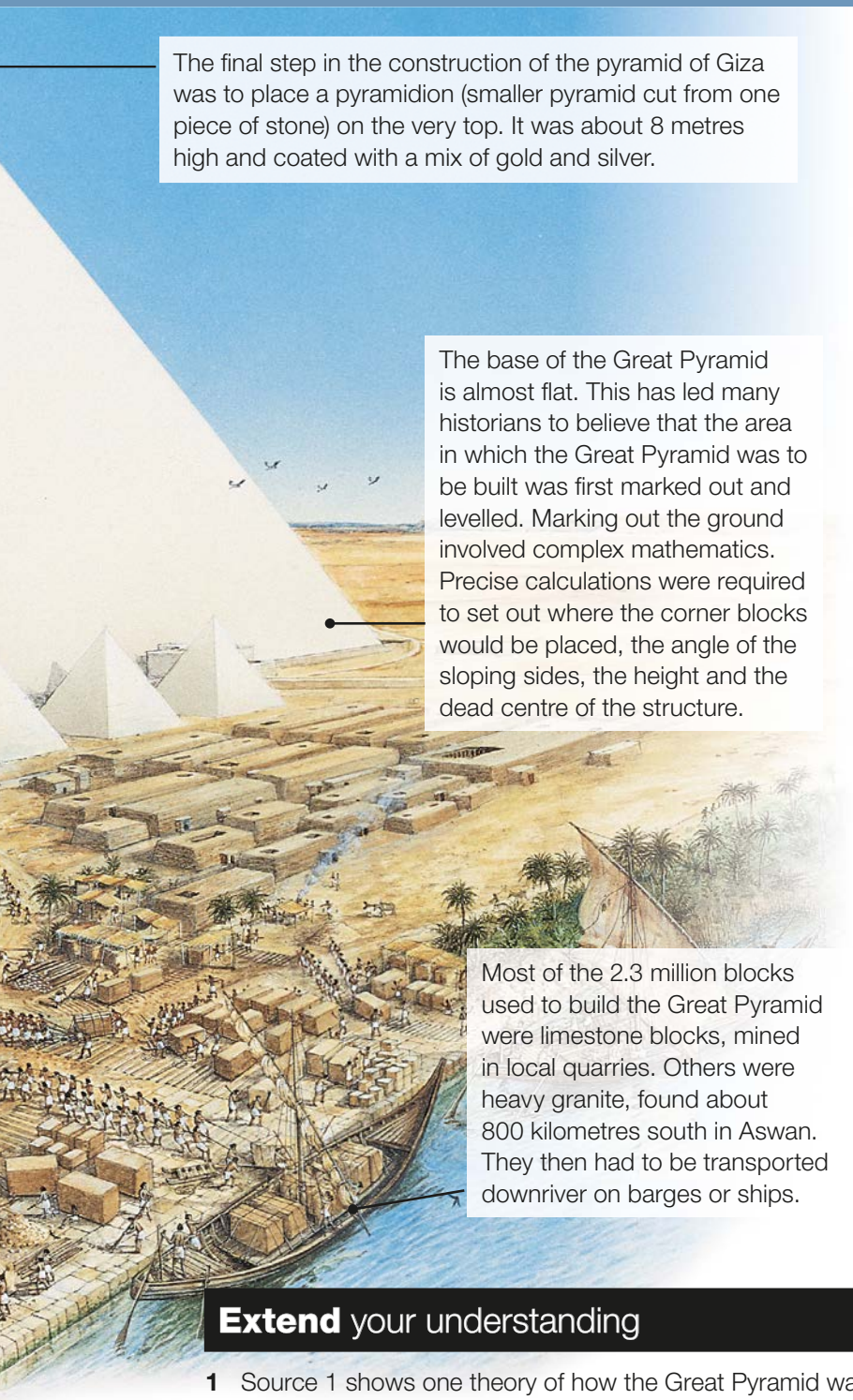
4 Study the various elements illustrated in Source 1. What evidence does this source provide about ancient Egyptian beliefs and values, and their impact on people's lives?

Source 1 Historians believe the building of the Great Pyramid at Giza took about 20 years, using 100 000 workers.

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. These historians have come up with many different hypotheses about how it was built. The illustration on these pages highlights what many historians today agree must have been the main steps in the pyramid's construction.



The final step in the construction of the pyramid of Giza was to place a pyramidion (smaller pyramid cut from one piece of stone) on the very top. It was about 8 metres high and coated with a mix of gold and silver.

The base of the Great Pyramid is almost flat. This has led many historians to believe that the area in which the Great Pyramid was to be built was first marked out and levelled. Marking out the ground involved complex mathematics. Precise calculations were required to set out where the corner blocks would be placed, the angle of the sloping sides, the height and the dead centre of the structure.

Most of the 2.3 million blocks used to build the Great Pyramid were limestone blocks, mined in local quarries. Others were heavy granite, found about 800 kilometres south in Aswan. They then had to be transported downriver on barges or ships.

skill**drill:** Chronology

Creating a flow chart

After conducting their inquiries, 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.

Apply the skill

1 Look carefully at Source 1. Identify what the key steps would have been in the building of the Great Pyramid, as well as the order in which these steps would have been performed. Create a flow chart that outlines these steps, using the guidelines above.

Extend your understanding

1 Source 1 shows one theory of how the Great Pyramid was built, but many historians now contest this theory. They argue that it would have been impossible to drag stone blocks to the top of the pyramid up such a steep ramp.

a Conduct some online research on theories that try to explain how the pyramids were built. For example:
- a ramp that winds around the pyramid
- a series of cranes that lifted stones up the side of the pyramid
- a combination of all of these theories.

b Describe each theory and draw a simple picture to illustrate how each may have worked.

c Which theory do you think is most likely to be correct? Give reasons for your answer.

10.13 Change through trade

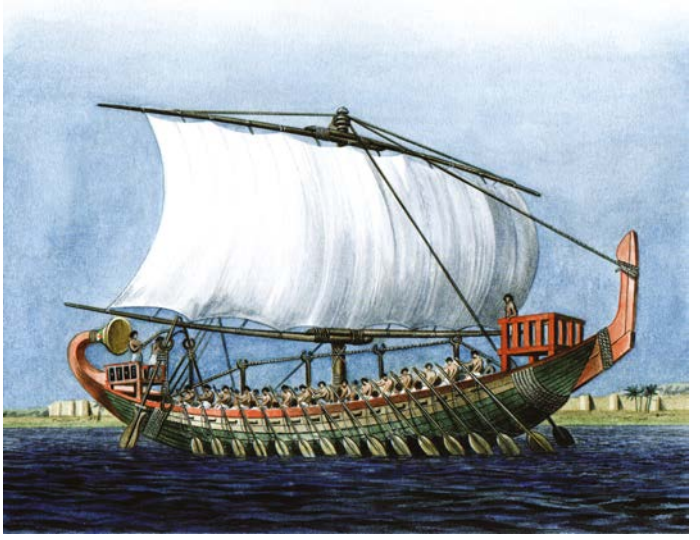
Ancient Egypt's location offered it many advantages in terms of trade. For example, the Nile allowed merchants easy access to the Mediterranean Sea and beyond. The trade contacts they made with new markets helped Egypt to develop and prosper. So did the lands Egypt acquired through their military conquests during a period known as the New Kingdom.

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.

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.

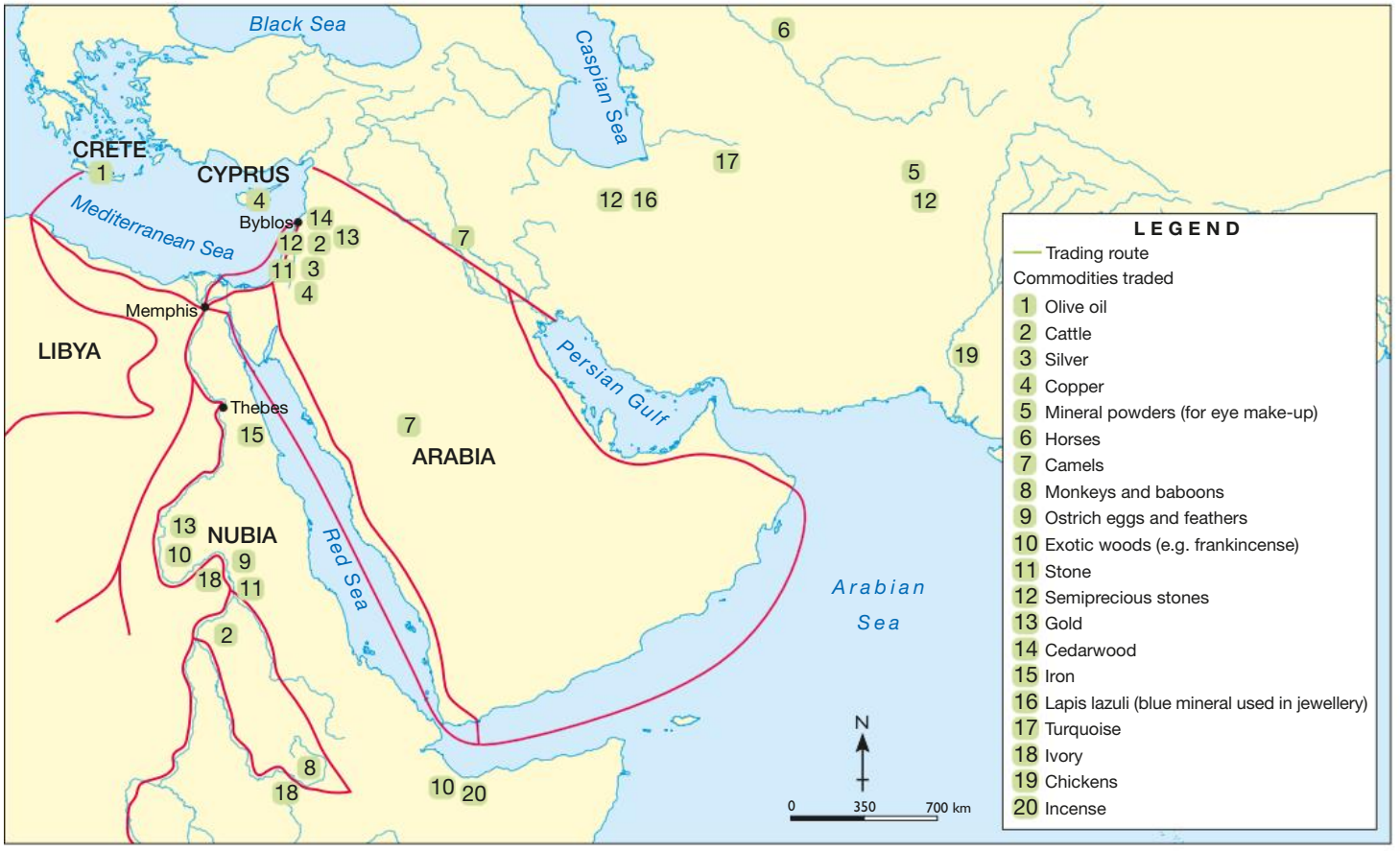
Egyptian traders would often travel on land with camel caravans through deserts. Alternatively, they would travel by boat or barge.



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.

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.

KEY TRADE ROUTES OF ANCIENT EGYPTIANS



Source 3

Source: Oxford University Press

Check your learning 10.13

Remember and understand

1 What type of goods did ancient Egypt have plenty of to trade?

2 What does the word 'barter' mean? What goods did the ancient Egyptians barter with the Nubians?

3 Examine Source 3 on this page and Source 1 on page 316.

- **a** List some of the goods Egypt obtained from Nubia, from other parts of Africa and from Retenu (what Egyptians called the region then known as Canaan and Syria).
- **b** Using your atlas, work out the modern names of the countries that the ancient Egyptians traded with to obtain chickens, lapis lazuli and incense.

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 Look at Source 2. List the goods in this image you are familiar with. With a partner, try to work out what the other items might be.

Evaluate and create

6 Draw 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 because of some terrible circumstances Australia is cut off from all contact with the rest of the world. As a class, brainstorm 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?

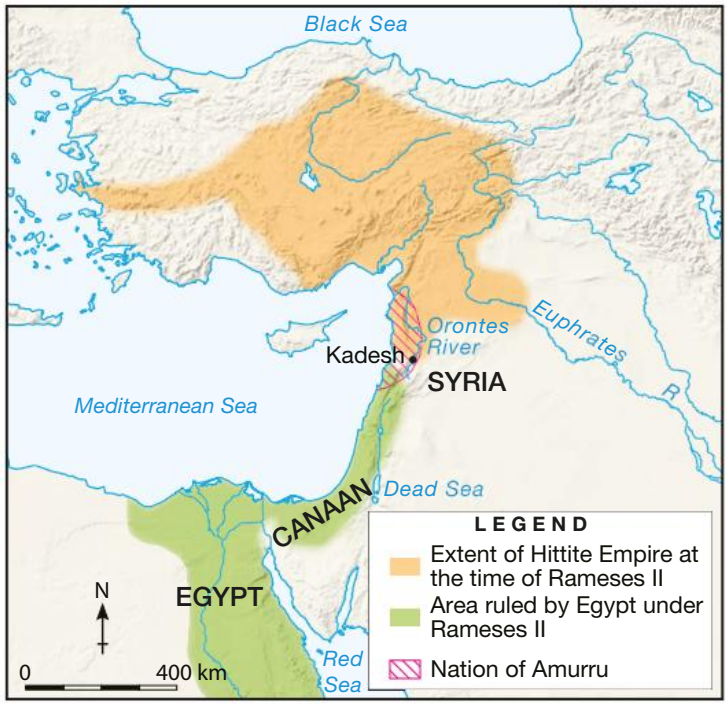
10.14 Change through conflict

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 meant that Egypt was 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 14th 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 1 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.

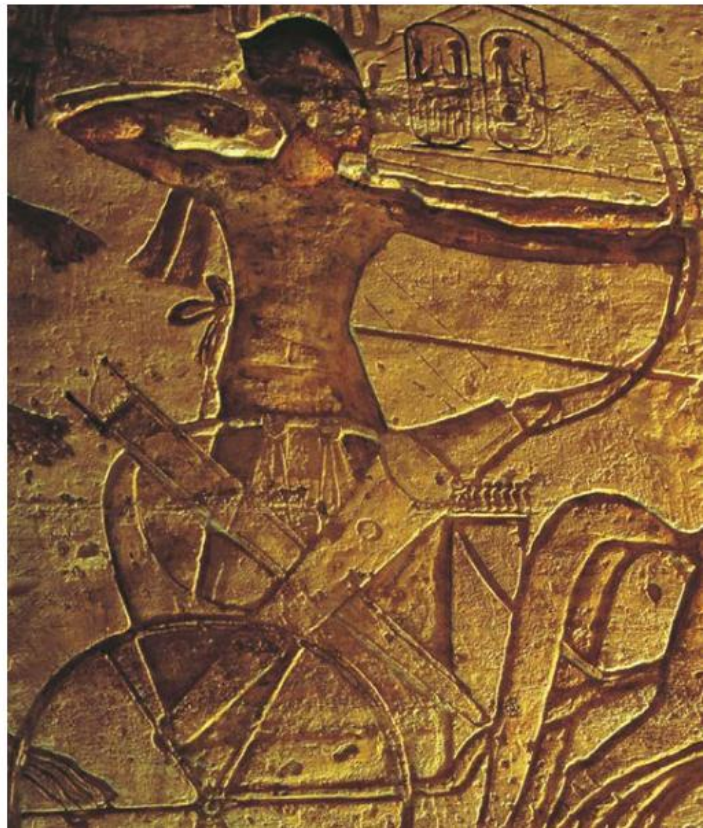
Kadesh was a city in Syria that had been taken from the Egyptians by the Hittites. Seti I led a very bloody battle against the Hittites and was able to reclaim Kadesh for a short time.

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 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.

Source 2 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.



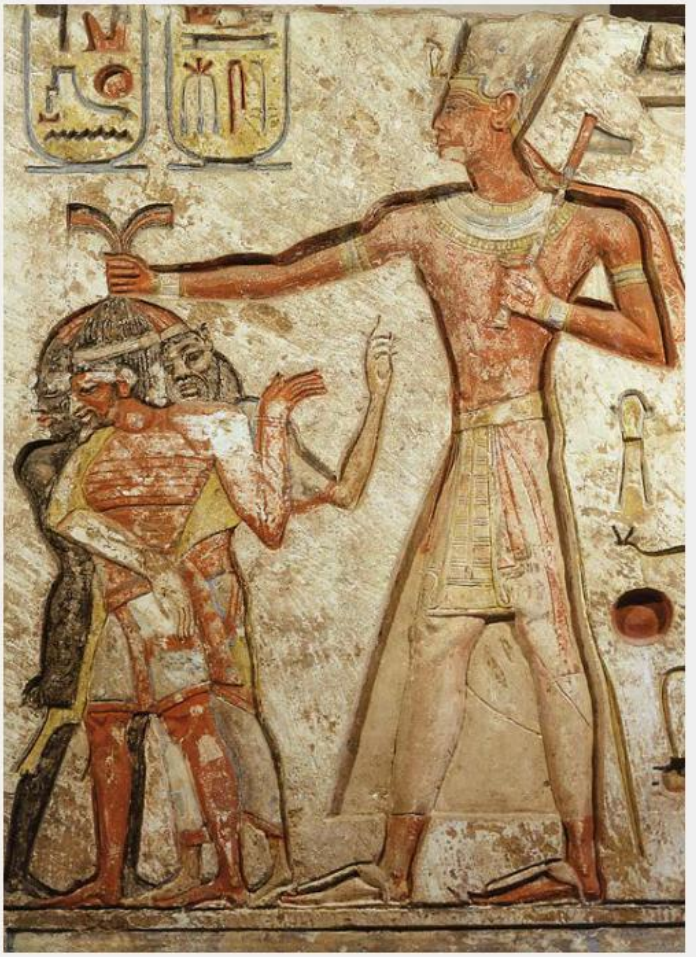
key**concept:** Cause and effect

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 14th 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 the key concept of cause and effect, refer to page 192 of 'The history toolkit'.



Source 3 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.

Check your learning 10.14

Remember and understand

1. Why was Kadesh important to Rameses II?
2. Who did the Egyptians fight at the Battle of Kadesh?
3. What triggered the Battle of Kadesh?
4. Why was this battle so significant?

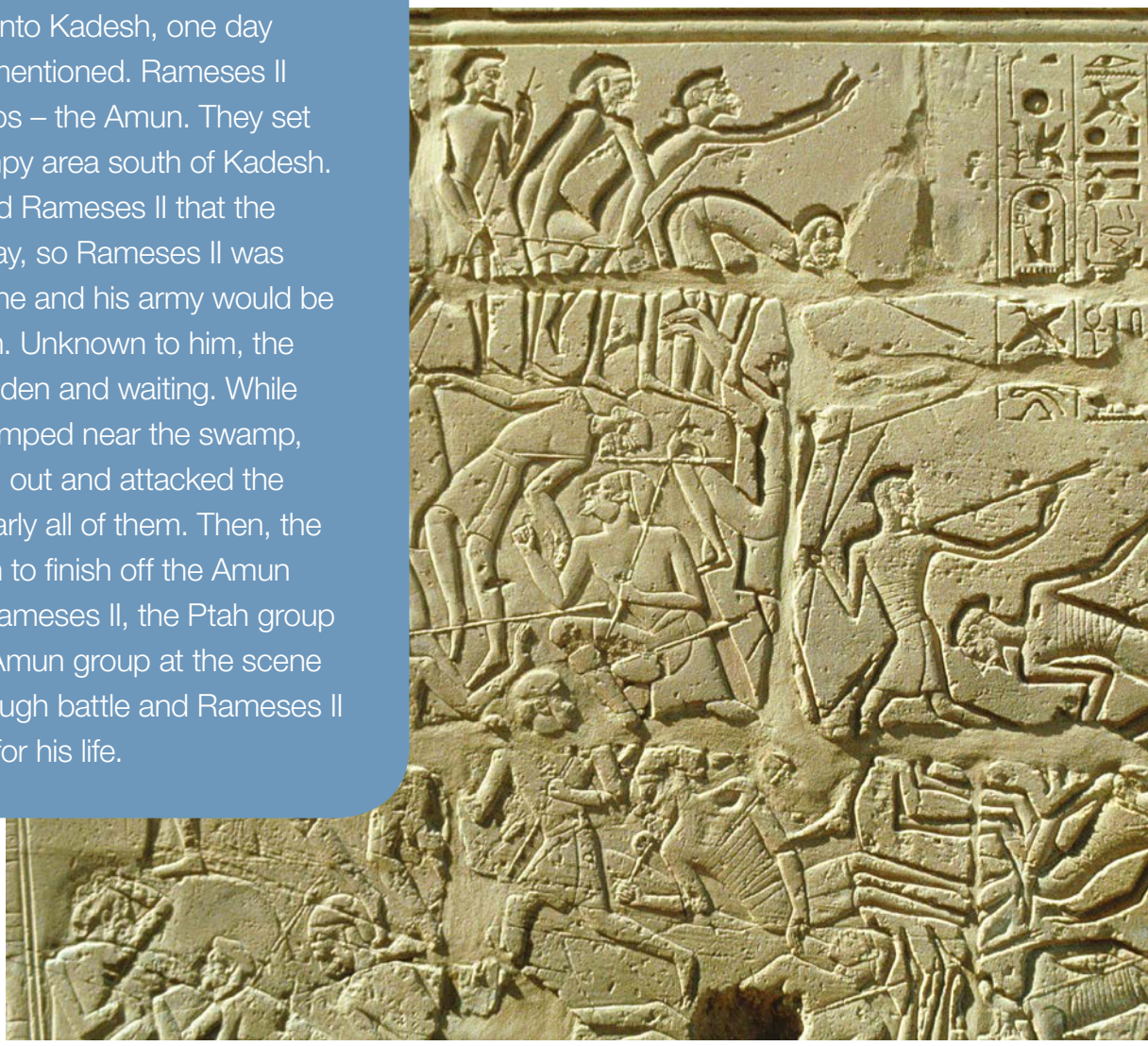
Apply and analyse

5. Look at Source 3. 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?

10D rich task

The Battle of Kadesh

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 1 A stone carving of the battle of Kadesh showing the army of pharaoh Rameses II fighting Hittite soldiers

skill**drill:** Chronology

Creating a visual representation of a historical event

Historians often read information provided by a secondary source (such as the paragraph here about how the Battle of Kadesh unfolded), identify the key ideas or events described in this information, and create a visual representation of these key ideas or events (for example, in the form of maps or labelled diagrams). Going through this process 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.

To create a good visual representation of a historical event, you need to:

- read the information carefully
- identify the key players in the event/s
- re-read the information, this time making sure you visualise each stage of the event/s being described
- choose symbols and colours to represent key players, locations and events; for example, you might use arrows to show movement
- include a legend.

For a detailed description of this skill, refer to page 209 of 'The history toolkit'.

Apply the skill

1 Copy the maps on the right into your notebook and use them to create a graphic representation of how the Battle of Kadesh unfolded. The first one has been done for you. Don't forget to complete the legend.

Extend your understanding

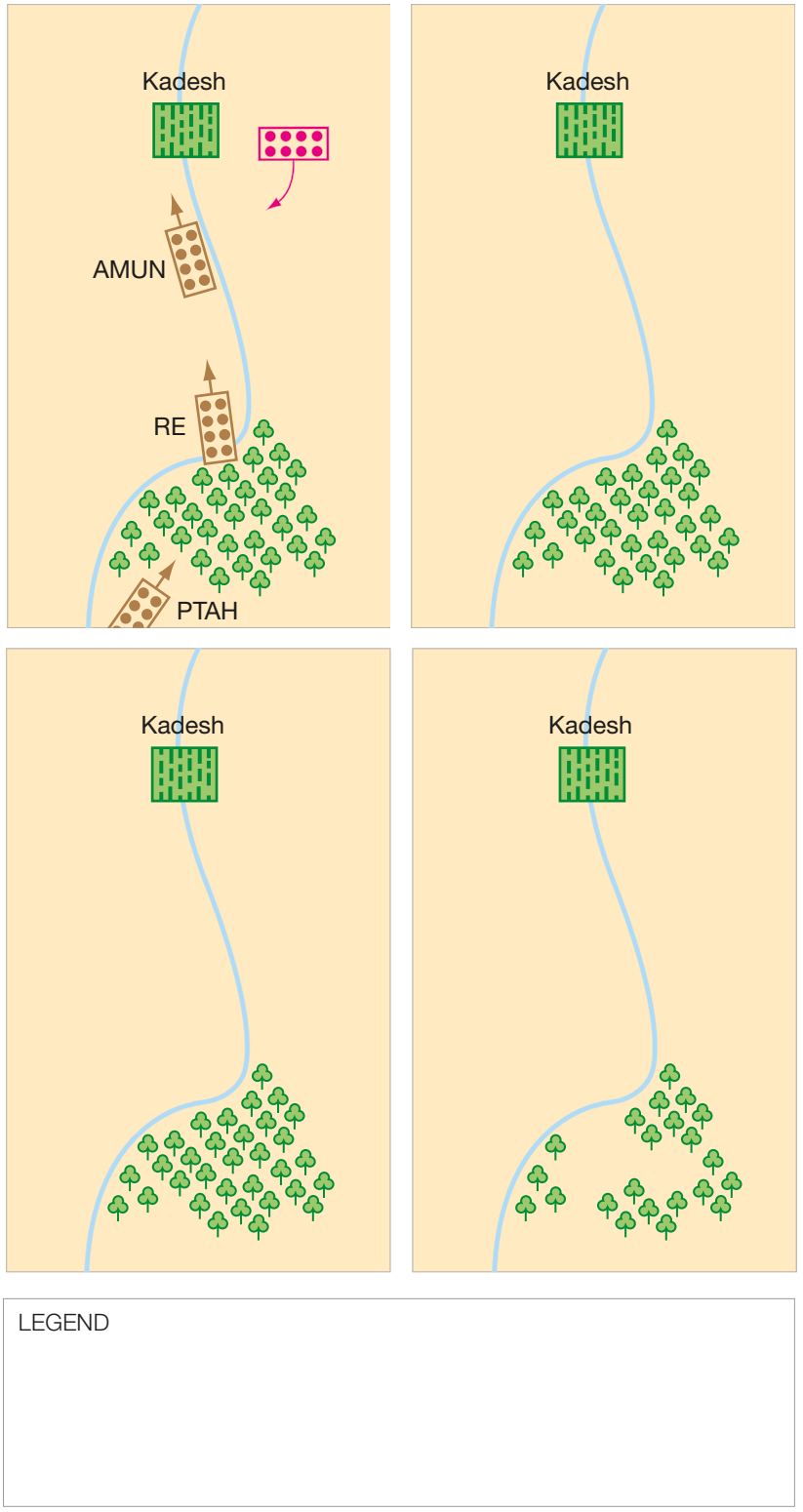
1 What advice would you have given to Rameses II that might have reduced his troop losses and allowed him to win the battle?

2 How do you think propaganda about the godlike achievements of Rameses II would have been received in Europe? 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 victory of Rameses II.

How the Battle of Kadesh unfolded



Unit 2 The European and Mediterranean world

Ancient Greece

Ancient Greece covered an 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 debt that Western society owes to the early Greeks. This includes **democracy** as a form of government, drama (theatre) and the modern Olympic Games. Some 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.

11A

How did geography influence the development of ancient Greece?

1 Greece is a very mountainous region, which made it very difficult for the ancient Greeks to travel from place to place. How might this have influenced the way settlements developed across ancient Greece?

11B

What shaped the roles of key groups in ancient Greece?

1 Athens and Sparta were two ancient Greek city-states. Athens was a 'democracy' (rule by many), whereas Sparta was an 'oligarchy' (rule by few). How do you think the lives of citizens in these two city-states would have been different as a result of the two styles of government?

chapter 11

Source 1 Ruins of the ancient Greek town of Selinous, on the island of Sicily (now part of modern-day Italy)

11C

How did beliefs, values and practices influence ancient Greek lifestyles?

1 The Selinous temple is believed to be a monument to the Greek goddess Hera. What does this tell us about the importance of religious beliefs to the ancient Greeks?

11D

How did contacts and conflicts change ancient Greece?

1 The people of ancient Greece were active seafarers and so made many connections with peoples of other cultures. How do you think this might have influenced the development of ancient Greek society?

11.1 Ancient Greece: a timeline

A typical Cyclades sculpture

Finishing line for races at the ancient Olympics

c. 3000 BCE
Start of Cyclades culture

c. 1600
Mycenaean civilisation declining

776
First recorded Olympic Games

c. 720
First Greek colonies established on the island now known as Sicily

3000 BCE | 2500 | 1500 | 750 | 650

c. 2500
Start of Minoan civilisation

c. 1500
Eruption of volcano on Thera

c. 750
Homer credited with writing the *Illiad* and the *Odyssey* – two important and influential epic poems

c. 610
Female poet Sappho born on the Greek island of Lesbos

A wall panel from the Minoan palace on Crete

Source 1 A timeline of key events and developments in the history of ancient Greece

Alexander the Great

480
Battles of Thermopylae and Salamis (Second Persian War)

***c.* 450**
Herodotus writes his account of the Persian War.

490
Battle of Marathon (First Persian War)

323
Alexander the Great dies after defeating the Persians and setting up an empire that spread Greek culture.

431
Start of hostilities between Athens and Sparta, leading to the outbreak of the Peloponnesian Wars

146 BCE
Rome conquers Corinth, the last resisting city-state in Greece.

550 | 450 | 350 | 250 | 1 CE

508
Cleisthenes, the 'father of democracy', reforms the constitution to create equal rights for all Greek citizens.

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.

197
Rome finally defeats Macedon, forcing it to give up the Greek city-states it formerly controlled.

447
Construction of the Parthenon on the Acropolis in Athens starts.

Check your learning 11.1

Remember and understand

1 In what year did the volcano on Thera erupt?
2 In what year did the first recorded Olympic Games take place?
3 When did the Peloponnesian Wars begin?

Evaluate and create

4 Looking at the last few hundred years on the timeline, which key events do you think might have contributed to the overall decline of the ancient Greek civilisation?

11.2 The impact of geography on ancient Greece

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.

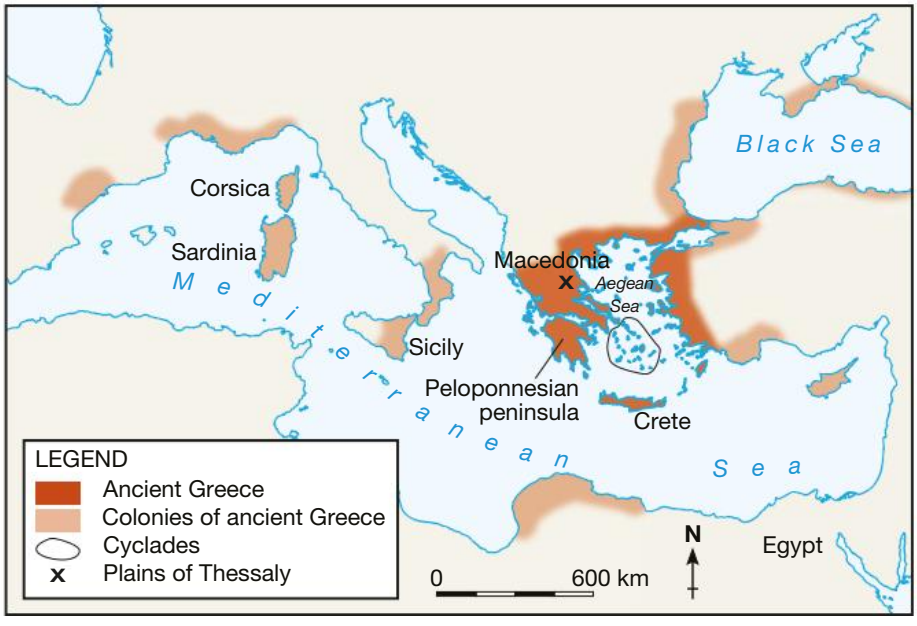
The first known fixed settlements on Greece's mainland were on the Peloponnesian peninsula and on the fertile plains in Thessaly (see Source 1). Evidence has been found of scattered mud-brick villages built around 7000 BCE. There were also ancient settlements on the nearby islands of Crete, and on the Cyclades (a group of about 30 islands).

Greece's steep mountains and rugged high country cut off contact between many settlements. These features in ancient Greece prevented people from growing as one nation. Rather, many settlements developed as city-states. This meant there was no single Greek ruler.

City-states

City-states were independent urban centres that generally shared a common language and religious beliefs. Occasionally, some banded together to fight a war or for protection. Now and then, one might dominate for a time. The most powerful city-states were Athens and Sparta. They were also at times bitter rivals.

ANCIENT GREECE AND ITS COLONIES *c.* 550 BCE



Source 1 Source: Oxford University Press

Source 2 A coastal landscape of Greece, on the Peloponnesian peninsula

ANCIENT GREECE AND SOME OF ITS CITY-STATES

Source 3 Source: Oxford University Press

Check your learning 11.2

Remember and understand

1 Explain how Greece's physical features made the ancient Greeks depend on the sea to meet their needs (such as food, transport or trade).

2 Look closely at Source 3.
   - **a** Where are most of the ancient Greek city-states located?
   - **b** What are the main reasons for this settlement pattern?

Evaluate and create

3 Complete a SWOT analysis chart related to city-states in ancient Greece. Use information here and in Source 1 on page 326. Copy a large version of Source 2 onto an A3 sheet of paper to do this activity.
   - **a** Working in groups of four, with every member contributing in turn, complete the segments of your SWOT chart with as many brainstormed ideas as you can. One example has been provided in each segment to get you started. You need to add more.
   - **b** Once all groups are finished, discuss your overall conclusions about life in a Greek city-state.

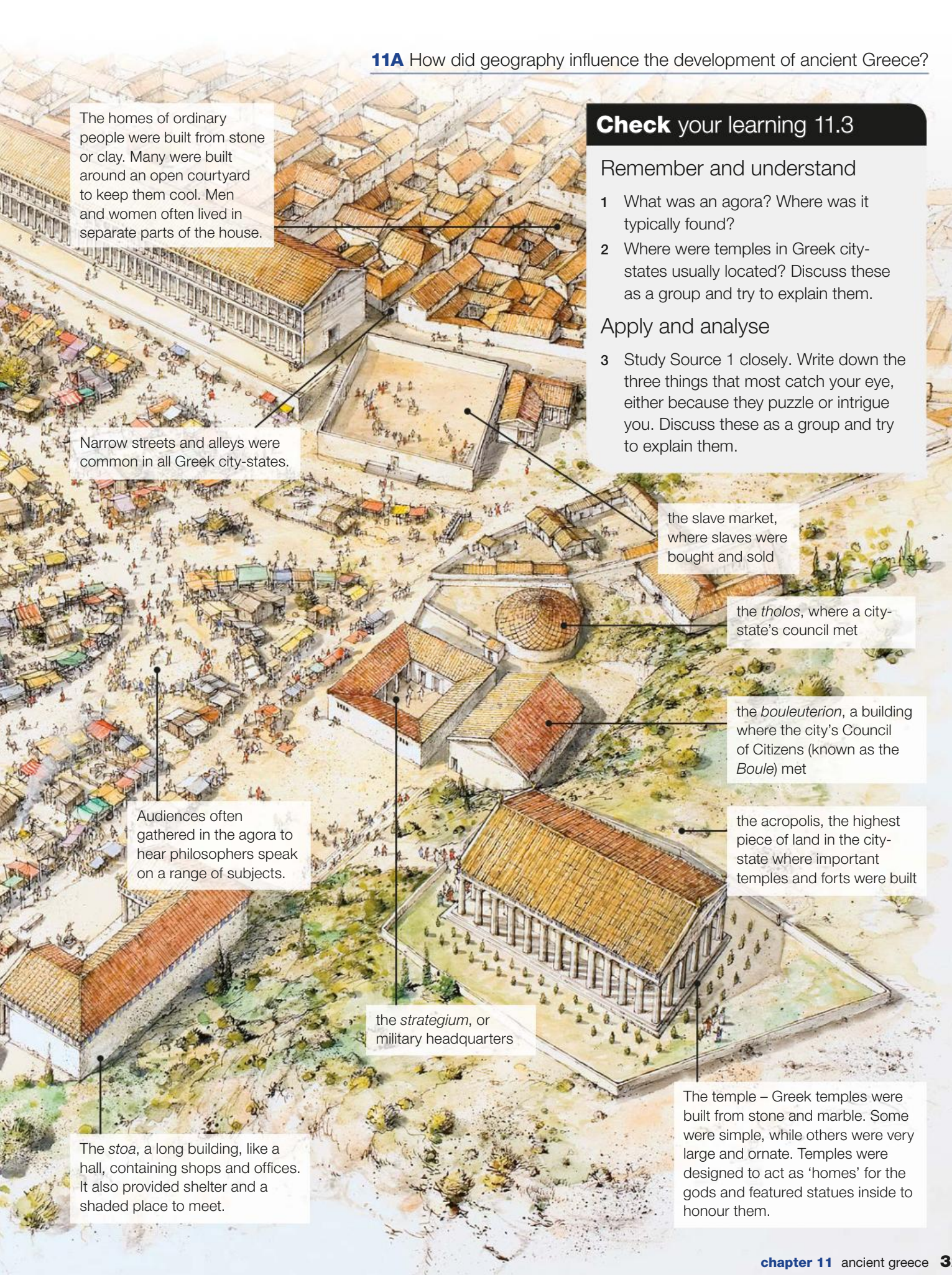
Source 4 A SWOT chart

STRENGTHS	WEAKNESSES
• Each city-state produced its own food, so its people did not have to depend on others.	• The agora would have been overcrowded as the population of the city-state grew.
OPPORTUNITIES	**THREATS**
• It was possible to form an alliance with another city-state and become more powerful.	• A city-state might be vulnerable to attack if it had no allies.

11.3 A typical Greek city-state

A city-state typically had one city, where most political, religious and cultural activities took place. At its centre were public buildings, centred around a large public space called the **agora**. The markets were there; it was also where people did business and were entertained. Usually there was raised ground or a hill somewhere near the agora. 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. The farms provided the city population with food.

Source 1 An artist's impression of the central part of a typical Greek city-state



Check your learning 11.3

Remember and understand

1 What was an agora? Where was it typically found?

2 Where were temples in Greek city-states usually located? Discuss these as a group and try to explain them.

Apply and analyse

3 Study Source 1 closely. Write down the three things that most catch your eye, either because they puzzle or intrigue you. Discuss these as a group and try to explain them.

11.4 The beginnings of ancient Greece

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).

The Cyclades

The Cyclades are a group of islands in the Aegean Sea (see Source 1 on page 324). Some are just rocky outcrops. Santorini (formerly called Thera) is one of two islands in the Cyclades that is volcanic. The super-volcano there exploded in about 1500 BCE.

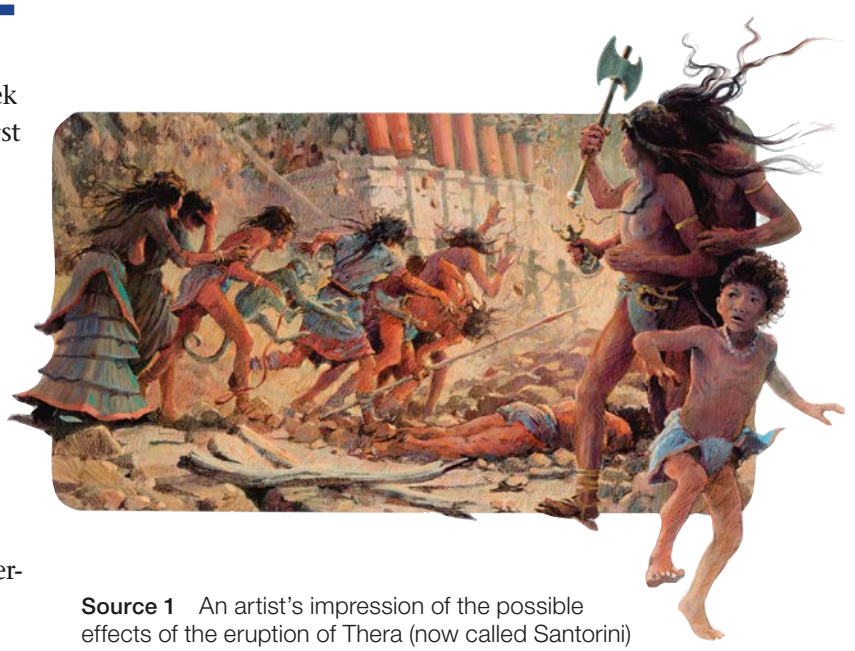
The Cycladic people lived about 4000 to 4500 years ago, trading with other Mediterranean peoples. Food was not easy to grow on the rocky islands so, in exchange for food, they traded copper, white marble and obsidian (a dark volcanic glass).

The Cycladic culture began to decline after about 1700 BCE. Some historians think it was absorbed by the Minoan civilisation. Only the island of Delos kept its separate cultural identity for the next 2000 years.

The Minoans

The Minoan civilisation began over 4500 years ago on the island of Crete. It lasted close to 1500 years. Much of what we know about it is due to the efforts of the British archaeologist Sir Arthur Evans. He named the civilisation after King Minos, the legendary king of Crete. Much of his work involved restoring the massive royal palace at Knossus.

The Knossus palace (see Source 2) was first built around 1700 BCE. It is believed to have been badly damaged after the volcanic explosion on Thera, and then rebuilt around 1500 BCE. It was later destroyed by fire around 1150 BCE. Some believe this was a result of an invasion by the Mycenaeans.



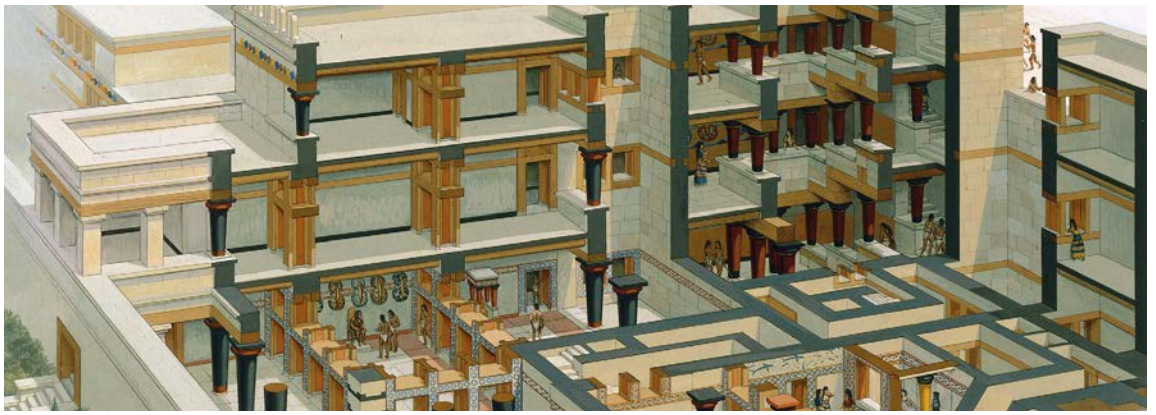
Source 1 An artist's impression of the possible effects of the eruption of Thera (now called Santorini) on the ancient Minoans

Historians have learned much about the Minoans from the ruins of the Knossus palace. For example, the frescoes (paintings) on the palace walls provide evidence that the people were regular sea traders. Some Minoan goods have been found in Egypt. There is also evidence that the Minoans had their own written language, which has been called 'Linear A'. This language has never been decoded.

The Mycenaeans

The Mycenaean culture began to develop on Greece's southern mainland from about 1600 BCE. Like the Minoans, the people took advantage of their closeness to the Mediterranean Sea by becoming busy sea traders.

Mycenaeans lived in a number of 'cities', usually built on a hill or a cliff top. There are still remains of the ancient walls and gates that enclosed some of these settlements. Around and below these walls were the houses of the people. Nearby land was farmed to provide food for the city occupants.



Source 2 A model of the Knossus palace, the largest of many palaces on the island of Crete. It had more than 1000 rooms.

key**concept:** Evidence

Linear B

The Mycenaeans had their own language, called 'Linear B'. This has been decoded by scholars. Thousands of tablets like that shown in Source 3 have been found. These tablets not only provide evidence about the types of goods the Mycenaeans traded, but they also refer to gods and reveal that priests and priestesses owned property. Translations of Linear B written on these tablets suggest that the people were more warlike than the Minoans.

For more information on the key concept of evidence, refer to page 193 of 'The history toolkit'.

Source 3 A stone tablet covered in the Mycenaean script, known as Linear B

Check your learning 11.4

Remember and understand

1 Name the three Bronze Age cultures that many historians agree were a foundation for the civilisation of ancient Greece.
2 Describe the location of each of these cultures in terms of their geography.
3 What have we been able to learn about Minoan culture from the ruins of the Knossus palace?

Apply and analyse

4 Many scholars think that a massive tidal wave (and possible earthquakes), caused by the explosion of the super-volcano on Thera, caused extensive damage and loss of life for the ancient Minoans. Using Source 1 to help you, write a short report of what might have happened on Crete when Thera erupted. Your perspective will be that of a writer living on Crete at the time.

Source 4 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.

11A rich task

A closer look at the Minoans

When the British archaeologist Sir Arthur Evans unearthed and partially restored the Knossus palace on the island of Crete in 1900, he found a great deal of evidence to suggest that the Minoans were a very advanced civilisation for the times. The palace itself, which had been home to the Minoan king, was enormous, with 1300 rooms. It even had water supply and sewerage systems. The two photographs shown here are of items made by the ancient Minoans. Source 1 is a photograph of part of the storehouse of the Palace of Minos. Source 2 is a piece of pottery from another Minoan palace, the palace at Phaestus. The **artefacts** in these photographs are important **primary sources** of information about ancient Minoan civilisation.

Source 1 The ruins of an excavated food storehouse in the palace at Knossus

Source 2 A Minoan ceramic container found in the palace at Phaestus

skill**drill:** Continuity and change

Using Venn diagrams to identify continuity and change

Venn diagrams are simple diagrammatic tools that help you organise your thinking. They help to quickly identify and document what two things have in common and how they differ. These 'things' can be anything – artefacts, cities, political systems, warfare strategies and so on. Venn diagrams can be a quick and helpful way to think about examples of change and continuity in history.

Venn diagrams consist of overlapping circles. To complete the Venn diagram in Source 3, you need to:

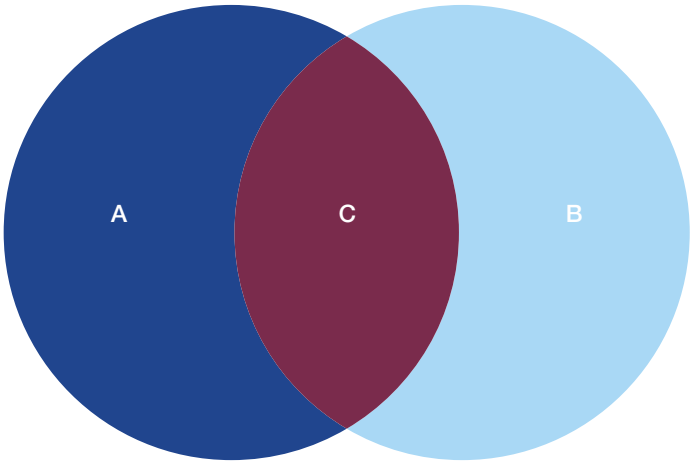
- think about how the two things you are comparing are different. Record these individual features in each of the non-overlapping sections of the two circles (sections A and B).
- think about how the two things you are comparing are similar. Record these common features in the overlapping section of the two circles (section C).

Apply the skill

1 Study Sources 1 and 2 carefully, noting the features of each. Think about their size, shape, colour, design, layout, purpose, benefits, limitations and so on.

Now prepare two Venn diagrams to compare and contrast the following:

- Venn diagram 1 should compare the Minoan food storehouse shown in Source 1 with the storeroom and coolroom of a large restaurant or hotel kitchen today.
- Venn diagram 2 should compare the Minoan ceramic container shown in Source 2 with a vase or container you have at home.



Source 3 To create a Venn diagram, features that are specific to one thing you are looking at should be recorded in section A, features that are specific to the other thing you are looking at should be recorded in section B, and features that they have in common should be recorded in section C.

Extend your understanding

1 Think about each completed Venn diagram. Use the points you have noted to write a short explanation text of 250 words about how each ancient Minoan artefact or practice compares with some modern equivalents. Decide to what extent each item is an example of continuity and change. For a detailed outline of the purpose and structure of explanation texts, refer to page 209 in 'The history toolkit'.

11.5 The political systems of ancient Greece

The political systems that developed in ancient Greece had a major influence on how it was organised, and on the lives of different social groups within that society. These political systems determined, for example, which individuals or groups had more power and social influence than others. Other issues such as wealth, ownership of land, gender, beliefs and military issues also had an impact on the shape of ancient Greek society.

Kings and aristocrats

Ancient Greece consisted of several hundred city-states, each with its own system of government. Between 2000 and 1200 BCE, most of the city-states were monarchies, where the king had total power. Over time, the real power in most city-states was passed to small groups of wealthy, privileged landowners called **aristocrats**. They would rule as an oligarchy (rule by only a few powerful people).

Democracy

During the 6th century BCE, a new way of governing developed in Athens. It was known as democracy. 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, the actual role that a person could play in politics depended on their position in society – that is, their wealth and land ownership.

We will focus on the political system of Athens, given its importance as the world's first democracy. Many city-states eventually adopted the democratic structure of Athens, although many others stuck to the more traditional forms of government. Powerful Sparta, for instance, became a military state, and kept the roles of its kings.

Source 1 An artist's impression of the Greek leader Pericles during a democratic debate with the men of Athens

Ekklesia

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. This might include whether or not to go to war. Every Athenian **citizen** had the right to speak at the *Ekklesia*, and vote. In theory, the *Ekklesia* was made up of all citizens over the age of 18, but not everybody was interested in attending. 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. It was considered shameful to be seen with red dye on one's clothing, so this helped to hurry citizens along.

key**concept:** Continuity and 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 fathers had to be as well). 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 here or are welcomed as refugees can choose to become citizens if they wish. Certain conditions have to be met first, though, to qualify. Those applying for Australian citizenship have to pass tests and participate in a citizenship ceremony.

For more information on the key concept of continuity and change, refer to page 191 of 'The history toolkit'.

Source 2 Two newly declared Australians at their citizenship ceremony

Check your learning 11.5

Remember and understand

1. What were some of the rights people could enjoy in ancient Athens if they were citizens?
2. Describe the role of the *Ekklesia*.
3. What has changed and what has continued in respect to citizenship in ancient Athens and in Australia today?

Apply and analyse

4. Complete one of the following activities to explain your idea of 'democracy in action':
   - **a** Individually, write a poem or draw a picture.
   - **b** In a group, create a short play.

11.6 Key groups in ancient Greek society

The city-states of ancient Greece each had their own unique features. However, 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.

Ancient Greek society was essentially divided into 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. They were also the only ones who could own land, vote and contribute to the running of the city-state. They were not allowed to have a job 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.

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 all of their time in compulsory military training and were seldom 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.

Source 1 A Greek painting from the 5th century BCE showing a wealthy woman in ancient Greece holding a mirror and powdered chalk to lighten her complexion.

Girls were often married at around the age of 13 to a man chosen by their father. Girls were generally not educated, as 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. In spite of their comfortable lives, they were still mostly confined to the home. An outing might mean attending a religious festival, a wedding, a funeral or visiting another woman at home.

Life for a poor woman, on the other hand, beyond her family responsibilities, consisted of daily chores such as fetching water, cooking, spinning and weaving cloth.

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.

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 2 Restrictions on women in ancient Greece

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*. They 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 5th century BCE, slaves made up about 30 per cent of the population of Athens.

Source 3 An artist's impression of slaves being sold in a Greek marketplace

Male slaves typically worked on farms, mines and ships. They also made up a large part of Athens' police force. If they were highly educated, 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 the mines, had brutal, short 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 food and doing the household chores. *Helots* were treated very badly and they often organised rebellions to try to improve their lot.

Check your learning 11.6

Remember and understand

1 What were some of the restrictions placed on women living in ancient Athens?
2 What sorts of people were typically slaves in ancient Greece, and what jobs did they do?

Apply and analyse

3 Who would you have been if you had the choice: a Spartan woman or an educated male slave working as a tutor? Disregard your gender in answering this question, and give reasons for your choice.

Evaluate and create

4 Referring to the text and sources in this section, write a short creative recount to describe a typical day in the life of a wealthy Greek woman.

11B rich task

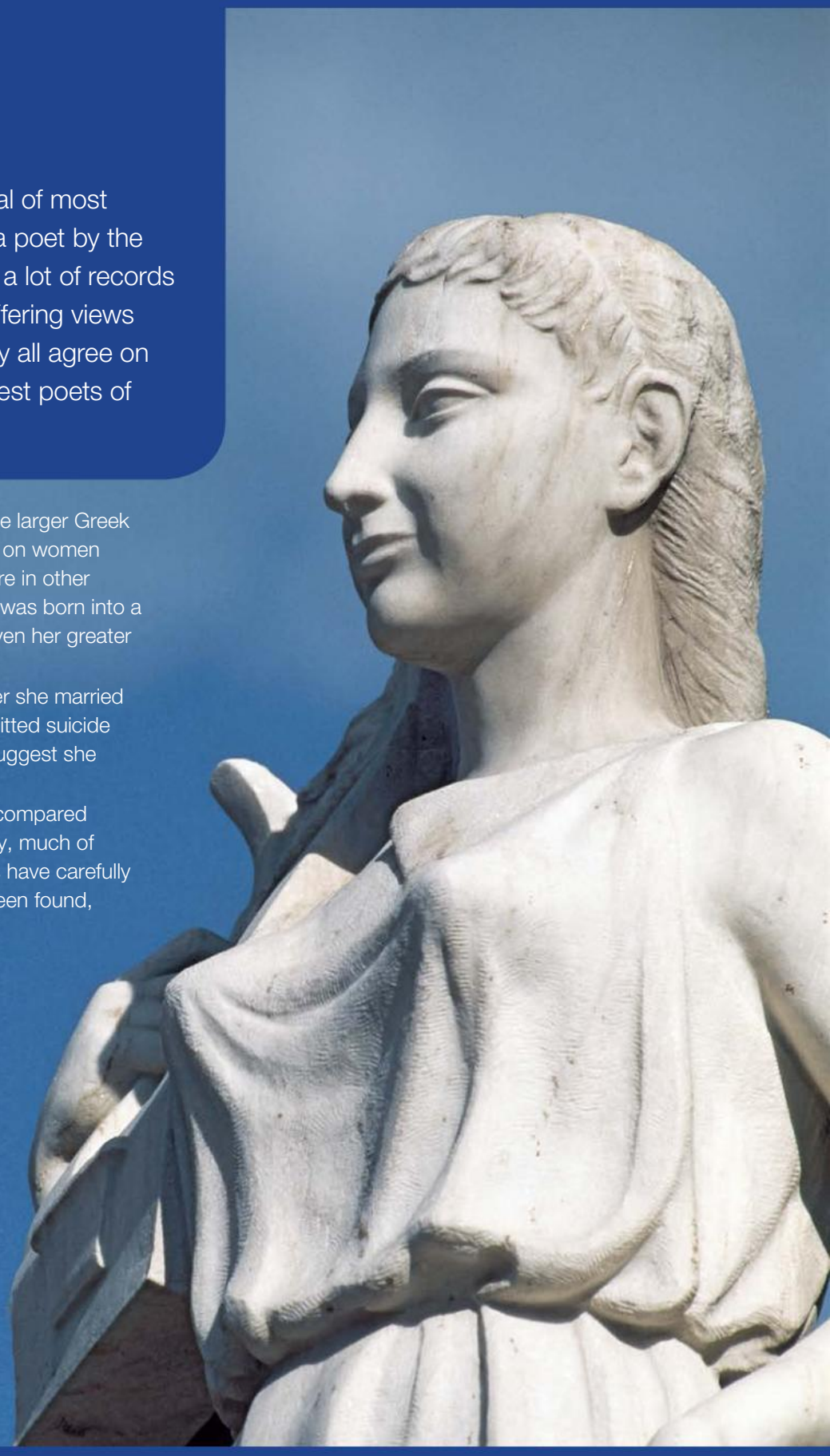
Sappho

One woman who was not typical of most women in ancient Greece was a poet by the name of Sappho. There are not a lot of records about her, so historians have differing views about her life. But one thing they all agree on is that she was one of the greatest poets of ancient Greece.

Sappho was born on Lesbos, one of the larger Greek islands in the Aegean Sea. 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. This 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 went wrong. Others suggest she preferred the company of women.

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.



Source 1 A sculpture of Sappho at Mytilene on the Greek island of Lesbos

skill**drill:** Historical significance

Generating historical inquiry questions

One of the first and most important steps in conducting a historical inquiry is to generate key questions. The questions that you generate will direct the research that you undertake.

Usually, historians generate one broad, overarching question for their inquiry – for example: 'Who was Sappho and why was she historically significant?' After that, they generate more specific questions that are related to their overall inquiry question. You will need to generate a mixture of:

- closed or simple questions (e.g. *'When* did event X take place?')
- open or probing questions (e.g. *'Why* did event X take place?')
- questions that relate to the process of historical inquiry (e.g. 'What evidence is there?', 'What other sources might be needed?').

The first step in generating questions is to think about what you already know about the topic. Use this knowledge as a springboard for questions that will help you understand the topic in more depth. Use a table like the one below to 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.

Overarching inquiry question:	
What I already know	**Questions to help me deepen or build my understanding**
Point 1	Question/s related to point 1
Point 2	Question/s related to point 2

For a detailed description of this skill, refer to page 199 of 'The history toolkit'.

Apply the skill

1 Use the following process to generate a range of questions related to the overarching historical inquiry question: 'Who was Sappho and why was she historically significant?' Copy the following table into your notebook. First, list what you already know as a result of reading the passage about Sappho in the first column. In the second column, generate related questions that will help to build your understanding. The first few have been done for you.

Overarching inquiry question: 'Who was Sappho and why was she historically significant?'	
What I already know	**Questions to help me deepen or build my understanding**
Sappho was not typical of women in ancient Greece.	When did Sappho live and die? (Closed or simple question) How was Sappho different from other women in ancient Greece? (Open or probing question)
Historians have different views about her life.	What are some of the different views historians hold about the life of Sappho? (Open or probing question)

Extend your understanding

1 Conduct some further Internet research into the life of Sappho. See if you can answer each of the questions you generated in the task above.

2 Virginia Woolf (1882–1941) was a highly educated British writer, discriminated against because she was female. In her book *A Room of One's Own* she wrote:

> Women have served all these centuries as looking-glasses possessing the magic and delicious power of reflecting the figure of a man at twice its natural size.

With a partner, discuss:

a what this quotation means, and what it reveals about how women such as Woolf were regarded in Western society as recently as the 20th century

b how this situation compares with the social role of women in ancient Greece.

11.7 Religious beliefs and practices

The ancient Greeks believed in a great many **deities** (gods and goddesses). Each was seen to be in charge of certain things. 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 legends. The beliefs of the ancient Greeks had a major influence on the way they lived their lives.

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 sacrifices of slaughtered animals) might also be made at temples.

One of the main events held to honour the gods was the Olympic Games (see Source 1 on page 340), which honoured the god Zeus, the king of the gods. Another festival was the annual Panathenaea, which honoured the goddess of Athens, Athene.

Temples

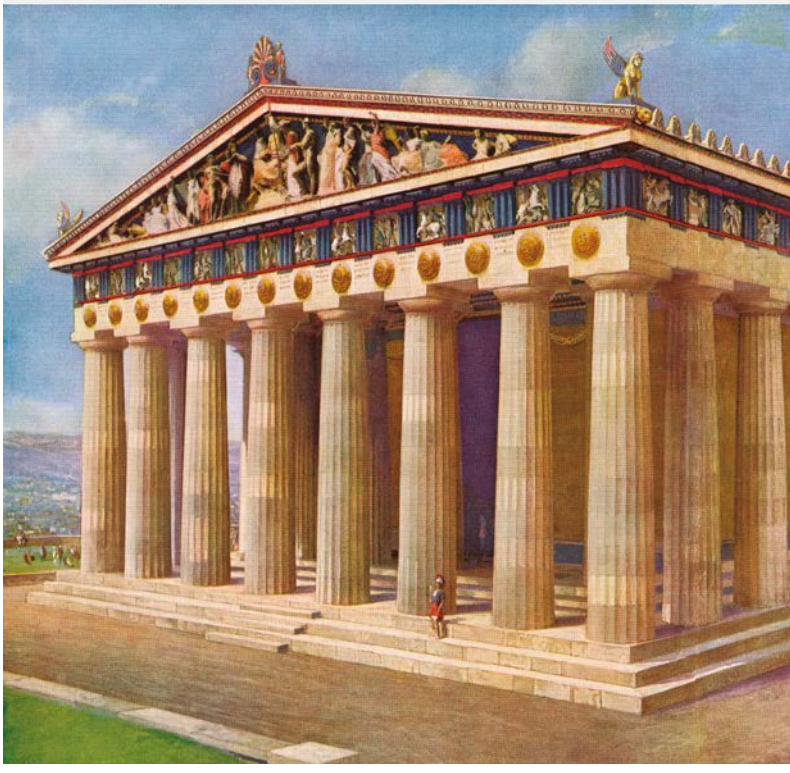
Temples in ancient Greece were built as 'homes' for the deities whenever they were on Earth. Their design reflected this function – they were impressive, huge structures. Usually, they were built on a hill called an **acropolis**. They were decorated, inside and out. A statue of the deity for whom the temple was made was erected inside.

Oracles and seers

Sometimes, people felt a need to contact a deity more directly than was possible through rituals such as 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.

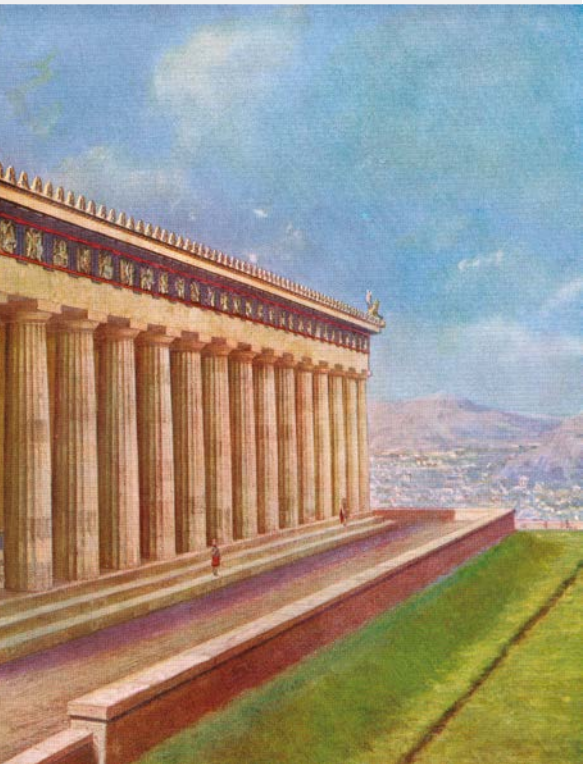
An oracle was a person or thing that the ancient Greeks thought of as a portal through which the gods could pass messages. If the oracle's message was confusing, it was often interpreted by priests.

A seer interpreted a deity's wishes by analysing dreams and interpreting signs. For example, a seer might interpret what he or she saw in the guts of sacrificed animals, or in the pattern of leaves.



Source 1 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.

Source 2 An artist's impression of the key gods and goddesses of Mount Olympus



Check your learning 11.7

Remember and understand

1 Give one example of how religious beliefs might affect how a family in ancient Greece started their day.

2 Explain how the ancient Olympic Games were linked to the religious beliefs of the people.

3 **a** Why might a leader in ancient Greece visit each of the following:
- an oracle
- a seer?

b Describe two things a seer might do to provide the answer required.

c Can you suggest whom people today might consult to get answers about what might happen in their lives or what actions they should take?

Evaluate and create

4 Create a new deity for ancient Greece. Sketch him or her (use labels and stick figures if you cannot draw). Describe this deity's role. List the different ways in which your deity would have affected the lives of the ancient Greeks.

11.8 The birth of the Olympic Games

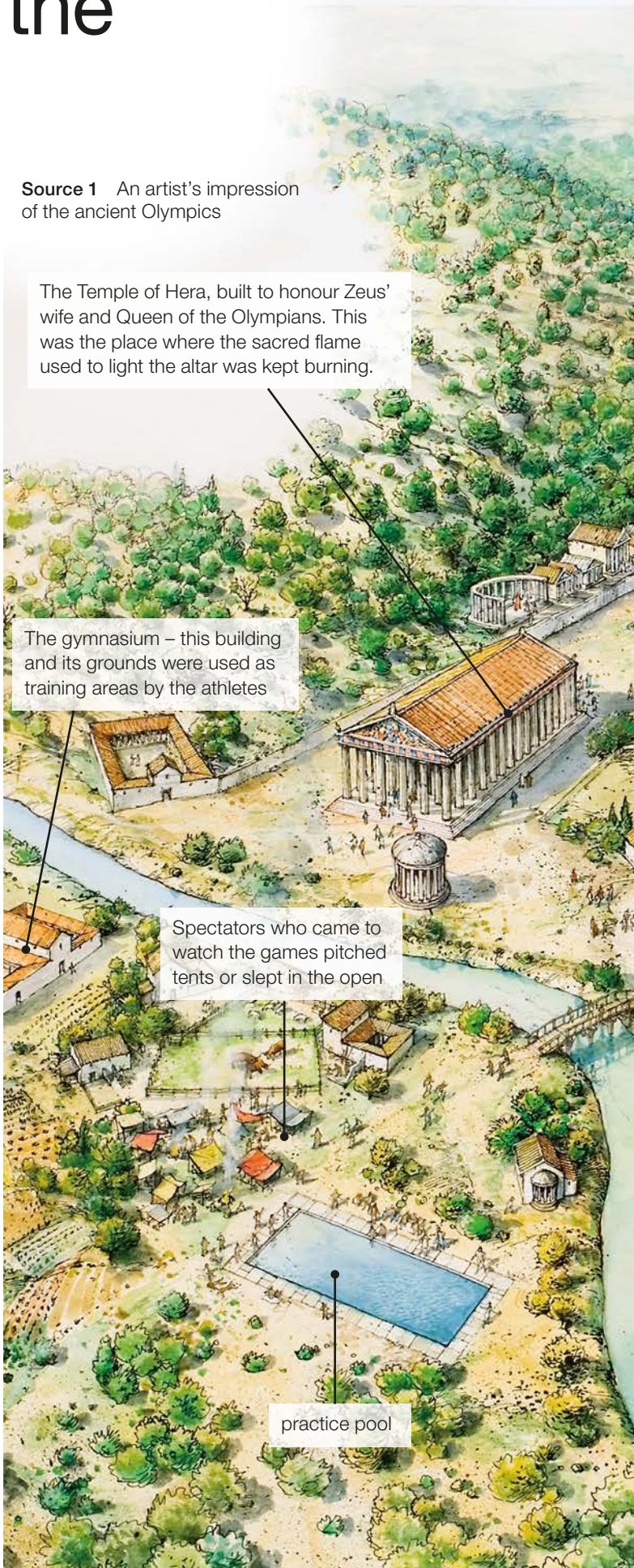
The first ancient Olympic Games were held in 776 BCE in the city-state of Olympia. In many ways, the games began as a ritual tied closely to religious beliefs and practices. Sporting events took place alongside ritual sacrifices to honour the god Zeus.

The Games began with the sacrifice of an animal. Its bloodied remains were placed on the altar to Zeus and set on fire by a top athlete. Athletes trained hard, initially competing for no more than a wreath of olive leaves. Later, however, Olympic champions enjoyed fame and notoriety all across Greece.

The five-day Games were held every four years until 394 BCE, when they were stopped by the Christian Roman emperor Theodosius I.

When the Spartans began competing, events such as spear throwing, discus throwing, wrestling and jumping were included. Later came boxing, the marathon, the **pentathlon**, the ***pankration***, and chariot racing.

Such was the sense of duty to participate in the Games, that even involvement in wars was halted.



Source 1 An artist's impression of the ancient Olympics

Check your learning 11.8

Remember and understand

1 When were the first ancient Olympic Games held, and when did they end?

2 Examine Source 1. Describe five things that are happening in this artist's impression of a day at the ancient Olympics.

Apply and analyse

3 Prepare a large Venn diagram in your notebook to compare and contrast as many aspects of the ancient and modern Olympics as you can.

Evaluate and create

4 Conduct some research into 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.

the stadium, where athletic events such as running, long jump and discus were held
the hippodrome, an oval-shaped track where both horse and chariot races were held
storehouses for valuables
Athletes – only male athletes competed in the games. They did so naked as a tribute to the gods. Many were sometimes badly injured or killed during competition.
spectators
altar to Zeus, where ritual animal sacrifices were made
Statue of Zeus, housed in the temple of Zeus. This statue was 12 metres tall and covered in gold and ivory. It took 12 years to complete and was one of the Seven Wonders of the ancient world.
the *bouleuterion*, a building where Olympic officials met and athletes were required to swear an oath to Zeus
the Temple of Zeus, the most important building at Olympia, located at the centre of the site
guest houses, which accommodated important officials and guests
animal pens, where animals used for events and ritual sacrifices were kept
workshop, used to create the statues of Zeus in the temple

11.9 Everyday life

It was very important to be a good citizen in ancient Greece. A good citizen devoted his life to the protection and growing prosperity of his city-state. This devotion was reflected in many aspects of daily life in ancient Greece, in its art and culture, and in the education of its future citizens.

Education

Girls were required to be good wives, mothers and keepers of the home. As a result, they did not receive much of an education beyond household matters. For boys, however, education started at age seven and might continue until their late teens, especially if they were the sons of wealthy families.

Besides learning to read and write, boys studied mathematics, poetry, music and dance (see Source 1), athletics and gymnastics, and sometimes philosophy and public speaking. These were seen as the necessary skills for a well-rounded, good citizen.

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, even for men for a time. Women always covered their head with a veil when they 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 1 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.

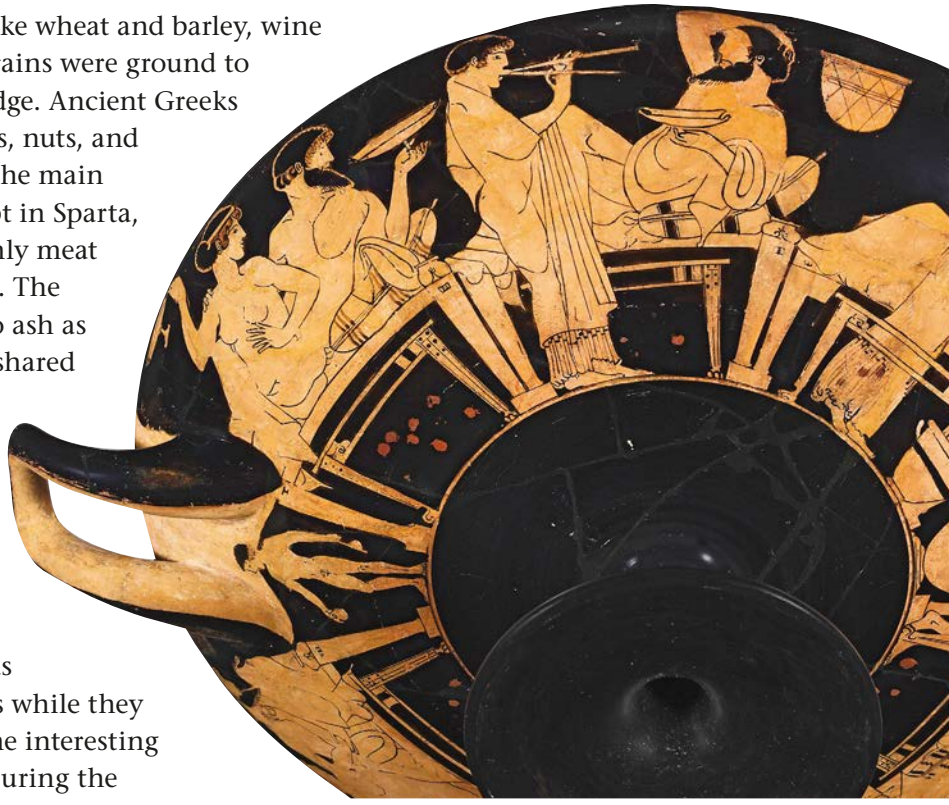
Source 2 Statue of a Greek woman wearing a *chiton*

Food

The ancient Greeks ate a simple diet. Grains, like 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. Guests lay around on couches while they ate and drank (see Source 4). After the meal, the interesting part of the evening began – the symposium. During the symposium, men discussed the important issues of the day.

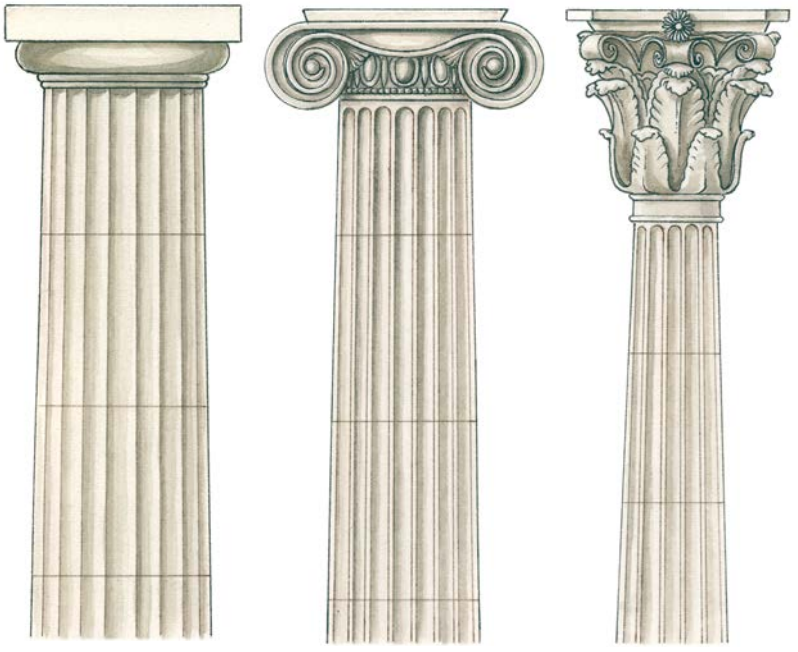


Source 4 This ancient Greek drinking cup is decorated with a scene of a feast.

Doric style: a plain design at the top of a sturdy, chunky column

Ionic style: a scrolled top (like the curl of a shell) and a thinner, finer column

Corinthian style: a very ornate top, decorated with rows of leaves, and a thinner, finer column



Source 3 The three styles of Greek columns

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 3). The Parthenon was built in the Doric style.

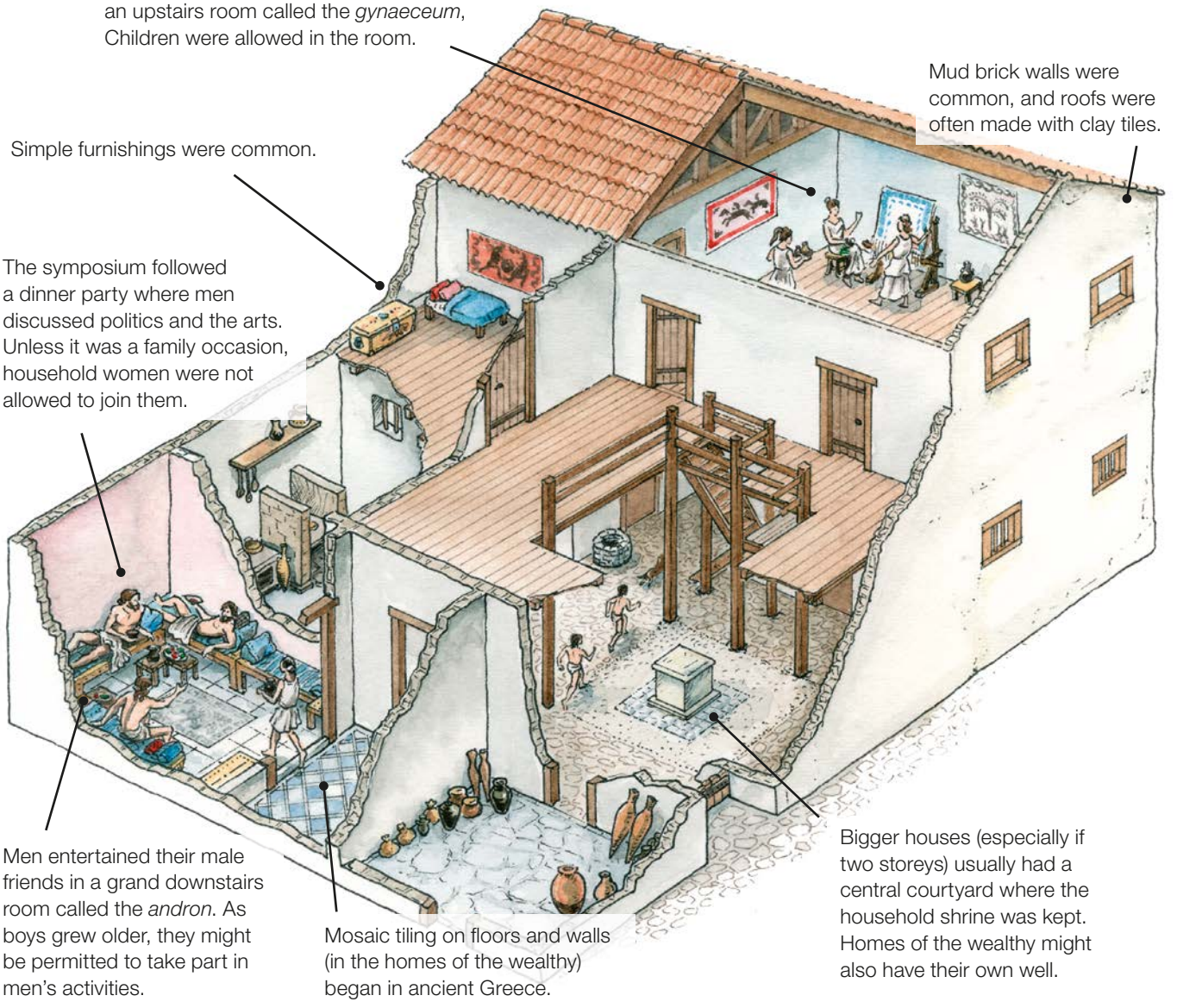
Greek housing

Most women in ancient Greece were generally confined to the home. Unsurprisingly, wealthy married women led more pleasant lives than poor women. For wealthy women, there were occasional trips to religious festivals, weddings and funerals as well as occasional visits to the homes of other women. Life for poor women in ancient Greece was harder. It consisted of constant work including looking after children, fetching water, cooking food, spinning and weaving cloth.

The social divisions between men and women in ancient Greece were very strict. These divisions were clearly visible in the layout of Greek homes (see Source 5). For example, an area known as the *gynaecium* 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.

The living areas of slaves were separate from those of the family. Slaves would typically work in the kitchen or gardens and would not be seen in the house unless serving their master and family.

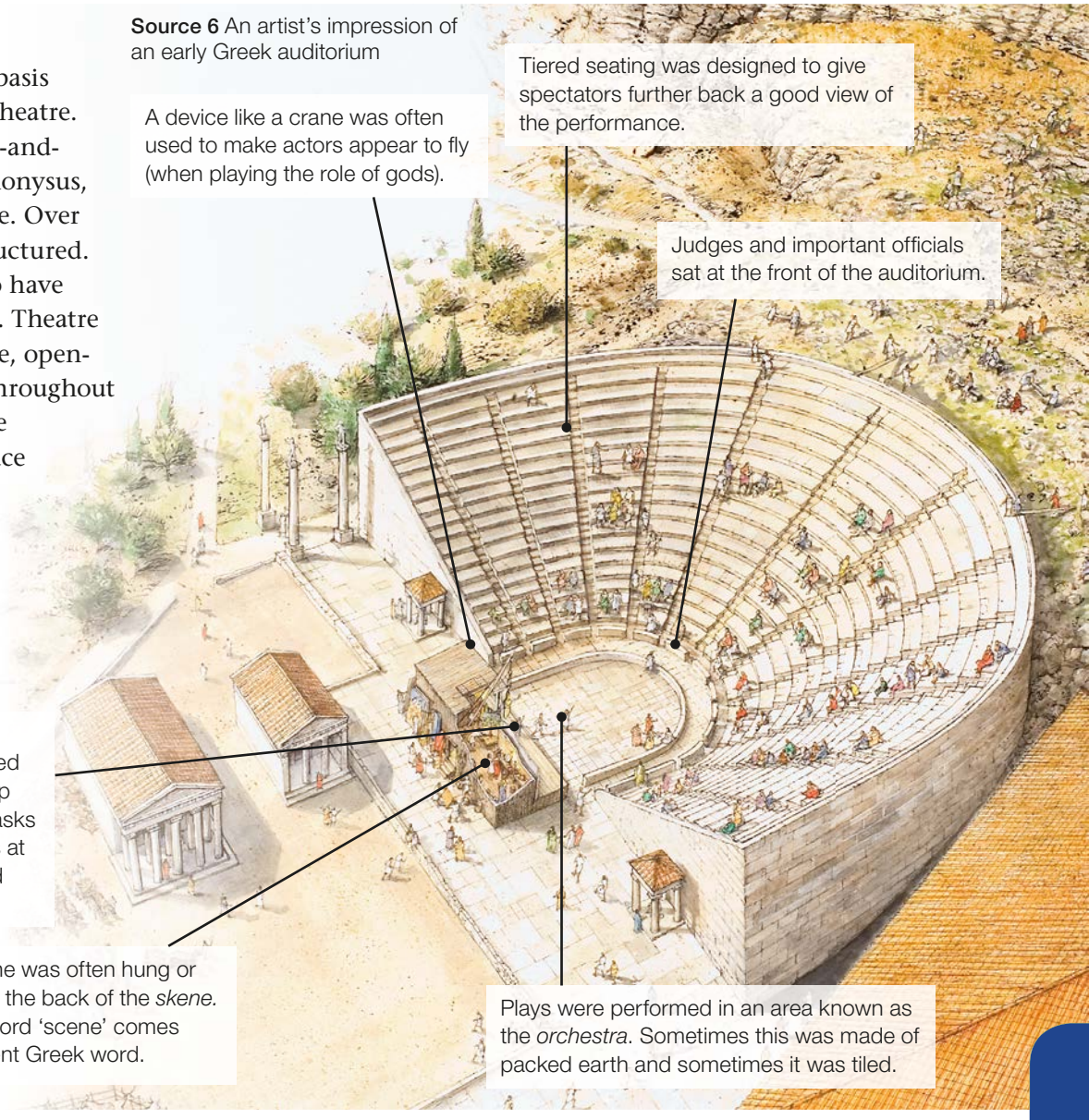
Source 5 An artist's impression of a wealthy family's home in ancient Greece



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. Over time, they became more structured. Writers began to compete 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 6).

Source 6 An artist's impression of an early Greek auditorium



Check your learning 11.9

Remember and understand

1 Describe the different ways in which boys and girls were educated.
2 What might you find in the make-up kit of a wealthy Greek woman?
3 How were the homes of wealthy Greek families organised? How did houses reflect the different roles of men, women and slaves in Greek society?

Apply and analyse

4 Why do you think women covered their head when leaving the house?
5 a What happened at a symposium?
b Find out how this word is used today. What do you conclude?

Evaluate and create

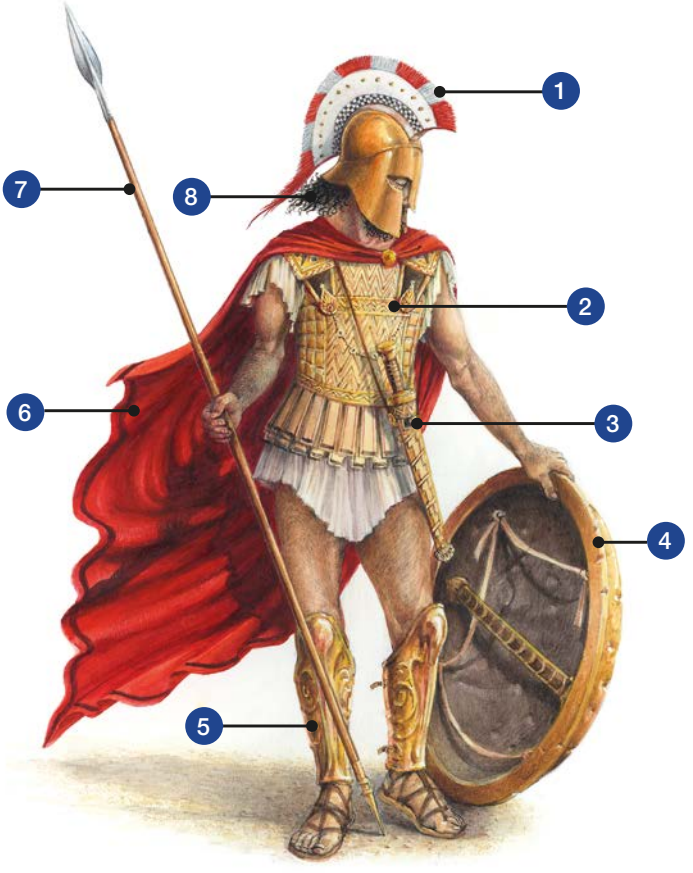
6 Design, or make a model of, a Greek temple. Use information presented in this text, and from other sources you have found through research, to help you decide on your design features. Label elements of your finished design appropriately.
7 Conduct some research to identify five reasons why the period in ancient Greece's history from about 500 to 300 BCE was called the 'Golden Age'.

11.10 Warfare

Early ancient Greek armies consisted mainly of foot soldiers recruited from the poor. They fought with perhaps no more than stones and spears. Only the wealthy could afford horses and better weapons. Over time, warfare became more complex, moving on from conflicts fought in open areas to assaults on walled cities. This required different strategies and weapons, as well as a different type of soldier.

The hoplite

From the 7th century BCE onwards, better-trained, better-armoured foot soldiers emerged. This type of soldier was known as a **hoplite**. Greek city-states each had their own armies of hoplites. When wars ended, hoplites went back to their regular lives and jobs – all except for the Spartans. Sparta was the only Greek city-state with an army that was constantly on duty and ready to fight.



Source 1 An artist's impression of a Spartan hoplite

The navy

The strength of the city-states of Athens and Corinth was their navies – fleets of triremes that could be sailed or rowed. A trireme 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.

Source 2 An artist's impression of a typical sea battle during the times of the ancient Greeks. Ships were sunk by ramming into one another.

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 bare 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

Military structure in Sparta

Sparta became a military state with a professional army in the 7th century BCE. All citizens (only men could be citizens) had to be soldiers. Social roles such as farmers, merchants, potters and sculptors were not options for Spartan men. The woman's role was to have sons who would become strong warriors. All saw it as an honour to die for Sparta.

In Sparta, weak or sick babies were killed or left out in the open to die. Hence, Spartan children were 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 army barracks and start their military training.
Ages 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 3 The life of a Spartan man

Warfare technologies and strategies

Technology in warfare was first used to great effect in ancient Greece. As well as battle formations such as the **phalanx**, the ancient Greeks used and developed many devices capable of attacking and scaling fortifications. These included:

- 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 belfreys) – 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.

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 valued too, 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.

One of the works said to have been written by Homer, the *Odyssey*, tells the story of Odysseus' long journey home from the Battle of Troy. It has been the inspiration for countless stories, novels and films.

Check your learning 11.10

Remember and understand

1 What was the main difference between the Spartan army and other ancient Greek armies?
2 How were hoplites different from earlier Greek soldiers?
3 How heavy was the armour worn by hoplites?

Apply and analyse

4 Use the Internet to find out more about the battle formation known as the phalanx. Why do you think it became such an important fighting strategy in ancient Greece?

Evaluate and create

5 Find out about the legend of Jason and the Argonauts. Decide whether you would consider Jason a Greek hero or not, and give reasons.

11.11 Death and funeral customs

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 **Hades**, the Underworld. This was the world of dead souls (called 'shades'). It was believed to be ruled by Hades, the god of the dead. A mythical river, the River Styx, separated it 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 gloomy realm.

Beliefs about death

The ancient Greeks believed that when a person died his or her destination after death was the decision of Atropos, one of three goddesses believed to control life on Earth. 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 to the Underworld (see Source 2). The fare was paid with a coin that was placed in the mouths of corpses.

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 1). A three-headed dog named Cerberus guarded the entrance to Hades to stop the dead from leaving and the living from entering.

Source 1 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

Source 2 An artist's impression of Charon the ferryman rowing the dead to the Underworld, which was known as Hades in ancient Greek times

Source 3 An ancient Greek vase showing funeral rituals being carried out

Ancient Greek funeral rituals

- Wash body with seawater (if possible) and clean any wounds.
- Put a coin in the mouth and close 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.
- Place 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 is not buried in a tomb, pile earth 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 4 The steps to be followed when a person in ancient Greece died

Funeral customs

When someone died in ancient Greece it was very important that others observe the correct rituals (see Source 4). Otherwise, it was believed, the dead person's soul would never find rest in the afterlife.

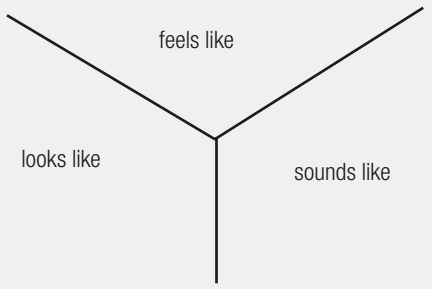
Check your learning 11.11

Remember and understand

1 Why was it common for funeral processions in Ancient Greece to be so noisy?
2 What beliefs influenced some other procedures that were undertaken when someone died?

Evaluate and create

3 In groups, create a game based on ancient Greek beliefs about the Underworld. Share the tasks involved in creating the game concepts and rules, and making the board and pieces.
4 Look carefully at Sources 1 and 2. Copy the Y-chart below into your notebook and use it to determine what you think the U nderworld of the ancient Greeks might have looked like, sounded like and felt like.



11C rich task

Ancient Greek pottery

Ancient Greek pottery is a very useful historical source. 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 1), each with its own characteristics.

Source 2 An ancient Greek amphora in the black-figure style, 6th century BCE

Source 1 Development of Greek pottery over time

Style	Approximate date	Characteristics	Image	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			

skill**drill:** Historical sources as evidence

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 on the Internet is necessarily true, accurate, reliable or credible. So, in addition to being able to find source material online, 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 Look 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 (e.g. a degree, 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?
- **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 is usually an indication that the site is not particularly reliable.)
- **f** Is the information current? Can you find evidence of recent updates?

For a detailed description of this skill, refer to page 200 of 'The history toolkit'.

Apply the skill

1 Copy the table (Source 1) 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 Conduct an Internet search to find relevant, credible and reliable source material about the other styles of ancient Greek pottery. You will need to locate 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.

Source 3 An example of ancient Greek pottery in the geometric style, 8th century BCE

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 the four steps outlined on this page).

Extend your understanding

1 Design a Greek amphora in one of the styles you have researched. Consider the following features before you begin:
- type of decoration – patterns or people
- colours
- depiction of figures – stick figures, cartoon-like or realistic
- amount of detail – hair, features, clothing.

2 Imagine that your amphora was unearthed in 2017. What would it reveal about life in ancient Greece?

11.12 Change through trade

Over its long history, ancient Greece came in contact with many different cultures and civilisations in its region. Sometimes this contact was peaceful, for example, when Greek merchants went searching for new markets to trade goods. At other times contact was aggressive, developing into wars over territorial claims. Either way, this contact and conflict changed ancient Greek society in many ways.

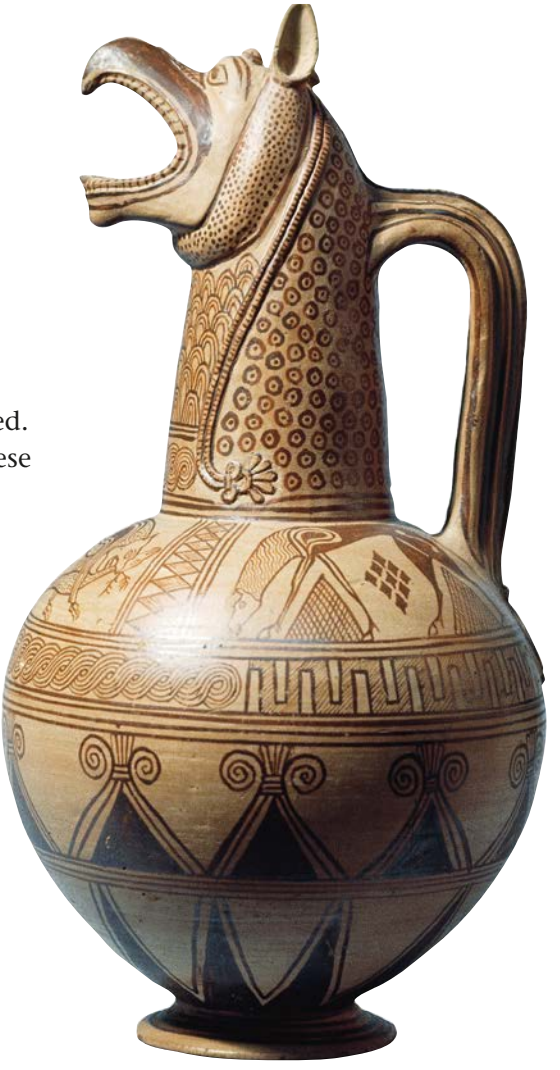
Greece's soil was good enough to grow olives and grapes but not grain crops in the quantities required to feed a growing population. Timber was plentiful in some parts of Greece, but was quickly used up to build boats. Greece had other resources, such as deposits of silver, that boosted Athens' wealth and growth in its Golden Age (5th century BCE), but other essential metals were in limited supply.

By the start of the 6th century BCE, Greek city-states (particularly Athens) were looking for new sources for many of the goods they needed. To this end, they set up colonies (Greek settlements in other lands). 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. They also gave it an opportunity, through trade, to advance and acquire great wealth.

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. Of the old shipwrecks found, **radiocarbon dating** confirms that 46 sank during the 4th century BCE. Only two sank during the 8th century BCE. This indicates a more than 2000 per cent increase in the number of trade ships travelling the Mediterranean over that time.

Through sea trade, the Greeks improved their navigation and shipbuilding skills. They also acquired new ideas and skills from those they traded with. These included:

- 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 1). Until then, symbols used for pot decoration in Greece were geometric
- 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
- metal technologies from the ancient Syrians.



Source 1 An ancient Greek jug from the oriental period (7th century BCE)

Source 2 An artist's impression of Greek trading ships at the Greek island of Delos (an island in the Cyclades)

IMPORTS			GREECE	EXPORTS	
• gold	• pork	• metals		• wine	• marble
• glass	• cheese	• wood		• pottery	• wool
• perfumes	• timber	• linen		• olives	• silver coins
• ivory	• papyrus	• pitch (like tar)		• olive oil	• figs
• rugs	• spices	• grain			

Source 3 Goods that ancient Greece imported and exported

Check your learning 11.12

Remember and understand

1 Name some of the goods that ancient Greece exported and some that they imported.
2 Why did Greece need to import grain?
3 What evidence do scholars draw on to support a view that there was a rapid increase in sea trade in the Mediterranean between the 8th and 4th centuries BCE?
4 Name 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

5 Participants came from far and wide to take part in the ancient Olympic Games. Suggest how this contact might have influenced participating societies.
6 In small groups, discuss how you think trade has affected Australia during your lifetime. Base your opinions on what you know in general terms, as well as from the media and general discussions. Brainstorm ideas and write down the points that members of your group agree on. Groups should then share their ideas with the class.

11.13 Change through conflict

A number of key battles between Greek city-states and foreign armies caused many changes all across ancient Greece and the region. In addition to going to war with Persia, the ancient Greeks also 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 it over.

Persian Wars

The Battle of Marathon (490 BCE)

In 499 BCE, Greek city-states in Ionia, which had been conquered by Persia around 540 BCE, 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 325 to locate these places.)

In 490 BCE, the Persian king, Darius I, took his revenge. He laid siege to Eretria until it fell. He then ordered a huge Persian fleet to sail to Marathon in Greece. He demanded that Athens and Sparta surrender, but the Greeks defied his order.

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.

Source 1 An artist's impression of Miltiades urging the Greek forces to attack the Persian army at the Battle of Marathon

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 to the point – *Come and get them!*

So 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.

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.

The Peloponnesian Wars (431–404 BCE)

This 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.

Athens was now 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.

Source 2 An artist's impression of the Battle of Thermopylae

Effects of the war

The consequences of all this conflict were that much of Greece's farming land was ruined and social upheaval was widespread. While Greece 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 he 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.

Check your learning 11.13

Remember and understand

1 How did King Leonidas aid Greece against the Persians?

Apply and analyse

2 Write a letter home that a Greek hoplite might have written after the Battle of Marathon. Convey how this battle might have affected the morale of the Greek army, and why.

3 Draw a concept map that explores, in general terms, how you think the Peloponnesian War would have affected various aspects of the society and economy of ancient Greece.

11.14 Significant individual: Leonidas

Leonidas, whose name means 'lion-like', was the king of Sparta between 490 BCE and 480 BCE. He became famous in Greek literature and legend because of his heroic and brave actions in leading a small force of Greeks against the much larger Persian army of Xerxes at the Battle of Thermopylae in 480 BCE. The story of his sacrifice has been an inspiration to many generations, and more recently has been portrayed in the film *300*.

Source 1 British actor Gerard Butler playing Leonidas in the film *300*, which recounts the events of the Battle of Thermopylae and the heroic last stand of Leonidas

Leonidas' early life

Although little is known about the early life of Leonidas, many historians believe he was born in Sparta some time between 530 and 500 BCE. He was the son of the Spartan king Anaxandrias II. The Spartans did not leave much in the way of written records, so we do not know a great deal about how princes were treated compared to other youths. However, it is likely that Leonidas was put through the same rigorous training as other young Spartans.

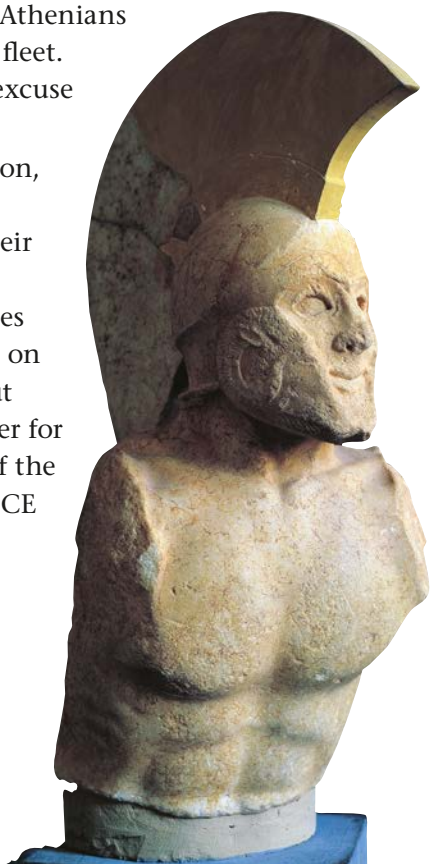
Leonidas had an older half-brother, Cleomenes I, who became king when their father died. It is believed that, in 490 BCE, Cleomenes went mad and committed suicide. Leonidas became the next king of Sparta.

King of Sparta

When he became king, Leonidas adopted many of the policies of his half-brother, which included attacks on Athens, Sparta's rival city-state. He also expanded Sparta's foreign policy, leading to conflict with Persia to the east. Trouble with Persia had begun in 546 BCE when Greek city-states in the region of Ionia (see Source 3 on page 325) had been captured by the Persians.

When Ionia rebelled in 500 BCE, the Athenians lent their support by sending a small fleet. Persia's king, Darius, used this as an excuse to invade mainland Greece.

Persia's first two attempts at invasion, which took place during the rule of Cleomenes, were unsuccessful. On their third attempt, Leonidas had become king. When word came that the armies of the new Persian king, Xerxes, were on the move, the city-states of Greece put aside their differences to work together for their common defence. An alliance of the Greek city-states was formed in 481 BCE and command of the army was given to Sparta.



Source 2 A marble bust of Spartan king Leonidas (*c.* 490–480 BCE)

Source 3 A 19th-century painting of Leonidas at the Battle of Thermopylae

Facing the Persians

When Leonidas realised that his army of about 6000 Greeks was up against a Persian army of over 200000, he had to rethink his planned defence. In the face of such overwhelming numbers, Leonidas decided that the extremely narrow terrain of Thermopylae would be a good place to block the Persian advance.

Unfortunately, Leonidas was forced to meet the Persians without the use of the full Spartan army. Xerxes had planned his invasion during important religious festivals for the Greeks. As the Persians approached, the Athenians were celebrating the Olympic Games and the Spartans were celebrating the Carnea.

Leonidas and his army were successful at holding the Persian advance for three days, until a traitor told the Persians how to go around the Greek lines. Surrounded, the Greeks had no chance. Leonidas sent most of his army away, remaining with only his 300 Spartans, their slaves and a few others. They were all killed in the ensuing battle.

Leonidas' legacy

Thermopylae may have been a defeat for the Greeks, but it was no great victory for the Persians. They lost a great number of men and were later defeated by the Greeks in a naval battle at Salamis. Persia never again attempted to invade Greece. It was the beginning of the end for the Persian Empire and the beginning of great things in Greece.

After the battle, Leonidas' body was taken to Xerxes, who mutilated it and presented the body as an example of what would happen to those who resist. Eventually, Leonidas' body was returned to Sparta where it was buried with full military honours. He was succeeded by his son Pleistarchus.

To this day, Leonidas of Sparta is remembered as the best example of Spartan bravery, courage and fighting spirit. This is summed up by the writing on his tomb: 'Go tell the Spartans, stranger passing by, that here obedient to their laws we lie.'

Check your learning 11.14

Remember and understand

1 During which years was Leonidas the king of Sparta?
2 Why did his rule end in 480 BCE?
3 Why was the size of Leonidas' army restricted at the time the Persians decided to attack?

Apply and analyse

4 Write a paragraph describing the effect that the actions of Leonidas and his small band at Thermopylae would have had on Greek morale.
5 With a partner, brainstorm the sounds likely to have been heard at the Battle of Thermopylae. Think about the way soldiers were dressed, the weapons used and the location. Conduct some extra research if you need to. Copy the table below into your notebook, then use it to compare and contrast the sounds you imagine would have been heard at Thermopylae with the sounds you might expect to hear in a modern battle. What has changed?

Sounds of the Battle at Thermopylae in 480 BCE	Sounds of a 21st-century battle

Evaluate and create

6 Write a poem about Leonidas that conveys his characteristics as well as his heroic last stand against the Persians. You can also use your imagination and describe what you think he might have looked like and things he might have said to his wife or to members of his army leading up to or during the Battle of Thermopylae.

11D rich task

Understanding the Battle of Thermopylae

In his book *The Histories*, written between 450 and 420 BCE, the 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 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, buying their allies further south more time. This feat is attributed to the Spartan warriors, who were said to fight with no fear of death.

Source 1 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.

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 2

> 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.

Herodotus, *The Histories*, Book 7

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 3

> '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.'

Herodotus, *The Histories*, Book 7

skill**drill:** Historical sources as evidence

Assessing the usefulness of sources

Some historical sources are more useful than others. Their usefulness depends on what you wish to find out from them.

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. Therefore, to make a conclusion about whether a source is useful, you need to be very clear about *what* you want to use the source for.

Consider the following points about Herodotus' account of the Battle of Thermopylae:

- *The Histories* were written after 450 BCE, and the battle of Thermopylae happened in 480 BCE.
- Herodotus was not at the battle – he had not been born yet.
- He based *The Histories* on what people told him.
- Herodotus was from Halicarnassus, a Greek city-state.

For a detailed description of this skill, refer to pages 205–7 of 'The history toolkit'.

Apply the skill

1. How are Spartan warriors described in Herodotus' *The Histories*?
2. Why might Herodotus be biased in his account of the event? Which side is presented more favourably?
3. What conclusions can you draw about the usefulness of this source in an inquiry into the facts surrounding the Battle of Thermopylae?

Source 4 A film still from *300*, a modern-day interpretation of the Battle of Thermopylae

Extend your understanding

1. Is *The Histories* a primary or a secondary source? Give reasons for your answer.
2. Brainstorm a range of other primary and secondary sources that would provide further evidence about the facts surrounding the Battle of Thermopylae. Identify which of these sources may be biased and unbiased, and explain why.
3. Look at Sources 1 and 4.
   - **a** Are they primary or secondary sources?
   - **b** Who created these sources and when were they created?
   - **c** What conclusions can you draw about the usefulness of these sources when conducting a historical inquiry into the Battle of Thermopylae?

Unit 2 The European and Mediterranean world

Ancient Rome

The **civilisation** of ancient Rome lasted about 1300 years. At its heart was the city of Rome, a city first founded by the ancient Etruscans 2800 years ago. In 509 BCE, the inhabitants of Rome set up a republic. Fuelled by trade, alliances and the victories of its army, the republic of Rome grew in size and strength. By 201 BCE, it included today's mainland Italy and the islands of Sicily, Sardinia and Corsica. Within another 300 years, the Roman army had conquered lands as far north as today's England and as far east as Azerbaijan. By this stage, Rome was an empire. Many of Rome's traditions, beliefs, cultural practices and technical skills have heavily influenced Western civilisation.

12A

How did geography influence the development of ancient Rome?

1 Ancient Rome's position at the centre of the Mediterranean world made it easy for the Romans to make contact with other societies. How might this have influenced the development of ancient Rome?

12B

What shaped the roles of key groups in ancient Rome?

1 Only certain people could be citizens in ancient Rome. Who do you predict might not have been allowed to be citizens?

chapter 12

Source 1 A stone carving of members of the Praetorian Guard, a highly trained group of officers and soldiers assigned to protect emperors in ancient Rome

12C

How did beliefs, values and practices influence ancient Roman lifestyles?

1 The ancient Romans valued *virtus*, which means courage, honour and toughness. How do you think this might have influenced the development of the Roman army and its warfare practices?

12D

How did contacts and conflicts change ancient Rome?

1 Ancient Rome built a huge trading empire. How important do you think trade was for the success of ancient Roman society? Do you think it is likely that trade with the other civilisations led to conflict? If so, why?

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.

753
Legendary founding of Rome

509
Rome becomes a republic.

***c.* 450**
First law code, *Laws of the Twelve Tables,* 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.

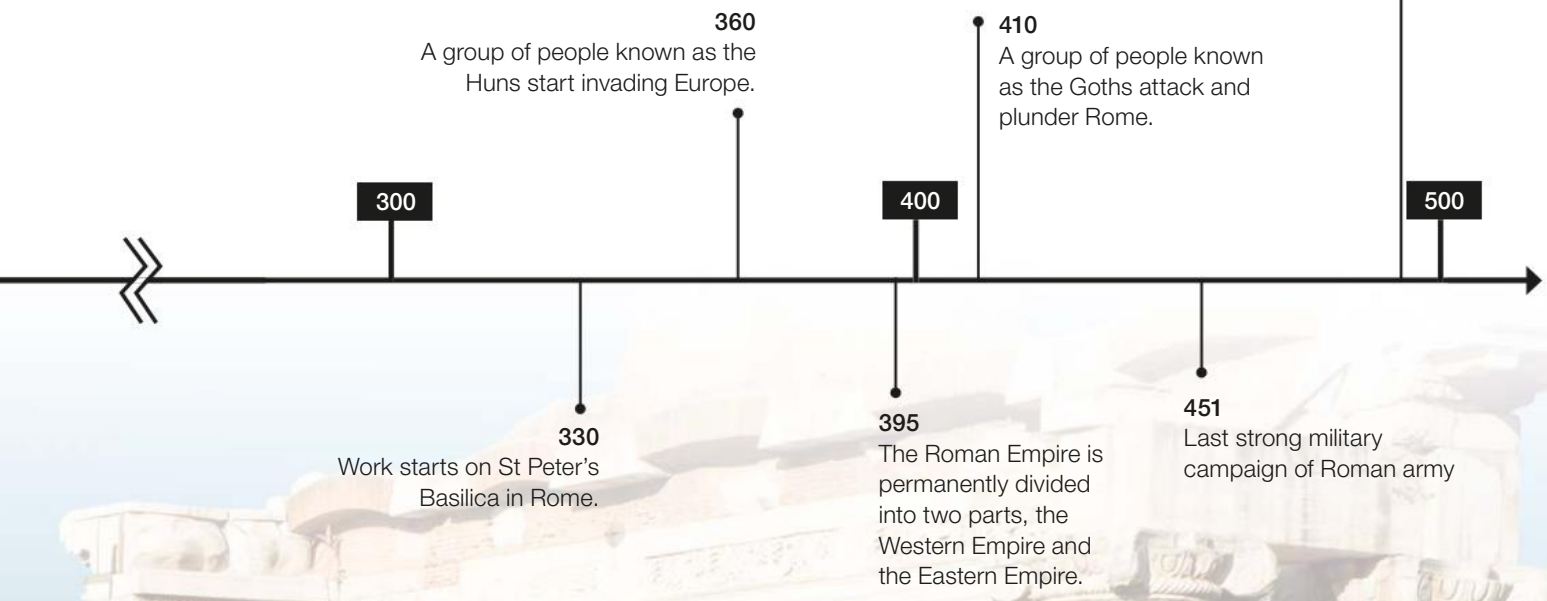
80
The Colosseum opens in Rome, hosting a celebration that lasts 100 days.

800 BCE | 500 | 200 | 1 CE | 100

Source 1 A timeline of some key events and developments in the history of ancient Rome

An artist's impression of the Colosseum in Rome during its opening ceremony

An artist's impression of the sacking of Rome by invading 'barbarians' – a term used by Romans to describe people from outside the empire



Check your learning 12.1

Remember and understand

1 In what year does legend say Rome was founded, and who is said to have founded the city?
2 When did Rome become a republic?
3 When was the Roman Empire permanently divided into the Eastern Empire and the Western Empire?
4 Who was Julius Caesar, and in what year was he assassinated?

Apply and analyse

5 Use the timeline to 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, generate one or two related questions that you would like to find out the answer to. 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 The Mediterranean Sea and the Tiber River

THE MEDITERRANEAN SEA AND SURROUNDING AREAS

Source 1

Source: Oxford University Press

The ancient Roman civilisation began in the region of Latium, in the central west of the Italian peninsula, around the 8th century BCE (see Source 1). A range of physical and geographical features contributed to people settling in Latium and establishing the city of Rome, which became the heart of the ancient Roman civilisation.

Most of the Italian peninsula is mountainous, but there is good farming land in a region known as Latium in the central west. The climate there is mild and wet in winter, and hot and dry in summer. The region is protected by the Appenines, a rugged mountain range that stretches down the centre of the peninsula (see Source 2).

The site on which the city of Rome was built was a strategic choice – it had seven hills that could be easily defended. The first settlers built their homes on these hilltops and farmed at the base of the hills. To the west of the city lay the Tiber River, which gave the Romans a vital trading route and, more importantly, easy access to the Mediterranean Sea.

THE ITALIAN PENINSULA

Source 2

Source: Oxford University Press

The Mediterranean Sea

The Mediterranean Sea covers an area of about 2.5 million square kilometres. It has little tidal movement and mostly stable wind patterns, so it has very few bad storms. This made sailing and navigation very easy. Ancient Rome's position at the centre of the Mediterranean Sea allowed it easy access to a range of seaports and markets around the Mediterranean region. Trade made seaports busy centres, where people of different cultures exchanged goods, ideas, technologies and processes.

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 all the ancient civilisations located around the Mediterranean coast. 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'.

The Tiber River

The Tiber River begins as freshwater springs in the Apennines. It then flows west 400 kilometres across the Italian peninsula to the Tyrrhenian Sea (see Source 2). The city of Rome developed on the eastern bank of the Tiber.

At first, the river did little more than mark off the territory of tribes in the region. As the city of Rome developed, the river became more important as a transport route. Upstream from its mouth it could be navigated for about a quarter of its length. Vessels that sailed its waters included boats propelled by oarsmen and barges dragged along by men walking the banks.

The river also served as an outlet for a huge sewer, the Cloaca Maxima, built around 600 BCE. The sewer's remains can still be seen in Rome today.

A port, Ostia, was built at the river mouth. Later it became an important naval base. Through Ostia and other ports such as Pozzuoli and Portus, trade goods poured into and out of Rome.

The Tiber also caused some problems for Rome. Each year it flooded with snow melt from the Apennines, sometimes seriously. This led successive Roman rulers to erect structures to strengthen riverbanks to protect areas of the city from floods. Wharves were also built.

Source 3 The Tiber River in Rome, with the Vatican in the background

Check your learning 12.2

Remember and understand

1 Where did the civilisation of ancient Rome begin?
2 What did the ancient Romans call the Mediterranean Sea, and why?

Apply and analyse

3 In your notebook, construct an acrostic poem using the word TIBER. Your poem should reflect the impact of the river on ancient Rome. Here is an example to give you an idea of what is required:

Tumbling from the mighty mountains
Into the Mediterranean Sea
Barges on its waters
Enters the mighty Tiber –
Rome's lifeblood.

Evaluate and create

4 Conduct photo research to create a four-page paper or digital album of *one* of the following: the Alps, the Tiber River, the Apennines, the Nile River or the Mediterranean Sea. Add suitable captions that help to explain how you think this feature may have influenced the growth of ancient Rome, and why.

12.3 Earthquakes and volcanoes

The moving tectonic plates under the Mediterranean region make it prone to earthquakes and volcanic eruptions. One fault line travels the length of the Apennines. Another runs across the Italian peninsula north of Naples (see Source 1).

Over the course of history, a number of earthquakes and the eruptions of volcanoes such as Mount Vesuvius and Mount Etna have had major impacts on the human settlements of ancient Rome. One of the most significant volcanic eruptions took place in 79 CE, when Mount Vesuvius erupted and destroyed the ancient Roman towns of Pompeii and Herculaneum. An estimated 16 000 people were killed.

Pompeii and Herculaneum

Pompeii and Herculaneum were situated about 220 kilometres south-east of Rome. People settled in the area because it had a mild climate and some of the most fertile land in the Italian Peninsula, thanks to the minerals in the volcanic ash deposits from previous eruptions. There was a rich agricultural industry based on olive oil, wine, fruit, vegetables, wool and textiles. Fishing was also an important industry.

Many rich Romans had built luxurious houses there to enjoy the climate and the spectacular views across the Gulf of Naples.

Mount Vesuvius

Mount Vesuvius was only 9 kilometres away from Pompeii and 7 kilometres from Herculaneum. In 79 CE, local people did not see the volcano as a threat because it had not been active within living memory. On 24 August that year, however, Mount Vesuvius unexpectedly erupted.

It was a massive eruption, lasting up to 24 hours and consisting of two phases. During the first phase, the volcano spewed huge clouds of ash and pumice (light volcanic rock) high into the sky. The wind blew these clouds towards Pompeii, depositing a layer about 2.5 metres thick across the town. The second phase involved avalanches of extremely hot ash, pumice and poisonous gases moving across the land at 100 kilometres per hour or more. These flows destroyed everything in their path. People suffocated and burned to death.

MAJOR FAULT LINES ON THE ITALIAN PENINSULA

Source 1 Source: Oxford University Press

Pliny the Younger (*c.* 61–113 CE), a Roman writer, witnessed the eruption from the town of Misenum. He described the events in two letters to his friend Tacitus, a Roman historian (see Source 3).

By the end of the eruption, Pompeii was covered in up to 5 metres of ash and pumice, and Herculaneum was buried in 20 metres of volcanic deposits. After the eruption, Pompeii and Herculaneum were abandoned and never rebuilt.

Source 2 Part of the excavated city of Pompeii, with Mount Vesuvius in the background

Source 3

We [Pliny and his mother] had hardly sat down when darkness fell, not like the dark of a moonless night, but as if a lamp had been put out in a closed room. 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 … The flames continued for a while, some distance away. Then the darkness returned and the ashes began to fall again, this time in heavy showers. 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

key**concept:** Evidence

The excavation of Pompeii

Today, Pompeii is a protected World Heritage site and one of Italy's most popular tourist destinations. This is because its ruins, when found, showed the city more or less exactly as it was in 79 CE. The excavations have provided a wealth of evidence for historians about ancient Roman lifestyles.

The excavation of Pompeii started in 1860. The excavated ruins provide evidence that Pompeii had a **forum** (with temples and markets) and paved streets. It also had a stone **amphitheatre** for gladiatorial shows and two theatres for drama performances. There were four public baths, two of which also had public toilets. In addition to these buildings, there were many luxurious villas.

During his dig, the **archaeologist** Giuseppe Fiorelli found many strange cavities. He soon realised they had contained human and animal remains. Over time, the bodies had been reduced to dust and bits of bone. He poured a type of plaster into the cleaned-out cavities to reveal shapes such as those shown in Source 4.

For more information on the key concept of evidence, refer to page 193 of 'The history toolkit'.

Source 4 These plaster casts show Pompeiians at the moment of their death.

Source 5 A paved street in Pompeii

Check your learning 12.3

Remember and understand

1 What physical feature caused the devastation of Pompeii in 79 CE? Explain in a few sentences what happened and how the geography of the region made such an event likely.

2 Who was Pliny the Younger? Why is he important in terms of our understanding of the eruption of Mount Vesuvius.

Apply and analyse

3 Read Source 3 carefully. What evidence does this source provide about the reaction of the people of Pompeii to the eruption?

12A rich task

The legend of Romulus and Remus

The Tiber River was very important to the ancient Romans, for both transport and trade. The Tiber was also the setting for the famous legend of Romulus and Remus, which many ancient Romans believed explained how Rome was founded, and why it had the right to rule over other civilisations.

According to legend, Rhea Siliva, the daughter of King Numitor, was married to Mars, the Roman god of war. Rhea had twin sons named Romulus and Remus. She loved them, but soon discovered that there were plots by other deities to harm her father and her sons. To protect the boys, she set them adrift in a basket on the Tiber, hoping someone would find and care for them. After a time, the boys were rescued from the river by a she-wolf who fed them with her own milk until a shepherd named Faustulus and his wife found them and raised them. Eventually they became shepherds like Faustulus.

One day, the boys discovered who they really were. They decided to build a city on the banks of the Tiber where they had been rescued by the she-wolf. Here they would rule as kings. They both wanted to be sole king of their city. They argued and, in a rage, Romulus picked up a rock and killed his brother. From this time on, Romulus ruled as king, naming the city Rome after himself.

Source 1 An artist's impression of a she-wolf nursing Romulus and Remus as they are discovered by Faustulus and his wife on the banks of the Tiber

skill**drill:** Historical significance

Creating a historical storyboard

A storyboard is the director's plan for a film. Storyboarding is also an important skill for any historian who is interested in communicating historical events in pictures or graphical form especially when retelling events from the past in a film.

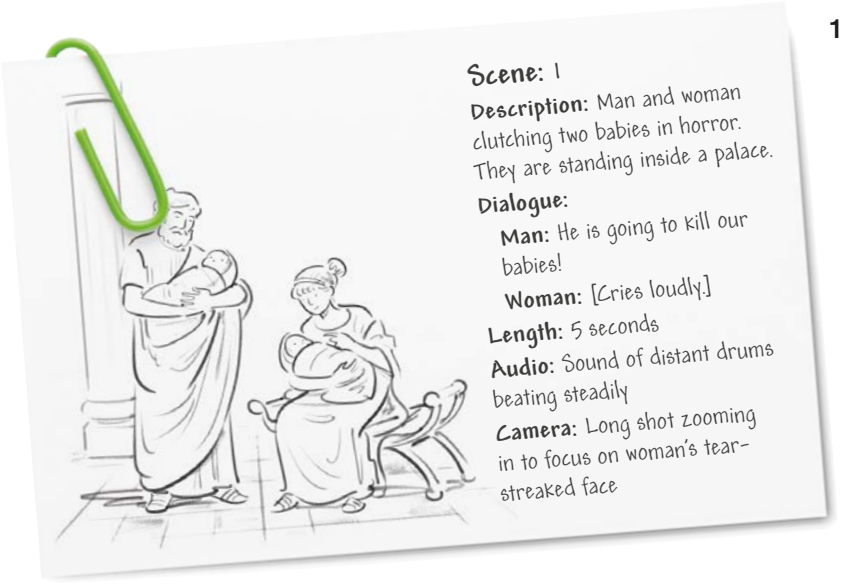
A storyboard looks a bit like a comic book, but it provides a lot of important details about the planned filming process. Each panel of a storyboard represents a scene in the film and should contain the following elements:

- scene number – ensure that a finished storyboard has scenes in numbered order. Panels may be drawn on cards that are shuffled around until you are satisfied with the order of scenes.
- description – a description of what or who the camera is focused on in the scene
- dialogue – details of any dialogue (if required) that takes place in the scene
- length – an indication of the number of seconds or minutes the scene should run for
- audio – sound effects that will enhance the viewing experience for the audience

- camera – provide notes and instructions on how the camera operator is to film the scene. Source 2 contains a few tips on how to get the most out of a number of different camera techniques.
- sketch – sketch only basic figures and props. Storyboards are not meant to be works of art!

Source 2 Camera techniques

Camera angle or movement	Effect produced
Close-up – focuses on an object or part of a person, such as the face	Gives importance to the object or expression
Long shot – shows entire characters or objects in their surroundings	Makes audience feel part of the scene
High-angle shot – looks down on subject or action	Reduces significance of subject or action
Low-angle shot – looks up at subject or action	Magnifies size or importance of subject or action
Pan – films a scene by moving camera horizontally	Shows the vastness or size of something
Fade out – scene dissolves into nothing	Provides a way to move to a new scene or to create an emotional effect (e.g. a death)
Dolly shot – camera tracks the action along wheeled tracks, or from a moving vehicle	Films action (e.g. a person running); increases tension and sense of action



Source 3 Panel 1 of a sample storyboard

Apply the skill

1 Using the legend of Romulus and Remus, complete a storyboard of six panels for a short historical film. The first panel has been completed (Source 3) to show you what is required. Create each panel on a separate card.

Extend your understanding

1 There are many famous myths and legends about ancient civilisations such as Rome and Greece. Myths are ancient traditional stories about gods, heroes and magic. Legends are old stories about real people and events in the past, which may have been exaggerated over time.

Develop your own legend about how Rome might have been founded and why it had the right to rule. Use another one of the geographical features discussed in this section (for example, the Mediterranean Sea or Mount Vesuvius) as the setting for your legend.

Make sure your legend uses the following structure:

- an orientation – the main characters are introduced and the setting is described
- a complication – the main character faces some sort of problem or conflict
- a series of events – these occur while the character deals with the problem or conflict
- a resolution – the problem or conflict is resolved
- an ending – the outcome of the legend is summarised.

12.4 Key groups in Roman society

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.

Citizens

Only certain people in society could be citizens. Under Roman law, a boy was born a citizen if his father was a citizen and his parents were legally married. Roman citizens were divided into classes based on birth and property (that is, how much land they owned). This determined their role in society and, in turn, the type of lifestyle they could lead. Broadly, citizens were made up of two groups – **patricians** and **plebeians**.

Source 1 This statue of a patrician shows him wearing a toga and holding busts (stone heads) of his ancestors. Such busts were regarded with great respect.

Patricians

Patricians were usually people who could trace their line of descent back to the heads of those influential families that made up the original **Senate** of Rome. Patrician families were wealthy and typically owned huge estates. For a long time they held all the positions of political importance. Only they could interpret the laws. It was considered beneath them to be involved in commerce and trade.

Plebeians

Plebeians were the ordinary citizens of ancient Rome. They made up the bulk of the population and the army. They also included those who were involved in commerce and trade. They had some say in how they were ruled through their membership of the **Citizen's Assembly**. However, this body was in reality dominated by patricians.

Wealthier plebeians were often responsible for government or administrative duties and finance. They were also commonly artisans and moderately rich landowners. The poorest of the plebeians owned no property at all.

Over time, the plebeians began to challenge the long-held authority of the patricians. Unrest grew.

Source 2 An artist's impression of the Roman Senate

Source 3 A wall painting showing a Roman carpenter at work

Source 4 An artist's impression of a consul following behind his guard of honour. His guards are 12 *lictors* (civil servants acting as bodyguards) who each carry the fasces – the symbol of the consul's power. The fasces was a bundle of rods encasing an axe, bound by a strip of leather. The fasces symbolised the consul's power to punish criminals by flogging (the rods) or beheading (the axe).

They made their first threat in 494 BCE when they refused Senate orders to attack an enemy force. Instead, they retreated to another hill near Rome. The patricians were very concerned because the plebeians greatly outnumbered them. They needed plebeian support and services to survive. And so began the first of many concessions made to the plebeians over the next 200 or so years. These included changes to the law.

The rulers of ancient Rome

During the years of the Roman Republic (509–27 BCE), ancient Romans were ruled by two elected **consuls** (comparable to prime ministers), who were advised by a Senate (see Source 2). New consuls were elected every year. One of the most famous and powerful consuls was Julius Caesar.

The transition of Rome from a republic to an empire did not happen on any particular date but is traditionally recognised as occurring in 27 BCE, when Julius Caesar's heir and successor Octavian (who later became known as Augustus) assumed total power. The Senate, which had been the supreme body during the republic years, had lost much of its influence by then, and ruling power became increasingly concentrated in one person.

Historians often talk about the Roman Empire being ruled by 'emperors'. This is because it is the easiest way to refer to the role they had. However, the ancient Romans never used the word 'emperor'.

These rulers (hereafter called emperors) became so powerful because they took on – or were given by the Senate – so many rights, titles and official roles.

Many emperors ruled well and worked well with the Senate. Others were corrupt and brutally abused their power. Some, such as Augustus, were declared to be gods after their death. Others, such as Nero, declared themselves to be gods!

Check your learning 12.4

Remember and understand

1 Why were the patricians such a powerful social group?
2 Why would the patricians have feared the strike action of the plebeians in 494 BCE?
3 How did changes to the law and governing arrangements change the role of the plebeians over time?

12.5 Significant individual: Julius Caesar

Source 1 A bust of Julius Caesar

Julius Caesar was born into a patrician family in 100 BCE. He was a gifted Roman general and politician. Through various successful military campaigns he increased Rome's territories and power, especially in Western Europe. He played a critical role in the transformation of the Roman Republic into the Roman Empire. He was also responsible for social and governmental reforms.

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. Very little is known about Caesar's childhood. 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.

Caesar became the head of his family at 16, on his father's sudden death. Though still young, Caesar already knew that in order 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 persecuted and killed. While in exile, he joined the army, and for the next few years distinguished himself as a capable and courageous soldier.

On Sulla's death in 78 BCE, Caesar returned to Rome to build his political career. He quickly gained popularity and powerful positions by using his excellent oratory (public speaking) skills, and also by bribing the right people. By 68 BCE, he was elected as a *quaestor*. About four years later, he was made a ***praetor*** (an official who ran the law courts) and governor of the province of Spain.

Caesar's rising popularity

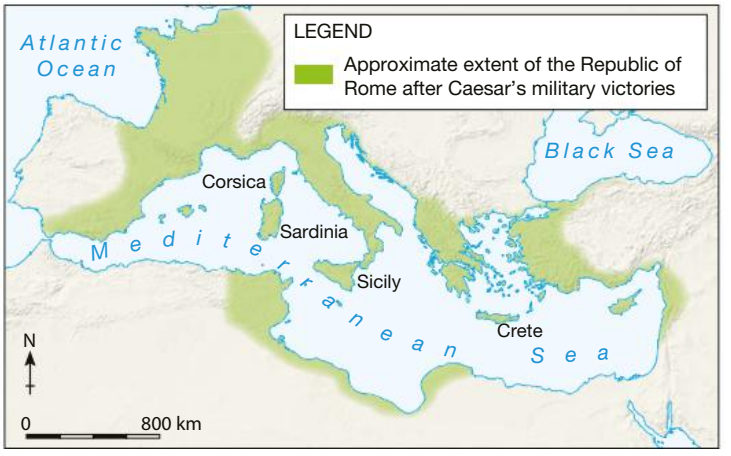
On his return to Rome from Spain in 60 BCE, Caesar made a pact with two other leading political figures, Pompey and Crassus. They agreed to help get Caesar elected as a consul, one of two top governing positions in the Republic of Rome. They succeeded in 59 BCE, when Caesar was made a consul.

Consuls could only serve for one year. Once his consulship had ended, Caesar took up the position of governor of the Roman province of Gaul. This marked the beginning of his military career.

Caesar's military career

Caesar was considered a brilliant military commander who was popular with the people and his troops. As governor of Gaul (most of modern-day France), he fought the barbarian Celts. His victories in Gaul and elsewhere added large amounts of new territory to the Roman Republic.

THE REPUBLIC OF ROME AFTER CAESAR'S MILITARY CONQUESTS



Source 2 Source: Oxford University Press

Caesar's conflict with the Senate

The Senate in Rome was now led by Pompey. Pompey, however, no longer supported Caesar. He had begun to worry about Caesar's rising popularity and his military successes in Gaul. Caesar was also beginning to act without consulting the Senate! In 49 BCE, Caesar was ordered by the Senate to give up his command in Gaul, but he refused. Instead, he returned to Rome with his strong army to confront his enemies there. Pompey fled from Rome to what he thought would be refuge in Egypt, but Caesar and his men followed him there. Instead of being protected by the king of Egypt, Ptolemy III, Pompey was killed by 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 instead.

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'. His success and ambition were too much for some republican senators. On 15 March in 44 BCE, a group of about 60 senators, which included some of his friends and former allies (such as Brutus), stabbed Caesar 23 times when he entered the Senate House – killing 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.

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 3 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. Their support gave Caesar more power. In 42 BCE, he was officially deified (made a god) and a temple was dedicated to him in Rome.

Check your learning 12.5

Remember and understand

1 When was Julius Caesar born?
2 Why do you think historians regard Julius Caesar as a significant person in history?
3 Describe the roles of a *quaestor* and a *praetor*. You will need to use the glossary to do this.

Apply and analyse

4 Put yourself in the position of one of the senators who assassinated Julius Caesar. Try to understand his motives. Prepare and deliver a short oral presentation for the class, explaining why you participated in such a gruesome deed.

Evaluate and create

5 Based on what you have learnt about Caesar, would you say he was a strong leader? Justify 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.

12.6 Other key groups in Roman society

Non-citizens

In addition to the citizens of Rome, there were also large numbers of non-citizens. These people could not vote and had very few rights.

Foreigners

Free men born outside the city of Rome had some rights, but they were not considered full citizens until the law was changed in 212 CE to allow this. A man in one of Rome's colonies, for example, could not vote even though he held citizenship.

Slaves

Slaves in ancient Rome were not citizens and had no rights at all. However, if slaves were freed they were given a limited form of Roman citizenship and their sons could become citizens. Freed slaves were called freedmen, or *liberti*. Some *liberti* became wealthy and influential.

Most slaves were prisoners of war, though some were bought as 'goods'. A few were abandoned children or people who could not pay their debts. Slaves had no choice in what they did. The less fortunate might be forced to fight to the death as **gladiators**, or to work in Rome's mines or quarries. Punishments could be cruel.

As in most ancient societies, slaves provided a vital source of labour. Their efforts helped to increase the prosperity of Rome.

Source 1 These slaves are attending to their mistress's hair. Domestic female slaves in ancient Rome could be asked to attend to every need of their mistress.

Women in ancient Rome

Although women in Rome were technically considered citizens, they had few rights when compared to men. Much of what we know about the lives of Roman women was written by men. According to many of the available sources, the main role of women in Roman society, especially those of the higher classes, was to raise children and run the household. In general, there are very few sources about the lives of poor women. We do know that the ***paterfamilias***, a Latin term meaning 'father of the family' that refers to the oldest male in the household, had all the power.

A household in ancient Rome typically included parents, married and unmarried children, and slaves. The *paterfamilias* decided whom his daughters married and whether any newborn children in the house lived or died. Women had to obey their husbands in nearly every aspect of their lives. Any property or money they brought to the marriage automatically belonged to their husbands.

The Punic Wars (see page 396) 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.

Around the 2nd century BCE, conditions of marriage for women in ancient Rome changed, giving women more financial advantages and social freedom. With their husbands, many women attended dinner parties, gladiator fights, chariot races and religious festivals, and regularly went to the public baths. Not all men were happy about this.

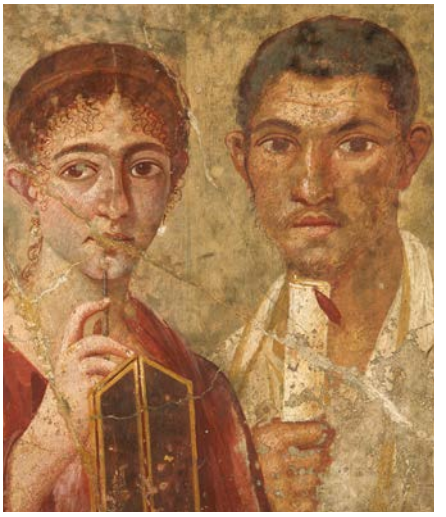
Source 2

> 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.

Translated extract from the writing of Livy, a Roman historian (59 BCE to 17 CE)

Source 3 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 (e.g. Cornelia Gracchus – see Key concept: significance)
Most had a less formal education than boys (e.g. spinning and weaving rather than maths, history and philosophy).	Some were able to work or run their own businesses, or helped their husbands with their business, unlike Athenian women who were largely shut away in their homes.
Had no active role in civic or political life	Could play an active role in preparing sons for civic life



Source 4 A painting of Roman magistrate Terentius Nero and his wife from Pompeii (1st century CE)

Many upper-class women soon achieved a new prosperity and social standing. This encouraged many to further challenge the rules about women's behaviour. This development worried Rome's ruler Augustus (63 BCE to 14 CE). He believed Rome would be strong only if its people were moral. As part of his reforms, he introduced strict laws to restrict women's behaviour. For example, women were banned from attending public spectacles. There were also harsh penalties for adultery (sexual relationships outside of marriage). The laws he created saw even Augustus' own daughter, Julie, exiled.

key**concept:** Significance

Cornelia Gracchus

Cornelia Gracchus (190–100 BCE) was a remarkable trailblazer for women's independence in her time. She was the daughter of the Roman general Scipio. She and her husband, Tiberius Gracchas Major, had 12 children, only three of whom (two boys and a girl) survived.

When her husband died, Cornelia refused to remarry. Instead she took total control of her husband's estate and her sons' education. Later in life, she studied Latin and Greek language and literature, learning from Greek scholars she brought to Rome. She even set up a club where important literary and political figures could gather to share ideas. Cornelia also supported and advised her sons in their political careers.

She is significant because she was a woman ahead of her time. She was well regarded as a virtuous, ideal mother figure by ancient Romans. Yet she was also strong-minded and independent.

For more information on the key concept of significance, refer to page 195 of 'The history toolkit'.

Source 5 A sculpture of Cornelia Gracchus and her two sons

Check your learning 12.6

Remember and understand

1 How did the *paterfamilias* influence the role of women in ancient Rome?
2 What evidence does Source 3 provide of the limits placed on women in ancient Rome?
3 How did the Punic Wars help to change the role of women in ancient Rome?

Apply and analyse

4 The magistrate and his wife shown in Source 4 both hold writing materials. What do you conclude from this evidence?

Evaluate and create

5 Write a short letter that a modern women's rights supporter might send to Cornelia Gracchus (if that were possible) explaining why she is regarded today as such a 'trailblazer'.
6 Frame two questions that would guide your research in finding out more about Cornelia Gracchus.

12B rich task

Four Roman emperors

The emperors of ancient Rome possessed great power and wealth. Some were great leaders and brave soldiers, while others were corrupt and abused their power. Four of the most famous emperors of Rome are profiled here. Some were celebrated for their achievements; others despised for their wickedness.

Augustus

Source 1 Augustus

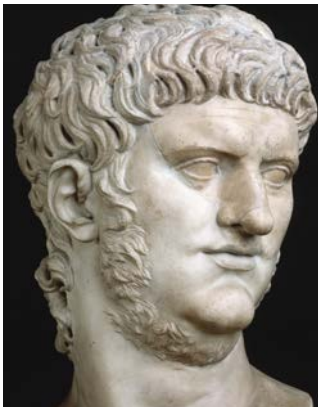
I am Augustus, Rome's first emperor (though I never called myself that). After my great-uncle Julius Caesar was assassinated in 44 BCE, I changed my birth name to Gaius Julius Caesar Octavianus. Julius Caesar was like a father to me and I was very upset that he was killed. My rule began in 27 BCE when I was 36 years old. The Senate renamed me Augustus, meaning 'exalted one'. As Rome's leader, I made it a better place to live. For a while, there was peace (after many years of civil war). I increased its territory to include countries you now know as France, Egypt and Spain. I built many roads, bridges and aqueducts, and encouraged trade (including with the country you would know as India). Art and literature flourished under my rule. After my death in 14 CE, the people worshipped me as a god.

Caligula

Source 2 Caligula

I am Caligula – Gaius Julius Caesar Augustus Germanicus to be precise. I was Rome's third emperor, ruling from 37 CE until my death in 41 CE. Historians say I started well. I abolished sales tax, worked well with the Senate and put on lots of games at the Colosseum. I even fought a whale once during sea games there. In 37 CE I became very ill with what my doctors described as a 'brain fever'. Some historians think that's when I went mad. I suppose I did try to get my horse elected as consul. I loved money and riches, so much so that my extravagance caused a financial crisis in 39 CE. I had to introduce a lot of new taxes to raise more money and even made it law for wealthy men to leave their fortunes to me in their wills. In 40 CE I announced myself as a god and ordered several temples and statues in my honour. I was 29 when the Praetorian Guards murdered me, even though I paid them to protect me!

Nero



Source 3 Nero

I am Nero. I became emperor in 54 CE when I was only 17. The first few years of my rule went smoothly. I was very interested in the arts, but I was also an excellent chariot racer, so good that I found it necessary to kill those I thought might be better than me. I had my mother killed when I was 21, but I made it look like a suicide. Then there were the military campaigns in Britain (60 CE) and Judea, modern-day Israel (66–70 CE). I'm probably remembered most for the fire in Rome that broke out in 64 CE. It almost destroyed the entire city. Some people said I started it, but I blamed the Christians – they made an excellent scapegoat. I ordered some of them be fed to the lions and had others painted with tar before setting them alight. I built a new palace for myself on Rome's burned ruins. In 65 CE, the Senate plotted to remove me from power, but did not succeed. A number of army revolts in 68 CE were the final straw. I lost the throne. I was so humiliated that I took my own life that year.

Marcus Aurelius

I am Marcus Aurelius. I was 40 years old when I became emperor of Rome, ruling from 161 CE until my death in 180 CE. Historians say I ruled well – the last of five good rulers they say. I increased the size of the army and introduced many social reforms, such as giving more rights to women and slaves. I was a thinker and philosopher but, like other emperors before me, I persecuted Christians because their beliefs were undermining ours. In 162 CE, the second year of my reign, the Tiber broke its banks and destroyed much of Rome, causing a famine in the city. From 161 until 166 CE, I fought the Parthians with my co-emperor and stepbrother Lucius Verus. Unfortunately, his troops brought the plague back to Rome from Parthia (a region close to what you know as the Middle East). It spread through the empire from 165 CE until 180 CE, killing thousands of people. My son Commodus ruled after me, although he had already been appointed as co-emperor in 177 CE.

Source 4 Marcus Aurelius

skill**drill:** Chronology

Plotting events on a timeline

Timelines are a very important tool for historians. They allow the reader to quickly 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 bottom to top (for vertical timelines).

For a detailed description of this skill, refer to page 203 of 'The history toolkit'.

Apply the skill

1 Following the steps provided, create a timeline for two of the Roman emperors discussed, including:

- the date they were born
- the date they died
- key events in their lives or reign.

Plot as many dates as you can identify from the information provided.

Extend your understanding

1 Create two Venn diagrams in your notebook to compare and contrast the profiles of:

a the emperors Augustus and Marcus Aurelius

b the emperors Nero and Caligula.

To create a Venn diagram, features that are specific to one thing you are looking at should be recorded in the left circle. Features that are specific to the other thing you are looking at should be recorded in the right circle. Features that they have in common should be recorded in the overlapping area of the circles. (See 11A rich task for more information on creating Venn diagrams.)

2 What do you conclude about these four rulers? Write a paragraph to explain your findings.

12.7 Religious beliefs and practices

The values, customs and beliefs of ancient Romans were often a mix of those they had inherited from their ancestors and those adopted from societies they conquered. Together, these beliefs, values and practices had an impact on how the people of ancient Rome lived.

Beliefs and values in ancient Rome

The rulers of ancient Rome did not believe in one god, as Jews, Christians and Muslims do; instead, they believed in many. Most of their **deities** (gods) were adapted from ancient Greek gods and goddesses (see Source 2). It is believed that the Romans adopted many of the Greek deities because they much admired Greek traditions and culture. They also included deities of other conquered peoples, such as the Persian god Mithras and the Egyptian goddess Isis.

Roman deities were worshipped in temples and in the home. Sacrifices and offerings were made and festivals were held in their honour. 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. The Romans believed such practices would keep the gods happy.

The fact that Romans had traditionally worshipped many gods was the main reason why Roman rulers such as Nero feared Christianity with its worship of one God. This fear motivated Roman leaders to try to stamp out Christianity. For about 300 years, Romans who converted to Christianity were often tortured or killed. They might be crucified, burnt alive or fed to the lions, often in front of cheering crowds in the Colosseum (see Source 3).

Source 1 This Roman mosaic entitled *Triumph of Neptune* shows the god of the sea as the central image.

Source 2 Some Roman deities and their Greek equivalents

Ancient Roman deity	Role	Ancient Greek deity
Jupiter	king of the gods	Zeus
Juno	goddess of women and childbirth	Hera
Neptune	god of the sea	Poseidon
Mars	god of war	Ares
Venus	goddess of love and beauty	Aphrodite
Bacchus	god of wine and pleasure	Dionysus
Vesta	goddess of the hearth	Hestia

Source 3 An artist's impression of Christians being burned at the stake and fed to lions in ancient Rome

Despite the efforts of many Roman emperors, Christianity continued to spread. 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.

Values

The ancient Romans lived by an unwritten (but very important) code of **values** that influenced their behaviours and attitudes in all aspects of their daily life (see Source 4). Every Roman was expected to practise these values at all levels of society – private, political and military.

Key values in ancient Rome

- *Industria* – willingness to work hard; diligence
- *Dignitas* – a sense of personal pride and self-worth
- *Virtus* – courage, honour, toughness, desire to excel
- *Fides* – honesty, trustworthiness, dependability
- *Gravitas* – self-control, dignity, seriousness, responsibility
- *Pietas* – respect, dutifulness, good living, devotion to worship and others

Source 4 These key values of ancient Rome formed an unwritten code on which Romans based their behaviours and attitudes.

Check your learning 12.7

Remember and understand

1 Which Roman deities were equivalent to the Greek deities Poseidon, Dionysus, Hestia and Zeus?
2 Explain how the ancient Romans initially treated Christians. What did this have to do with Christian beliefs?
3 How did the ancient Romans attempt to keep the gods happy?

Evaluate and create

4 Conduct some Internet research into the spread of Christianity in ancient Rome. Write a brief report, ensuring you include information that answers the following questions:
   a Who was Saint Paul, and what was his role in spreading the message of Christianity?
   b Which emperor eventually made Christianity legal, and in what year?
   c Which emperor later declared Christianity the state religion, and the worship of all other deities illegal?

12.8 Everyday life

Everyday life in ancient Rome varied widely according to people's position in society – whether they were citizens or not, free-born people or slaves, wealthy or poor, and whether they were male or female.

Roman families

The society of ancient Rome was organised around the family (and extended family). As mentioned, it was headed and controlled by the *paterfamilias* (the oldest male, or 'father', of the family). Ancient Romans had great respect for the father figure. The emperor and senators of Rome were seen as 'fathers' of the people. The dominant role of men in Roman society was shaped by the religious belief that women, children and slaves did not have souls. They were therefore dependent on free-born men for their social status and protection.

Women in ancient Rome were expected to be good wives and mothers. They had no active role in public or political life.

Roman housing

Wealthy Romans lived very differently from the poor, who usually lived very hard lives. In urban areas, the poor crammed into dark, tiny rooms in multi-storey apartment buildings called *insulae*. These rooms were often smelly and badly maintained. Water had to be carried in pots from wells that might be some distance away. People had to walk to a public toilet where, instead of toilet paper, they shared a communal sponge that was washed out after each use (see Source 2).

In contrast, the wealthy lived very privileged lives. Many wealthy families maintained homes in Rome as well as spacious country estates known as villas. The homes of the wealthy featured many modern conveniences such as running water and toilets. They often had many rooms, private baths and courtyards, and were decorated with beautiful artworks, mosaics and marble statues. They were surrounded by gardens and pools.

key concept: Continuity and change

Weddings

Weddings in ancient Rome played a central role in the lives of many families – in much the same way they do today. The type of ceremony often depended on people's social status. Many of the traditions that we follow today date back as far as ancient Rome. Roman brides married in white, wore veils and carried flowers. A marriage contract was also drawn up and sealed with a kiss.

Many other Roman wedding traditions have changed. Generally, girls in ancient Rome were married at around 14 years, sometimes younger. Marriages were arranged by the father of the bride, or the *paterfamilias*. The bride had no say in the matter. Fathers handed control of their daughters to their husbands on marriage. Echoes of this continue today – when the priest or minister asks, 'Who gives this woman away?', the father of the bride answers, 'I do'.

For more information on the key concept of continuity and change, refer to page 191 of 'The history toolkit'.

Source 1 A stone carving of a wedding ceremony in ancient Rome. The groom holds the marriage contract.

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 a number of different colours. Women's tunics were ankle length; men's were shorter. Only male citizens could wear a **toga** over this. Togas consisted of around 6 metres of cloth that was wrapped around the body over a tunic. Togas were only worn in public.

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 lower social status.

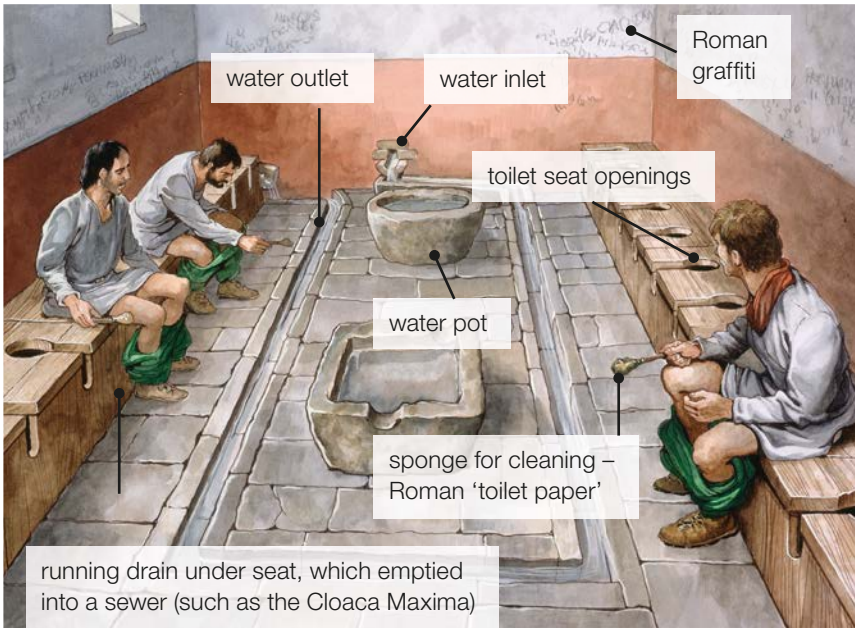
Slaves wore only tunics.

Wealthy women spent time caring for their hair and skin. Complexions were lightened with chalk and lips coloured with mulberry juice or the sediment from red wine. Wigs, made from the hair of slaves, were often worn by men and women. Blond and red were popular hair colours. The clean-shaven 'short back and sides' look for men became the fashion after the 2nd century BCE.

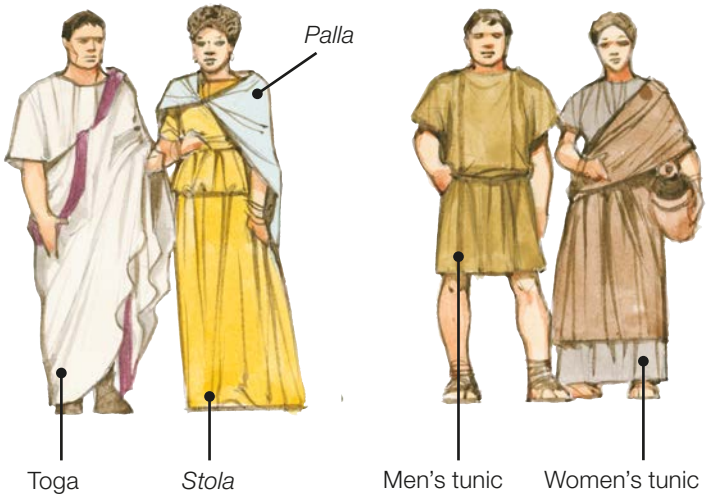
Education

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 (and frequently Greek). Subjects studied typically included music, history, geography, astronomy, mathematics, reading, writing, along with Greek and Latin. They were also taught the Roman values (see Source 4 on page 379) 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.



Source 2 An artist's impression of a public latrine (toilet) in ancient Rome



Source 3 Clothing of Roman men and women

Check your learning 12.8

Remember and understand

1 Name three wedding traditions today that are examples of continuity from those in ancient Rome.

2 Explain the differences between togas and *stolas*.

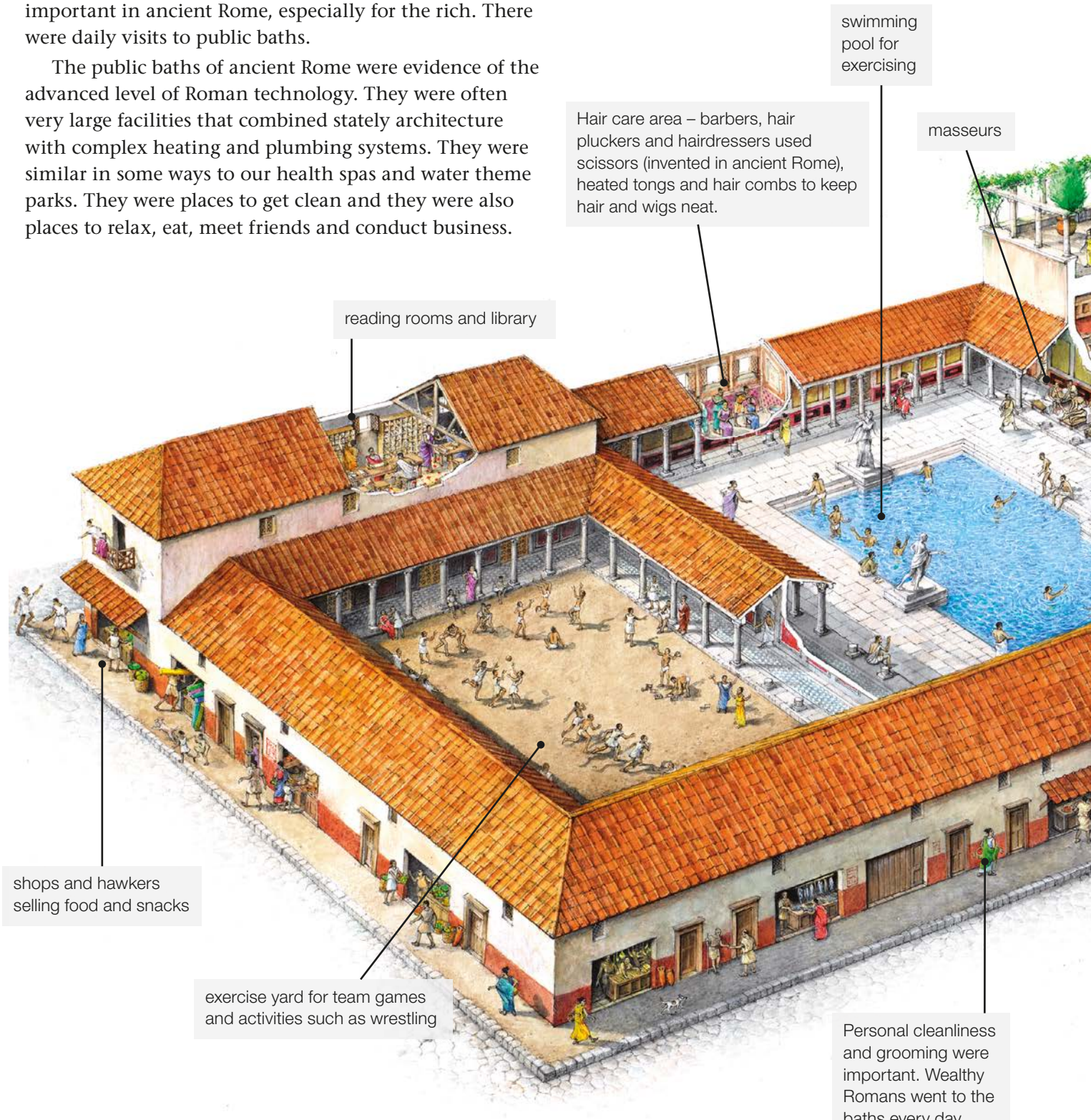
Apply and analyse

3 Study Source 2. What has changed in public toilet design since the days of ancient Rome? What has stayed the same?

12.9 Roman baths

Personal cleanliness, hygiene and grooming were very important in ancient Rome, especially for the rich. There were daily visits to public baths.

The public baths of ancient Rome were evidence of the advanced level of Roman technology. They were often very large facilities that combined stately architecture with complex heating and plumbing systems. They were similar in some ways to our health spas and water theme parks. They were places to get clean and they were also places to relax, eat, meet friends and conduct business.



Source 1 An artist's impression of a Roman public bath

Check your learning 12.9

Remember and understand

1 What was a *strigil*? What was it used for at the Roman baths?

2 What was a *hypocaust* and why was it such an important part of the Roman baths?

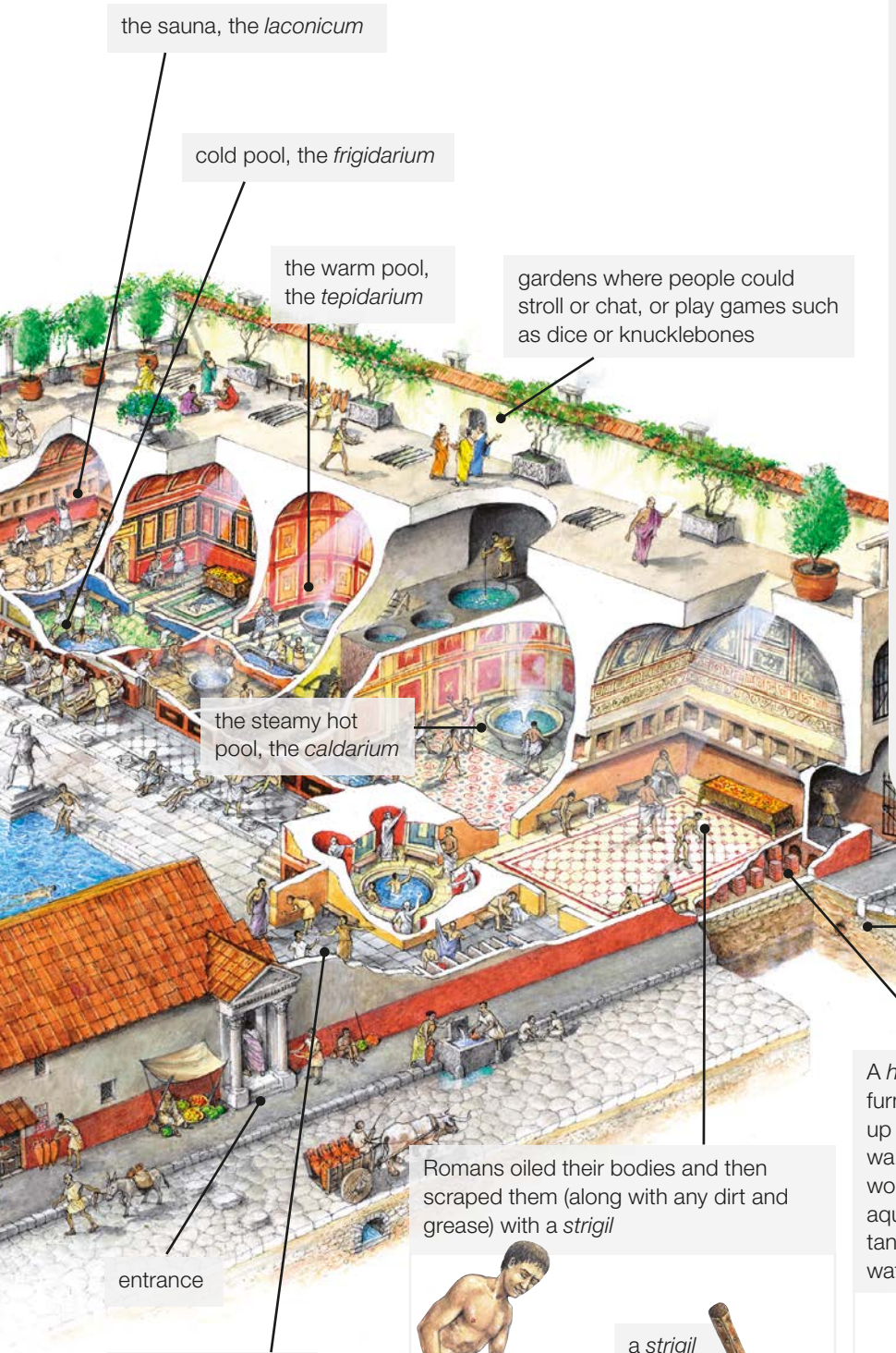
Apply and analyse

3 Why were the baths central to Roman life? What could a typical Roman do there besides washing?

4 Why were Roman baths a central part of people's social and business lives?

Evaluate and create

5 Conduct some research on the Internet to find out why Roman baths are such an important source for investigating life in ancient Rome. List five areas of Roman life and culture that are better understood because archaeologists and historians have studied the ruins of Roman baths.



12.10 Public entertainment

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 1st 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 a quarter of a million people, meant watching horse-drawn chariots thunder around the track. Death and terrible injuries were common, but this was seen as part of the fun.

Fronto, an ancient Roman writer, said the people were kept happy and peaceful by two things – grain supply and shows. Another Roman writer, Juvenal, later expressed this as 'bread and circuses'.

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 1). Romans flocked here to watch gladiators fight and kill animals or each other. Gladiators were forced to fight to the death.

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. Often, female gladiators fought before the men. 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 2 shows four of the most common types of gladiators.

keyconcept: Contestability

Origins of the gladiator games

Some historians believe that the origins of gladiator fights in Rome date back to an Etruscan practice of holding fights to the death at the funerals of great rulers and kings.

Other historians contest this claim as there is little evidence to support it. Other scholars claim that the games began in 264 BCE when two brothers arranged for six slaves to fight to the death. This was done as a religious ritual to honour their dead father, Junius Brutus.

Regardless of how they began, the tradition of entertaining people with free gladiator fights was well established by the time Rome became an empire.

For more information on the key concept of contestability, refer to page 196 of 'The history toolkit'.

Source 1 The remains of the Colosseum. Gladiators, soldiers and animals were housed in the rooms and corridors under the arena until it was time to perform for the crowds.

A *retiarius* was armed with a short dagger, a trident and a weighted net. The mesh was used to entangle the opponent's weapons, hands or feet. He had no armour but an arm guard. If he won the fight, he would kill his opponent with the dagger or trident.

A *secutor* carried a short sword or dagger and a shield. His right arm and left leg were covered. His helmet had small eye holes, a rounded top and protective lips at the neck. A *secutor* had to kill quickly before he tired from the lack of oxygen inside the helmet.

The *murmillo* was usually pitted against the *thraex*. His broad-brimmed helmet was fish-shaped. His left lower leg was protected by padding and a metal greave, and his right arm by armour. He carried a short, straight sword and a large curved shield.

A *thraex* carried a short, curved sword and a small shield. His lower legs were protected by greaves and his thighs with padding. The head of an eagle topped his brimmed helmet. The helmet's grille protected his face and eyes, and a deep collar protected his neck.

Source 2 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.

Check your learning 12.10

Remember and understand

1 Why did Roman rulers provide free entertainment for the common people?

2 For how many days per year was entertainment provided in Rome?

Apply and analyse

3 Historians disagree about when and where the tradition of gladiator fighting began.
- **a** Why is this?
- **b** What theories do different historians have?
- **c** What theory do you believe is most reliable? Why?

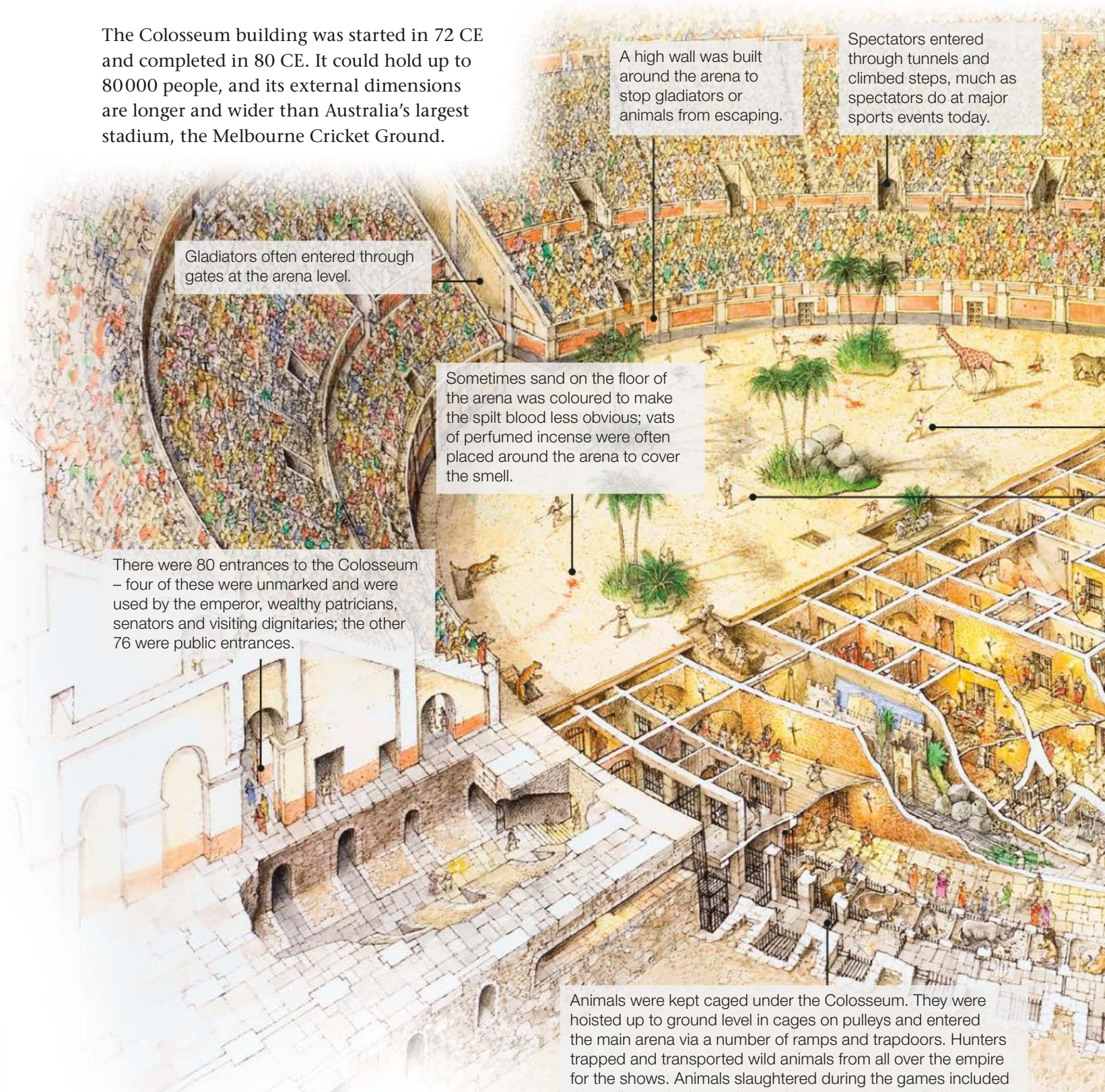
4 Explain the meaning of the phase 'bread and circuses'.

Evaluate and create

5 Conduct some research into the different types of gladiators that fought for the entertainment of Roman crowds. Consider the different weapons and armour each gladiator had.
- **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

The Colosseum building was started in 72 CE and 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.



Source 1 An artist's impression of games being held at the Colosseum

Check your learning 12.11

Remember and understand

1 Study Source 1 carefully, then answer the following questions.
   - a What sort of activities took place under the floor of the arena?
   - b In what ways was the arena adapted for different sorts of entertainment?
   - c What were some of the animals the gladiators fought?

Apply and analyse

2 Why was the Colosseum such an engineering marvel?

3 Explain why you think gladiator fights attracted such huge crowds. What does this suggest about ancient Roman values?

12.12 Warfare

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 – the god of war.

Through intense and disciplined training, Rome's army became very strong. Later, the breakdown in order and self-discipline in the army was one of the reasons Rome's Western Empire eventually crumbled.

Early days

In the early days of the republic, men had to be landowners before they were allowed to 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.

Army organisation

The Roman army was a very hierarchical and disciplined organisation. Roman soldiers were known as legionaries. The army itself was made up of around 30 **legions**. Each legion had between 4000 and 6000 soldiers led by a *legatus* (general). Each legion was made up of 10 groups known as cohorts. Each cohort was then broken down into six smaller groups of 80 to 100 troops. These groups were known as centuries. Each century was led by a soldier known as a centurion.

At first, only Roman citizens could be legionaries, the best soldiers and the best paid. Later, soldiers who were not Roman citizens were also allowed to join. These soldiers were known as **auxiliaries**. Auxiliaries often had special skills such as archery, and were expected to fight on the front line where it was most dangerous.

Source 1 A Roman legionary (soldier) in uniform

Source 2 The *testudo* (from the Latin word for 'tortoise shell') provided Roman soldiers with protection against enemy attacks. Their shields were sometimes held above their heads when approaching the walls of an enemy fort.

Roman soldiers in the 2nd 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 would be worn body armour. 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, a sword, a javelin (spear) and a large shield (see Source 2).

Standards and standard-bearers

Each legion of the Roman army carried a standard into battle. A standard was a silver eagle called an *aquila* mounted on a pole that identified each legion. It was a symbol of their strength and therefore a matter of great shame if the standard was lost or captured. This could destroy the morale and discipline of a legion on the battlefield.

There were a number of standard-bearers in Rome's army who were chosen for their leadership qualities. They were known as aquilifer, because they carried the *aquila* (see Source 3).

Source 3 A modern artist's impression of an *aquilifer*, or standard-bearer, leading his men into battle

Source 4 A modern re-enactment of Roman soldiers loading a ballista, a type of catapult

Siege warfare

Roman soldiers were very disciplined and many Roman generals were highly skilled military strategists. One military strategy that gave the Roman army 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.

Equipment such as catapults and battering rams was used during sieges. Catapults launched large stones, and even rotting carcasses of animals, over city walls in order to spread disease and force a surrender. Battering rams were long heavy logs with ram-shaped heads carved into the end – useful for breaking down the wooden gate of enemy forts and city walls.

Another strategy was to dig tunnels under a weak section of a wall to undermine it. The tunnel was propped up with wooden supports that were then set on fire. When the supports collapsed, so did the tunnel and the wall above it.

Check your learning 12.12

Remember and understand

1 Which god was, for a time, the most important god of Rome? What does this suggest?
2 How did the decision of the consul Marius in 10 BCE change the make-up of the Roman army?
3 a Who were the *principes*?
  b Why might they have fought where they did when in battle formation?
4 Why were auxiliaries sometimes called on to fight with the Roman army?

Apply and analyse

5 List some of the things that might have motivated those who were part of the Roman army.
6 Sometimes battering rams were pushed on wheeled devices. These devices were often covered with a long 'roof' layered with wet hides from freshly killed animals. What purpose do you think such a roof served?

Evaluate and create

7 Find out what a maniple was and how it worked as a strategy on the battlefield. Draw a sketch to illustrate your findings.
8 How were the standards of Rome's army like the flags carried by modern armies?

12.13 Death and funeral customs

Many Romans had no set beliefs about what happened after they died. At least this was the case until Christian beliefs began to dominate in the 4th century CE under Emperor Constantine. The beliefs and customs of the civilisations Rome conquered influenced some Romans in the way they dealt with death. These included the cults of Egypt's goddess Isis and Persia's god Mithras. Ancient Romans also had great respect for their ancestors. Often they kept wax death masks (or stone busts) of them in their homes, which they might display on special occasions (see Source 1 on page 370).

The influence of beliefs and traditions

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.

Despite having no fixed beliefs about life after death, the ancient Romans were generally uneasy about death. Many believed the spirits (or souls) of the dead roamed the Earth, haunting them, if certain rituals were not carried out. Hence, the people showed a great deal of respect towards those who had died.

Source 1 An artist's impression of the ferryman, Charon, rowing the soul of a dead Roman over the River Styx to Hades

Dealing with the dead

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.

Cremation

Cremation (the burning of corpses) was the preferred method for disposing of dead bodies up until the end of the 1st century CE, when burial became more common.

Often, a person's belongings were burned with their body. The ashes and remains of bone were then placed in an urn, which was buried or placed in a tomb. Sometimes many people were cremated at once.

Graves

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. They were not placed in coffins. 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, and a long way from home.

Source 2 Burial urns in a Roman tomb in Naples

Source 3 Monuments marking ancient grave sites along the Via Appia

Some people, though, did not receive the respect of even a 'bulk burial'. The corpses of outcasts, such as prostitutes and people who took their own lives, were left out in the open for wild animals to eat.

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 enjoyed social occasions, perhaps getting together 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.

The influence of the law

One of the *Laws of the Twelve Tables* (a code of laws written in about 450 BCE) stated that people, other than small children, could not be buried or cremated within the city borders. This was partly for reasons of health, but also because burial spaces were very limited. This law was also designed to avoid excessive air pollution from cremations. As towns and cities grew, and their borders expanded, burial and funeral rites were pushed further and further away from built-up areas. Grave sites (and tombs) of the wealthy began to line roads outside towns and cities, especially the **Via Appia** (one of Rome's most important roadways).

The law also made it illegal for mourners to create too much noise and public spectacle at funerals. For example, women were forbidden to gouge their cheeks with their fingernails and wail for too long. The punishment for vandalising a grave or mutilating or disrespecting a corpse was death.

Festivals

Two festivals of ancient Rome honoured the dead. The *Parentalia* was a time in February when people remembered their ancestors, particularly dead parents. The *Lemuria* was an occasion on which to remember all those who had died.

Check your learning 12.13

Remember and understand

1 Where were the graveyards and crematoriums in ancient Rome? Why?

2 What was the purpose of the *Parentalia* festival?

3 a What might be the lot of a poor person who died in Rome?

b Why might a poor person fear such a fate, given Roman beliefs?

Evaluate and create

4 Make a papier-mâché or clay model of a mausoleum or monument you would have built in honour of an influential and respected person in society today. Explain what influenced your design.

12C rich task

Gladiators

Gladiator contests were bloody and violent, something that most of us today would find much less enjoyable than the Romans did. Yet the subject of gladiators is still one that intrigues us. Many books, TV programs, graphic novels and films have been created about the gladiators' endurance and spirit. Award-winning films such as *Gladiator* (2000), for example, tell the stories of brave and honourable men who fought against injustice and cruel leaders.

As well as entertainment, films can be very useful secondary sources that give us a sense of historical periods or events. Writers, directors, set and costume designers – and even actors – often do a lot of research when making a film to gain as much accurate detail as possible.

skill**drill:** Historical sources as evidence

Identify and locate relevant sources

Although historical films can be useful secondary sources, sometimes decisions are made to change the facts in order to make a better story; at other times, errors or oversights can lead to small inaccuracies. Therefore, it is very important that you also use a range of other sources when conducting a historical inquiry. These will provide you with a more balanced picture of the topic you are investigating. To do this, refer to the list of possible primary and secondary sources provided. For each source listed, brainstorm an example that relates to the question or topic you are investigating.

Primary sources:

- physical remains of buildings or houses
- weapons
- armour or costumes
- remains of clothing
- tools
- official documents such as laws and treaties
- personal documents such as diaries and letters
- paintings and artworks

Source 1 A still from the 2000 film *Gladiator*. Maximus, the hero of the film, fights an opponent in the Colosseum.

Secondary sources:

- writings of historians
- encyclopaedia entries
- documentaries
- history textbooks
- websites
- photographs

Take the first type of primary source listed above (physical remains of buildings or houses). If you were researching gladiators, an example of this type of primary source might be the remains of the Colosseum.

An example of the second type of primary source listed (weapons) might be gladiatorial equipment such as swords.

For a detailed description of this skill, refer to page 205 of 'The history toolkit'.

Apply the skill

1 Imagine you are making a film or TV program about gladiators. What sort of information would you need to make it as historically accurate as possible? Use the process described to brainstorm possible examples of sources about gladiators. Copy the table below into your notebook. Provide at least one example for each source. The first two examples have been done for you.

Types of sources	Possible examples of this type of source related to gladiators
Primary sources	
• physical remains of buildings or houses	• remains of the Colosseum
• weapons	• swords
• armour or costumes	
• remains of clothing	
• tools	
• official documents such as laws and treaties	
• personal documents such as diaries and letters	
• paintings and artworks	
Secondary sources	
• writings of historians	
• encyclopaedia entries	
• documentaries	
• history textbooks	
• websites	
• photographs	

Source 2 A still from *Gladiator*. Set and costume designers do a lot of research to achieve historical accuracy in modern re-enactments.

Extend your understanding

Once you have brainstormed possible sources of evidence, you can begin your Internet search. For a detailed description of this skill refer to page 200 of 'The history toolkit'.

1 Work with a partner and use your ICT skills to locate examples of the types of sources you have listed above. Try to use a variety of websites to locate these sources – for example, don't just use free online encyclopaedias; instead, try some more reputable sites such as the ABC or educational institutions. Simply typing 'gladiators' into a search engine might not locate the best source. Use other key words to make your search more specific.

2 Find five sources online that provide relevant and accurate information about gladiators. For each site, record:
   - **a** the title, author, date of publication and URL (web address)
   - **b** a brief outline of the kind of information it contains
   - **c** a brief evaluation of the reliability and usefulness of the source.

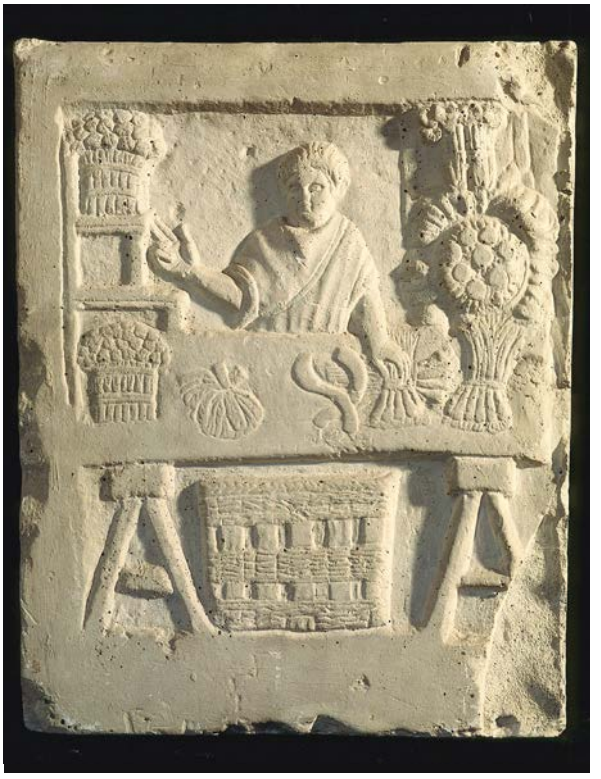
3 Choose the best site you were able to find. What factors make it the most relevant and reliable?

12.14 Change through trade

Ancient Rome's development from a small farming settlement to a massive empire was due to a number of factors. Trade played a significant role. Warfare, too, was vital to Rome's growth. Alongside this were the more subtle changes brought about by contact with different peoples. These contacts introduced new ideas about religion, new fashions and new ways of doing things.

Ancient Rome's trading empire

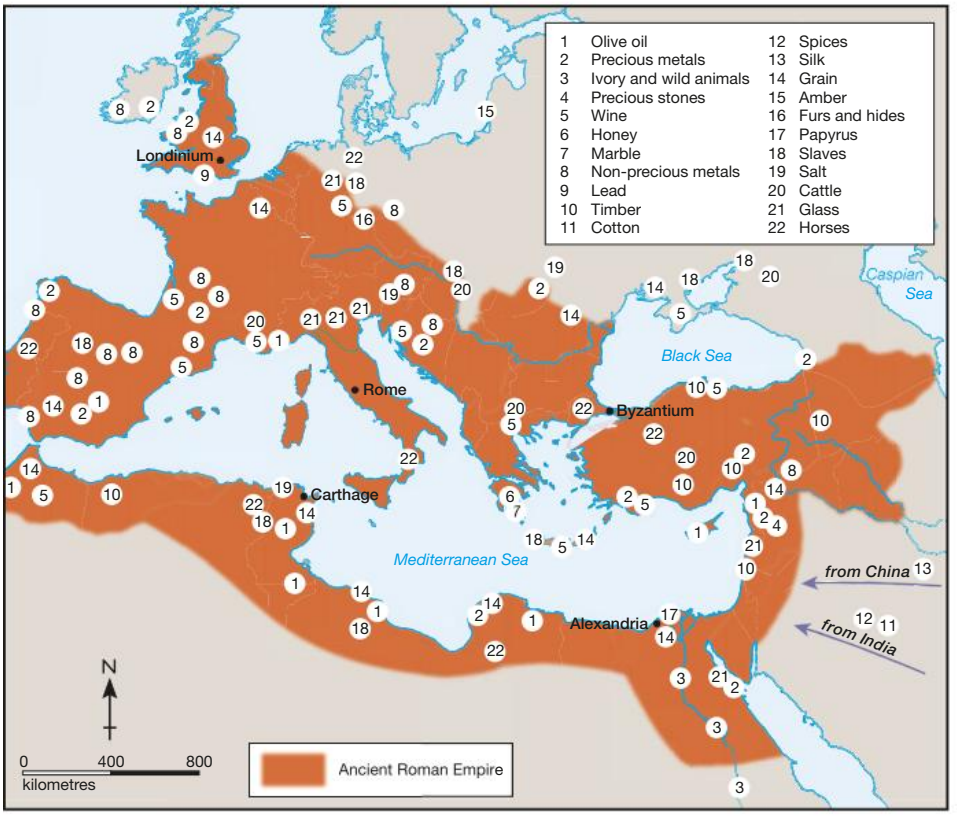
As it expanded, ancient Rome had a need for many goods including grain, tools and materials for building temples, bridges and aqueducts, and weapons. This demand caused Rome to build a large trading empire, where huge volumes of goods were imported. As many ancient Romans became rich, there was an increased demand for luxury imports such as animal skins, gold, ivory and amber.



Source 2 A stone carving showing a woman selling fruit and vegetables in the Roman harbour town of Ostia

Source 1 Ancient Roman glassware, made in the Roman port city of Pompeii. Glass was one of the many products that the Romans exported.

SOME COMMON ROMAN IMPORTS AND WHERE THEY CAME FROM



Source 3 Source: Oxford University Press

Trade networks

Ancient Rome was well situated and was in contact with a large number of civilisations around the Mediterranean Sea. Sea transport was cheaper and faster than land transport, especially for large, bulky loads such as timber, metals and grain. Harbours, lighthouses and ports were built to service Rome's growing sea trade. Many Roman ports grew into thriving cities.

In addition to trade by sea, ancient Rome also traded over land. The empire was connected by land to mainland Europe. Beyond, Europe was connected by way of the **Silk Road**,to distant lands such as China and India. When expanding Rome's territory (through conquest), Roman leaders had used the army to establish a vast network of well-built roads. These began to be used by travellers and merchants after their completion. Goods were carried on the backs of donkeys and camels, and in carts pulled by oxen.

Loaded donkeys and carts became a common sight in the streets of many Roman towns and cities. They became bustling places, full of the noise of buying and selling.

Check your learning 12.14

Remember and understand

1 Study Source 3.
   - **a** List three metals, three foods and three clothing items that Rome imported.
   - **b** Suggest some ways in which the goods you have listed might have been used by the Romans. How might these have changed people's lifestyles?

Apply and analyse

2 Use an atlas to name the modern countries from which ancient Rome once imported the following: marble, ivory, timber, horses.

Evaluate and create

3 Draw an exports–imports diagram to depict the flow of some of the goods that made up ancient Rome's trade with its various markets.

12.15 Change through conflict

The ancient Romans understood the importance of a strong army. From around 300 BCE onwards, they built up powerful forces. In fact, most of the territory the Romans gained was through land battles. However, until the First Punic War of 264–241 BCE, Rome did not have warships. This had to change if Rome was to have any chance of defeating Carthage, then a large empire and a strong sea power in the Mediterranean world.

The ancient Greek historian Polybius reported that the Romans learnt how to build warships by finding a stranded Carthaginian vessel and using it as a model. Very quickly, they built about 140 ships. Given their lack of experience in sea warfare, Rome's early defeats at sea were not surprising. This changed when the Romans invented the *corvus* (see Source 1). When it was hooked in place, Roman sailors could quickly board an enemy ship and do what they were very good at – fight in hand-to-hand combat.

Source 1 An artist's impression of a Roman sea battle. Devices such as the *corvus* (boarding ladder that hooked into the deck of the enemy ship) and the battering ram (at the front of the hull) were used to good effect in its victories.

The Punic Wars

The Punic Wars were fought between Rome and Carthage from 264 BCE to 146 BCE. This conflict eventually gave Rome supreme control of the Mediterranean Sea.

The port city of Carthage was founded around 900 BCE as a **colony** of the Phoenicians (Punics). It became the centre of a large trading empire. As such, it was a major threat to the stability of ancient Rome.

First Punic War

The First Punic War involved battles on land and sea between 264 and 241 BCE. This was the war that forced Rome to build a navy. There were heavy losses on both sides. Carthage's ships were better, and their sailors more experienced. But Rome won in the end. It took from Carthage the territory we know as Sicily.

Second Punic War

The Second Punic War was fought between 219 and 202 BCE. Carthage's leader at that time, Hannibal, was a very strong military commander. He was also good at developing battle strategies. His stated motive for war was that he hated the Romans with a passion. Since the time Hannibal was a boy, his father had fuelled this hate because of what Carthage had lost in the First Punic War. Hannibal's military campaign began in southern Spain in 221 BCE. This campaign included his famous march in 218 BCE across the Pyrenees and the Alps into the Italian peninsula in order to attack the Romans in their own territory.

But the Roman general Publius Cornelius Scipio was a military match for Hannibal. Scipio won the battle against Hannibal in 202 BCE at Zama in north Africa. It is thought Hannibal died about 20 years later, still fighting the Romans.

Third Punic War

By the middle of the 2nd century BCE, Rome had defeated the kingdom of Macedon, to Greece's north. In 146 BCE, it looted Corinth, the last Greek city-state to hold out against Roman rule. That year, the Romans also decided to destroy Carthage, their troublesome rival. Its people were killed, taken captive or sold as slaves. The outcome of all these conflicts was that Rome greatly increased its territory.

Barbarian invasions

After many further conquests around the Mediterranean and beyond, the Roman Empire reached its peak early in the 2nd century CE. As the empire grew, it became too large to govern effectively. There was growing corruption in the army, and there were growing economic problems such as unemployment and inflation. Rome fell into a long, slow period of decline. 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 cause great destruction. These invaders included the Huns, Goths, Franks, Vandals and Saxons. The Romans referred to these people collectively as barbarians.

The ancient Romans tried to solve some of these problems by splitting the Roman Empire in half (see Source 3), hoping that would make the empire easier to manage.

The Western Empire did not do well. Instead of getting stronger, it 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, with its capital Byzantium (later renamed Constantinople), received a new name – the Byzantine Empire. The Byzantine Empire lasted for another 1000 years.

Check your learning 12.15

Remember and understand

1 When did the First Punic War take place?
2 How did the ancient Romans learn to build their first warships?
3 What was the *corvus*, and why did its invention increase the success of the ancient Romans when fighting at sea?

Apply and analyse

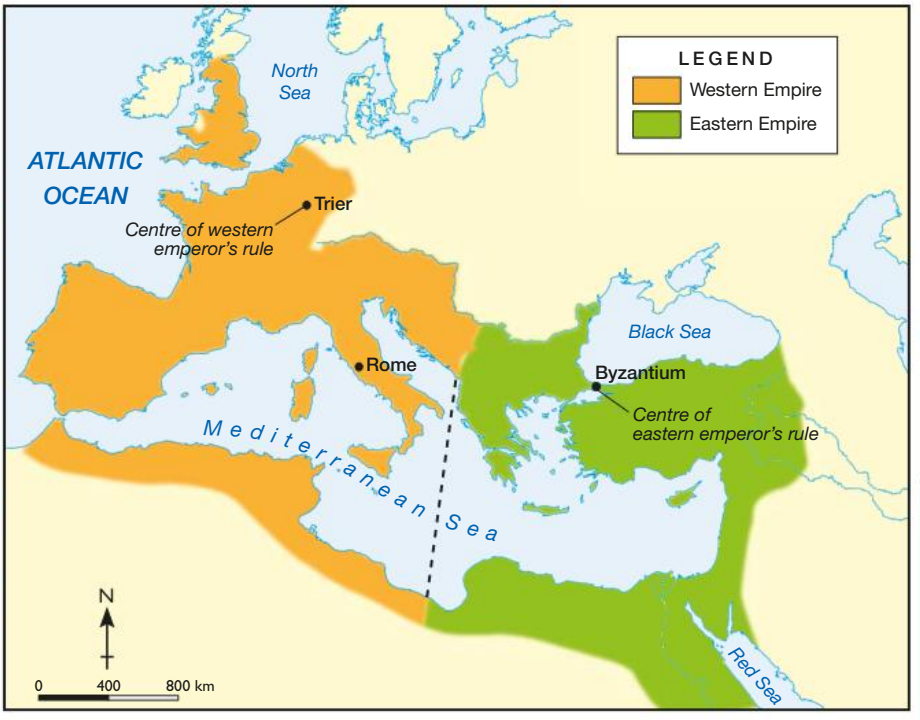
4 How did the Punic Wars change the territory of ancient Rome and of ancient Carthage?

Evaluate and create

5 Prepare and role play a discussion between an ancient Roman centurion and a modern army sergeant. Your discussion will be about how significant you think your roles are as 'social changers'. You may need to conduct some research.

Source 2 An artist's impression of Hannibal's troops crossing the Alps

WESTERN AND EASTERN EMPIRES OF ANCIENT ROME



Source 3

Source: Oxford University Press

12D rich task

The *Life of Gnaeus Julius Agricola*

Gnaeus Julius Agricola was a Roman general who lived from 40 to 93 CE and was responsible for much of the Roman conquest of Britain. Most of what is known about him comes from a historical text called *Life of Gnaeus Julius Agricola*, which was written by his son-in-law, Publius Cornelius Tacitus. Publius Cornelius Tacitus was a Roman senator, consul and historian who lived from 56 to 117 CE. He wrote several historical works that examined the reigns of Roman emperors.

In *Life of Gnaeus Julius Agricola*, Tacitus outlines the military achievements of his father-in-law against the Britons (Celtic people living in what is now England). Tacitus explains at the beginning that his purpose, like that of other historians, is to record these significant events for future generations. He admits, however, that he also wishes to commemorate his recently deceased father-in-law.

Source 1 Agricola and his soldiers built many structures in Britain, such as this amphitheatre in Wales.

In the following extract, Tacitus describes Agricola speaking to his Roman troops before they go into battle. You may wish to read and discuss the text as a class to help you understand it.

Source 2

> 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:
>
> 'If unknown nations and an untried enemy confronted you, I should urge you on by the example of other armies. As it is, look back upon your former honours, question your own eyes. These are the men who last year under cover of darkness attacked a single legion, whom you routed [defeated] by a shout. 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. You have at last found them, not because they have stood their ground, but because they have been overtaken. Their desperate plight [situation], and the extreme terror that paralyses them, have riveted their line to this spot, 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; prove to your country that her armies could never have been fairly charged with extending a war or with causing a rebellion.' 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*

skill**drill:** Historical sources as evidence

Identifying purpose and point of view

Whenever you select a source to use in descriptions or essays, you need to evaluate its usefulness and accuracy. One aspect of this is to find out who created it and when, and what sources *they* have used. We also have to work out *why* the source was created. 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 sources that are intended to inform us about the past, such as a history website or documentary, can have another purpose, such as to entertain or make money. Therefore, we need to be able to identify the point of view 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?

Remember, 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. To make a conclusion about whether a source is useful, you need to be very clear about *what* you want to use the source for.

For a detailed description of this skill, refer to page 205 of 'The history toolkit'.

Apply the skill

1 What were Tacitus' two purposes of writing *Life of Gnaeus Julius Agricola*?

2 How might these two purposes interfere with each other?

3 What does the excerpt reveal about Tacitus' attitude towards Agricola?

4 Does knowing that Tacitus wanted to commemorate his father-in-law make you think that this source is unreliable? In what ways is it still useful?

Source 3 An engraving of Gnaeus Julius Agricola

Extend your understanding

1 Circle the adjectives below that you would use to describe Agricola's speech in Source 2.

inspiring	boring	frightening
condescending	rough	eloquent
comforting	understated	persuasive
complimentary		

2 If you were a soldier listening to this speech, would you find it inspiring? Explain your view.

3 Write a brief explanation of the point of view or attitude that might be presented by each of these possible sources:

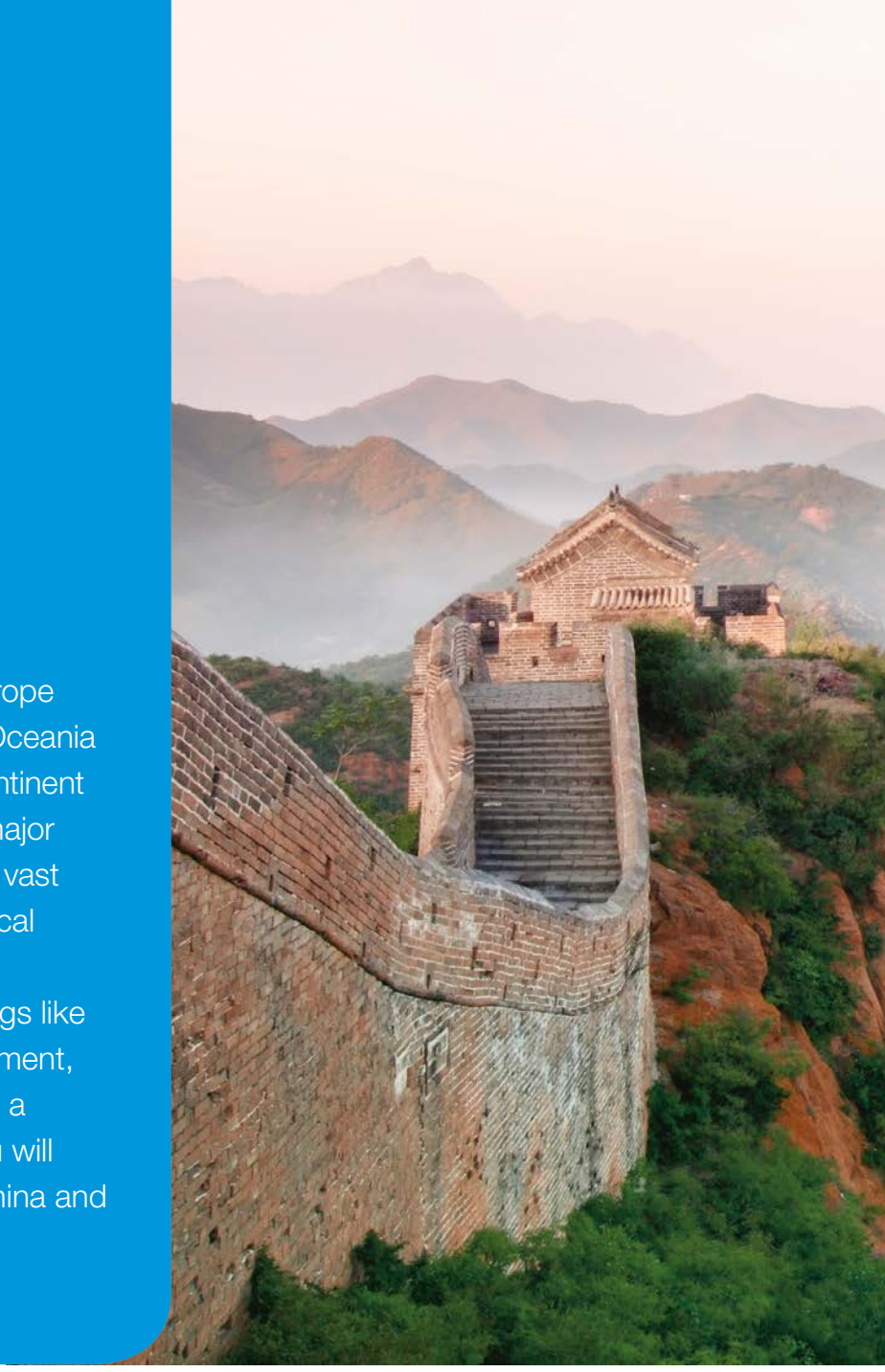
- an ancient Roman comedy about foolish political leaders
- a portrait of the wife of a Roman emperor, commissioned by her husband
- an article about a new discovery about ancient Rome, published in *Archaeology Alive!*, a magazine for children.

Unit 3 The Asia–Pacific world

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.



13A

Where and when did ancient societies in Asia develop?

13B

What were the key features of ancient societies in Asia?

chapter 13

Source 1 The Great Wall of China is a series of defensive structures that were built over 2000 years ago to protect ancient China from invaders. In total, the wall is almost 9000 kilometres long. Today, it is considered one of the seven wonders of the world.

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

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 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 2 shows the location and size of these ancient civilisations and provides some key information about each of them. The timeline (Source 1) 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.

Ancient India (3500–184 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.

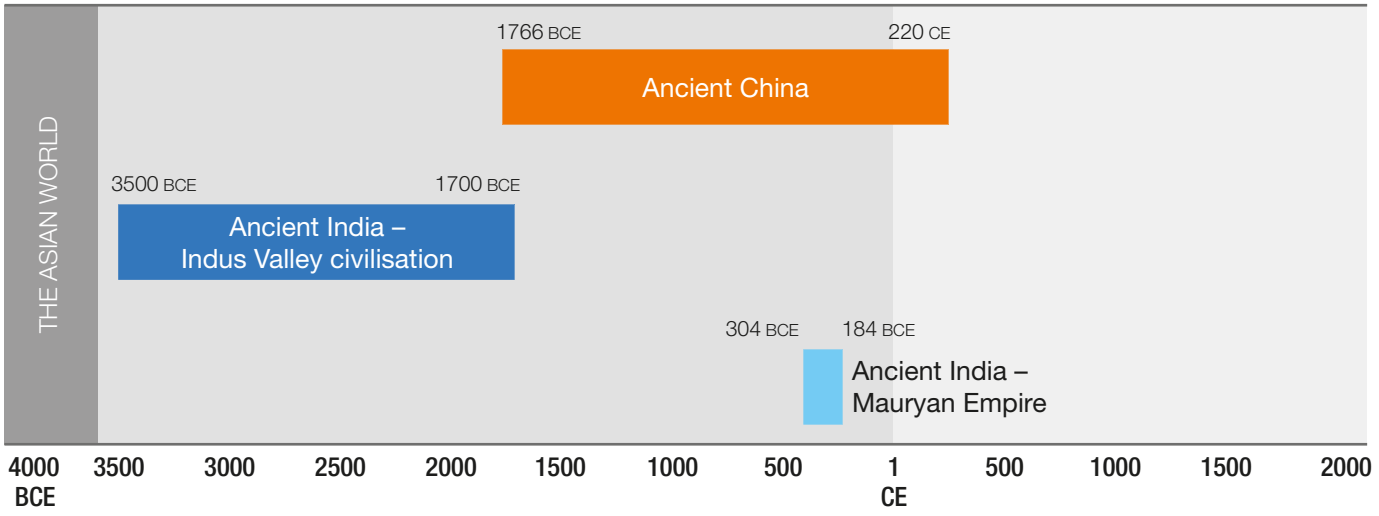
Ancient China (1766 BCE–220 CE)

Ancient China was ruled for 3600 years by dynasties (ruling families). 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.

Check your learning 13.1

Remember 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. Where did the first civilisation in India begin? What was the name of this civilisation?
3. Ancient China was ruled by dynasties. What is a dynasty?



Source 1 A timeline showing the rise and fall of ancient civilisations

ASIA–PACIFIC WORLD: KEY CIVILISATIONS

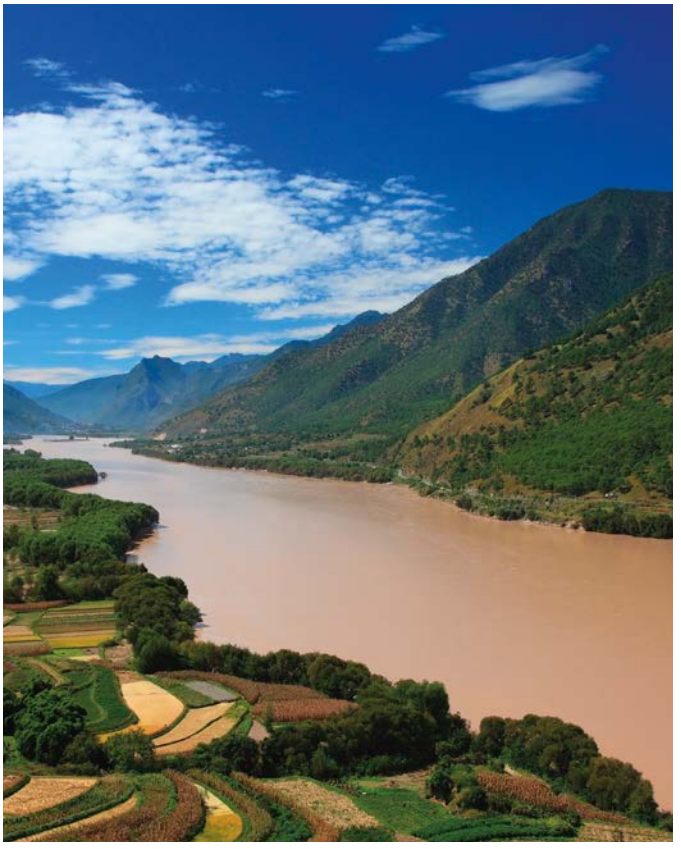
Source 2 Source: Oxford University Press

13.2 Key features of the Asian world

Geography

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 geographical features made China difficult to reach. In the 3rd century BCE, the Great Wall of China was constructed as a final barrier to would-be invaders at its northern border.

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.



Source 1 The Yangtze River in Yunnan Province, southern China

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.

This geography was important for the development of two separate civilisations. First, there was the Indus Valley civilisation (*c.* 3000–1300 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 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.

Source 2 A procession of modern-day Brahmins, the highest caste in Indian society

Source 3 A ceramic figure of a woman from the Indus Valley civilisation in India. Women had a similar status to men.

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 4 A statue of Qin Shi Huang, the first emperor of China (221 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.

Source 5 A bronze figure of a maidservant holding an oil lamp, made in the Western Han Dynasty in 172 BCE

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 educated 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.

Source 6 Calligraphy brushes, ink and the Chinese character for 'double happiness'. 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. 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 1st 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 8).

Ancient Indian society was dominated by religion and superstition. Ancient Indians had deities (gods and goddesses), 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** (rebirth). Buddhism was also a major religion in India. It was founded by a wealthy Indian prince in the 5th century BCE and was an established religion in India before it spread into China.

Source 8 An artist's impression of Confucius

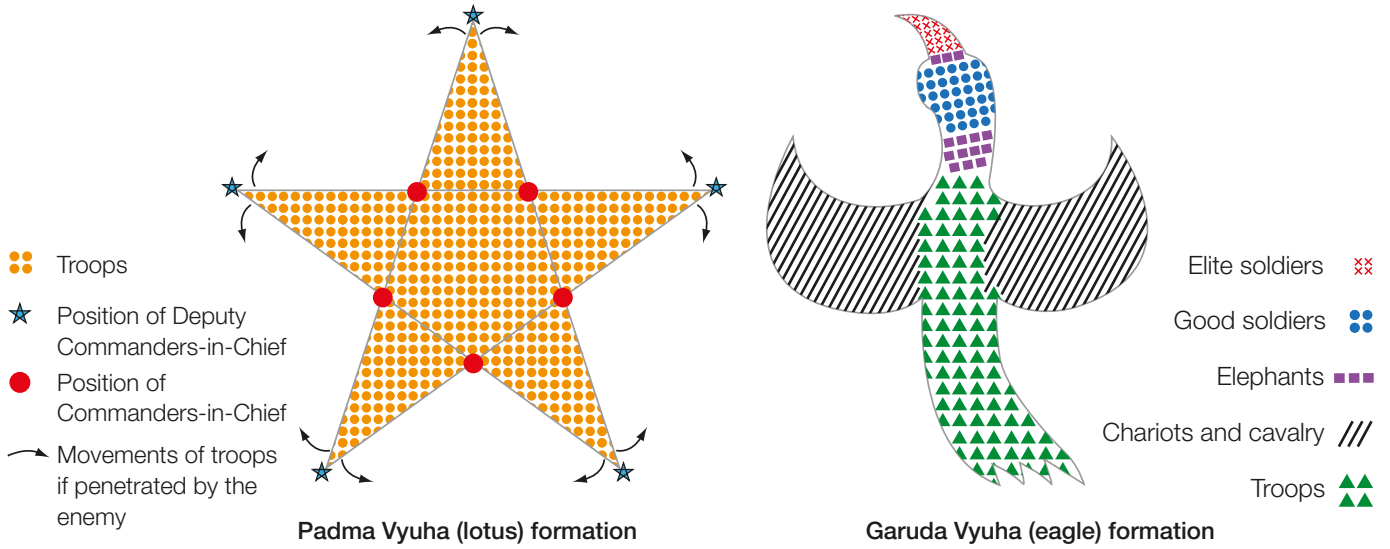
Source 9 A statue of Buddha in India

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 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 10 Two army formations used in ancient India

Source 11 A sculpture of two members of the Han cavalry with their spears

Source 12 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

Check your learning 13.2

Remember and understand

1 The development of ancient societies in China and India were influenced by the world's tallest mountain range. What are these mountains called?
2 Ancient India had two separate civilisations. What were they called?
3 In what way were the social structures of ancient Chinese and ancient Indian societies similar?
4 How did the ancient Chinese writing system begin?

Apply and analyse

5 Explain what was unique about the status of women in the Indus Valley civilisation.
6 Predict how India and China may have developed differently if they had not been surrounded by natural barriers.

Source 13 The Great Wall was built to protect China from invasions.

13.3 Legacies of the Asian world

Source 1 A woman practising yoga, which originated in ancient India

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 20th century, and Martin Luther King's peaceful quest for civil rights in the USA 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.

Source 2 Without gunpowder – invented by the Chinese – we would not have fireworks today.

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 5th-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.

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 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.

Source 3 Our system of Arabic numerals is founded on a numeral system developed in India.

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**. 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 undiscovered continents was prompted by a desire to find new trading routes with China and India. For example, Italian navigator Christopher Columbus found the Americas when he was trying to find a new way to reach 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 in countries that were discovered and colonised by European powers looking for better trading routes with Asia.

Source 4 A section of the Silk Road in the Hunza Valley of northern Pakistan

Check your learning 13.3

Remember and understand

1 Discuss how ancient Chinese society has influenced the rest of the world.
2 How did developments in mathematics in ancient China and India influence the modern world?
3 When and where was gunpowder invented?

Apply and analyse

4 What is the Silk Road and why was it important to the development of the modern world?

Evaluate and create

5 Copy and complete the table below in 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. You will need to conduct some additional research on the Internet 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 teachings 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. • World leaders often use quotes from Confucius in their speeches.
China			
India			
India			

Unit 3 The Asia–Pacific world

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 came into being as a result of these ancient civilisations – Hinduism and Buddhism. 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.

14A

How did geography influence the development of ancient India?

1 Modern-day India is surrounded by mountains, deserts, river valleys and a coastline. How might these physical features have influenced the development of ancient India?

14B

What shaped the roles of key groups in ancient India?

1 Two of the world's major religions originated in India – Hinduism and Buddhism. How do you think religion might have shaped the role of key groups in India?

chapter 14

Source 1 This building, known as the Great Stupa, is located in the town of Sanchi in central India. It was built by Emperor Ashoka in the 3rd century BCE during the rule of the Mauryan Empire. A stupa is a dome-shaped building that contains relics (religious artefacts).

14C

How did beliefs, values, contacts and conflicts influence ancient Indian lifestyles?

1 Walking around ancient India one would see a Hindu temple, a Buddhist stupa (religious building) and a pavilion containing a ritual fire and a sacred tree. What does this tell us about the lifestyles of ancient Indians?

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 ritual bathing.

The Hindu god Vishnu's four arms indicate that he is everywhere and all powerful.

3500 BCE
Emergence of the Indus Valley (or Harappan) civilisation

1800 BCE
The Aryan people begin to arrive in the Indus Valley from Central Asia.

1700 BCE
The Indus Valley (or Harappan) civilisation has largely ended.

800 BCE
Production of the Vedas, the sacred writings of Hinduism

563 BCE
Siddhartha Gautama – later known as Buddha – the founder of Buddhism is born.

500 BCE
The Persians invade the Indus Valley and make it part of their empire.

3500 BCE | 2000 | 1750 | 750 | 500

Source 1 A timeline of the key events in ancient India

327 BCE
Alexander the Great crosses the Indus River, intent on invasion.

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.

269 BCE
Ashoka Maurya, Chandragupta Maurya's grandson, becomes emperor of the Mauryan Empire.

232 BCE
Death of Emperor Ashoka

185 BCE
Mauryan Empire ends, marking the start of a 500-year period of small kingdoms.

320 CE
Beginning of the Gupta Empire, a period in which the arts and sciences flourish

470 CE
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 | 700 CE

250 BCE
Ashoka sends missionaries across Asia to spread Buddhist beliefs.

50 BCE
The first Buddhist stupa (religious building) constructed at Sanchi in India – it becomes known as the Great Stupa

321 BCE
A northern king, Chandragupta Maurya, founds the Mauryan Empire.

Part of a stone relief from Great Stupa at Sanchi Bhopai, India

Check your learning 14.1

Remember and understand

1 What is the name for the sacred writings of Hinduism?
2 What religion is associated with a man called Siddhartha Gautama?

Apply and analyse

3 Use the timeline to calculate how many years in total the Mauryan Empire lasted.

Evaluate and create

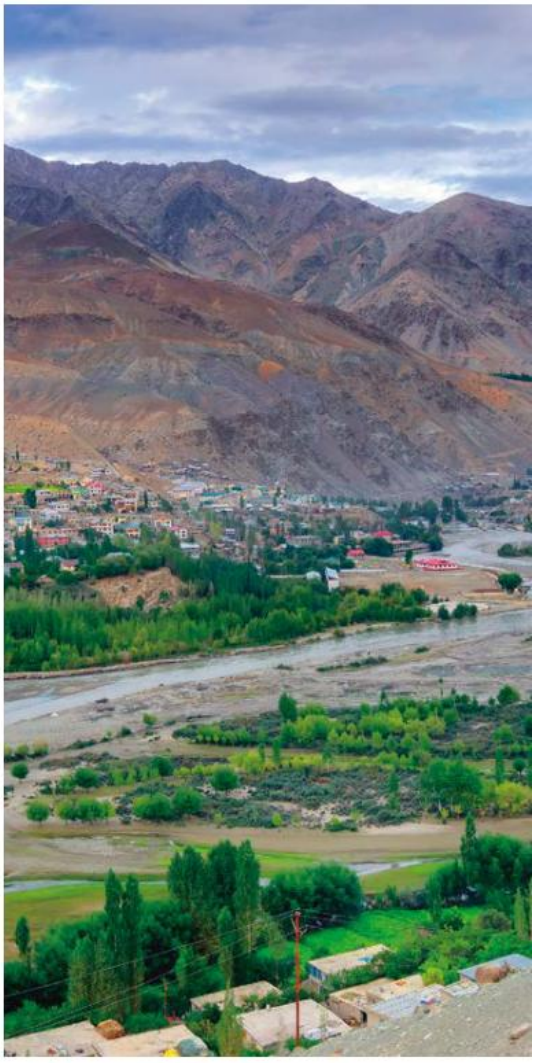
4 Select two individuals that feature on the timeline. Conduct some Internet research to find out the significance of these individuals to ancient India.

14.2 Landscape and climate

India's geography 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 2). 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** (a large section of flat land) 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. 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 1).

THE INDIAN SUBCONTINENT

Source 1 Source: Oxford University Press



Source 2 The fertile lands in the valley of the Indus River in India. It became the location for India's earliest civilisation, the Indus Valley (also known as the Harrapan) civilisation.

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.

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.

Check your learning 14.2

Remember and understand

1 What four important physical features shaped the history of the Indian subcontinent?

Apply and analyse

2 For each feature, state how it may have influenced decisions about early human settlements and lifestyles.

3 What problems would a severe monsoon have caused for an ancient settlement?

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. Find out through Internet research what the 'Silk Road' was and create a map showing this route.

14.3 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 that civilisation developed. Knowledge of this civilisation came to light with the discovery of its second largest city, Harappa. For this reason some historians also refer to it as the Harappan civilisation.

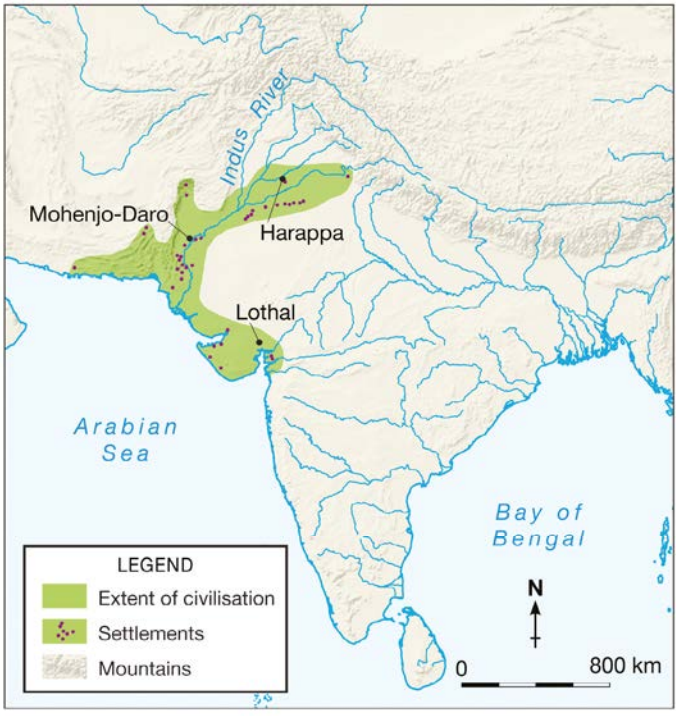
The Indus Valley (Harappan) civilisation developed from early farming communities that depended on the river waters for irrigation. Wheat and barley were their staple crops and rice was also grown. It lasted from about 3500 BCE to 1700 BCE, but was at its greatest power and size from about 2600 BCE to 1900 BCE.

The discoveries of Harappa and Mohenjo-Doro

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 1 Source: Oxford University Press

Source 2 The ruins of Mohenjo-Daro

Source 3 Ancient ruins overlooking part of the fertile Indus Valley

Source 4 Artist's impression of Indus Valley merchants. A local trader weighs beads in the foreground. Bead and jewellery making – using gold, ivory, copper, shell and semi-precious stones – was a key industry.

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 **carnelian** have been found in the Mesopotamian city of Ur and in Oman (in 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.

Check your learning 14.3

Remember and understand

1 How were the ruins of Harappa and Mohenjo-Daro discovered?

2 In which modern-day countries was the Indus Valley (Harappan) civilisation located?

Apply and analyse

3 Select three sources from the text or from your own research and indicate the evidence that they provide about the achievements of the Indus Valley (Harappan) civilisation.

Evaluate and create

4 Use Google Earth to closely study the different land types in and around the areas where the Indus Valley (Harappan) civilisation developed. Use the sources from the text and your own research to present a photo-montage of geographical features of India, including captions.

14A rich task

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', 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 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.

skill**drill:** Historical sources as evidence

Analysing historical sources

Analysing historical sources is an important skill to develop. When analysing photographs, paintings, artworks or historical sources 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.

Source 1 The 'Priest-King' of Mohenjo-Daro

Step 5 Look for anything unusual

Are there any elements in the scene that are confusing, either because they're new to you or because they don't 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.

Apply the skill

1 Source 2 is a picture of one of the seals found among the ruins of Mohenjo-Daro. Your task is to analyse the source, taking into account the features described above and the questions you should be asking yourself.

Extend your understanding

1 Imagine you have been commissioned to make a mural of everyday life at home in ancient India, which is to be displayed next to the front door. What would you include in your mural and what would you not include in your mural?

2 Draw a design for the mural, and annotate it to explain the composition, choice of figures, background and details.

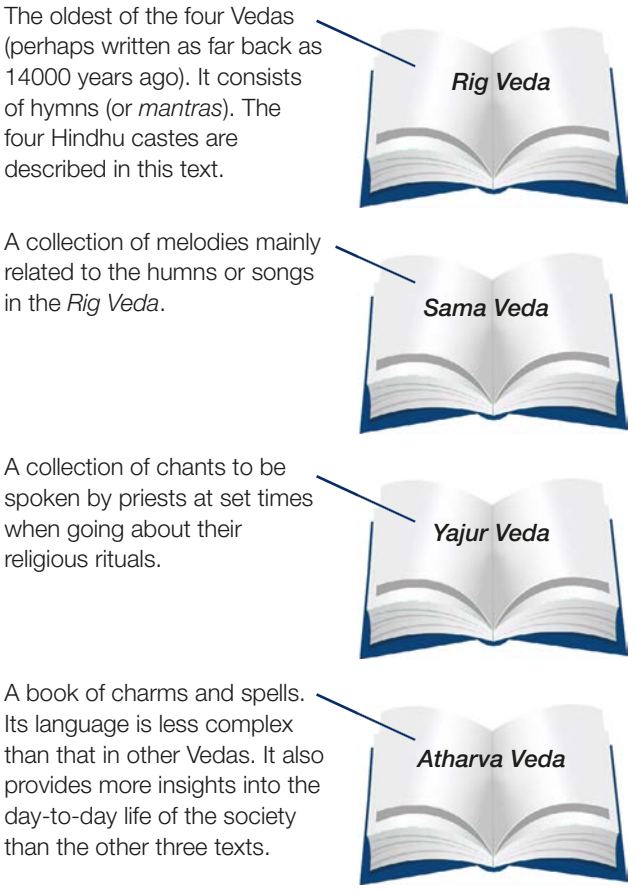
3 Conduct research on the swastika symbol (see Source 3) to discover its different uses and meanings over time. For example, swastikas have been found in religious buildings and temples; two Canadian ice-hockey teams in the early 20th century used swastikas on their uniforms; and Adolf Hitler's Nazi party adopted the symbol in the 1930s. Write a 250-word report, with pictures, to summarise your findings. Also explain why the swastika is now regarded as inappropriate and offensive by many people.

Source 2 A seal from the ruins of Mohenjo-Daro which is thought to feature a unicorn

Source 3 Some of the seals have a symbol called a swastika engraved on them, such as this example from Mohenjo-Daro.

14.4 The social structure of ancient India

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 BCE to 500 BCE, so this period became known as the Vedic period.

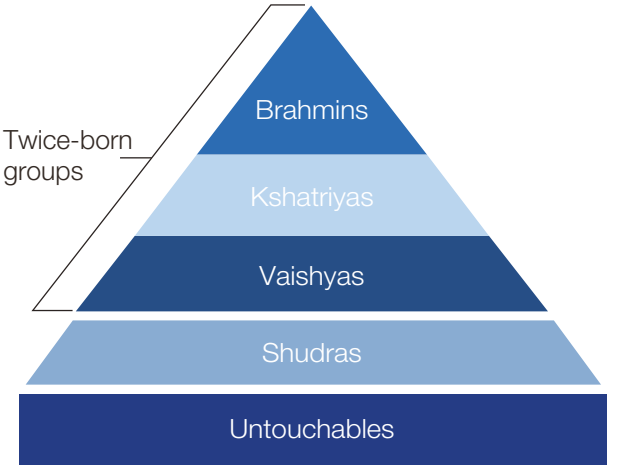


Source 1 The four Vedas

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 subcastes 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 – the lowest of the low with no rights or privileges.



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 performing religious rituals 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, enforce law and order, and collect 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. As time passed 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 heavy 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 heavy 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.

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.

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; a 2001 Amnesty International study found that 30 per cent of rape cases reported by Dalit women were dismissed as 'false'.

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 he or she became defiled and had to carry out purification rites. This involved bathing his or her 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.

Source 7 Dalit women working as corn threshers on a farm in northern India

Check your learning 14.4

Remember and understand

1. List the chief responsibilities of the Brahmin, Kshatriya and Vaishya castes.
2. What does 'twice born' mean?
3. List the chief responsibilities of the Shudras and Untouchables.
4. What are the Untouchables now called?

Apply and analyse

5. How do you think the caste system would have influenced the design of towns and cities in ancient India?
6. Australia does not have a formal caste system as ancient India did. But do you think we have similar divisions in our society, even if they are not formalised? Write down your thoughts or discuss in small groups, giving examples to support your views.

Evaluate and create

7. Using the Internet, research how the social system is starting to change for the Dalits in India (especially since India's independence). Use this information to write a short magazine article that also expresses your feelings about Dalits in modern India.

14.5 Other key groups in Indian society

Slaves

Written sources, such as the Sanskrit Laws of Manu (1st 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.

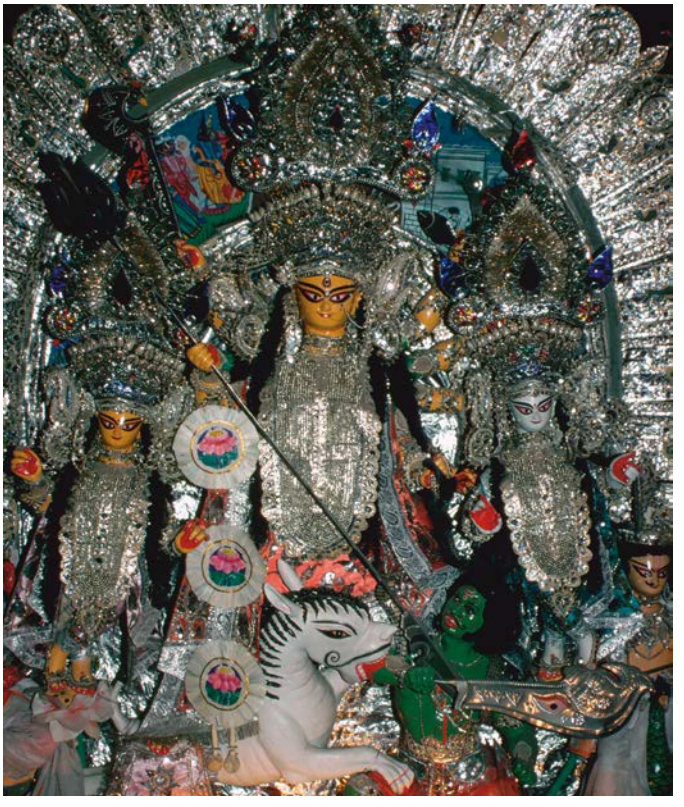
Women

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.

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 1 Some of the rights thought to have belonged to slaves in ancient India



Source 2 A shrine to Shakti, surrounded by offerings

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 2). The creative power of Shakti was seen to be most evident when women produced children.

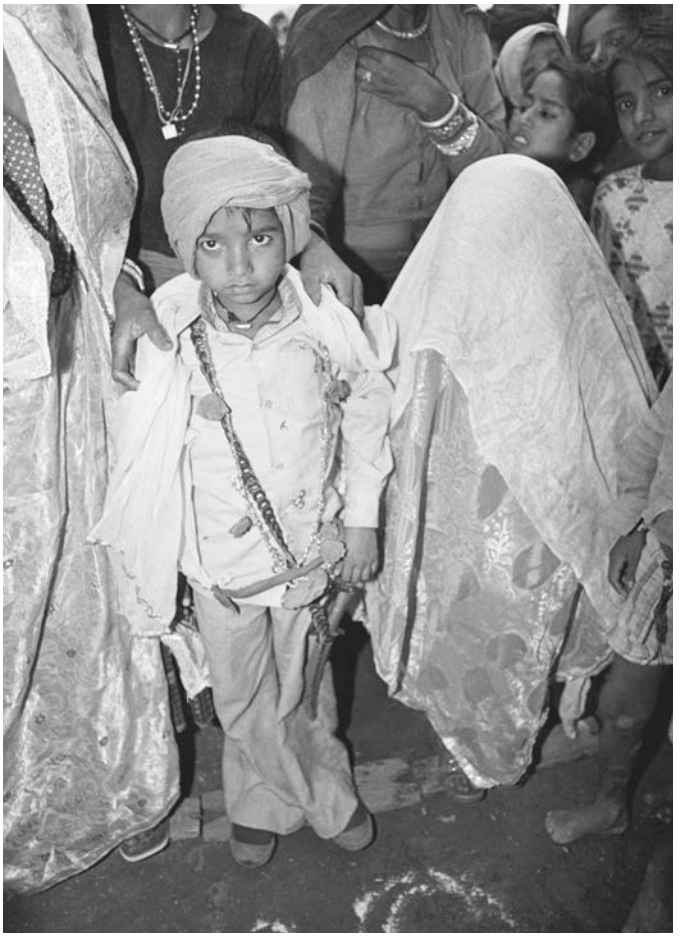
Changes in the status of women

The status of women described here seems to have been common during India's ancient period. 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 3.

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 (wives whose husbands were cremated were sometimes burned alive with them).
- Women were restricted from voicing public opinions.

Source 3 Some of the restrictions placed on Indian women



Source 4 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.

Check your learning 14.5

Remember and understand

1 Name two rights that ancient Indian slaves are thought to have had.
2 Name two restrictions placed on Indian women.

Apply and analyse

3 Why would you say it was better to be a slave than an Untouchable in ancient India?
4 Identify some ways in which religion (of any type) influenced the role and status of women in Indian society.

Evaluate and create

5 Write a letter arguing why women's social status in India should be addressed.

14B rich task

The status of Untouchables

Being born as an Untouchable in ancient India meant having a harsh life. It meant being seen by the castes as less than a worthwhile human being. This continues unofficially in many parts of India today. This is 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.

Source 1

The sins of Girdharilal Maurya are many, his attackers insisted. He has bad karma. Why else would he, like his ancestors, be born an Untouchable, if not to pay for his past lives? Look, he is a leatherworker, and Hindu law says that 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 and other authorities, demanding to use the new village well. He got what Untouchables deserve. One night, while Maurya was away in a nearby city, eight men from the higher Rajput caste came to his farm. They broke his fences, stole his tractor, beat his wife and daughter, and burned down his house. The message was clear: Stay at the bottom where you belong.

The punishment of Girdharilal Maurya (*c.* 2003)
from *National Geographic* online news

Source 2

Recently, an organisation called Video Volunteers, which runs a network of community correspondents throughout India, launched a campaign called Article 17, named after the constitutional provision that banned untouchability.

They are now preparing to file a lawsuit in the Supreme Court and ask the government to take steps to stop untouchability practices.

The campaign and the lawsuit are 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.

India's Dalits still fighting untouchability (*c.* 2012)
from *BBC News* online

More legal and political changes

Another law was passed in 1989 called the Prevention of Atrocities Act. This law made it illegal to force people to parade naked in public or do other degrading things. But abuses continued, particularly in rural areas. In 2002, a resolution against discrimination based on caste was approved by the United Nations Committee for the Elimination of Racial Discrimination. Even that is having only limited success in rural areas.

These changes build on efforts started by many others, stretching as far back as the 5th century BCE. 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 Untouchables 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.

Source 3 A protest march by Dalits in Mumbai

skill**drill:** Continuity and change

Identifying and analysing the perspectives of people from the past

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. It is the historian's job to make sure that they 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 social, cultural and emotional contexts and 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 points of view or 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? What was he/she trying to convey? 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 what we face 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?

Apply the skill

1 Consider Sources 1 and 2. Identify and analyse the perspectives portrayed, using the steps.

Extend your understanding

1 Conduct some research to locate some primary source documents illustrating the perspectives of groups or individuals when K.R. Narayanan, a Dalit, was elected as President of India in 1997.

14.6 Religious beliefs and practices

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. 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** (gods). The three most important are Brahma (the creator of life), Vishnu (the preserver) and Shiva (the destroyer). The elephant-headed Ganesa, protector of the home and family, is another important deity.

Hindus also believe in **reincarnation** (living again after death, in the form of another human, animal or plant). Each relived 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 believers to:

- live according to the 'rules' of the **caste system** (a division of people into a class or group)
- worship their deities (with offerings made to gods in temples and holy places)
- cremate (burn) rather than bury their dead
- make pilgrimages to holy places such as the Ganges River (see Source 1).

Source 1 Hindu pilgrims bathing in India's holiest river, the Ganges

Source 2 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.

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, human and animal.

Jainism

Jainism developed as an offshoot to 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.

Check your learning 14.6

Remember and understand

1 Name one belief that Hinduism, Buddhism and Jainism have in common.

Apply and analyse

2 How do you think this belief would have affected the lifestyles of ancient Indians?

Evaluate and create

3 Create a new deity for ancient India. Sketch his or her appearance (use labels and stick figures if you cannot draw). Describe this deity's role. List the different ways in which your deity would have affected the lives of ancient Indians.

14.7 Everyday life in ancient India

Daily experiences of people in ancient India would depend 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 around 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.

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

Source 1 Inside a home in India. This style of housing is typical for a poor family in India.

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.

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.

With time, marriages became more structured; with more restrictions placed, especially on the females. Brides got younger. 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.

Food and diet

In ancient times, Indus Valley populations would have eaten the grain crops they grew (e.g. rice, lentils and wheat) and the meat of the animals they herded (e.g. sheep, pigs, cattle and goats). Diets changed over time, often for religious reasons. For example, not eating meat became more common during the Mauryan Empire. This was 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.

Source 2 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).

Clothing and jewellery

Cotton was grown in ancient India by 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 a length of fabric around their head to form turbans.

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.

Source 3 A single piece of cloth is wound in different ways to form a *dhoti* (worn by men) and a *sari* (worn by women).

Source 4 A young Indian woman dressed in a traditional sari

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 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 5 A student recites from the Vedas.

Source 6 A father and son perform the Upanayana or Sacred Thread ceremony. In ancient times, it marked the start of an upper-caste boy's formal education.

Check your learning 14.7

Remember and understand

1 Which caste (type of group or class) most commonly practised polygamy? Suggest a possible reason.
2 Why did the diets of ancient Indians change over time?
3 Who did not receive an education? Suggest a reason why.

Apply and analyse

4 What do you consider to be some of the most important differences between marriage and family life in ancient India compared to modern Australian culture?
5 Conduct research on the Internet to find out why cows are sacred to Hindus and followers of other religions.

Evaluate and create

6 Based on information in the text, draw a sketch of what you think an inside room of the home of a wealthy person in ancient India might have looked like. Compare and contrast your completed sketch with what you see in Source 1.
7 Use the Internet to find out more about what a *sari* and *dhoti* look like (such as their length, colours, decorative edges, how they are wrapped, etc.). Draw labelled sketches of each to show what you have learned.

14.8 Warfare

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, Ksatriyas, 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.

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 1.

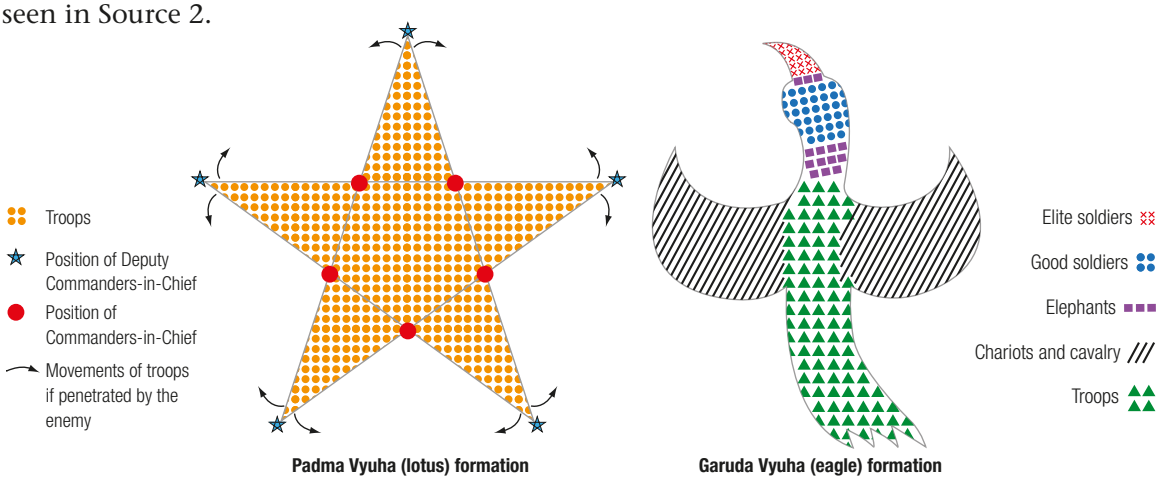
Army formations

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, as seen in Source 2.

Source 2 Some battle units of the army 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.



Source 1 Two army formations used in ancient India

Source 3 An artist's impression of Alexander the Great defeating the Indian army of King Poros (and his elephant troops) at the battle of Hydaspes River in 326 BCE

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 typically 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 1), 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, 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.

Check your learning 14.8

Remember and understand

1 What was the four-part mix?

Apply and analyse

2 Why did some soldiers in the Indian army not wear metal armour? What would be the advantages and the disadvantages of this on the battlefield?

3 For an enemy force, what do you think would be the most terrifying part of facing an advancing Indian army? Discuss with a partner, giving reasons for your views.

Evaluate and create

4 Study the two army formations illustrated in Source 1. Remembering the four components of the ancient army of 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). Explain to a partner why you think your formation will work as a battle tactic.

14.9 Death and funeral customs

Customs related to death and funerals in ancient India were influenced by people's beliefs and traditions. Source 1 outlines what typically 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

Source 1 A Hindu funeral in progress. The pile of wood is known as a pyre.

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, see Source 2). 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 2 Typical procedures for the funeral of a Hindu man in ancient India

Source 3 A 19th-century artist's impression of a wife burning with her dead husband on his funeral pyre – a practice known as *sati*.

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.

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'. Her agonising death ensured that she, her husband and seven generations of her family would all go straight to heaven.

Check your learning 14.9

Remember and understand

1 **a** What tasks did undertakers perform?
b What tasks did professional mourners perform?

2 What would a priest observe if he declared that a dead man's family would experience supremely good fortune?

Apply and analyse

3 Why do you think Hindus cremate (burn) rather than bury their dead?

4 The practice of *sati* has been outlawed in India since 1829. Yet some Indian women, especially in rural areas, still choose to sacrifice their lives in this way. Record your thoughts about this situation.

Evaluate and create

5 You are visiting the family of an Indian friend from school on your holidays. While you are there, your friend's Hindu grandfather dies. Compose a letter home to your own family that describes what you see and hear about what happens at his funeral.

14.10 Change through conflict

The Ayrans 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.

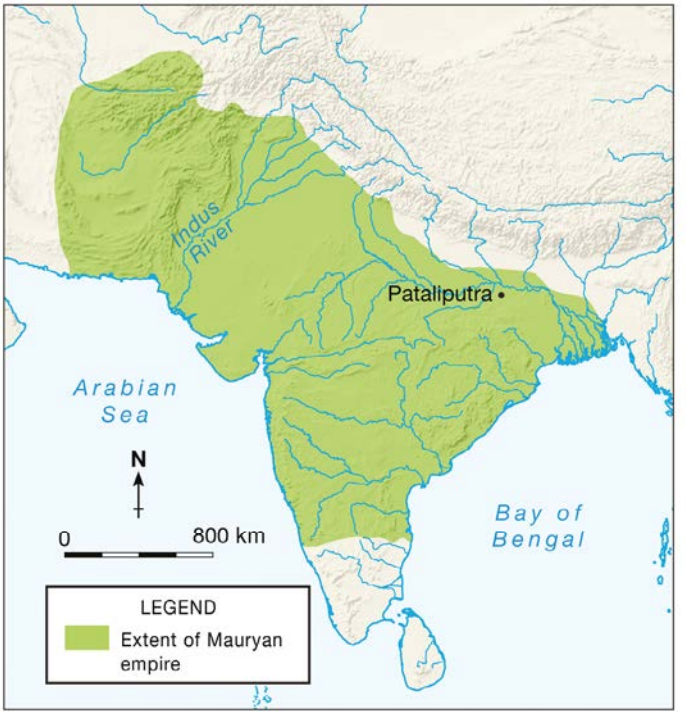
Two great Indian empires then emerged during ancient times. India's first empire – the Mauryan Empire – was established in 321 BCE by its conquering king Chandragupta Maurya. A later king, Ashoka (Chandragupta's grandson), changed the face of India, first through war, and then by peaceful means.

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 150000 Kalingan people had been carried away as prisoners, 100000 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.

Source 1 An artist's impression of Ashoka, third ruler of the Mauryan Empire

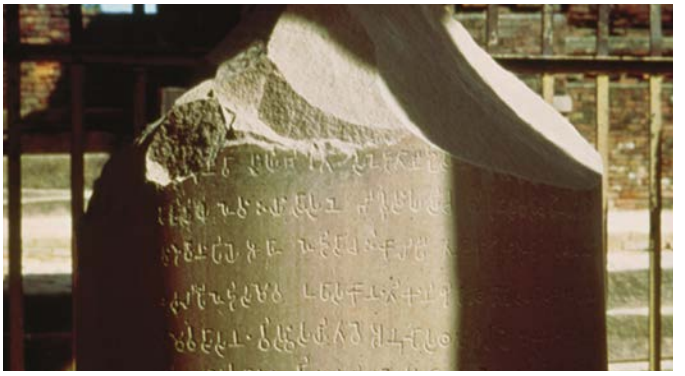
THE MAURYAN EMPIRE



Source 2

Source: Oxford University Press

Source 3 A huge rock carving of a reclining Buddha in Polonnaruwa, Sri Lanka



Source 4 The remains of a pillar built by Ashoka showing engraved edicts

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.

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.

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's edicts tell us that he 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.

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.

Check your learning 14.10

Remember and understand

1 How and why did the Kalinga campaign change Asoka?

Evaluate and create

2 Create a poster or PowerPoint presentation that shows Ashoka's contribution to ancient India.

14.11 Change through trade

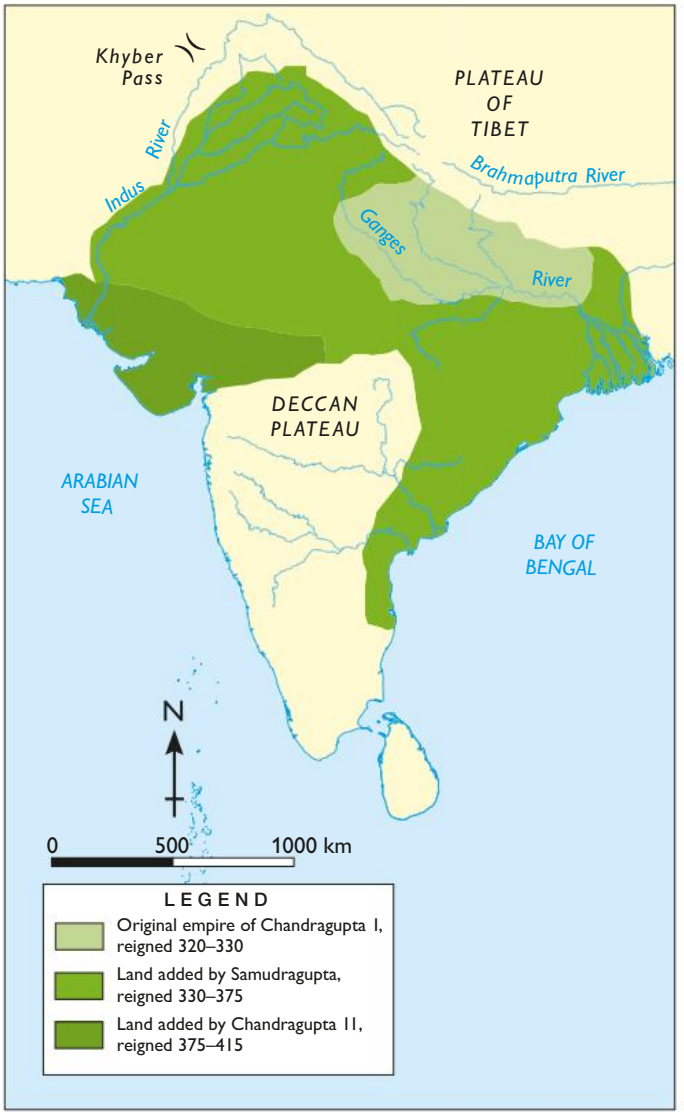
The Gupta Empire

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). 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 1 Source: Oxford University Press

Source 2 This rock art, from Cave 1 at Ajanta, was painted during the Gupta Empire. It is considered to be a high point of Buddhist art.

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 19th century.

Source 3

[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 decapitation 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 diseased, go to those houses, and are provided with every kind of help, and doctors examine their diseases. 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

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-6th century CE, India was again ruled as a number of small kingdoms.

Source 4 An artist's impression of invading Huns who helped to end the Gupta Empire.

Check your learning 14.11

Remember and understand

1 How many years in total did the Gupta Empire last?

2 The Gupta Empire was a time of many changes and advances in India. Name three of these.

Apply and analyse

3 How did the Gupta kings treat people with religious beliefs different from their own, and what evidence shows this?

4 Using Source 3, what comments can be made about the legal system and health system available to Indians living in the Gupta Empire?

14C rich task

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 1 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.

Source 2 Our system of Arabic numerals is founded on a numeral system developed in ancient India.

skilldrill: Historical significance

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 of 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.
- Don't 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, you should do more than just stand up and read out the text on each slide. Instead, talk in a way that develops and expands on the points on each slide. 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.

Source 3 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.

- 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's displayed. If there are four points on the slide, they'll 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.

Apply 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?

2 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 proforma below. Ask your teacher to photocopy several copies so that you can complete one for each presentation you listen to.

Name of presenter:		**Name of person completing peer assessment:**
Component of presentation:	What did the presenter do well in this regard:	What could the presenter improve upon in this regard?
PowerPoint design:		
Oral presentation:		

2 Give each classmate your completed peer assessment. Collect the peer assessments that your classmates completed as they listened to your presentation. Read their feedback and then complete a short self-assessment by responding to the following questions:
   - What did I do well in terms of my PowerPoint design?
   - What could I improve in terms of my PowerPoint design?
   - What did I do well in terms of my oral presentation?
   - What could I improve in terms of my oral presentation?

Ancient China

Like many of the earliest **civilisations**, such as ancient Egypt and ancient Greece, ancient China had its roots in farming.

By about 8000 BCE, people were growing crops such as rice and millet (a type of grain similar to wheat) in the fertile valley of the Yellow River. Over time, villages formed out of these farming settlements, some eventually became cities. Beliefs and art forms developed, and over generations, China's **society** became very highly organised. Its written language was common across the country, as were its social and cultural values. China developed into one of the world's most culturally rich and significant civilisations, and it continues to be to this day.

15A

How did geography influence the development of ancient China?

1 Ancient China had geographical features that protected and isolated its society from contact with others. How do you think this might have influenced China's development?

15B

What shaped the roles of key groups in ancient China?

1 Ruling dynasties headed the society of ancient China. These were powerful families that passed down their wealth and status to the next generation. What might have led to the downfall of one dynasty and the emergence of another?

chapter 15

Source 1 Hundreds of terracotta warriors were found in the tomb of Emperor Qin Shi Huang of the Qin Dynasty.

15C

How did beliefs, values and practices influence ancient Chinese lifestyles?

1 Emperor Qin Shi Huang of the Qin Dynasty (221–206 BCE) was buried in a tomb 'protected' by terracotta soldiers. What does this tell us about the ancient Chinese belief in the afterlife?

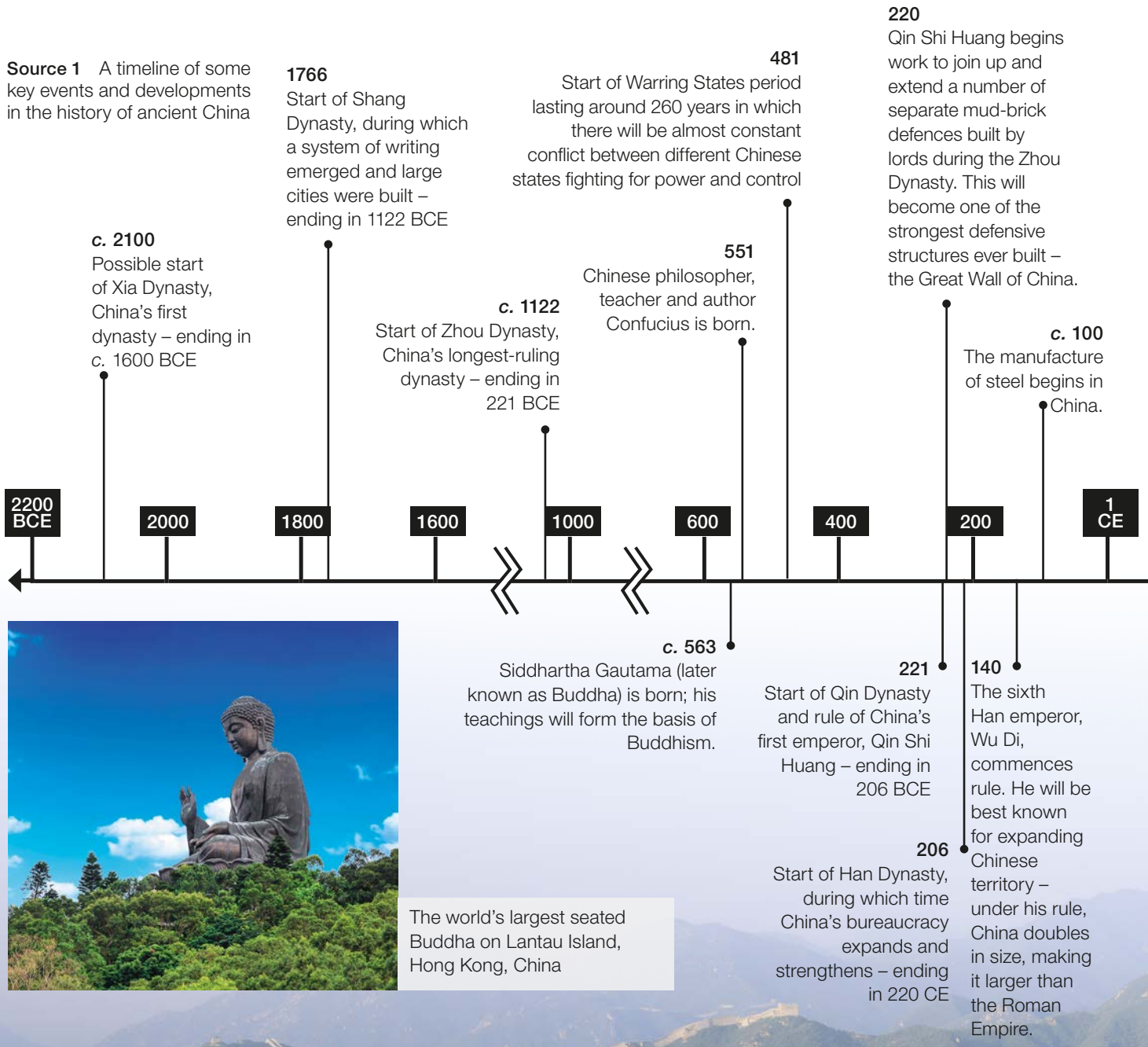
15D

How did contacts and conflicts change ancient China?

1 Ancient China invented, or first used, the magnetic compass, gunpowder and printing. These inventions are widely agreed to have changed not only ancient Chinese society, but the world. Why do you think this is the case?

15.1 Ancient China: a timeline

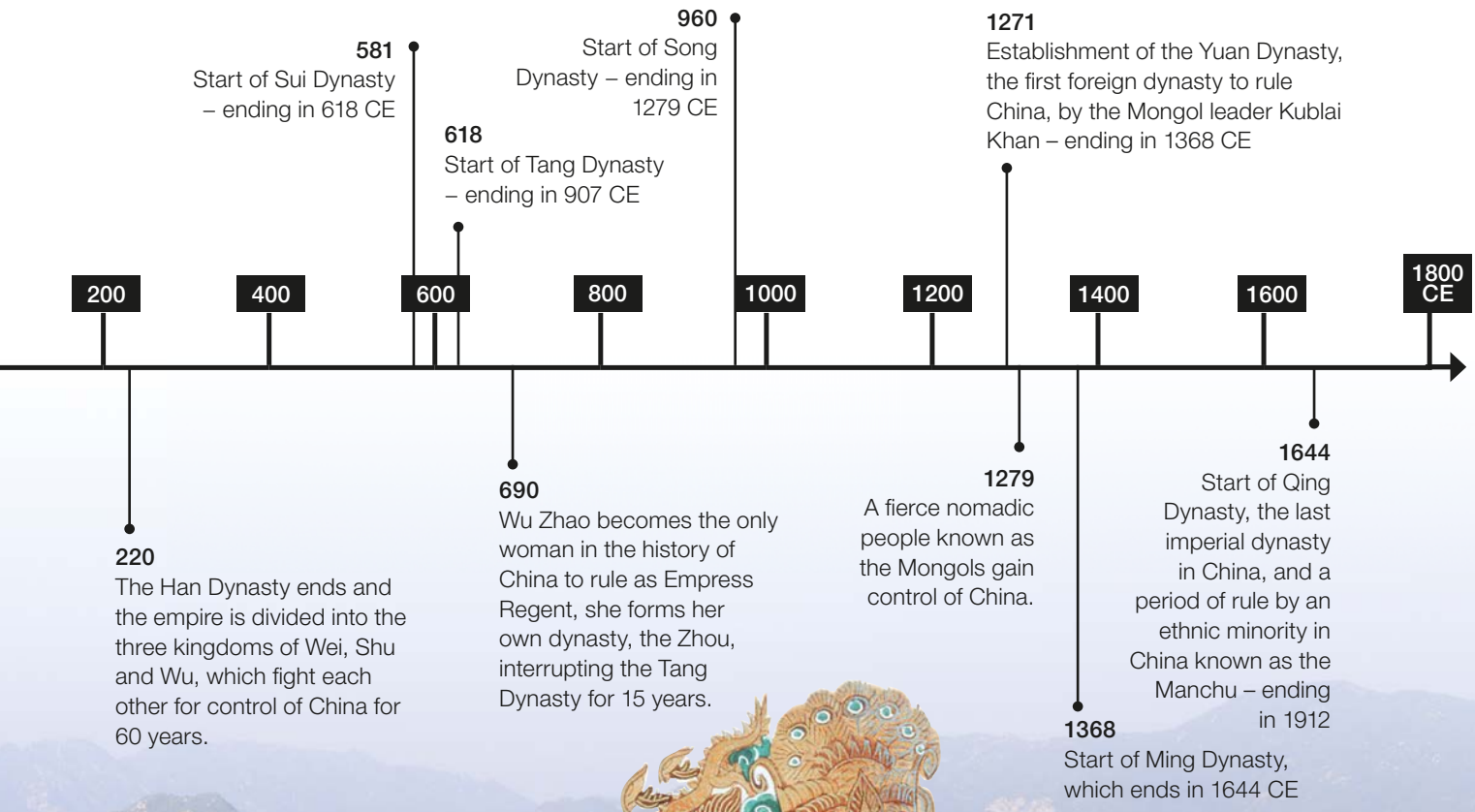
Source 1 A timeline of some key events and developments in the history of ancient China



The world's largest seated Buddha on Lantau Island, Hong Kong, China

Pronunciation guide	
Chinese name	**English pronunciation**
Qin	*chin*
Qin Shi Huang	*chin sheh hwang*
Qing	*ching*
Sui	*sway*
Wu Zhao	*woo jow*
Xia	*sya*
Zhou	*joe*

An artist's impression of Kublai Khan, founder of the Yuan Dynasty



An artist's impression of Wu Zhao, China's only empress

Check your learning 15.1

Remember and understand

1. When and what was the Warring States period? What happened during this period?
2. Who was the first emperor of China and which world-famous structure was he responsible for building?
3. Which was the first foreign dynasty to rule in China and who started it?

15.2 Landscape and climate

Modern China is the world's third largest country after Russia and Canada. It covers an area of 9.6 million square kilometres. Despite its size, China began as a small settled area in the Yellow River valley. From small beginnings, it grew to just over half its current size by 220 BCE. Much of ancient China's history was shaped by its geographical features. These features acted as natural barriers that kept China isolated from the rest of the world for many thousands of years.

China's river systems

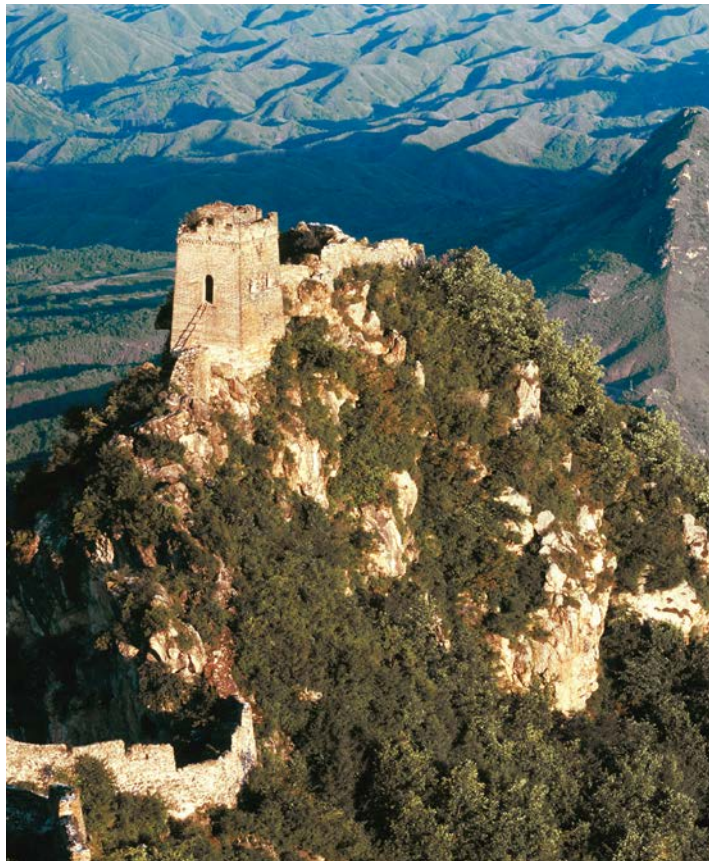
China has two major river systems – the Yellow River and the Yangtze River. The early people in China settled mostly along these two rivers. Different settlements were ruled by individual kings. These rivers were essential to the development of ancient Chinese society.

The Yangtze is 6380 kilometres long, making it the third longest river in the world. It floods each year and leaves fertile soil along its banks. The Yangtze was not an easy river to cross, and for this reason there were many times in the history of ancient China where it operated as a political boundary between northern and southern China. The riverbanks were the sites of several battles during the history of ancient China.

The region of the Yangtze became very important to ancient China's economy, especially during the time of the Han Dynasty (206 BCE–220 CE). The development of irrigation systems along the Yangtze made agriculture very stable and productive. Eventually, this region became one of the wealthiest and most developed parts of the country.

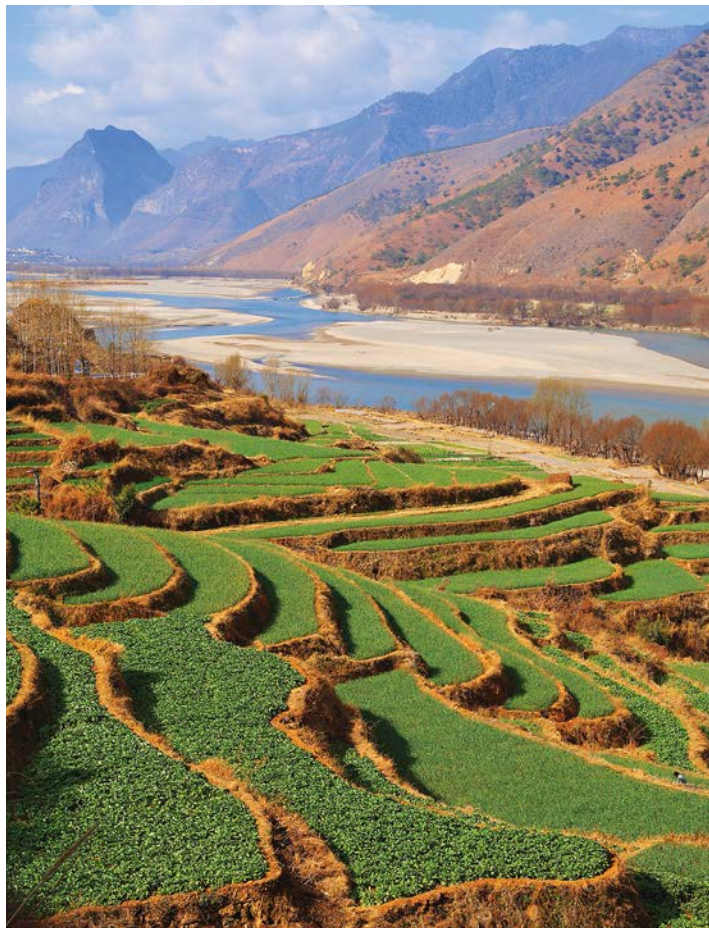
The Yellow River is 5464 kilometres long, making it the sixth longest river in the world. The banks along the Yellow River are low. Because of this, settlers in ancient China often saw their homes destroyed year after year during flood season. For this reason, the early people of ancient China called the Yellow River 'the Great Sorrow'. Eventually, however, the people learnt techniques to control flooding.

The Yellow River basin is mostly flat, which makes it ideal for growing crops such as millet (a type of grain).



Source 1 A section of China's Great Wall showing some of the steep mountain terrain

Source 2 A section of the Yangtze riverbank used to grow rice crops



Much of the Yangtze basin and surrounds, on the other hand, are better suited to growing rice and tea.

Natural barriers and geographical features

China's natural barriers to the west, south and east helped to protect the ancient Chinese people from invasion and kept them very isolated. The largest ocean on Earth, the Pacific, is to its east. To the south are dense tropical forests of modern-day Burma, Laos and Vietnam. To the west and north-west are huge deserts.

To the south-west is one of ancient China's most impressive physical barriers – the towering Himalayas, which are home to several of the highest mountain peaks in the world. The Himalayas are extremely cold in winter and extremely hot in summer, which in the past made it almost impossible for invaders to cross them and reach China.

Only China's northern border is less protected by geographical features. Over 2000 years ago, work began (and was later continued) to protect much of this frontier with a huge defensive structure – the Great Wall of China (see Source 1).

Check your learning 15.2

Remember and understand

1 Why did the ancient Chinese call the Yellow River 'the Great Sorrow'?
2 How did the development of irrigation systems affect the people living by the Yangtze?
3 Explain how geographical features helped to isolate China from the rest of the world for a long time.

Apply and analyse

4 What impact do you think ancient China's isolation would have had in shaping the society of the people who lived there?

Evaluate and create

5 Which of China's surrounding barriers (natural and built) do you think would have posed the greatest challenge for an invading force? Justify your opinion. Suggest what an invading force might have had to do to overcome this obstacle.

15A rich task

China's geographical features

China is the third largest country in the world, with a land area of about 9.6 million square kilometres. Close to 70 per cent of its land surface consists of rugged mountains, plateaus and hills. The other 30 per cent is made up of river basins and lowland plains, which is where most of the Chinese people settled.

Source 1 Geographical features in China such as mountains and rivers had a big influence on where people settled.

skill**drill:** Cause and effect

Analysing a map

Maps are geographical representations of all or part of the Earth's surface. They show a group of features in terms of their relative size and position. They use a system of symbols, governed by a set of conventions (accepted rules), to communicate a sense of place. You may think that maps are only useful in geography, but they are also an important source of primary information for historical inquiries. It is therefore important to understand and analyse maps, so that you can use information from them as evidence in your historical inquiry.

Use the list below to help you understand the information provided on maps:

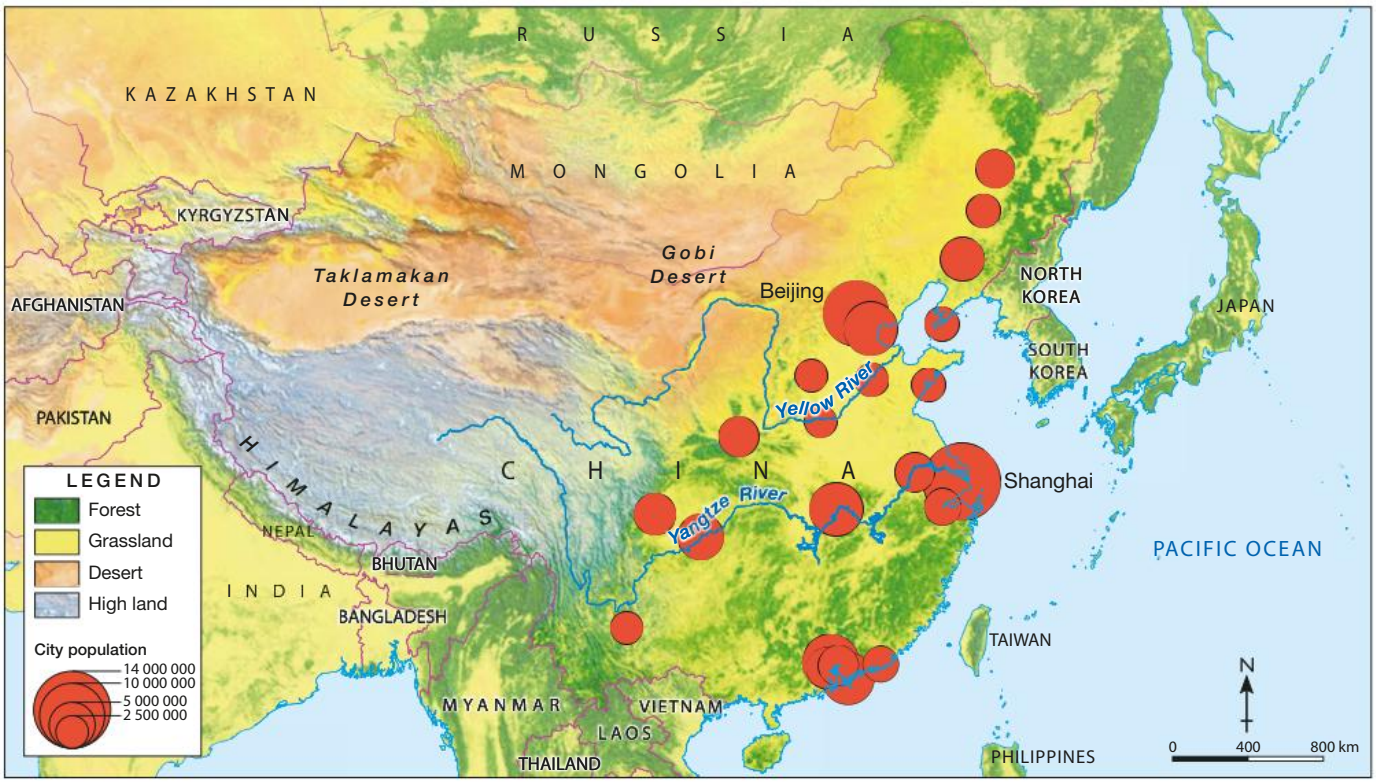
- Orientation – It is a convention for cartographers (map makers) to place a north point on maps. This helps the reader to work out position and direction.
- Title – Like a newspaper headline, the title of a map should tell the reader 'what', 'where' and 'when' about the map. The date should help the reader fit the map into its proper chronological period. Note: the date in the title may not be the date the map was constructed.
- 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 ground. It helps the reader to judge actual distances. Scale is most often shown as a linear measure (e.g. 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.

Apply the skill

1 Look carefully at Source 2 and use the legend to identify the different landscapes and physical features of modern-day China. Jot down all your observations in point form.

a Note the different landscapes and geographical features shown on the map. How many are there? Which of these features act as natural barriers?

PHYSICAL FEATURES OF PRESENT-DAY EAST ASIA, INCLUDING CHINA



Source 2

Source: Oxford University Press

b Which areas of the map would have been the best sites for farming in ancient China? Why?

c Do you think the areas of cropland today are different from those in ancient China? Why?

d Which geographical feature do you think was most influential in the development of ancient Chinese society? Why?

2 Using the information you have gathered from the map, write a paragraph of 150 words explaining what you conclude about the geographical features of 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 2. 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 2. 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. In order, list all the physical features and landscapes you will cross as part of your journey. Conduct extra research if you need to. Which feature do you think will represent the greatest challenge, and why?

15.3 Chinese dynasties

For thousands of years, ancient Chinese society was ruled by a succession of **dynasties**. A dynasty is a system of government in which rulers pass on their titles and power to a member of their family, usually when they die. Dynasties often began after a battle for power between rival warlords or kingdoms; the 'winner' became the new emperor and started a new dynasty. The palace complexes in which ruling families lived were highly organised social units. Everybody from the emperor down to the humblest servant had a role to play. This order within the palace complex was also reflected in general society.

The top social group in ancient China was the imperial family – the ruler's immediate family and relatives. For much of China's history, these families were part of ongoing dynasties. Imperial families were a very wealthy and privileged group. Before 221 BCE, Chinese rulers were known as kings. After this time, rulers became known as **emperors**. All Chinese emperors, except for one, were male.

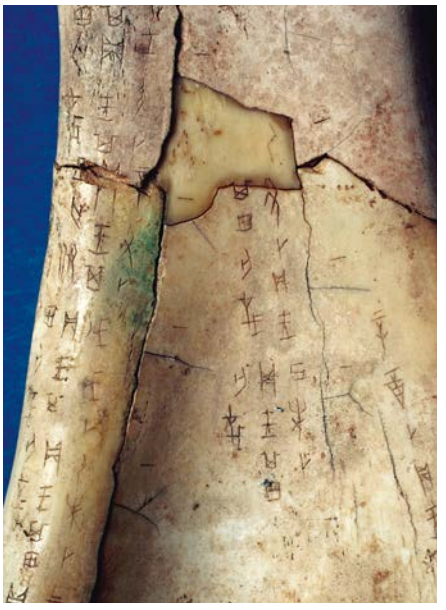
The Shang Dynasty (*c.* 1766–1122 BCE)

The Shang were one of the first ancient peoples to settle along the banks of the Yellow River. They learnt to use chariots and conquered the entire Yellow River valley. They began China's first dynasty, which went on to rule China for over 600 years.

The Shang built China's first cities. Their largest city was the capital, Anyang. The Shang divided their cities into sections for different craft workers. Potters, for example, lived in one section, while weavers lived in another. Most Shang, however, were farmers who lived outside the city walls and grew wheat, rice and millet in fields along the river. The Shang rulers, who owned all the land, introduced a system that allowed local people to live and work on the land in return for taxes (in the form of money, military support or food). This system became known as **feudalism**.

The last Shang king was a cruel ruler. Around 1122 BCE, a people from western China overthrew the king and conquered the Shang kingdom and started a new dynasty. They were known as the Zhou.

Source 1 Emperor Wu Di of the Han Dynasty (206 BCE–220 CE), attended by two courtiers (attendants)



Source 2 A cracked oracle bone discovered in the ruins at Anyang, China. Oracle bones such as this were used to predict events and have told historians much about key groups in ancient Chinese society – particularly during the Shang Dynasty (*c.* 1766–1122 BCE).

Source 3 A bronze statue of Confucius at Confucius Temple in Nanjing, China

The Zhou Dynasty (*c.* 1122–256 BCE)

The Zhou went on to build a large empire in China and ruled for over 800 years. To rule their empire, Zhou kings strengthened the system of feudalism developed by the Shang. They divided their kingdom into hundreds of smaller states. Each state was ruled by a noble who promised loyalty to the king, and agreed to pay taxes on the land and send the king soldiers in times of war. The nobles, in turn, divided their land among the peasants, who were allowed to live and farm on it as long as they paid taxes in the form of grain and agreed to serve as soldiers in times of war.

The Warring States period

From around 700 BCE, the Zhou kings struggled to maintain control over the nobles, who began to build their own armies and use them to take over smaller states. Between 481 and 221 BCE, the states were almost constantly at war with one another. For this reason, it became known as the Warring States period. In the beginning, around 200 states were at war with one another, but by 300 BCE only seven warring states came to dominate. They were the Qin, Han, Wei, Zhao, Qi, Chu and Yan.

During this time of civil war (a war between groups within the same country), a great teacher appeared in China by the name of Confucius (551–479 BCE). Confucius was saddened by the fighting, and tried to show people how to live together in peace. His teachings went on to have a lasting influence on Chinese Society.

By 256 BCE, the Zhou king lost power and the kings of the seven warring states each ruled in their own right. They continued waging war until the Qin conquered the other states in 221 BCE and reunified China as one empire.

The Qin Dynasty (221–206 BCE)

Ying Zheng, ruler of the state of Qin, defeated the last of the six other states in 221 BCE. He declared himself the first emperor of a unified China. To mark the occasion, he changed his name to 'Qin Shi Huang', which meant 'first magnificent god of the Qin' (see page 426).

Although the Qin Dynasty did not last for as long as many other Chinese dynasties, it is significant because of the many long-lasting reforms it introduced, such as a strong centralised government, the standardisation of weights and measures, and a unified monetary system. It also standardised the Chinese script, and developed an extensive network of roads and canals, which improved trade between the provinces.

Source 4 A bronze *ban liang* coin – which was part of the unified monetary system introduced during the Qin Dynasty

The Han Dynasty (206 BCE–220 CE)

The Han Dynasty was one of China's longest ruling dynasties, lasting for four centuries. It was broken only by a brief takeover by the Xin Dynasty between 8 CE and 25 CE. It began when a rebel army, led by the popular but poor peasant Liu Bang, overthrew the remains of the Qin Dynasty.

Liu Bang became the first Han emperor, renamed Gao Zu. His sense of fairness and his reforms eased much of the suffering and fear the Qin had imposed on the people. He set up an academy for examinations where those who studied could become eligible for appointment to positions in society based on merit (talent and skill) rather than who their parents were. In fact, the centralised and efficient state created in China under the Han Dynasty provided a model for China for the next 2000 years. It saw a new emphasis placed on reward for effort. Social status became linked to learning.

Source 5 A 17th-century artist's impression of Han emperor Ngai (6–1 BCE) presiding over his court

Other achievements of the Han Dynasty

During the Han Dynasty, China's first full-time army was created. The arts and sciences flourished and there were many inventions. Trade increased, boosting the size of many cities. The Han capital, Chang'an (now Xi'an), built after Qin Shi Huang died, remained China's capital for 1000 years.

A **census** was conducted in China in 2 CE. It confirmed a population of 55 million, about eight times that of the ancient Roman Empire.

Prosperity and strength peaked under the sixth Han emperor, Wu Di (see Source 1), who lived from 140 to 87 BCE. By then, Confucianism was almost China's official 'religion'. Education was encouraged and a new social class was emerging. These were men whose qualifications and abilities earned them a career in the public service. Their status was gained through learning, not wealth or birth. For instance, the chancellor appointed in 124 BCE, Gongsun Hong, had once been a pig breeder.

Check your learning 15.3

Remember and understand

1 How did dynasties usually begin and end in ancient China?
2 Which dynasty was responsible for building the city of Anyang, and how long was this dynasty in power for?
3 Explain how the Warring States period began.
4 In what year did an ancient Chinese ruler first call himself 'emperor'?

Evaluate and create

5 Conduct some further research into one of the Chinese emperors mentioned in this section. Use what you have learnt (and your imagination) to write an account of a day in the life of this emperor.

15.4 Significant individual: Qin Shi Huang

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 (a person who acts as head of state if the true ruler is too young, too ill or missing).

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. 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 1 An artist's impression of Qin Shi Huang, painted during the 19th century

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 him 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 (ruler with total power) but a very clever manager. Before Qin Shi Huang, each state had its own code of laws. Qin Shi Huang set up one code for all of China. 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. He also planned and began work building the Great Wall of China.

Source 2 An artist's impression of emperor Qin Shi Huang travelling in a litter (a vehicle consisting of a couch, often covered or curtained for privacy, suspended on poles and carried by servants)

Source 3 Some of the thousands of excavated terracotta warriors guarding the tomb of 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 4 A selection of Qin Shi Huang's key achievements during his reign

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.

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. 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.

Check your learning 15.4

Remember and understand

1 Where and when was Qin Shi Huang born?
2 What is a regent?
3 What were some of the first things Qin Shi Huang did in order to organise and strengthen his new empire?

Apply and analyse

4 Draw a concept map based on Source 4, expanding on some of the effects you think Qin Shi Huang might have had on China.
5 Given that he introduced so many reforms, why do you think Qin Shi Huang was so fearful for his life?
6 List at least three reasons why you think Qin Shi Huang is regarded as a historically significant figure.

15.5 Key groups in Chinese society

Ancient Chinese society was based on a strict social **hierarchy**. This social structure was reinforced by the ideas of Confucius, who taught that a society could not be successful without strict social order and discipline. People in each social group knew what was expected of them and how to respect one another. The Chinese also strongly believed in the wisdom of the elders and, because of this, older people were greatly respected.

At the top of the social hierarchy was the ruler and his family. From 221 BCE, the ruler was known as the emperor. Below the imperial family there were four social groups – the nobles and officials; farmers; artisans and craftsmen; and merchants and traders.

The emperor and imperial family

The ruling families of ancient China lived in luxurious palaces. The emperor owned all the land, but might choose to give some to nobles.

Food (including meat) was plentiful for imperial families, as were treasures and embroidered or painted silk garments. Leisure time might be spent drinking tea or rice wine, while being entertained by palace dancers and musicians, or playing board games.

The *shi* – nobles and officials

Nobles often included the emperor's relatives, top army commanders, very wealthy landowners and conquered lords of former kingdoms. They, too, led privileged lives, often in palaces of their own. Sometimes their 'homes' were located within the emperor's palace complex. There they mingled with government officials who administered laws and managed tax collections. There were also concubines (women kept for the entertainment and pleasure of the emperor) and eunuchs (men who had their testicles removed as boys and were often employed to guard rulers' wives). One or two highly trusted eunuchs might be advisers and confidants of an emperor.

Officials were another group that held high social status in ancient China. Boys whose families could afford to send them to school began their education at an early age in the hope of becoming officials. To do so they were required to pass a difficult exam. If they did not pass, however, they were usually still able to find jobs as they were considered well educated.

The *nong* – farmers

Farmers were a poor group, but were highly respected for the work they did to feed the population. Most farmers led simple lives. They worked very hard and rarely had a day off. Men worked in the fields in very harsh conditions, during both the hot summers and the bitterly cold winters. The harsh conditions could also ruin their crops and land. If the crops were ruined, poor farming families had very little to survive on during the winter. Women sometimes helped in the fields but mainly worked in the home, sewing and weaving cloth. This provided clothes for the family. Some of the things they made were sold to earn extra money.

Farmers could live on the land in return for working on it. They also paid heavy taxes (in the form of crops, such as rice) and provided other services when required. These might have included serving as soldiers or working on building projects.

The *gong* – artisans and craftspeople

Artisans and craftspeople were also a mostly poor group, but were well regarded for their skills and labour in producing what people needed. This group included painters, carpenters, potters and jewellery makers. Their skills were usually handed down from father to son. Successful and highly skilled artisans were able to expand their businesses by taking on apprentices and additional workers. Artisans earned more than farmers but less than merchants.

The *shang* – merchants and traders

The merchant class included traders, animal breeders and moneylenders. They were a wealthy group, 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. Some merchants would buy land to farm to improve their social status.

Source 1 The social hierarchy of ancient China and the key social groups within it

Check your learning 15.5

Remember and understand

1 Why did the ancient Chinese have so much respect for their elders?
2 How did the ideas of Confucius reinforce the strength of the social hierarchy in ancient China?
3 In your notebook, match the Chinese words that describe social roles (*nong*, *gong*, *shang*, *shi*) with these occupations: merchant, farmer, calligrapher, jewellery maker.
4 What other jobs might farmers in ancient China have been asked to do?

Apply and analyse

5 Do you think farmers, though poor, felt valued within ancient Chinese society? Explain your answer.

Evaluate and create

6 In small groups, present 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. Share the tasks involved in planning the presentation: writing the script, preparing a backdrop, creating costumes and rehearsing.
7 Select any two figures from Source 1. With a partner, write a short dialogue between the characters. Present it to the class orally. Your dialogue should reflect the differences between the social roles of the figures you select, not only in the words used but also the tone of voice and body language.

15.6 Women in ancient China

Women in ancient China were seen as being lower than men in the social hierarchy. They were expected to do what their fathers and husbands said. Women who pushed against these restrictions were described in ancient Chinese records as 'crowing hens'.

Women were rarely educated (wealthy women might receive some education) and had to marry the man their fathers chose. They also had to accept that their husband might have other wives and mistresses.

Poorer women typically cooked, cleaned, wove cloth, raised the many children they were expected to have, and helped out on the land if they were married to farmers.

Wu Zhao

One woman who did not conform to social expectations in ancient China was Wu Zhao, the only woman to rule the empire. She is a significant and historically important individual for this reason. She was born in 624 CE, during the Tang Dynasty (618–907 CE). Her family was rich and well connected socially. She was beautiful and clever.

At 14, she became a junior **concubine** of the emperor Taizong. Her beauty and intelligence soon attracted his attention, and his son's. She was given privileges, which gave her insights into court procedures.

In 649 CE, the emperor died, so Wu Zhao was sent to live in a Buddhist nunnery, as was common practice for childless concubines. She almost certainly would have lived out her days there had it not been for the interest of Taizong's son. He was now emperor Gaozong. He brought her back to the court as a more senior concubine, where she gave birth to two sons and a daughter.

The events that followed are contested by different historians. Some argue that her fierce ambition drove her to kill her baby daughter. She then blamed the murder on the empress and the most senior concubine. The emperor Gaozong believed Wu Zhao's

key concept: Cause and 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. Bound feet, for a time, were essential for a 'good' marriage. Tiny feet were considered beautiful and were thought to make a woman walk more femininely. 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 but the big toe curled under the sole. The foot might 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 the key concept of cause and effect, refer to page 192 of 'The history toolkit'.

Source 1 The bound foot of a Chinese woman, photographed in 1992. Foot binding was abolished in the early 20th century, but was still illegally practised in some areas.

Source 2 This shoe was once worn by a wealthy Chinese woman.

Wu Zhao'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 had many Buddhist temples built

Source 3 Some key achievements of Wu Zhao

Source 4 An artist's impression of Wu Zhao

story and made her his new empress. The other two women had their hands and feet cut off and were thrown down a well.

In 660 CE, Gaozong had a stroke, so Wu Zhao took over many of his duties. She had the intelligence, experience and skills to do so. When he died in 683 CE, she appointed one of her sons, Zhongzong as emperor, but he was too independent for her liking, so she forced him to give up the throne. She then appointed another son, Ruizong, over whom she had more control.

By 690 CE, Wu Zhao decided to stop being the 'power behind the throne'. She crowned herself empress regent and set up her own dynasty, the Zhou. This briefly interrupted the Tang Dynasty. In her old age, she was pressured to give the throne back to her son Zhongzong. She died in 705 CE, after controlling the empire for almost half a century.

Check your learning 15.6

Remember and understand

1 Who was Wu Zhao? Why is this person such a significant figure in Chinese history?
2 What social role could a poor woman expect in life in ancient China? Why?

Apply and analyse

3 Draw a timeline to record some of the significant events in Wu Zhao's life.

Evaluate and create

4 Conduct some further research into the ancient Chinese practice of foot binding. Using this research (as well as what you have learned from this section about women's roles in ancient China), with a partner, write and perform a dialogue between a poor farmer and his wife. The man wants his young daughter's feet to be bound. Empathise as you do this – think as people would have thought then, not as you think today. Be careful not to judge people by modern-day standards.

15B rich task

Qin Shi Huang

During the last years of the Zhou Dynasty (475–221 BCE), known as the Warring States period, the influence of the Zhou weakened and separate states developed. For 260 years there was almost constant conflict between these states, each of which sought to become the most powerful.

As you have learnt in this chapter, in 221 BCE the Qin king Ying Zheng was victorious and founded the Qin Dynasty. He changed his name to Qin Shi Huang and became one of the most famous – and infamous – emperors of ancient China. His main goal was to reunite China and restore peace and order. He achieved this, and much more, during his 11 years in power, yet the methods he used to do so are not considered admirable by all historians.

Source 1 Qin Shi Huang

skill**drill:** Historical significance

Presenting a written point of view

A written point of view is a response to an issue or question that outlines your position on it. A good point of view will persuade the audience to agree with the position that is presented.

To write an effective point of view, use the following process.

Step 1 Make sure you have a very clear overall contention. Your contention is the overall position you are taking in your written piece; that is, what you are trying to get your audience to believe about the topic. For example, if you are writing about the issue or question of whether Qin Shi Huang was a good leader, your contention could be:

- Qin Shi Huang was a good leader.

OR

- Qin Shi Huang was not a good leader.

Step 2 Once you have decided on your overall contention, you need to plan the three main arguments you will put forward to support your contention. For each argument, you should also brainstorm related facts, evidence and examples.

Step 3 You are now ready to write your point of view. Use the following scaffold as a guide for structuring your piece.

For a detailed description of this skill, refer to page 209 of 'The history toolkit'.

Source 2 Part of the terracotta army guarding Qin Shi Huang's tomb

Introduction

- Begin with a sentence or two that introduces the issue or question you are writing about.
- Provide some background information about the issue or question you are writing about.
- Include a clear and strong statement of your overall contention.
- Provide an outline of your three main arguments.

First body paragraph

- Begin with a clear topic sentence that outlines your *first* argument. (For example: 'First, Qin Shi Huang was a great leader because …')
- Use the rest of the paragraph to provide the facts, evidence and examples that back up the argument you expressed in the topic sentence.

Second body paragraph

- Begin with a clear topic sentence that outlines your *second* argument. (For example: 'Second, Qin Shi Huang was a great leader because ...')
- Use the rest of the paragraph to provide the facts, evidence and examples that back up the argument you expressed in the topic sentence.

Third body paragraph

- Begin with a clear topic sentence that outlines your *third* argument. (For example: 'Third, Qin Shi Huang was a great leader because …')
- Use the rest of the paragraph to provide the facts, evidence and examples that back up the argument you expressed in the topic sentence.

Conclusion

- Write a concluding statement that sums up the contention.
- Provide a summary of your key arguments.
- End with a strong last sentence that links points and leaves your reader with a lasting impression.

Apply the skill

1 Using information from 'Significant individual: Qin Shi Huang' on page 426, and from additional sources, brainstorm all the positive and negative changes implemented by Qin Shi Huang in a table like the one shown. An example of each has been provided for you.

Positive changes	Negative changes
Began building the Great Wall of China	Taxed his subjects heavily

2 Highlight or underline three changes from each column that you believe are the most significant changes implemented by Qin Shi Huang.

3 Your task is to write your own effective point of view in response to the following statement: 'Qin Shi Huang did what was necessary to make China strong.'

- Do you agree or disagree? Decide on your overall contention. For example, 'Qin Shi Huang united China, but he caused unforgivable suffering in the process', or 'Qin Shi Huang helped make China a strong empire'.
- Develop a plan for each of your three body paragraphs. Use the changes you highlighted in the table to develop the topic sentences that outline your arguments. In point form, brainstorm related facts, evidence and examples to back up each topic sentence.

Extend your understanding

1 Work with another student in your class who took a position different from yours. Share and compare your arguments. Identify the evidence that supports each argument. With your partner, make a final decision about which position is the most convincing.

2 Imagine that you are Qin Shi Huang near the end of his life, when he had become isolated, fearful and obsessed with his death. As Qin Shi Huang, write a letter that recounts some of the key moments of your leadership and explains some of your more controversial decisions (such as banning the teachings of Confucius).

15.7 Religious beliefs and practices

The civilisation of ancient China was influenced by a complex mix of beliefs, values and traditions. Some, such as Taoism, were religious; others, such as Confucianism, were more to do with behaviour. Closely tied in with these were many rituals influencing how people were buried, how they arranged their homes, how they drank their tea, and much more.

Ancestors had been worshipped by the Chinese since the Shang Dynasty, as had many gods and goddesses. Like the **deities** of many other civilisations, Chinese gods were believed to control the forces of nature, such as weather and natural disasters. People tried to keep their ancestors and the gods happy. Natural events – such as floods, earthquakes or crop failure – were taken as a sign that the gods were displeased. Rituals to ensure they remained happy included offerings of food and flowers at altars and the burning of incense.

Three dominant influences on ancient China's beliefs and values were Confucianism, Taoism and Buddhism. Judaism, Christianity and Islam were also introduced to China at various stages over its history, but were nowhere near as widespread.

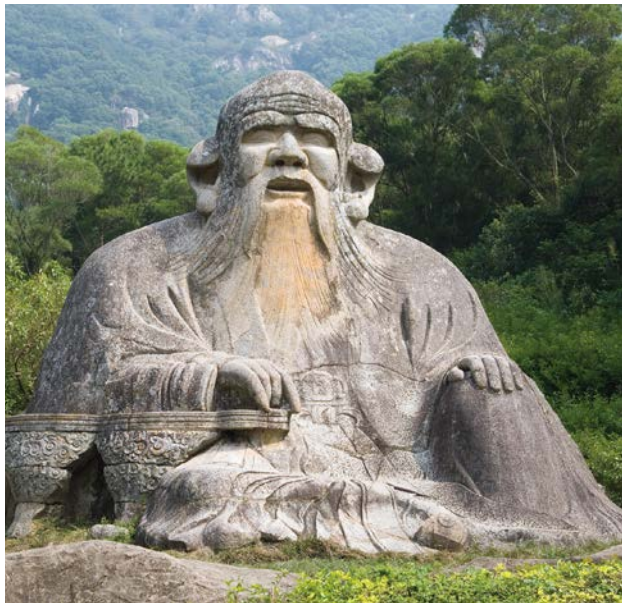
Source 1 An artist's impression of Confucius advising on the best course of action for a criminal offence

Confucianism

Confucius (*c.* 551–479 BCE) was born at a time of civil war in China. 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.

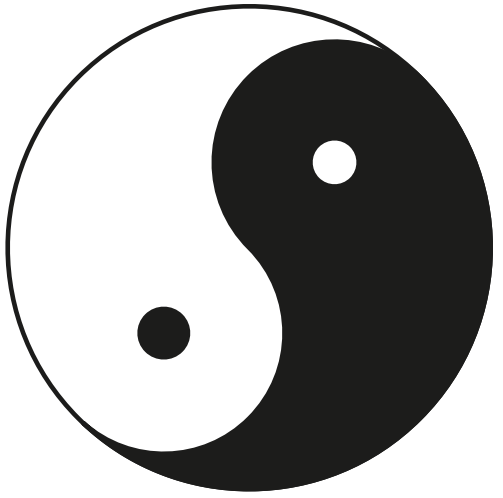
Confucius believed that people should be helpful, kind and honest. He told people to obey their rulers, honour their ancestors and respect ancient traditions. He said that rulers must be fair to their people. Confucius also taught that the family was the most important group in Chinese society. He said that family members should take care of one another. He taught that older members of the family should always be respected.

Confucius died in 479 BCE, but his students kept his teachings alive. Later, Confucianism spread throughout much of Asia. Today, people in China, Japan, Korea, Vietnam, Taiwan and other Asian countries follow the teachings of Confucius. Many of his sayings are known all around the world.



Source 2 Statue of Lao-Tzu

Source 3 A statue of Buddha carved from rock, Fengxian Temple, Longmen Caves



Source 4 The yin–yang symbol. Yin and yang are concepts central to many branches of classical Chinese philosophy and spiritualism, including Taoism, Confucianism and Buddhism. 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.

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. Today we still see both of these aspects of Taoism reflected in the lifestyle of the Chinese.

Buddhism

Travellers from India brought Buddhism to China during the 1st century CE, via the Silk Road. By the middle of the 5th 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 Buddism, 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** (to be reborn and live again in another form) many times. Each life lived, with its unique experiences, taught the person more.

Check your learning 15.7

Remember and understand

1 In your own words, explain the values that Confucius believed should influence the behaviour of individuals, families and governments.

2 Who was Siddhartha Gautama? Why did he choose the life he did, and why is he now known as 'Buddha'?

Evaluate and create

3 Buddha's birthday is celebrated by Buddhists around the world. The date varies from year to year: 17 May (2013), 6 May (2014), 25 May (2015) and 14 May (2016). Conduct some research to find out how this event was typically celebrated in ancient China. Write a paragraph that describes continuities and changes in the way this event was celebrated in the past compared to now.

15.8 Everyday life

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 structure

The family was the basic social unit of ancient China. It included all generations and in-laws. Older people were treated with great respect, especially by younger family members. The oldest male was considered the head of the family. Often he took more than one wife to increase the chances of having many sons. If rich, he also had concubines. His decisions had to be obeyed, including whom his daughters would marry.

A woman's status improved if she had sons. Daughters had little value. Girls spent their childhood learning to cook, weave cloth and help around the house. When a girl married, she had to live in her husband's house. The girl also had to obey her mother-in-law.

Sons were highly valued in ancient China as they carried on the family name. If they were from a wealthy family, boys received a good education. Even poorer families would try to send their sons to temple schools. Boys usually lived their whole lives in the same house. If they were the eldest son, they would eventually become the head of the household.

Food and medicine

Rice started being grown for harvest in the Yellow River valley around 7000 years ago. It was eaten as a food, and was also made into wine. In the cooler, drier north, millet (a grain) and sorghum (a cereal grass) were harvested. Wheat took much longer to become part of the Chinese diet. In fact, it was not until about 1500 years ago that it became a popular food (second only to rice). Farmers often grew their own vegetables to accompany rice meals, whereas the wealthy might buy these at a market.

Meat was typically eaten only on special occasions – chicken at first, then pork and, later still, beef and mutton. All meats were expensive, and therefore were only a common dish for the wealthy. Chinese diets were also influenced by beliefs. Some forms of Buddhism, for instance, prohibited eating meat. For many, protein came from foods such as tofu (soy bean curd).

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.

key concept: Evidence

Very old noodles

About 2000 BCE, an earthquake devastated the small village of Laija in the Yangtze River valley. Over time, 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 the key concept of evidence, refer to page 193 of 'The history toolkit'.

Source 1 These noodles, discovered in the Yangtze River valley, are 4000 years old.

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*.

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. Like so many aspects of Chinese lifestyle, it is shaped by a belief in the need for harmony and balance.

Source 3 A competitor at the Wushu championships in China, 2006, demonstrating kung fu skills

Source 2 A Taoist priest making tea

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.

Check your learning 15.8

Remember and understand

1 Explain how the practice of drinking tea changed over time in China.
2 How did belief systems influence the eating of meat for some in ancient China? What substitute food was commonly eaten to provide protein?
3 What was *feng shui* and how was it influenced by Chinese beliefs?

Apply and analyse

4 Explain how training in kung fu, or other martial arts, would have benefited a professional soldier in ancient China.

15.9 Warfare

The first permanent army in ancient China did not form 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. Some also had to perform guard duties (for example on the Great Wall of China).

Until the Han Dynasty, armies were made up of ordinary men (mostly farmers). They were called up for military service as the need arose. 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. While on army service, they kept fit by wrestling, throwing stones and playing games similar to football and polo.

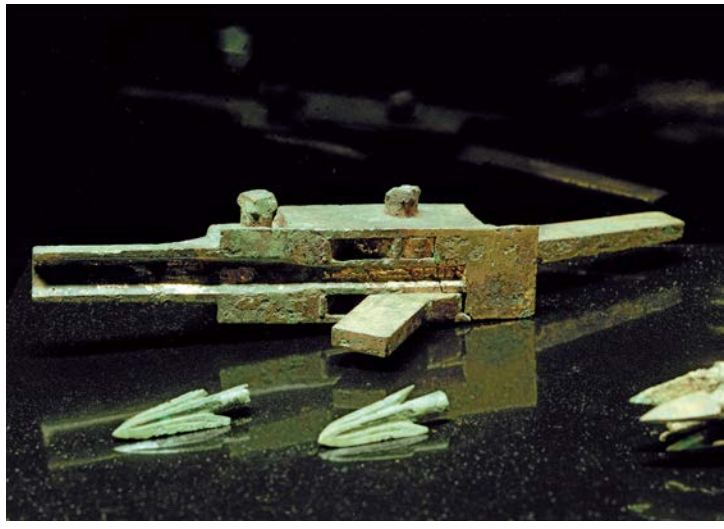
Battle tactics and weapons

During the Shang Dynasty (1766–1122 BCE), battles were fought mainly using chariots. Ancient records indicate that farmers had to plough their fields all in the same direction so that chariot wheels could more easily cross farmland in the event of a battle. A great deal of archaeological evidence about the chariots and weapons that were used has been uncovered at sites in China.

Later, the cavalry (soldiers who fought mounted on horseback) and armed foot soldiers played a greater role. By the late 4th 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.

Early weapons, such as spears and daggers, were typically made of bronze; later, iron was used. Most weapons of the Shang and Zhou Dynasties were made of bronze, which is a mix of either copper and tin or copper and zinc. Weapons made from bronze included battle axes, spears, swords and halberds (spears combined with axe blades).

Source 1 The skeleton of a Shang Dynasty charioteer and the fossilised remains of his chariot



Source 2 The remains of a crossbow (and bolt heads) from the Han Dynasty

Source 3 A modern Chinese kite

The crossbow was invented in ancient China and used 2500 years ago. It fired bolts (metal arrows) with great force up to about 200 metres (see Source 2). It had sufficient speed and force to penetrate armour.

The kite was another Chinese invention, first used about 2500 years ago (see Source 3). Some early kites were made to spy on the enemy or to send messages. An ancient document states that kites big and strong enough to hold small children were once used by a Han general to disperse the enemy. The kites were floated up through the fog around the enemy camp. The children they carried were told to play tunes that would make the enemy homesick, and thus retreat.

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.

Source 4 One of the 'terracotta warriors' guarding Qin Shi Huang's tomb, which provides evidence of armour worn by soldiers during the Qin Dynasty

key**concept:** Significance

The art of war

Around 500 BCE, during the Warring States period, a military leader named Sun Tzu wrote a manual called *The Art of War.* This text outlined strategies to be used in warfare. Its principles and tactics are so insightful that they have gone on to influence many modern disciplines around the world, such as business tactics, legal procedures and sporting strategies. This makes the text a highly significant ancient document.

Legend has it that Sun Tzu demonstrated the effectiveness of his strategies to the king of the then independent state of Wu by quickly training 100 women in the palace as soldiers.

For more information on the key concept of significance, refer to page 195 of 'The history toolkit'.

Check your learning 15.9

Remember and understand

1 During which dynasty did China's first permanent army form? How was it made up?
2 What duties and activities might a Han soldier have to carry out?
3 How were battles typically fought during the Shang Dynasty?

Apply and analyse

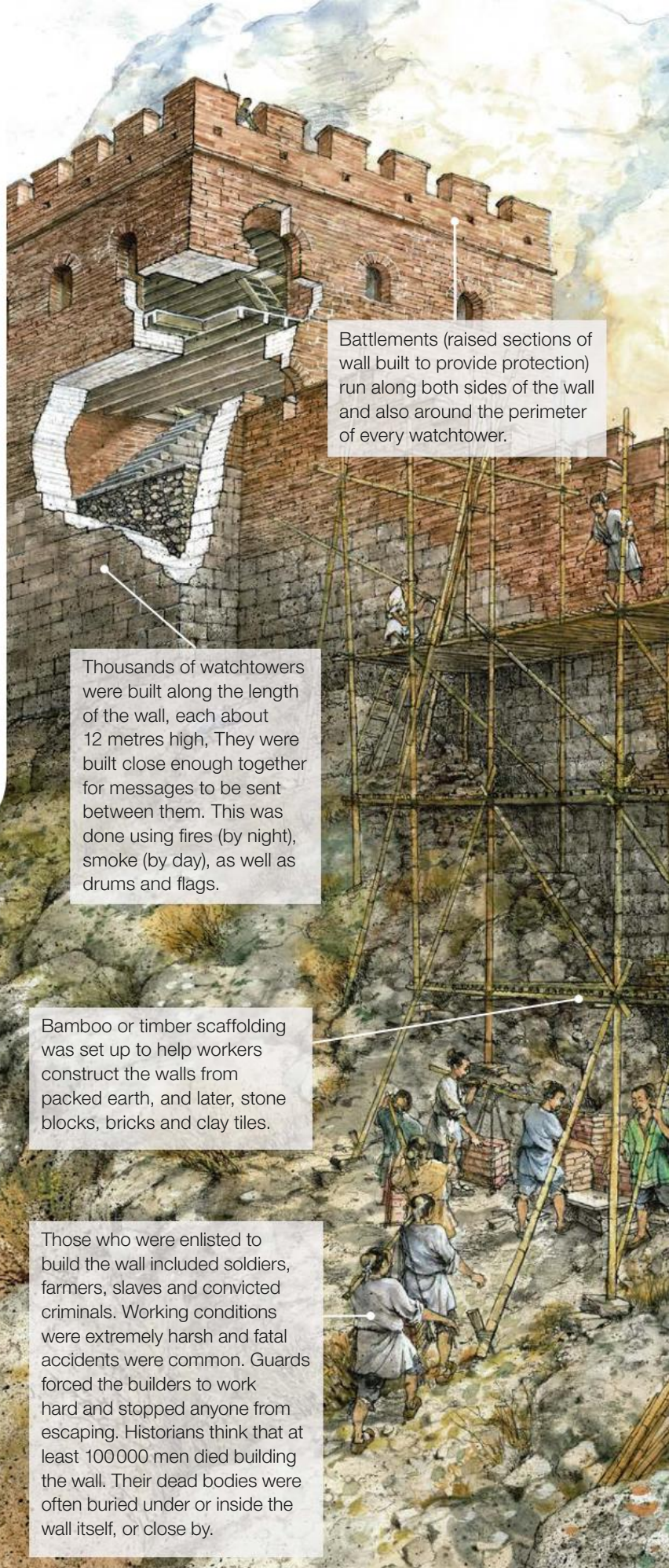
4 Study Source 4, looking particularly at the soldier's armour. Suggest any ways it could have been modified with materials and methods available in ancient times to provide its wearer with more protection. Draw labelled sketches. Justify your design solution.
5 What evidence does Source 2 provide to support the commonly stated view that wounds from a crossbow bolt were horrific?

Evaluate and create

6 Study Source 3. Suggest how the kite would need to be modified to serve a military purpose. Decide if such a feat could have been possible, or is simply legend. Justify your opinion.

15.10 The Great Wall of China

One of the strongest defensive structures ever built is known as the Great Wall of China. It is also the world's longest. The wall started out as a number of separate mud-brick structures built by lords during the Zhou Dynasty. The first emperor, Qin Shi Huang, began the task of joining these walls and extending them in 220 BCE. This was needed to keep out invading tribes to the north (known as Mongols). The structure we see today was largely completed during the Ming Dynasty (1368–1644 CE). That was when the watchtowers and cannons were added. Today, the Great Wall is a **World Heritage Site**.



Check your learning 15.10

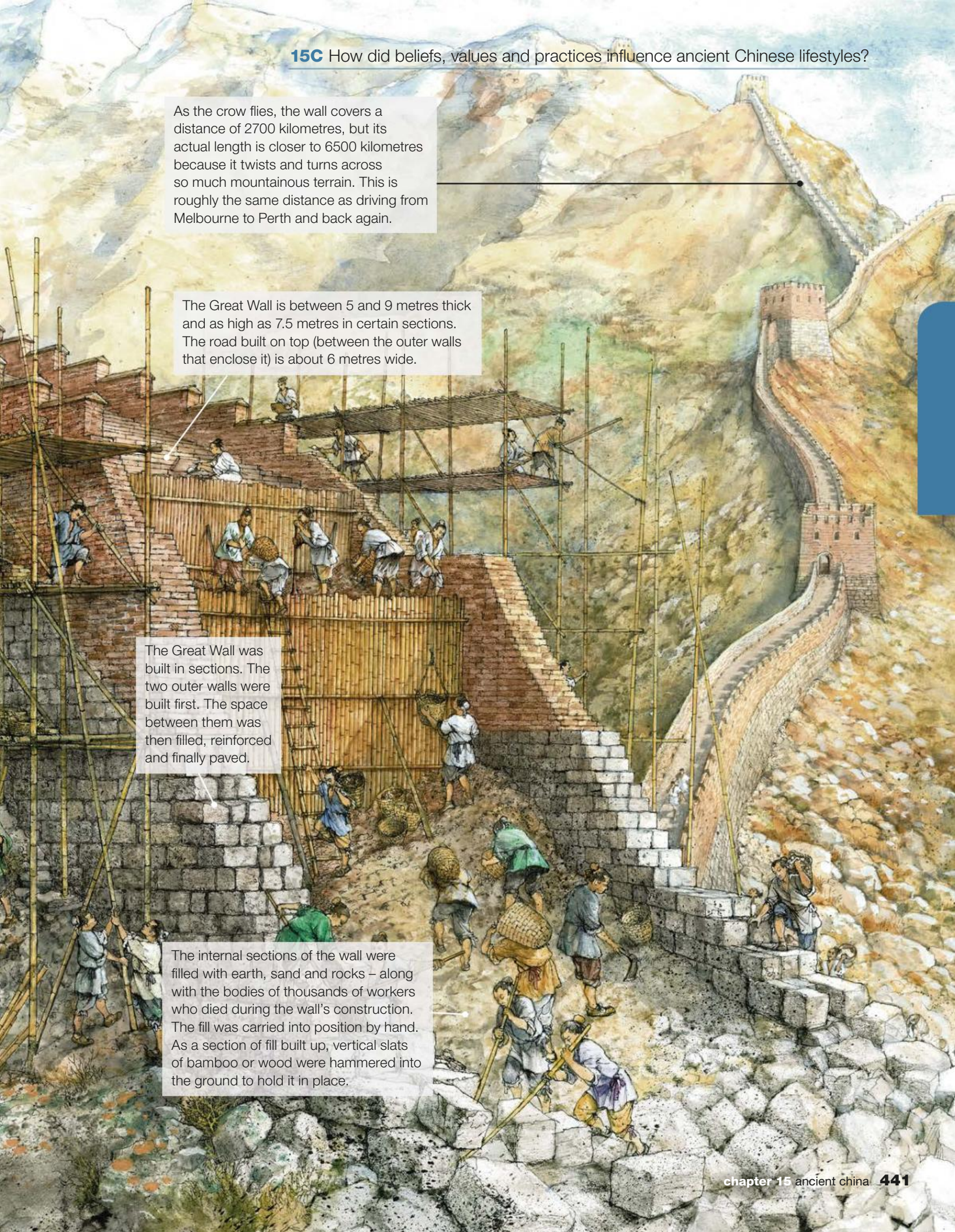
Remember and understand

1. What is the actual length of the Great Wall of China?
2. How many kilometres does it cover as the crow flies?
3. What was the original purpose of the Great Wall?
4. What was used to fill the internal sections of the Great Wall?

Evaluate and create

5. What do you think is the most effective aspect of the Great Wall's design as a military defensive structure? Give reasons for your opinion.

Source 1 An artist's impression of the construction of the Great Wall of China


As the crow flies, the wall covers a distance of 2700 kilometres, but its actual length is closer to 6500 kilometres because it twists and turns across so much mountainous terrain. This is roughly the same distance as driving from Melbourne to Perth and back again.
The Great Wall is between 5 and 9 metres thick and as high as 7.5 metres in certain sections. The road built on top (between the outer walls that enclose it) is about 6 metres wide.
The Great Wall was built in sections. The two outer walls were built first. The space between them was then filled, reinforced and finally paved.
The internal sections of the wall were filled with earth, sand and rocks – along with the bodies of thousands of workers who died during the wall's construction. The fill was carried into position by hand. As a section of fill built up, vertical slats of bamboo or wood were hammered into the ground to hold it in place.

15.11 Death and funeral customs

It was very important to the ancient Chinese that their ancestors be honoured and remembered after death. It was just as important for all proper rituals to be followed for those who died. Rituals included gift-giving at grave sites and the home shrine. If this was not carried out, it was feared that the dead person's spirit might become angry and cause bad things to happen to those left on earth.

Burial practices

The ancient Chinese believed that the burial site (or tomb) in which a dead body was buried became the place where the spirit of the dead person resided. People were usually buried with a range of items they might need in the afterlife, such as food, clothing, mirrors (for light) and weapons.

Rulers had more elaborate tombs than ordinary people. Goods such as furniture and chariots might be included among their tomb goods. So, too, might their wives, and any concubines who had no children. These women were often buried alive. Later, the practice was to replace living people with models, made from wood or clay.

The tomb and mummy of Xin Zhui

The best-preserved **mummy** in the world was found in China in 1971 (see Source 1). 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.

Source 1 The mummified remains of a wealthy Chinese woman, Xin Zhui, born in 100 BCE during the Han Dynasty

The tomb of Liu Sheng and Dou Wan

Three years earlier, another tomb had revealed the bodies of other Han royals – Liu Sheng, the son of the Han emperor Jing Di, and one of his wives, Dou Wan (see Source 2). They died around 100 BCE and were buried with nearly 300 objects and 12 horses. Their remains had been totally encased in jade suits shaped to look like armour. Jade was believed to have magical properties that would stop the body decomposing.

Source 2 The jade burial suit of Dou Wan, wife of the Han prince Liu Sheng. It contains 2156 jade pieces and 703 grams of gold thread.

The rituals to be observed after the death of a person in ancient China

1. The dead person's family made it known by loud weeping and moaning, and by hanging up messages, that a relative had died. They put on white clothing. The coarseness of the cloth and how long it was worn depended on how close the mourner was to the dead person.
2. The corpse was washed, dressed and laid out in the home, sometimes for up to one week. People would call to pay their respects, give gifts to the family and provide offerings for the dead person. Offerings typically included money and small paper models of household items.
3. The offerings were burned so the corpse could 'receive' them in the afterlife.
4. A stone plaque was placed near the family shrine in honour of the person.
5. After religious procedures (which varied depending on the religious beliefs of the dead person), the corpse was placed in a coffin. Music was played to calm the dead person's spirit.
6. The coffin was carried in a procession before burial or cremation. Most ancient Chinese were buried and families followed the rules of *feng shui* to determine where the gravesite was located and how the remains were placed in the grave.

Source 3 The rituals of a typical funeral in ancient China

Check your learning 15.11

Remember and understand

1. Why did the ancient Chinese believe it was important to remember and honour their ancestors?
2. Use the information in Source 3 to write a short 'eye-witness' account of a funeral in ancient China.
3. Explain why the ancient Chinese buried goods and food within the tombs of dead rulers.

Evaluate and create

4. Write a brief newspaper article, suitable for inclusion in your local newspaper, on the discovery of the tomb and mummy of Xin Zhui. Include comments on what this find reveals about burial traditions in ancient China.

15C rich task

The legend of Mulan

The legend of Mulan is a heroic story from China that tells the tale of a brave girl who leaves home to fight for her king and nation. There have been many versions of the story over the centuries, and poems, songs and films about Mulan celebrate her courage and her honourable actions.

According to the legend, Mulan disguised herself as a man to join the army in place of her father, who was too old to fight but had no son to serve in his place. Over 12 years, she served in the army – travelling long distances, facing harsh weather and confronting death. After her years of service, the king offered her great honours, but she refused them, preferring instead to return to her home and her aging parents.

We do not know whether Mulan was in fact a real person. The legend was first recounted in the *Ballad of Mulan*, a poem composed between 500 and 600 CE. This poem was included in a 12th-century music collection and has been embraced in popular culture since then. An excerpt from the poem follows.

Source 1

Mulan weaves, facing the door.
You don't hear the shuttle's sound,
You only hear Daughter's sighs.
They ask Daughter who's in her heart,
They ask Daughter who's on her mind
'No one is on Daughter's heart,
No one is on Daughter's mind.
Last night I saw the draft posters,
The [King] is calling many troops,
The army list is in twelve scrolls,
On every scroll there's Father's name.
Father has no grown-up son,
Mulan has no elder brother.
I want to buy a saddle and horse,
And serve in the army in Father's place.'

In the East Market she buys a spirited horse,
In the West Market she buys a saddle,
In the North Market she buys a long whip.
At dawn she takes leave of Father and Mother,
In the evening camps on the Yellow River's bank …
She crosses passes and mountains like flying.
Northern gusts carry the rattle of army pots,
Chilly light shines on iron armour.
Generals die in a hundred battles,
Stout soldiers return after ten years.

On her return she sees the Son of Heaven [king],
The Son of Heaven sits in the Splendid Hall.
He gives out promotions in twelve ranks
And prizes of a hundred thousand more.
The [king] asks her what she desires.
'Mulan has no use for a minister's post.
I wish to ride a swift [horse]
To take me back to my home.'

When Father and Mother hear Daughter is coming
They go outside the wall to meet her …
'I open the door to my east chamber …
I take off my wartime gown
And put on my old-time clothes.'
Facing the window she fixes her cloudlike hair …
She goes out the door and sees her [fellow soldiers]
Her comrades are all amazed and perplexed …
They didn't know Mulan was a girl.

Excerpts from the *Ballad of Mulan* (*Ode of Mulan*)

Source 2 A still from the 1998 Disney animated film *Mulan*

Source 3 A 10th-century painting of Mulan

skill**drill:** Historical sources as evidence

Recognising values in primary sources

To recognise and describe **values** in a **primary source**, you need to look beyond the literal meaning of the source and see what you can infer and interpret.

Remember, primary sources are those that were written or created during the time being investigated.

Step 1 Think about what you already know about the values that existed in the society at the time the primary source was created.

Step 2 Turn your attention to the primary source itself. What ideas or themes are presented in the source? What is presented as good or important? What underlying message is being conveyed about the people or events being described?

Step 3 Make connections between the inferences you have drawn about the primary source and your existing knowledge about the social, political and religious values that existed in the society during the period in which the primary source was created.

You should then be able to offer your interpretation of how particular values are represented in a primary source.

Apply the skill

1 Follow the steps outlined above to identify the values expressed in sources about Mulan. Think about what you have learnt in this chapter about the social, political and religious values in ancient China. Next, think about how these related to family loyalty, national loyalty, the role of women in society and what was considered heroic. Finally, think about what the legend of Mulan reveals about each of these values. Copy this table into your notebook and record your ideas.

What the story of Mulan reveals about the importance of:
Family loyalty
National loyalty
The role of women in society
Heroic qualities

Extend your understanding

1 Write a paragraph explaining why you think the legend of Mulan is still popular today. You may wish to compare Mulan to other heroines (real or fictional).

2 Look at Sources 2 and 3. Can you identify any of the values listed in the table in these two images of Mulan? Write down your findings for each image.

3 Rewrite the legend of Mulan in the form of a short story. Make her a modern-day hero by setting your story in the present.

15.12 World-changing inventions

Sir Francis Bacon, a 17th-century English philosopher, scientist and author, said that there were three inventions that had changed the world – the magnetic compass, gunpowder and printing. All of these were invented, or first used, in China. These inventions not only changed Chinese society, but also the societies the Chinese were in contact with. These, and many other, ancient Chinese inventions and discoveries influenced travel and exploration, wars (and their outcomes) and the spread of information.

Source 1 A magnetic compass made by the ancient Chinese

The magnetic compass

The Chinese invented the magnetic compass around 250 BCE. It revolutionised the way in which sailors and navigators plotted their courses at sea. Until then, consulting the stars was the only way of working out direction at sea. The invention came about because the Chinese noted that a magnetic rock, called a lodestone, always pointed the same way (north–south) when suspended or floated. Fine metal pointers, when rubbed on the stone, were found to have the same magnetic property. These were used as the first compass needles.

Source 2 The ancient Chinese are credited with inventing fireworks.

Gunpowder

Around 850 CE during the Tang Dynasty, a Chinese scientist made a mixture he hoped would give him everlasting life. Unfortunately, it exploded, burning his beard. This scientist had accidentally stumbled on a process for making gunpowder. Fifty years later it was being used by the Chinese as a powerful weapon in warfare. One weapon, called the 'heaven-rumbling thunderclap fierce fire erupter', used gunpowder to fire containers of toxic gas at enemy soldiers. The discovery of gunpowder also led to the development of the world's first fireworks in China during the Song Dynasty (960–1279 CE).

Paper and printing

The Chinese first wrote on silk or strips of bamboo. By the end of the 1st century CE, a thin paper made out of mashed bamboo and mulberry bark was being used. Later, paper

Source 3 The Chinese kept the process for making silk secret for thousands of years.

pulp was made by mashing together bark, rags, hemp stalks and water. Bamboo trays were dipped into the pulp mixture until fine grids were fully coated, creating a thin sheet of paper. The paper mixture was allowed to partially dry on the grid before being gently peeled off and hung up to dry. European papermakers used this method until the 1800s CE.

Woodblock printing was invented in China in the early 200s CE. Flat wooden blocks were carved so that the lines or characters to be printed stood higher than the rest of the block. When paper (or cloth) was pressed onto the inked block, only these higher parts printed. The details to be printed were carved in reverse so they would print the right way on the paper (see Source 4).

Silk

Perhaps ancient China's best-known discovery is silk-weaving. Legend has it that the wife of Huang Di (the man credited with inventing ancient China's writing system and calendar) was the first to work out how to unravel silk cocoons. She is said to have accidentally dropped a cocoon in water. This enabled her to unravel the thread (see Source 3).

Through its export of silk cloth (and later silk-making techniques) to markets such as ancient Rome, ancient China became very wealthy. Its knowledge of silk making gave it great status in ancient trading markets.

Source 4 This Buddhist text was printed around 868 CE, using the block-printing method. Known as the *Diamond Sutra*, it is the world's first printed book. It was printed 500 years before the first book (the Bible) in Europe.

Other inventions and discoveries

This section only mentions a few of the many inventions and discoveries that changed the way people lived in ancient China. Other inventions that we still use today include the wheelbarrow, mechanical clocks, porcelain (which became known as 'china' in the West), matches, umbrellas, kites and paper money. Through Chinese trade and contact with other societies, many of these innovations were spread more widely. With time, they have been passed down to societies in the world today.

Check your learning 15.12

Remember and understand

1 Name three ways in which the modern world has been influenced by ancient China's inventions and discoveries.

2 **a** Explain the process of woodblock printing.

b How did the ancient Chinese make paper?

Evaluate and create

3 Choose four of the inventions and discoveries discussed or mentioned in this section. Conduct further research to locate images of primary sources of evidence that have been found for each of these innovations. Create a digital exhibition, suitable for display at your local museum, that provides visual and written information about each invention or discovery. Include:

- how and when it is thought to have been invented or discovered
- where, when, how and by whom each primary source of evidence was invented or discovered.

15.13 Change through conflict and trade

Conflict

Conflict helped to shape the political and social structure of ancient China. 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. It also prompted the creation of a permanent professional army during the Han Dynasty (206 BCE–220 CE). Later, China was invaded by foreign peoples such as the Mongols and the Manchus.

Trade

Although internal trade along China's rivers and vast network of canals had existed for some time, trade beyond China's borders did not begin until the Han Dynasty.

The Silk Road

In 138 BCE, the Han emperor Wu Di ordered his army general, Zhang Qian, to travel west to form an alliance with the Yeuzhi people against another tribe in the area, the Xiongnu. The Xiongnu were then attacking the western fringes of Wu Di's empire.

Along the way, the Xiongnu captured Zhang Qian. He and his fellow travellers were thrown into prison where they stayed for 10 years. Zhang Qian escaped, but by then the people had no more interest in fighting or alliances. So Zhang Qian returned home.

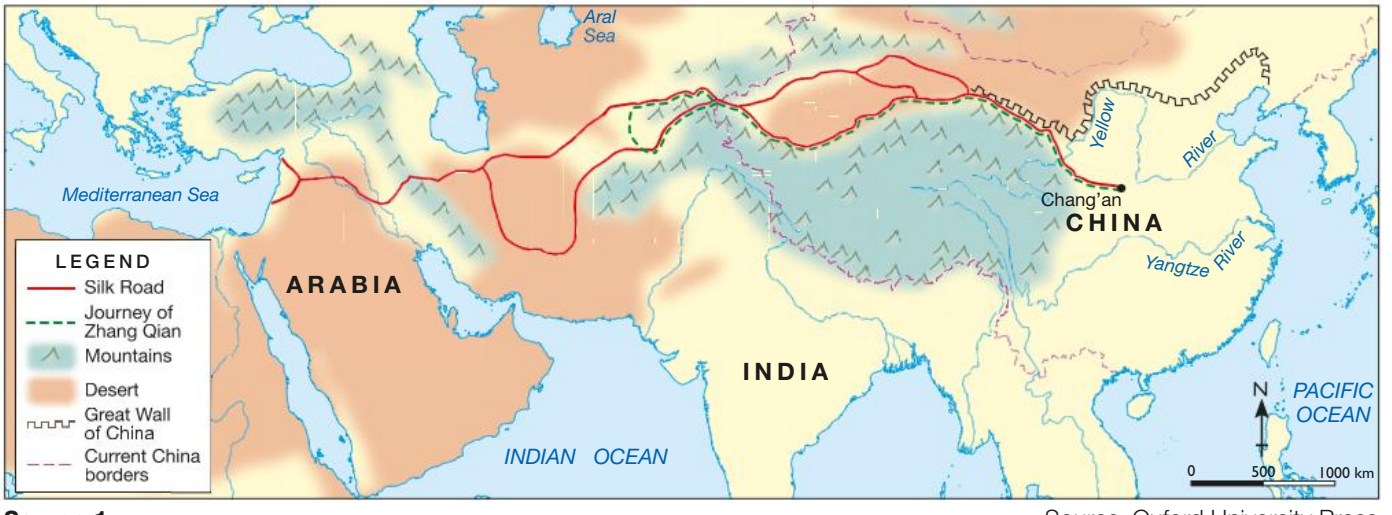
When he returned home Zhang Qian told Wu Di about regions that, until then, China did not know about. He told of different customs, animals and products. This news prompted Wu Di to send further missions west along the same path that Zhang Qian had taken, both for trade and political reasons.

In time, merchants and other travellers followed Zhang Qian's route, pushing on even further until the trails stretched from Chang'an (now known as Xi'an in central China) to the Mediterranean Sea (see Source 1). This route became known as the **Silk Road** because of the highly successful silk trade that ran along it.

The Silk Road was a network of routes over land and sea. These routes connected Asia to the Mediterranean world and Europe. There were even offshoots along the way to places such as India and Africa. Stretching over 6500 kilometres, the Silk Road ran through some of the harshest terrain on Earth – mountains, hot deserts and bitterly cold steppes.

Merchants typically travelled the Silk Road in caravans (long lines of camels). Along the way, they traded with the isolated communities who had lived

THE BROAD ROUTE OF THE SILK ROAD



Source 1

Source: Oxford University Press

Source 2 Silkworms, a mulberry leaf and the cocoons from which silk thread is made

in the region since about 1000 BCE. These local people, in turn, might trade with others further along the route. While silk was the major trade item along this route for China, many other goods were also traded (see Source 3).

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. Some, such as silk, became 'indicators' of social status.

Transfer of ideas, goods and disease

Apart from the trade in goods, the Silk Road also became very important for the spread of new technologies, religions and philosophies to other societies between the East (east Asia) and the West (then the Mediterranean world). Many of the inventions and discoveries of the ancient Chinese, mentioned earlier, 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.

IMPORTS

- Medicines
- Pearls and coral
- Slaves
- Furs
- Glassware
- Spices
- Precious and semi-precious stones (e.g. lapis lazuli and jade), gold and silver

CHINA

EXPORTS

- Silk
- Salt
- Cattle
- Iron (and iron goods)
- Dried fish
- Hand-crafted pots and figurines
- Lacquerware
- Porcelain (known as 'china')

Source 3 Some of the goods that were traded and exchanged between ancient China and other societies along the Silk Road

Check your learning 15.13

Remember and understand

1 Draw a flow chart to depict the steps that led to the beginnings of the important east–west trade route known as the Silk Road.

2 Through what modern countries do the main routes of the Silk Road pass?

Evaluate and create

3 In groups, compile a travel journal that records what Chinese merchants travelling from Chang'an (Xi'an) to the Mediterranean Sea might have seen and done while travelling along the Silk Road. Use what you have learnt together with information you have collected on the Internet. Your account will be fictitious, but you should base each entry on facts. Remember to write your travelogue from the point of view of an ancient merchant, not your own. Include sketches and photographs of places and things you see on your journey.

15D rich task

Ancient Chinese inventions

The ancient Chinese had highly-developed knowledge and technologies for their time. In many ways, they were far more advanced than other civilisations in the ancient world. They were also very inventive people. They are responsible for inventing or developing many items that we take for granted today. These inventions changed not only Chinese society but societies all over the world.

Throughout this chapter, you have learnt about a number of ancient Chinese inventions and discoveries, including the magnetic compass, gunpowder and printing. These are just some of the many inventions and discoveries that changed the way people lived in ancient China. Others include:

- the wheelbarrow
- the mechanical clock
- matches
- chopsticks
- the umbrella
- the kite
- silk weaving
- porcelain (also known as 'china')
- acupuncture – a treatment that involves pushing small needles into the body so as to correct any imbalance in energy flows in the body.

Source 1 Modern matches

Source 2 A mechanical watch

skill**drill:** Historical significance

Creating and delivering an audiovisual presentation

It is likely as part of your school work you have already created many presentations (probably using PowerPoint) and had some practice at presenting these to your class. But how effectively have you done this? There are some common problems with PowerPoint presentations – some relate to the design of PowerPoint itself, and some to students' presentation skills. Use the following steps to help you avoid some common problems and make your presentations as good as they can be.

PowerPoint design

- Plan your presentation carefully so it has a clear beginning, middle and end.
- Make sure you present the content in clear, concise dot-point form, *not* huge slabs of information.
- Do not fill up your PowerPoint slides with a lot of pictures. Include only visuals that relate to the content on that particular slide. Make sure each visual has a caption that explains why it is relevant to the presentation.
- Use graphics, sound, video, animations and transitions only if they add value to the point being made, not just because you think they will look good.
- Use a design that ensures your audience can clearly see and read the slides. You need enough contrast between the text colour and the background colour on the slide, and make sure your font size is large enough.

Presentation skills

- When delivering a PowerPoint presentation to an audience, do not just stand up and read out the text on each slide. Instead, you should be talking in a way that develops and expands the points on each slide. Carefully plan in advance what you are going to talk about during each slide. Record this plan on cue cards, and refer to these cue 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. Click to go to the next point only when you are ready to talk about that 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!

Apply the skill

1 Prepare and deliver a PowerPoint presentation for your class on an ancient Chinese invention of your choice. You are free to use one of the inventions listed here or carry out some research to find a Chinese invention that you would rather talk about.

2 Your presentation should be well researched and based on relevant and reliable sources. For detailed information on this skill, refer to page 205 of 'The history toolkit'.

3 Your presentation should be no longer than 7 minutes and cover the following points (if information is available):
   - **a** the person or group credited with inventing the item
   - **b** when the item was first invented
   - **c** where in China it was invented
   - **d** what impact the invention had in ancient China and on the rest of the world.

4 Your presentation should also follow the bullet points outlined under the headings PowerPoint design and Presentation skills.

Extend your understanding

1 As the students in your class, including you, give their audiovisual presentations, you will all do peer reviews. This means you will assess each other's work in a constructive way. Your aim is to give positive feedback and provide helpful advice for improvement.
   - **a** Copy the following peer assessment form into your notebook, or ask your teacher to photocopy it for you. Alternatively, your teacher may like to give you more detailed marking criteria to use. You will need one form per student whose work you are reviewing.
   - **b** As students present their work, complete the form.

PEER-ASSESSMENT FORM

Name of presenter:		
Name of peer assessor:		
	Marking criteria **1 = outstanding; 5 = unsatisfactory**	**General comments**
1 Content of presentation	1 2 3 4 5	
2 PowerPoint design	1 2 3 4 5	
3 Presentation skills	1 2 3 4 5	

2 Once your presentation has been peer assessed, it is time to gather the feedback from the other students and consider what they have to say. Read the peer assessments of your work by your classmates carefully and seriously. Then complete the following self-assessment form.

SELF-ASSESSMENT FORM

Name:	
1 Content of presentation	**a** The content of my presentation was good because … **b** I could have improved the content of my presentation by …
2 PowerPoint design	**a** The design of my presentation was good because … **b** I could have improved the design of my presentation by …
3 Presentation skills	**a** My presentation skills were good because … **b** I could have improved my presentation skills by …

part 3

economics and business

Concepts and skills

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Concepts and skills

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 behavior – 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 uneccessary risks.

16A

What are the economics and business skills?

chapter 16

Source 1 Economics and business isn't all about money and finance. In fact; it's all about human behaviour – the choices we make and the risks we take.

16.1 Economics and business skills

Economists use real-life examples to help them to generate questions, interpret information and argue their point of view. They also learn through experiences where they are provided with an opportunity to be innovative, show leadership and practise the ability to make wise business decisions.

Studying economics and business requires you to analyse information and ask a range of questions to find out more about a topic. You will learn to question and research information asking what, why, when, who and how to uncover the truth about an issue. Your investigation may involve weighing up the costs and benefits of economic or business choices and making recommendations.

As shown in Source 1, there are four stages in any economics and business inquiry. They are:

1. Ask questions and conduct research
2. Analyse and interpret sources
3. Apply strategies to resolve economics and business issues
4. Communicate your findings and reflect.

Source 2 We can access a great deal of information about businesses and the economy using the Internet.

Source 1 There are four stages in any economic and business enquiry. At each stage, economists use a number of different skills. Each of these skills is like a tool in a toolkit.

16.2 Ask questions and conduct research

Develop questions about an economic or business issue, and plan and conduct an investigation or project

Economists ask lots of questions. They seek out real-life economic and business cases and undertake an investigation to 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 economists state their opinion, they support it with evidence such as statistics, cases from the past, quotes from experts and sound reasoning.

Gather relevant data and information from a range of sources

Sources provide information for economists. They 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 a number of different search 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.

Planning an economic or business inquiry

Key inquiry question	Information needed	Possible sources of information
Is it a good idea for the local pizza place to sponsor the local football team?	• How much would it cost to sponsor the local football team? • What is the football team offering in return? • Who/how many people will see the sponsorship? • How will that affect the pizza place's brand or public image?	• Contact the football club for information. • Survey past or current sponsors on their experience sponsoring the team. • Conduct fieldwork into the football team's spectator numbers. • Survey current customers at the pizza place.

Source 1 A guide for planning the direction of an economics and business inquiry

Check your learning 16.2

Remember and understand

1 What do economists do first before reaching their own conclusions?

2 Give three examples of what an economist might use as a source.

Apply and analyse

3 Siew has been asked to find out how many small businesses operate in her local area. Suggest how she could find the answer to this question.

4 Lachlan believes that his family's fish and chip business would do better if they advertised online. How might Lachlan test this belief?

Evaluate and create

5 Develop five questions that you think may assist an economist or businessperson in deciding if it is a good idea to start a business in their local area. Create a planning table similar to that used in Source 1.

16.3 Analyse and interpret sources

Interpret data displayed in different formats to identify relationships and trends

Economists use charts, statistical tables, case studies, interviews and simulation games to help identify the cause of a problem or event and its likely outcome or effects.

Once you have collected, recorded, evaluated and represented your data, it is time to identify any trends, patterns or relationships in the information. You will have used questionnaires, surveys and statistics from many different sources such as textbooks, websites and the wider community before you create graphs and tables to summarise the information. Now it is time to look at this information to identify any trends, links or relationships.

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 employee complaints during this time. He found that the amount of money the company spent on advertising seemed to have no effect on employee complaints. This means Andy was able to identify a relationship between advertising and phones sold, and that there was no relationship between advertising and employee complaints.

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 think that Andy is wrong and that there is a link between advertising and employee complaints. They might collect different data or find different trends. Many issues require us to weigh up different points of view, while keeping an open mind.

Source 1 Being able to analyse and interpret sources is an important skill that helps businesses and individuals make good decisions.

Check your learning 16.3

Remember and understand

1 Why is there not always a right answer to economic questions?
2 What does it mean to 'interpret' data?
3 Why is it important to identify trends, patterns or relationships in the information you collect?

Apply and analyse

4 Look at the following dataset, in the table below, on visitors to a park during different seasons. What relationship could you interpret from this data?

	Average number of visitors per season			
	Summer	Autumn	Winter	Spring
Green Park	2102	1380	763	1390

16.4 Apply strategies to resolve economics and business issues

Generate a range of alternatives in response to an observed economic or business issue or event, and evaluate the potential costs and benefits of each alternative

There's usually more than one way to solve an economic problem or find the right solution in business. An economist carefully considers all of the circumstances related to the issue with an open mind. They carefully consider the different options that are on offer, and make a rational decision that they believe will lead to the best outcome.

skill**drill:** Reasoning and interpretation

Evaluating alternatives

Before looking at the different options in a business situation you must first do some work to find out more about the topic. Once you know about the topic, you can then assess the options available and choose the best one. This can be done using the following steps:

Step 1 Read through the different sources of information and find out what experts say about the topic.

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 that seem weakest based on their advantages or disadvantages.

Step 5 Concentrate on the strongest options and either decide which one is best or do further research before choosing the best option.

Apply the skill

Let's see how we could apply this skill to help a business owner make the right decision.

Tony runs a takeaway pizza restaurant in town that is becoming quite popular. So popular, in fact, that he is finding it difficult to keep up with all of the customer orders for pizzas. He is worried that he will not able to make enough pizzas in time to satisfy all customers, particularly on Friday and Saturday nights when he is busiest. Tony is considering the following options:

a buying a new state-of-the-art oven that can reduce baking times from 15 minutes to 10 minutes, at a cost of $80 000

b hiring a part-time employee to help out on the weekends for $17 per hour

c increasing the selling price of all pizzas by 50 per cent

Source 1 Business owners like Tony are regularly faced with economic choices that can determine whether or not the business is a successful one.

1. Write a list of additional information that would help you to evaluate each option.
2. Write a list sof the advantages and disadvantages of each option.
3. Suggest which option you think would be most suitable for Tony.

Apply economics and business knowledge, skills and concepts in familiar and new situations

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:

- Talk to someone in business about their experiences to see whether the theory you have learnt applies in real life.
- Observe the world around you. When you next go shopping, think about some of the things you've been studying such as customer services, competition, marketing techniques and types of businesses.
- Try coming up with your own innovative business idea and discuss it with others.
- Use opportunities to role play or play simulation games as a chance to improve your skills and put what you have learnt into practice.

Check your learning 16.4

Remember and understand

1 Economists make a decision so that what kind of outcome is achieved?

2 How can you apply your business and economics knowledge to real-life situations?

Apply and analyse

3 Why do you think it is important for an economist to keep an open mind when making a decision?

4 Abby is trying to decide if she can go on holiday at the end of the year. She can't afford the holiday right now as she has just lost her job, but she really needs a break. Using economic reasoning, help Abby to make her decision.

Source 2 Talking to someone from a local business in your community can be a great way to apply the economic theories you have learnt to familiar situations.

16.5 Communicate your findings and reflect

Present evidence-based conclusions using economics and business language and concepts in a range of appropriate formats, and reflect on the consequences of alternative actions

In every subject, there is a common language that is used. Certain terms form part of important concepts and are essential in helping us understand these concepts. Source 1 lists and defines some commonly used terms in business and economics; additional business and economics terms can also be found in the glossary at the end of this book. If you come across a term that you are unsure of, you should use a dictionary, the Internet or 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.

business	Activity that involves making goods or providing services in exchange for money
consumers	People who buy things to use
cost–benefit analysis	Estimating what will need to be paid (costs) and possible benefits that will arise from a business proposal
economics	Study of how people and society choose to use limited resources to satisfy their needs and wants
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.
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	The cost of the next best alternative use of resources
producers	People or businesses who make and sell goods and services for a profit

Source 1 Some useful economics and business terms

Check your learning 16.5

Remember and understand

1 Define the following terms in your own words:
- **a** business
- **b** producers
- **c** resources.

Apply and analyse

2 Robert is reading a newspaper article when he comes across a few terms he has never seen before including words such as ‘interest’ and ‘market crash’. What advice would you give to Robert that might help him to find out the meaning of these terms?

Evaluate and create

3 Create one sentence that uses the following economic and business terms:
- **a** business
- **b** consumers
- **c** profit.

4 Create a poster that reflects how one or more of the economics and business terms from Source 1 could be represented in everyday life. For example, you might create a poster that shows what a market is and what kinds of people would interact there.

Unit 1 Resource allocation and making choices

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 products or services they will provide, while governments need to decide how to spend taxpayers' money. When making each of these choices, individuals and businesses need to consider the effects they will have on themselves and others. Whatever people, businesses or governments choose, they will miss out on the alternatives they did not choose. We will learn how to make decisions that result in positive benefits for ourselves and our businesses, while minimising negative effects on society and the environment.

17A

How do individuals and businesses make economic choices?

1 If someone gave you $50, what would you spend it on? Why?

2 What do you think is the main goal of a business?

17B

Why is there a relationship between consumers and producers in the market?

1 What would you do if your favourite drink doubled in price? Would you still buy it?

2 Why do you think businesses have sales where they lower the prices of their products?

chapter 17

Source 1 People make economic choices everyday, These people have chosen to buy their fruit and vegetables direct from the farmer at a farmers market rather than from a large supermarket chain.

17.1 Making economic decisions

As economists, we look at how to make the right choices in a logical and thought-out way. While going with our gut feeling can be a more exciting way of doing things, a more carefully considered approach can help us make better decisions. This means that we need to consider all of the factors involved. Although individuals and businesses should both take the same logical approach to making decisions, they have different motives and will have to consider a different range of factors.

The needs and wants of individuals

Making economic choices is quite tricky when it comes to individuals. This is because individuals 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 smartphone. These desires that are not necessary for survival are called wants (see Source 1). While this may seem rather simple, distinguishing between the two can be a very important part of making economic decisions.

Separating needs from wants

While you may feel like you need a mobile phone, 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 main goal of every business is to make a **profit** for its owners. Businesses will find clever ways of persuading you that you need to buy their products. They develop flashy advertisements to display on billboards, TV and radio. They also pay celebrities to promote their products in movies and magazines. The average Australian sees thousands of advertisements a day without even realising it, all of which are trying to influence them to buy a particular product or service.

Sometimes we feel pressure from our peers to buy a product. If everybody else has the latest smartphone and we don't, 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.

Source 1 While many people feel that they *need* a smartphone or tablet, in economic terms, a smartphone or tablet is considered a *want*.

Source 2 Our unlimited wants not only use up the world's limited natural resources, they often damage the environment through pollution and waste.

Source 3 Luxury items such as this private yacht are products that we use to satisfy our wants.

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 demand on the Earth's natual resources (like coal, gold and oil) causes damage to the environment, which is 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 bought 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 phone, 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. Before you know it, you have just spent $35 million on a 1962 Ferrari 250 GTO race car.

Here are some other wants:

- diamond-covered smartphone: $9.4 million
- private yacht: $590 million
- a 27-storey skyscraper for a couple and their three children to call home: $2 billion
- a diamond watch: $25 million
- a dog house for a pet Chihuahua: $325 000.

Check your learning 17.1

Remember and understand

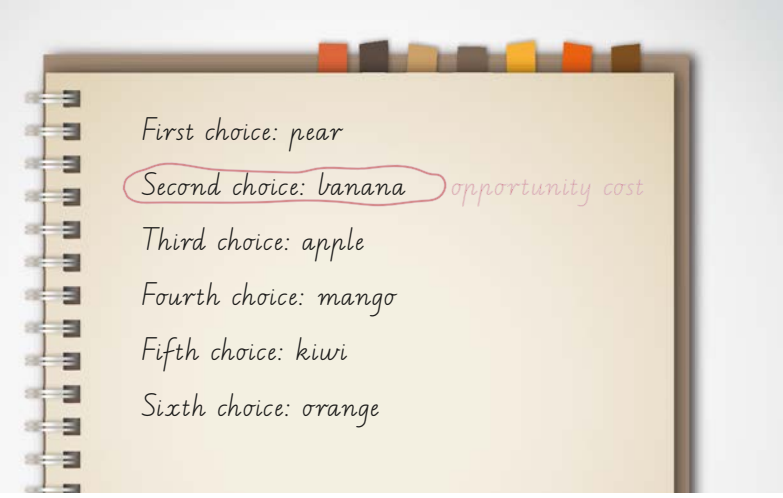
1 What is the difference between a 'need' and a 'want'?
2 What is the main goal of every business?
3 Describe two things that can make us feel as if we need things that are actually just wants.
4 What is the problem of relative scarcity?

Apply and analyse

5 Decide whether each of the following items is a need or a want:
   a car
   b hairdryer
   c clean drinking water
   d pens and pencils
   e designer jeans
   f computer
   g house
   h mansion
   i basic food
   j ice cream
   k basic clothes
   l mobile phone.
6 Why do you think it is important to be able to recognise the difference between needs and wants?

17.2 Opportunity cost

Making economic choices ins't always easy. By choosing one option over another, we often miss out on something. The benefit we miss out on when choosing one option is called the **opportunity cost**. When we have more than two options available to choose from, our opportunity cost is what we miss out on from the next best option (not all of the options combined). Considering opportunity cost is very important for both individuals and businesses, as it helps us understand the consequences of our decisions. If we do not consider opportunity cost, we risk making a choice that will not be as beneficial and may cause unexpected problems. Let's look at opportunity cost more closely through some examples.



Source 1 The opportunity cost of selecting your first choice (a pear) is your second choice (a banana).

Opportunity cost for individuals

Imagine you have $1 to buy one piece of fruit. You can choose from a banana, apple, mango, orange, kiwi or pear, each of which costs $1. Knowing that you only have enough to buy one, you decide to rank them in order from favourite to least favourite until you come up with an answer.

Naturally, you pick the pear as it is the tastiest and most desirable option. In this situation your opportunity cost is the banana as it is the next best option that you missed out on (see Source 1).

Source 2 Choosing between different options can be difficult, knowing that we miss out on the other alternatives.

Source 3 Businesses make decisions about what to produce based on what is most profitable.

Opportunity cost for businesses

Opportunity cost works in the same way for businesses. A business tries to choose the alternatives that will earn the greatest profit. For example, a clothing factory might have to decide on whether to produce shirts or pants. It will work out the costs of producing both shirts and pants, as well as the selling price of each. Its profit can be calculated by taking away the cost from the selling price.

PROFIT = SELLING PRICE – COST TO PRODUCE

	Selling price	Cost to produce	Profit
Shirts	20	10	10
Pants	30	25	5

Source 4 Opportunity cost for a business

Even though the pants sell for a higher price, they cost more to produce. The clothing factory will choose to produce shirts, meaning that their 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. If they do not, they run the risk of making a bad decision that will cost the business money.

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.

Check your learning 17.2

Remember and understand

1 What is 'opportunity cost'?
2 How does a business calculate its profit on an item it produces?
3 Why is it important to understand opportunity cost?

Apply and analyse

4 Look at the business example from Source 4. Explain one reason why the pants might be more expensive to produce.
5 Describe another situation where a business would have to analyse the costs and benefits of each alternative to make a decision.
6 Consider the following scenario:
The manager of a clothing factory has received a phone call from their supplier. The supplier has advised that the material they would normally sell to the clothing factory for the shirts has run out. As a substitute, the supplier offers material for dresses. The clothing company must now 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

An everyday dilemma

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. These really tricky decisions are known as dilemmas. 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.

Source 1 A dilemma is a situation where a difficult decision has to be made.

skill**drill:** Data and reasoning

Creating a list of pros and cons

The purpose of a pros and cons list is to help us make 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 2 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 of 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 of 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 of 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 of 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 of 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.

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 2 Pros and cons of creating a Facebook account

Apply the skill

1 Consider 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 following day. Five minutes into your study, your phone rings. 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 at school!' Make a list of the pros and cons of playing soccer versus studying to help you decide what to do.

Extend your understanding

1 Compare your pros and cons list to 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 now, or may have to make in the future.

Source 3 Making a quick list of pros and cons can save time that we would otherwise spend indecisively thinking about both options.

17.3 Markets

We have already looked at how individuals and businesses make decisions. While individuals try to reach the highest level of satisfaction, businesses aim to make as much profit as they can. When we need or want something, we generally go and buy it. This is what makes us **consumers** (buyers). In order for this to be possible, **producers** (sellers) have to make and sell these things. Producers are happy to do for a profit. A **market** is where buyers and sellers interact with one another to exchange things of value. Usually, consumers will pay money to producers in return for **goods and services**.

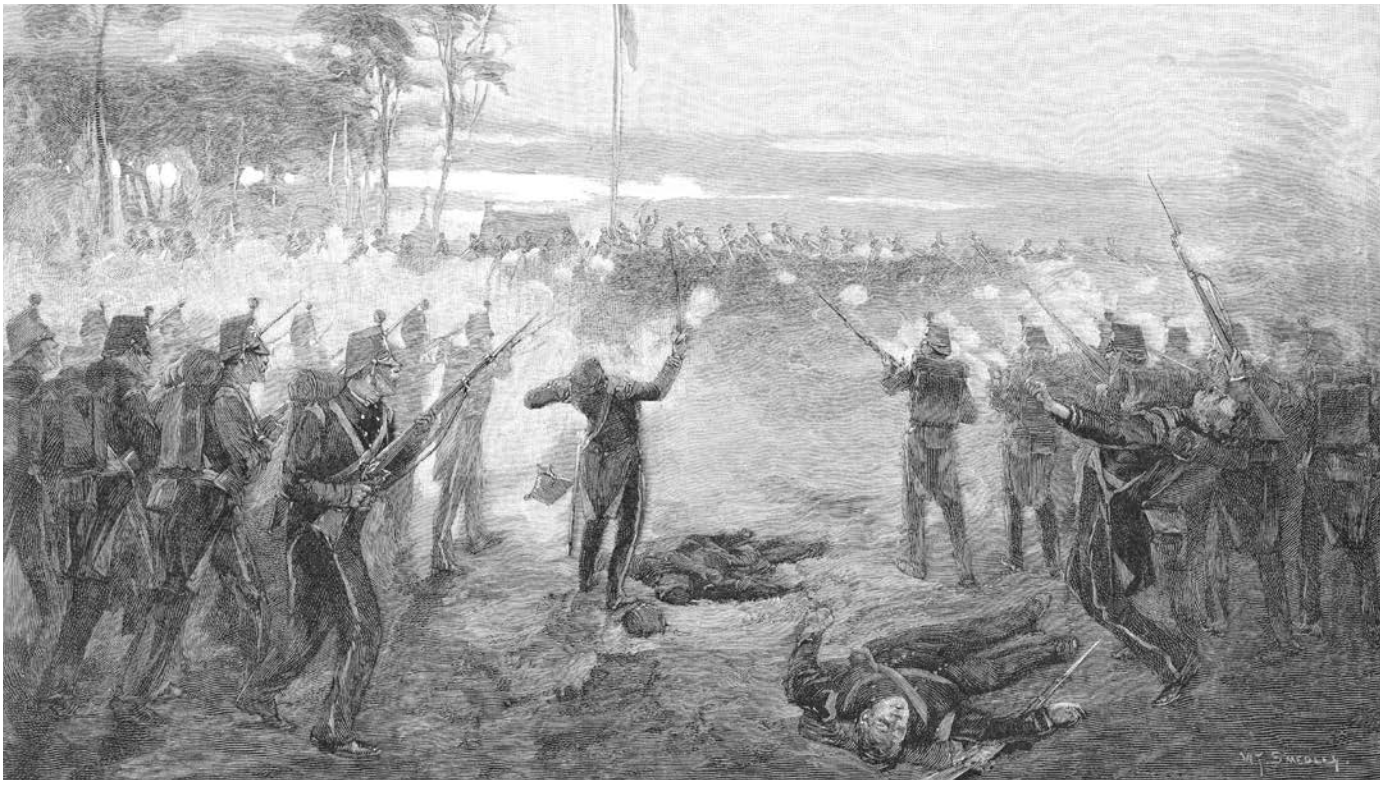
You may have seen a market with rows of stalls selling fruit, vegetables and other goods directly to consumers. In economic terms, markets do not necessarily have a physical location like the fruit and vegetable market. The housing market, for example, doesn't physically exist in one place; buyers can view houses listed for sale on the Internet or in the newspaper and contact the seller with an offer to buy the house they want. An economic market exists for anything that can be bought and sold. Let's take a closer look at two of them.

The labour market

The labour market is where workers sell their skills, knowledge and effort to **employers**. In return for their **labour**, the employer will pay the workers a **wage**. This is how most people in our society earn an income. In Australia, wages for most professions are higher than in other parts of the world. This is a large reason why so many people consider Australia to be the 'lucky country'.

Because work is such an important part of people's lives, there are laws that aim to stop the unfair treatment of workers by their employers. These laws have developed over many years (see Source 1). 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 will provide them with an adequate income to support themselves and their families.

Source 1 In 1854, workers at the Ballarat gold mines were so outraged by working conditions and license fees imposed on them by the government that they started an armed rebellion. This became known as the Eureka Stockade.



Source 2 Most people pay a real estate agent to help them sell their house.

The housing market

The housing market is where houses are bought and sold. Houses satisfy the basic need for shelter, and so most Australians desire the security of owning their own home. For those who can afford it, it is possible to own multiple houses, which can also be a way of making more money. This is because houses 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. Unfortunately, however, as more people decide to invest in houses, the prices increase, making it much more difficult for everyday people to afford their own homes.

For most people today, the only way to buy a house is by taking out huge loans from the bank and slowly repaying the loan over a 30-year period. The bank makes a profit by charging people **interest** on money that it lends them. In instances where a person owns multiple houses, the collection of rent as profit can help pay the interest off more quickly.

Check your learning 17.3

Remember and understand

1 What is a market?
2 What is exchanged on the labour market?
3 What is a landlord and how do they earn income from houses?

Apply and analyse

4 Why do you think the government focuses on creating jobs for Australians?
5 How do you think not having a job would affect the way a person lives?

Evaluate and create

6 Use the Internet to conduct the following research about a house in your area;
   a Visit the Real Estate website via the link in your obook and find a house that is for sale in your area.
   b Visit the Commonwealth Bank's home loan calculator online via the link in your obook and calculate how much interest you would have to pay on a 30-year loan to purchase that house.

17.4 Supply and demand

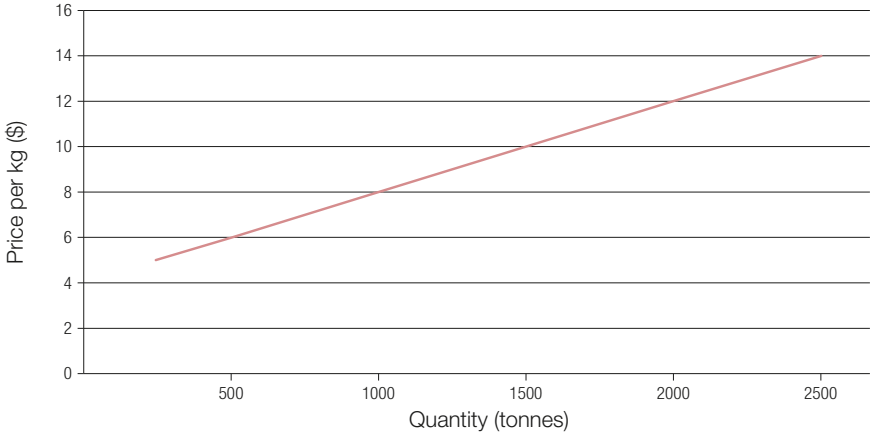
One of the most important concepts in economics and business is supply and demand. Economists use this concept to explain (and predict) the price and quantity of all goods and services in the market.

Supply

While consumers are more willing to buy goods and services if they are cheaper, suppliers are more willing to produce goods and services if they can sell them for a higher price. This is because selling them for a higher price will bring the business greater profits. The **law of supply** states that the higher the price of a product, the higher the quantity that suppliers will want to produce and sell.

For example, farmers can choose to grow many different fruits and vegetables. They will choose to grow those fruits and vegetables that they believe will sell for a high enough price to earn a profit. There is no point in growing strawberries if no one will buy them at a price that covers the farmers' costs and earns a profit.

The way price can affect the supply and demand of goods and services is known as **price mechanism**.



Source 1 By graphing the values from Source 1, we can see how farmers are willing to produce more as the price of strawberries increases.

Price mechanism can also affect the ways consumers and producers respond to and influence each other in the market. For example, in some industries, consumers can negotiate the price with producers in order to create profit in their favour.

Price per kg ($)	Quantity produced (tonnes)
5.00	250
6.00	500
7.00	750
8.00	1000
9.00	1250
10.00	1500
11.00	1750
12.00	2000
13.00	2500
14.00	2500

Source 2 This table of values demonstrates how many tonnes of strawberries farmers are willing to produce if they can sell them at each given price.

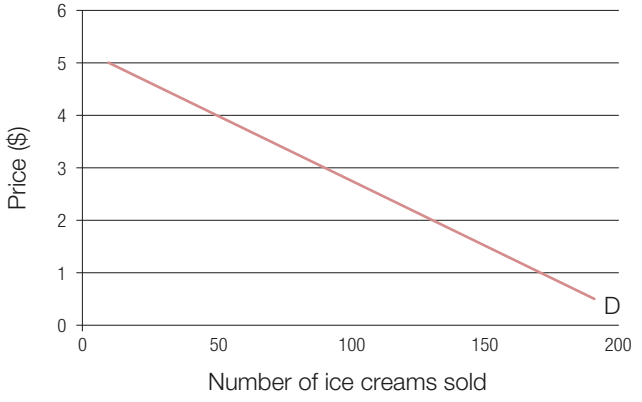
Demand

Demand refers to the amount of a good or service that consumers will buy at a particular price. Consumers want to pay as little as possible for a good or service. This way, they will have more money left over to buy other goods and services. If prices go up, consumers are less likely to want 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.

Imagine the price of ice creams at the school canteen went down to 50 cents; students would be flocking to the canteen trying to buy the cheap ice creams before they run out. Now if the price of those same ice creams went up to $5, very few would be sold.

Price per unit ($)	Quantity sold (units)
0.50	190
1.00	170
1.50	150
2.00	130
2.50	110
3.00	90
3.50	70
4.00	50
4.50	30
5.00	10

Source 4 This table shows how many ice creams would be purchased for a given selling price.



Source 5 By graphing the values from Source 4, we can see how the demand for ice cream increases as the price of ice cream decreases.

Source 3 Many people go shopping on days when big sales are on, such as Boxing Day.

Check your learning 17.4

Remember and understand

1 What is meant by the 'law of demand'?
2 Why do consumers like to buy things when they are on sale?
3 What is meant by the 'law of supply'?
4 Why are producers more willing to produce something that sells at a higher price?

Apply and analyse

5 What do you think would happen if the strawberry farmer set a price that consumers were not willing to pay?
6 What would happen if the strawberry farmer set a price that was too low?
7 Consider the following scenario:
A chef is at a food market to buy 1 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 has priced their strawberries at $7 per kilogram. The second strawberry farmer, however, has priced their fruit at $5 per kilogram but they are not as ripe as the first. Which strawberry farmer should the chef buy from and why?

17B rich task

Chocoholics

Chocolate is very unhealthy and highly addictive, but that's why many people can't get enough of it. The damage that sugary products like chocolate do to our health is causing many people to look at ways of kicking the bad habit.

Even though we know how unhealthy chocolate can be, there is still a high demand for chocolate and chocolate-flavoured products in Australia. In fact, the confectionary industry receives over $7 billion from selling chocolate and other sugary products to Australian consumers each year.

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 higher prices on these products will stop people from buying as many of them. With such a great love of chocolate, do you think a tax on chocolate would impact how much chocolate Australians would buy?

The relationship between the supply of and demand for chocolate products can be investigated in many ways, making it easier for manufacturers to determine how much chocolate they should produce, and how much they can charge. We can also assess how a tax on chocolate would impact the demand for chocolate by constructing a demand graph.

Source 1 While delicious, chocolate is filled with sugar and fat, which can cause many health problems.

skilldrill: Reasoning and interpretation

Constructing a demand graph

Constructing supply and demand graphs is an important skill for economists. They allow us to look at how supply and demand for a good or service will respond to changes in price. This is especially important for businesses as they decide on what to produce, and how much to produce. The following steps are used to draw a demand graph, but 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 2)

Step 3 Draw an L-shaped axis like you would in maths (like the one in Source 3).

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 3).

Price per slice ($)	Quantity (number of slices sold)
2.00	10
4.00	8
6.00	6
8.00	4
10.00	0

Source 2 This table of values demonstrates how many slices of chocolate cake a café can sell for a given selling price.

Apply the skill

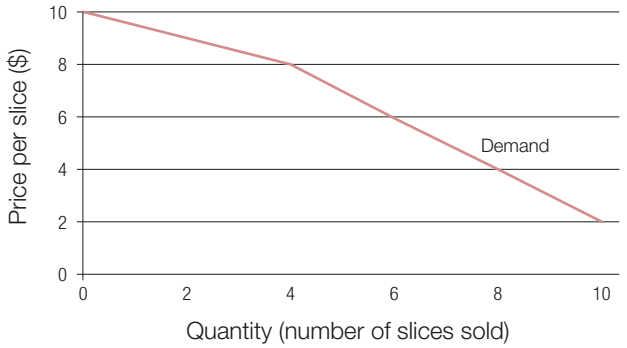
1 Using steps 1 and 2, fill out a table showing how many of your favourite chocolate bars you think you would buy in an average week at the following prices.

Price per bar ($)	Quantity (number of chocolate bars sold 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 that you have just filled out, follow steps 3 to 7 to draw a demand graph (like the one in Source 2).

3 Looking at your graph, do you believe a tax would be effective in making people eat less sugar?

4 What do you think would happen if a tax was not applied to chocolate?



Source 3 By graphing the values from Source 2, we can see how the demand for chocolate cake increases as the price of chocolate cake decreases.

Extend your understanding

1 Use the Internet to research and make a list of sugar's effects on health.

2 Make a pros and cons list of cutting sugar out of your diet.

3 Looking at the results of your pros and cons list, should you cut out sugar from your diet?

4 When people become addicted to sugary products such as chocolate, nutritionists often suggest that they replace these with natural sugar. Using the Internet, research foods that contain natural sugar that can be used as an alternative.

Source 4 How do you think higher prices will affect the demand for chocolate cake?

Unit 2 Consumer and financial literacy

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.

18A

What are the rights and responsibilities of consumers?

1 What can consumers do if products they purchase turn out to be faulty?

2 What does it mean if a product is 'Fairtrade' certified?

18B

What are financial goals and how are they achieved?

1 Why is it important to set financial goals?

2 What are some strategies that people can use to save their money?

chapter 18

Source 1 If a consumer wants to return a faulty product to the seller, both the consumer and the seller have rights and responsibilities under Australian consumer law.

18.1 Consumer rights

In Australia, there are many laws that protect consumers from unfair treatment. In order to be fully protected, we must first learn what our basic rights as consumers are.

Australian consumer law

In Australia, the ***Competition and Consumer Act 2010*** is just one of the laws that states what rights and responsibilities consumers have. Because this law is so important, there are government bodies at both federal and state level whose main purpose is to enforce it. 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** acts as the **regulatory body** that aims to ensure that the marketplace is fair and competitive for businesses and consumers in Victoria. As well as providing information to consumers, these organisations guide businesses towards operating in a way that avoids unfair situations.

While you do not need to know all of the details of Australian consumer law, it is important that you understand your basic rights and responsibilities as a consumer, and know where you can get help.

Source 1 The Australian Competition and Consumer Commission (ACCC) monitors petrol prices.

Consumer guarantees

Under Australian consumer law, when you buy a product or service it comes with an automatic guarantee that it will work to a reasonable level, or as you would expect it to. This is a consumer guarantee that means that the products you buy must:

- be safe
- be of reasonable quality (won't break after a few uses)
- do all of the things that a reasonable person would expect them to
- match 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
- 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

There are some exceptions to the guarantee that can protect sellers from unfair situations. Consumer guarantees do not apply if you:

- got what you asked for but simply changed your mind, found it cheaper somewhere else, decided you did not like the purchase or had no use for it
- misused a product in any way that caused the problem

Source 2 Consumer Affairs Victoria is the state regulatory body in charge of promoting a competitive and fair marketplace in Victoria. You can contact them if you have any questions about your rights and responsibilities as a consumer.

Source 3 Australian consumer laws protect consumers from buying faulty products, they do not apply in instances where the consumer has 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.

Resolving issues

If the goods or services do not satisfy the consumer guarantee, the consumer has the right to approach the seller and request that the problem is fixed by a repair, replacement, refund or, in some cases, compensation (usually in the form of money) for damages and losses.

The seller of the good must help the consumer directly, or by sending them to the **manufacturer** or **importer** of the good who is responsible for the problem.

It is important to keep your receipt to prove that the good or service was purchased from the seller and on what date.

If a consumer has made a complaint to the seller but is still having difficulty resolving the problem, they should contact the ACCC or Consumer Affairs Victoria who will advise them on the best course of action.

Check your learning 18.1

Remember and understand

1 Which Australian law outlines the rights of consumers?
2 What are the two government bodies that regulate the marketplace and ensure that consumers are protected from unfair treatment?
3 Describe three things a product must be to meet its consumer guarantee.

Apply and analyse

4 Why do you think there are exceptions to the consumer guarantee?
5 Look at Source 3. Explain whether you think the seller of the phone would be required to replace it if:
   a the consumer opened the box only to find that the phone was already broken upon purchase
   b the consumer accidentally dropped the phone causing the damage.

Evaluate and create

6 Write a letter of complaint to a store about the faulty product you have purchased from them. Visit the ACCC website via the link in your obook for a template that will help you write your letter.

18.2 Consumer responsibilities

While consumers have many rights that are protected by law, we also have many responsibilities. Some of these are to ensure that we know what we are agreeing to purchase, while others relate to our social and moral responsibilities to the people and environment that we share our planet with, such as buying local produce and consuming less.

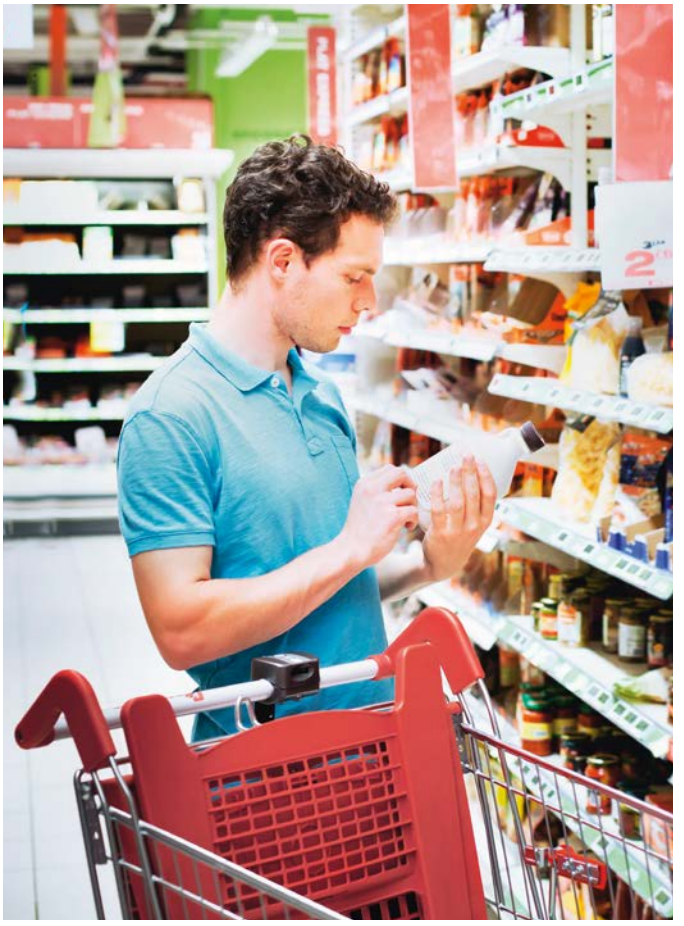
Legal responsibilities of consumers

As discussed earlier, there are certain exceptions to the guarantee we receive when we buy a product or service. After all, it would be unfair on the seller if we didn't 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 commit to buying it. This involves:

- reading the description and specifications carefully
- using the Internet to check the prices of similar goods or services at other stores
- reading online reviews and information about the product
- asking questions about the product or service
- reading the terms and conditions carefully.

Once we purchase a product, we must ensure that we:

- read and follow the instructions for its use carefully
- take care of it so that it is not exposed to anything that is likely to damage it (such as leaving a computer outside where it might rain)
- contact the seller or manufacturer with any important questions about how to properly use the product.



Source 1 It is important to carefully read the specifications of a product before purchasing it. The important information is generally printed on its packaging.

Social responsibilities of consumers

Socially responsible or **ethical consumers** make an effort to purchase goods and services that do not have a negative impact on other people, animals or the environment. As ethical consumers, we consider how we can satisfy our needs and wants in the way that is least harmful to others.

Consume less

Undoubtedly the easiest way that we can minimise our negative impact on the planet is by simply buying less stuff, especially if it doesn't satisfy a basic need. To consume less we need to be aware of how we use the goods we buy and how the disposal of them will affect our world. If we do not change how wasteful we are with our consumption, we will continue to contribute to the environmental problems that our world is facing.

Source 2 Buying products from your local market is not only better for the environment, but supports your local community

Buy local

By purchasing locally made products, we can be certain that workers from poorer nations have not been exploited to make our products. Buying locally also reduces the negative effect of transportation on the environment.

Research the product and company

Researching products that we regularly buy as well as the companies that make them gives us a better idea of what we are buying. Researching helps us decide for ourselves if a product is being made in an ethical way and whether it is healthy for us to consume. We can also research alternatives to products that don't seem like the best purchasing choices. We can access much of this information on the Internet via our smartphones while we are shopping. Websites such as Shop Ethical! have a great deal of information about a wide range of household products.

Source 3 Fairtrade is about stable prices, decent working conditions and the empowerment of farmers and workers around the world.

Look for certification

Another way of helping to ensure that we are being socially responsible is by looking carefully at the packaging of a product. Often, we will see that some products have little certification logos on them, such as the Fairtrade logo, that not all products have. A product with Fairtrade certification provides better working conditions for the people who produce it in poorer countries.

Check your learning 18.2

Remember and understand

1 Describe three legal responsibilities of consumers.
2 What does it mean to be an ethical consumer?

Apply and analyse

3 Why do you think consuming less is the easiest way to reduce our negative impact on the environment?
4 Which of the strategies for being an ethical consumer do you think you might use in the future?

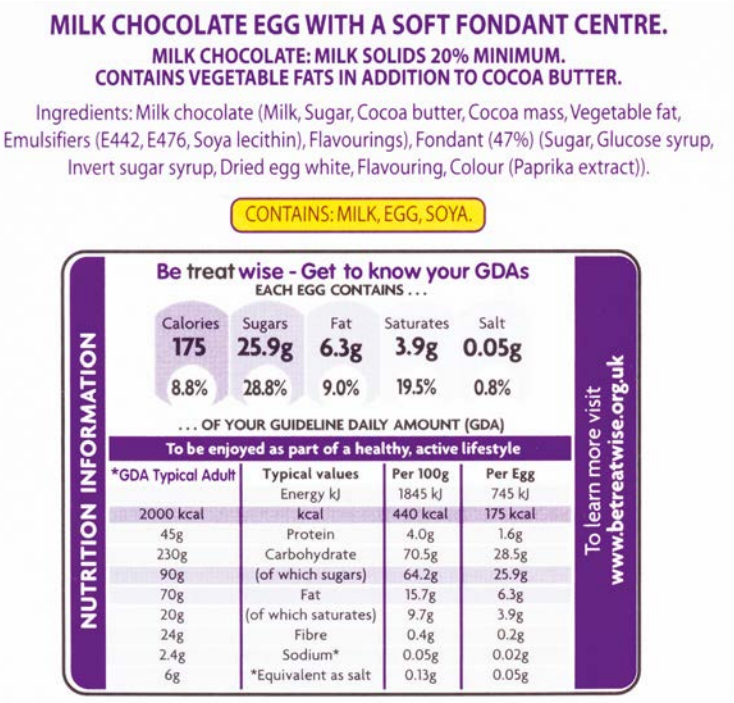
Evaluate and create

5 Log onto the Fairtrade website via the link in your obook and use the information to create a poster explaining and promoting Fairtrade.

18A rich task

You are what you eat

Of all the products that we purchase, none are more important to understand than food and drink. What we eat and drink can have dramatic effects on our health and wellbeing. But with so much information on the labels and so many different ingredients, knowing what we are putting into our bodies can be a little tricky. Fortunately, the law states that nearly every packaged item of food and drink has to provide nutritional information on its packaging. By learning how to read this information, you can be on your way to a happier and healthier you!



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

Source 1 The food nutrition label for milk chocolate eggs

skill**drill:** Reasoning and interpretation

Reading food nutrition labels

The infographic from from the National Health and Medical Research Council (Source 3) gives a guide of what each part of a food nutrition label means, and what an acceptable level of consumption is for the ordinary person. Many labels also give a rough guide on the recommended daily intake of each type of nutrient for adults. As a younger person, you would generally want to consume less than this amount.

Follow these steps to get the most out of food nutrition labels:

Step 1 Locate the food nutrition label on the packaging of a product.

Step 2 Identify the serving size, usually at the top of the label. This indicates how much of the product you should consume. This amount has been used to calculate the nutrition information figures in the table.

Step 3 Use the table of information to identify the amount of energy, protein, fat, carbohydrates (including sugars), fibre and sodium in the product, per serve (or per 100 grams).

Step 4 Find the ingredients list. This is usually located at the bottom of the nutrition information but sometimes on other parts of the packaging. Use the ingredients list to decide if this product is something you can (or want) to eat. This is especially helpful for people with food allergies or intolerances. For example, some people might read that there is wheat in the product and decide that they cannot eat it because they are gluten intolerant.

100% Juice

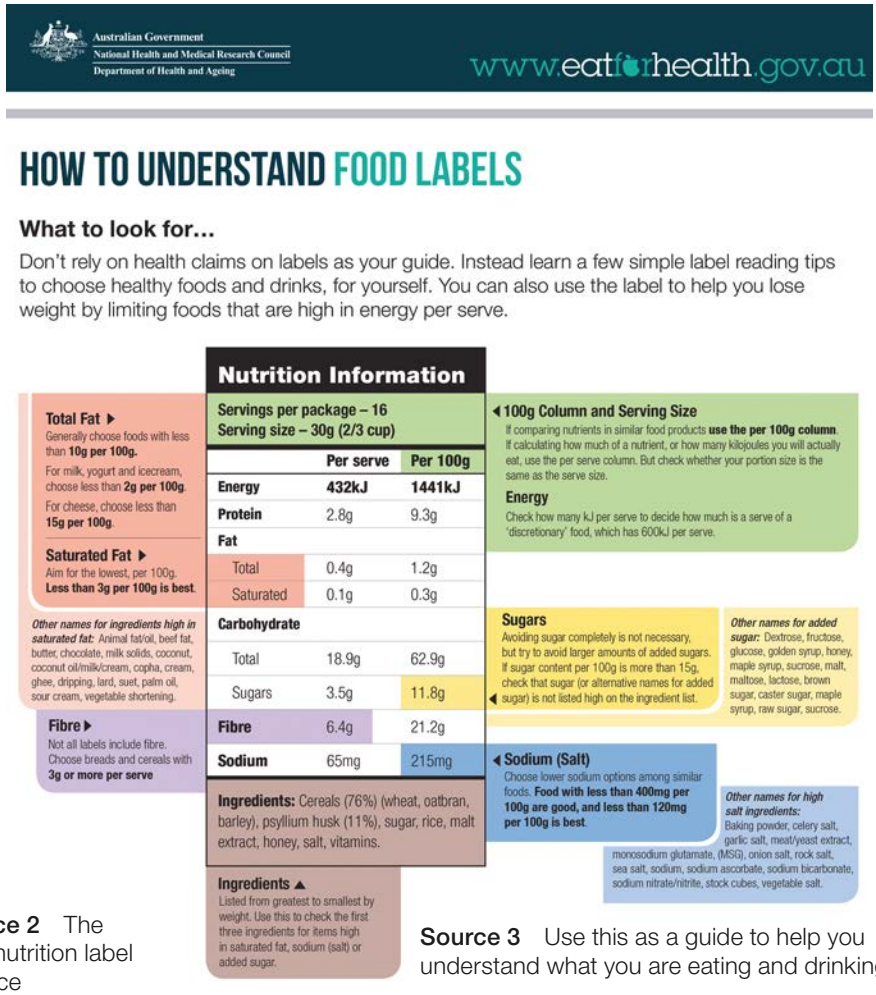
Nutrition Facts

Serving Size 8 fl oz (240 mL)
Servings Per Container about 11

Amount Per Serving	
Calories 110	Calories from Fat 0
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Potassium 450mg	13%
Total Carbohydrate 26g	9%
Sugars 22g	
Protein 2g	
Vitamin C 130% • Calcium	35%
Vitamin D 25% • Thiamin	10%
Riboflavin 4% • Niacin	4%
Vitamin B_6 6% • Folic Acid	15%
Magnesium 6%	

Not a significant source of Dietary Fiber, Vitamin A, Iron.
*Percent Daily Values are based on a 2,000 calorie diet.

Source 2 The food nutrition label for juice



Australian Government
National Health and Medical Research Council
Department of Health and Ageing

www.eatforhealth.gov.au

HOW TO UNDERSTAND FOOD LABELS

What to look for...

Don't rely on health claims on labels as your guide. Instead learn a few simple label reading tips to choose healthy foods and drinks, for yourself. You can also use the label to help you lose weight by limiting foods that are high in energy per serve.

Nutrition Information

Servings per package – 16
Serving size – 30g (2/3 cup)

	Per serve	Per 100g
Energy	**432kJ**	**1441kJ**
Protein	2.8g	9.3g
Fat		
Total	0.4g	1.2g
Saturated	0.1g	0.3g
Carbohydrate		
Total	18.9g	62.9g
Sugars	3.5g	11.8g
Fibre	6.4g	21.2g
Sodium	65mg	215mg

Ingredients: Cereals (76%) (wheat, oatbran, barley), psyllium husk (11%), sugar, rice, malt extract, honey, salt, vitamins.

Total Fat ▶
Generally choose foods with less than **10g per 100g.**
For milk, yogurt and icecream, choose less than **2g per 100g.**
For cheese, choose less than **15g per 100g.**

Saturated Fat ▶
Aim for the lowest, per 100g. **Less than 3g per 100g is best.**

Other names for ingredients high in saturated fat: Animal fat/oil, beef fat, butter, chocolate, milk solids, coconut, coconut oil/milk/cream, copha, cream, ghee, dripping, lard, suet, palm oil, sour cream, vegetable shortening.

Fibre ▶
Not all labels include fibre. Choose breads and cereals with **3g or more per serve**

Ingredients ▲
Listed from greatest to smallest by weight. Use this to check the first three ingredients for items high in saturated fat, sodium (salt) or added sugar.

◀ **100g Column and Serving Size**
If comparing nutrients in similar food products **use the per 100g column.** If calculating how much of a nutrient, or how many kilojoules you will actually eat, use the per serve column. But check whether your portion size is the same as the serve size.

Energy
Check how many kJ per serve to decide how much is a serve of a 'discretionary' food, which has 600kJ per serve.

Sugars
Avoiding sugar completely is not necessary, but try to avoid larger amounts of added sugars. If sugar content per 100g is more than 15g, check that sugar (or alternative names for added sugar) is not listed high on the ingredient list.

Other names for added sugar: Dextrose, fructose, glucose, golden syrup, honey, maple syrup, sucrose, malt, maltose, lactose, brown sugar, caster sugar, maple syrup, raw sugar, sucrose.

◀ **Sodium (Salt)**
Choose lower sodium options among similar foods. **Food with less than 400mg per 100g are good, and less than 120mg per 100g is best.**

Other names for high salt ingredients: Baking powder, celery salt, garlic salt, meat/yeast extract, monosodium glutamate, (MSG), onion salt, rock salt, sea salt, sodium, sodium ascorbate, sodium bicarbonate, sodium nitrate/nitrite, stock cubes, vegetable salt.

Source 3 Use this as a guide to help you understand what you are eating and drinking.

Step 5 Look up any ingredients you don't recognise (such as psyllium husk) and decide if you do or do not want to eat the product.

Apply the skill

1 Compare the nutrition information tables from Sources 1 and 2. For each of the items, suggest which product might be healthier.

2 Which product is higher in energy? Do you think foods that are higher in energy are less healthy? Why?

3 If none of the products we bought had nutritional information labels on them, how do you think this would affect consumers?

Extend your understanding

1 Find three different products in your kitchen at home. Follow the steps for how to read a food nutritional label on each. Once you've done this, compare the products' information and rank them from healthiest to most unhealthy.

18.3 Setting and achieving your financial goals

Knowing how to manage your money is an important life skill. Keeping on top of your finances can give you financial freedom and make your life easier in the long run. Failure to do so can land people with **debts** that they can't repay. This can make their lives very difficult as they struggle to pay it back. The first step to managing your money is to set financial goals for yourself. Once you have a clear set of goals, you can look at ways of achieving these goals. Think of financial goals as a kind of map. You wouldn't set off on a road trip without a map and a good idea of where you're going, so why should your approach be any different when it comes to your finances?

Setting financial goals

Managing our money requires patience and discipline, so we want to know what it is we are working towards. By setting financial goals that are achievable, we can motivate ourselves to spend money more wisely. The easiest way to set financial goals is by thinking about what it is that we would like to spend money on in the future.

Short-term goals

Short-term goals are ones that we can achieve in a few weeks or months. They could be to do with saving up enough money to buy a new computer game or tickets to see your favourite band.

Long-term goals

Long-term goals are ones that take a lot longer to achieve. They require a consistent effort over many months or even years, allowing us to save enough money to purchase some more expensive things. Long-term financial goals could be to buy a computer or a car when we are old enough to drive. They might even simply be to save an amount of money in our bank account for the future, without knowing exactly what we will spend it on. Whatever goals you set for yourself, planning ahead will help to prepare you for the future.

Source 1 Many people set life goals, such as travelling to a certain part of the world or climbing a mountain. These goals are often expensive and require us to achieve long-term financial goals first.

Achieving financial goals

As the saying goes, a goal without a plan is just a wish. In order to achieve the financial goals we have set, we have to use certain strategies. At this stage of your life, it is not worth worrying about complicated **investments** that many adults use to make their money grow. Instead, focus on the important things that you can do on a day-to-day basis to save more money.

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 **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 ask your parents to help you choose a bank account that doesn't charge any fees.

Minimum savings rule

Saving money is all about discipline. By setting aside a small portion of any money you receive, you will be surprised at how quickly it all adds up. One way of doing this is by setting yourself a rule to save half the money that you receive. Another way is to set a target for how much you want to save each month. When you create a routine for saving money, you will gradually develop more discipline for saving.

Allowance

Keeping track of your money is a skill that people build up over time. If you receive money from your parents whenever you ask for it, and spend it to satisfy your wants rather than your needs, you will find it difficult to develop responsibility for your own finances. Instead, ask your parents for a weekly allowance under the condition that you have to buy things that they would normally pay for. In this way, you will learn that if you don't make smart decisions about spending your money, it will run out very quickly.

Source 2 It takes discipline to save money. Rather than wasting a small amount of money on things you don't need, set it aside so that you save up to purchase something worthwhile.

Check your learning 18.3

Remember and understand

1. Why is it important to set financial goals?
2. Describe three strategies that can help you achieve your financial goals.
3. Give an example of something you may be able to purchase by setting a short-term financial goal.

Apply and analyse

4. Set two short-term and two long-term financial goals.
5. Set one long-term financial goal of your own. Identify what you would like to purchase and how long you think it will take you to save the money needed.

Evaluate and create

5. Use the Internet to 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. You may ask your parents to help you with this.
   - Commonwealth Bank of Australia
   - National Australia Bank (NAB)
   - Westpac
   - Australia New Zealand Bank (ANZ)
   - Bendigo Bank

18B rich task

The federal budget

Keeping track of our income and spending is an important part of managing our finances. It allows us to predict how much money we will have in the future, and adjust our spending where needed. Budgets are used by individuals, businesses and even governments to figure out how they are going financially. Each year there is great debate over how the government should spend money, and where it needs to get that money from.

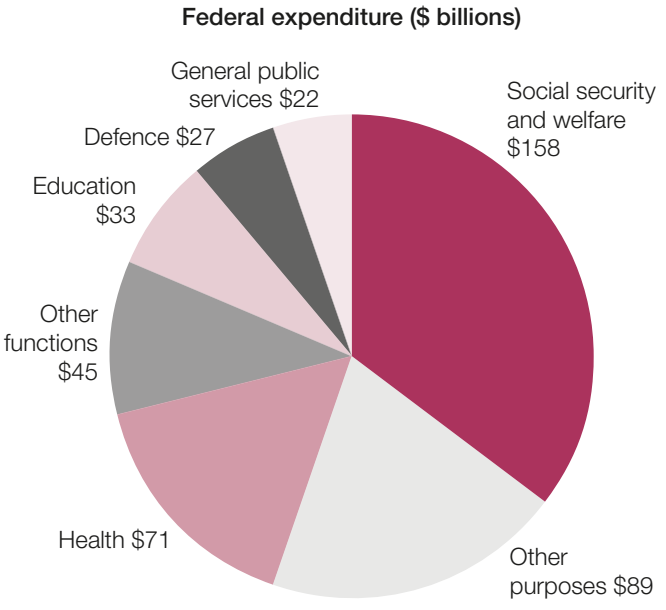
Budget	February 2017	
	Budgeted	Actual
Income		
Allowance	$150	$150
Interest on savings	$10	$9
TOTAL MONTHLY INCOME	$160	$159
Expenses		
Phone bill	$50	$60
Fast food	$20	$15
Bus and train tickets	$20	$10
Cinemas	$20	$0
Birthday present for friend	$30	$20
TOTAL MONTHLY EXPENSES:	$140	$150
Income less expenses		
Total monthly income − Total monthly expenses =	$20	$54

Source 1 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 very important 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. They then invest this money into areas that they believe will improve the lives of Australians. This includes funding for schools, hospitals, roads, the military and many other things that our society deems important. In recent years there have been concerns over whether the government is spending too much money. Often, the government has not raised enough income to pay for all of its spending and has had to borrow money from overseas.

The pie chart below (Source 2) outlines what the Australian government expects to spend money on throughout the 2016 year if it earns around $17 billion in taxes and $445 billion in other types of revenue during the financial year. Looking at the chart, we can see that 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. On the other hand, the least amount of money is spent on general public services which include the organisation and operation of government bodies such as councils, libraries and assistance with foreign affairs.



Source 2 This pie chart shows the expenditure (payments) that the government might expect to make during the financial year.

skill**drill:** Reasoning and interpretation

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 of the different types of income you expect to receive for the budget period. This can include things like money you have earned from doing odd jobs, an allowance that you have received from your parents, or interest from your bank account.

Step 3 Add up all of 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 like daily bus tickets, food and a gift for your friend's birthday.

Step 5 Add up all of 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.

Apply the skill

1 Using the steps above and the information in Source 2, 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 1 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 to create your own monthly budget. You should refer to Source 2 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 3 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.

part 4

civics and citizenship

Concepts and skills

Chapter 19 The civics and citizenship toolkit 490

Unit 1 Government and democracy

Chapter 20 The identity of a nation 498

Concepts and skills

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 Australia into a nation that is fair and just for all of its citizens.

Civics and citizenship teaches us to 'agree to disagree'. That is, we learn to form our own views but accept that other people may have different views. To do this, we must learn to gather good information about issues before forming our views. We also need to have a good understanding of how our political and legal system actually work.

As informed citizens we can promote the values of freedom, respect, compassion and equality that help us to live in harmony.

19A

What are civics and citizenship skills?

chapter 19

Source 1 Parliament House in Canberra is where elected federal politicians from all over Australia meet to make important decisions about how our nation is run.

19.1 Civics and citizenship skills

Active citizens learn to question, interpret information and argue their point of view. For civics and citizenships 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 the identity and democratic system of Australia, as well as the legal rights and responsibilities of its citizens.

Studying civics and citizenship requires you to analyse information and ask a range of questions to find out more about a topic. You will learn to question and research information asking what, why, when, how and who to uncover the truth about an issue. By investigating a range of different issues you will be able to develop your own point of view, and also find out why other people might have a different point of view to yours.

As shown in Source 1, there are four stages in any civics and citizenship inquiry. They are:

1. Ask questions and conduct research.
2. Analyse and interpret sources.
3. Apply strategies to resolve civics and citizenship issues.
4. Communicate your findings and reflect.

Source 2 Learning to question and interpret information, whether you are in the classroom or gathering sources and information, is an important skill.

Source 1 There are four stages in any civics and citizenship inquiry. At each stage, you might use a number of different skills. Each of these skills is like a tool in a toolkit.

19.2 Ask questions and conduct research

Develop, select and evaluate a range of questions to investigate Australia's political and legal systems

Civics and citizenship students ask lots of questions. They don't believe everything they read and 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.

skill drill: Reasoning and interpretation

Developing civics and citizenship questions

As active citizens, we should ask questions about the society we live in rather than just accepting it or taking things for granted.

Source 1 A political cartoon about the controversial issue of keeping asylum seekers in detention centres for an unspecified period of time, often years

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', 'where', 'how', 'why', 'what impact' or 'what should'. When examining a source, whether it is a cartoon, video footage, a newspaper article or election slogan, the following steps may be helpful.

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 their 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 judgement?

Apply the skill

1 Where could you look to find answers to the question, 'What is the issue with detaining asylum seekers?'
2 Why is it important to know the author of the source when discovering the truth about an issue?
3 Why is examining how the source affects you sometimes more important than basic descriptive questions such as 'What is happening'?
4 What tactics have been used to convey the cartoonist's message about the issue of asylum seekers in detention centres?

Identify, gather and sort information and ideas from a range of sources

Sources provide information for civics and citizenship students. They 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 judgements, newspaper articles, letters, tweets, blogs or Facebook posts, cartoons and interviews.

Locating a range of relevant sources is a valuable skill, which usually involves a number of different search 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.

Using ICT to locate relevant sources

Although books and newspapers are valuable sources of information, most research today is conducted online. In order to ensure that sources gathered online are accurate, reliable and relevant, a number of guidelines should be followed:

- Search engines such as Google are useful research tools but much of the material on websites is unreliable and inaccurate. When using search engines, be sure to define your search using keywords. Your librarian or teacher are good people to ask for help with this.
- A reliable way of searching for sources is to use sites linked to educational institutions, **government** departments, reputable companies, universities and educational institutions. A quick way of telling if a site is reputable is to look at the domain name in the URL (Internet address).
- Avoid blogs posted by unknown individuals. If you happen to find information relevant to your investigation on a blog or social media site, always verify it by using a more reliable source.
- Never cut and paste information from the Internet 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 the law, as well as school rules.

Check your learning 19.2

Remember and understand

1 When do citizens ask questions?
2 Why is it important to ask questions as citizens?
3 What should we be wary of when looking for information to answer questions?

Apply and analyse

4 As an active citizen, develop a question to ask about the following scenarios:
   a A local politician promised to fix and reopen the local pool but nothing has happened.
   b Young people in the local area are bored and desperate for things to do.
   c The number of children that can read in one state of Australia is decreasing.

Evaluate and create

5 Identify an issue in your local area. Develop three questions to ask your local politician about that issue.

Source 2 Littering is a local issue you can ask your local politician about.

19.3 Analyse and interpret sources

Critically analyse information and ideas from a range of sources in relation to civics and citizenship topics and issues

A useful source is one that will add to your understanding of a civics and citizenship inquiry. The source needs to be relevant to the topic and reliable. The following are good questions to ask in order to determine whether a source is useful:

- Is it a reliable source?
- Is there enough information and sufficient detail to help me answer the inquiry question?
- Does the information support evidence from other sources?
- Is it balanced or does it present only one point of view (known as bias)?
- Is it based on fact or opinion?
- Is the information current?

Separating fact from opinion

Sources are only really useful if they help you to form an opinion. 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 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', 'believe', 'think' and 'suggests' all indicate that an opinion is being expressed.

For example:

- Fact: Australia detains asylum seekers for an unspecified period of time.
- Opinion: I believe keeping asylum seekers in detention centres is unethical as they have not committed a crime.

Source 1 Separating fact from opinion in civics and citizenship is an important skill.

Check your learning 19.3

Remember and understand

1 What is the difference between a fact and an opinion?
2 How can we tell if a source is useful?
3 What is meant by the term bias? How do you think bias might affect the reliability of a source?

Apply and analyse

4 Matt wants to know more about the government's policies on education. He has found a few blogs on the subject but doesn't know where else to look. What advice would you give Matt?

19.4 Apply strategies to resolve civics and citizenship issues

Recognise and consider different points of view, and use strategies to negotiate and resolve issues

In civics and citizenship it is important to understand not only *what* opinion is being expressed but 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's 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.

Use democratic processes to reach an agreement on a course of action relating to a civics or citizenship issue, and plan for that action

A democratic process exists when everyone has an opportunity to have their say. This might include giving all members of a group the opportunity to contribute to a discussion, making sure that all group members have access to information and taking a vote.

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.

Source 1 One way to reach a decision that reflects the majority view is to take 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.

Check your learning 19.4

Remember and understand

1. What is a democratic process?
2. Give an example of a democratic process in action.
3. Why is it important to recognise different points of view?

Apply and analyse

4. A PE teacher has given a class a choice of what sport they are allowed to play during a double period. The class is divided between people who want to play netball, people who want to play football and people who want to play hockey. Suggest a process to help the class make a fair decision.

Evaluate and create

5. Create a handbook or class wiki providing tips on how to make class decisions when not everyone agrees.

19.5 Communicate your findings and reflect

Present evidence-based civics and citizenship arguments using subject-specific language

In every subject, there is a common language that is used. Certain terms form part of important concepts and are essential in helping us understand these concepts. Source 1 lists and defines some commonly used terms in civics and citizenship; additional civics and citizenship terms can also be found in the glossary at the end of this book. If you come across a term that you are unsure of, you should use a dictionary, the Internet or 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.

citizenship	A person's status as a citizen. A citizen is a person who legally lives in a geographical area such as a town or country. In a wider context, citizenship encompasses the rights and responsibilities citizens exercise.
civics	The study of the rights and responsibilities of citizens and how government works
government	The elected members of parliament who make decisions for a nation or state. The government is made up of the party or coalition that has won a majority of seats in the lower house of parliament. The lower house of federal parliament is the House of Representatives. The upper house is the Senate.
multiculturalism	Refers to the way in which people of many different cultures, races and religions live peacefully with one another as equals
parliament	The national or state law-making body that is made up of elected representatives in both the upper and lower houses with a head of state. In Australia, the national parliament is referred to as the Commonwealth or Federal parliament.
parliamentary democracy	A system of government where people elect representatives to parliament in order to make laws that reflect the views of the majority of voters

Source 1 Some useful civics and citizenship terms

Reflect on their role as a citizen in Australia's democracy

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 should always 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 helps us make our world more beautiful through the positive changes that we make to it. Australian citizens are global citizens, and 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.

Check your learning 19.5

Remember and understand

1 Explain the following terms using your own words:
   - **a** citizen
   - **b** civics
   - **c** government.

2 What can you do when you come across a term you do not understand?

Apply and analyse

3 List three ways you could help to improve your local community.

Evaluate and create

4 Develop a class project that you think would help your local community. It can be anything from picking up litter to raising money for a local charity. Suggest a plan of action for this project and reflect on this in terms of how it might help you to fulfil your role as an active citizen in your community.

Unit 1 Government and democracy

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 Indigenous peoples for tens of thousands of years before the first Europeans arrived. This event changed Australia 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.

20A

What are Australian values?

1 What do you think are the three most important values that Australians should share? Why?

2 Why do you think it is important to respect other people's beliefs?

20B

What is the Australian identity?

1 How many of your five favourite foods originate from other cultures?

2 Do you think Indigenous Australian culture is an important part of this nation's identity?

chapter 20

Source 1 Australia is a multicultural nation that is home to people from many different cultural, religious and language backgrounds.

20.1 Australian values

Values are the beliefs, ideals and behaviours that we consider important as a nation. While we each have our own personal beliefs, our society as a whole also has values that guide our behaviour. As Australia has developed, its people have fostered values such as freedom, equality, compassion, inclusion, responsibility and giving people 'a fair go'. These values are reflected by our laws, and the ideals of the majority of people within our society, allowing us to live in harmony.

Freedom

Freedom is the ability to make our own decisions without being controlled by others. In Australia, we can make many decisions about our own lives, such as where we will live or what job we will do. Australians enjoy freedom of speech, meaning people can openly express their thoughts and opinions in public. However, many people don't realise that this freedom is not actually protected by law in Australia; it is a privilege written into the **Australian Constitution** rather than a legal right.

Australia also promotes freedom of religion, allowing people to practise their religions within the boundaries of the law. Unlike freedom of speech, this religious freedom is protected by our laws.

Despite these freedoms, we are not completely free to do anything we like. There is a lot of debate about what freedoms we should be allowed so that we do not harm other people. For instance, even though we are free to buy new clothes for summer, we are not allowed to steal those new clothes from someone else. While Australians enjoy many freedoms, we have laws to guide us that help us live together in peace.

Source 1 In November 2015, anti-racism protestors clashed with anti-Islam protestors in Melton, Victoria.

Equality

Equality is the idea that every person in society should be treated the same way and considered equal. Equality is an important part of any society that cares about making sure no one is discriminated against. Equality is difficult to achieve. While the government tries to treat all of its citizens equally in the eyes of the law, it has received criticism for discriminating against certain groups of people, such as same-sex couples. Economic inequality has increased in Australia as fewer and fewer people control more and more of the country's wealth. Nevertheless, giving everyone an equal opportunity to succeed is a value held dear by many Australians. This is why the government and many organisations aim to help the disadvantaged in our society.

A 'fair go'

A 'fair go' means that everyone deserves a fair chance to succeed. In Australia, the idea of a 'fair go' is meant to apply to all people. It applies to access to education and health care, and the opportunity to work and earn a decent living, regardless of gender, race or socioeconomic status. It means that discrimination on any of these grounds is not acceptable.

Source 2 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 how different they are.

Compassion

Compassion is a human response to the suffering of others that makes us want to help or relieve that suffering. As people living in 'the lucky country', the majority of Australians live very comfortable lives compared to people living in other parts of the world. Some Australians feel a responsibility to help those less fortunate and pressure the government to fulfill its responsibilities to people suffering in Australia and overseas. Our government can assist Australians in need by providing accessible medical services, education and aged-care and disability services.

People's different levels of compassion and willingness to act on it have sparked great debate over what Australia's responsibility is in the global community. For instance, there are opposing views about how Australia should manage **asylum seekers**, people in extreme poverty and others in similarly desperate situations. Compassion is perhaps the most important value of any healthy society, as it influences people to help others who are experiencing extreme suffering.

Source 3 Many people risk their lives to come to Australia, but can then spend years in detention centres.

Source 4 Rallies against discrimination are often peaceful protests for a fair go for all people regardless of race, gender or socioeconomic status.

Inclusion

Everyone is different, but some people's differences are more noticeable, or harder for others to understand. Unfortunately, it is easy to fear what we do not understand. Failing to overcome such fears can cause us to exclude people simply for being different, leaving them feeling isolated and ashamed of their uniqueness. It is important to celebrate our differences and include all kinds of people in our society, no matter what they look like or how differently they might choose to live. By including everyone, we are able to live in harmony together rather than in conflict or isolation.

Responsibility

Learning to be responsible means we must take ownership of our decisions and ensure that others do not suffer as a result of our behaviour. This is what holds people accountable for their actions. In Australia, the legal system is one way in which people are made to act responsibly. If a person commits a crime, they are likely to be fined or imprisoned. But often, it is our own understanding of what is right and wrong that makes us act responsibly. For example, after eating our lunch, if we throw our rubbish on the floor for someone else to pick up, we would feel guilty, so we place it in the bin. This is an example of being responsible, as we are considering the effects that our decisions have on others as well as ourselves.

Source 5 The failure of people to take responsibility for their effect on the environment is causing a great many problems for the planet and its people.

Check your learning 20.1

Remember and understand

1 What are values, and how are they reflected in our society?
2 Describe three values that are important to Australian society.

Apply and analyse

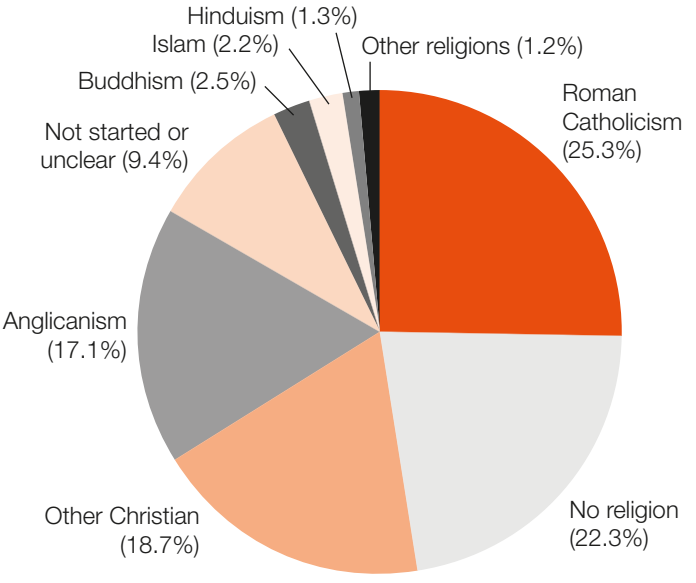
3 Why do you think Australia is called 'the lucky country'?
4 Do you think people should be free to do whatever they please? Why or why not?
5 How might values such as freedom, equality, a 'fair go', compassion, inclusion and responsibility make it easier for us to live together?
6 Which Australian values do you think might also be valued by the rest of the world? Why?
7 **a** In Source 1, what freedom are these people exercising?
  b What freedom are they fighting for?
8 **a** People are different in many ways. Describe one difference that you have often observed.
  b How do you think you can help to make all kinds of students feel included at your school?
9 **a** Why do you think responsibility is such an important value for our society?
  b List five things that you are responsible for at home and at school (such as making your bed or bringing the correct books to class).
  c For each of the responsibilities mentioned above, write what you think would happen if you did not fulfil your responsibilities.

Evaluate and create

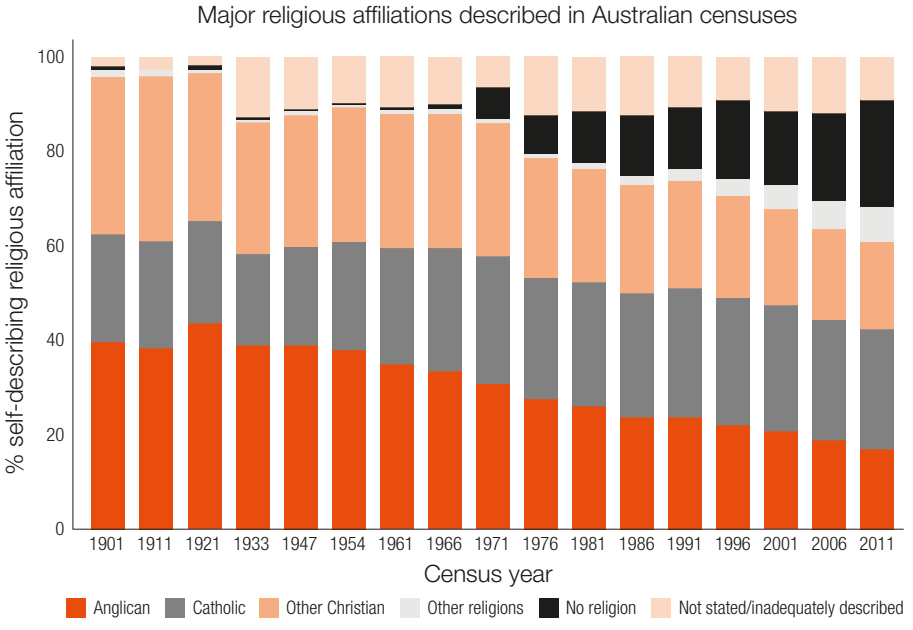
10 Source 4 shows a group of asylum seekers from Syria who are attempting to begin a new life in Australia. Do you think the policy of the Australian government to detain some asylum seekers in detention centres is in line with the values discussed? Write a paragraph explaining your point of view.

20.2 Australia as a secular nation

While Christianity is an important part of life for many people in Australian society, the Church has never been directly involved in running the country. Instead, the government (also known as the state) is responsible for running our political and legal systems. This separation of church and state is known as **secularism**. Secularism is a key feature of Australia's identity as a nation. As a secular nation, Australia is able to support and encourage a diverse multicultural society that gives its people the freedom to choose their religious beliefs. Like Australia, most nations around the world today adopt a secular system of government. However some nations, such as Iran and Saudi Arabia, base their legal and political systems on religious teachings.

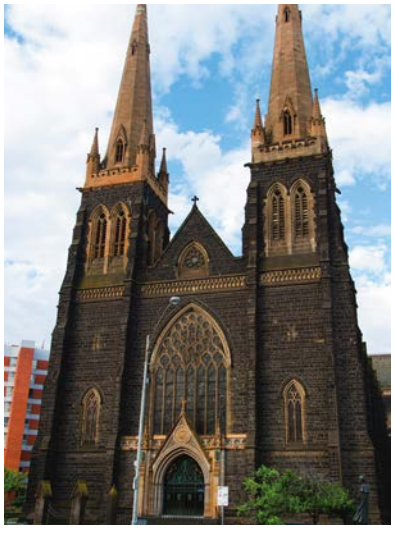


Source 1 This pie chart shows the different religions or faiths of Australians according to the 2011 census.



Source 2 This chart shows how many religions and faiths have been practised in Australia since 1901.

Source 3 The flag of Victoria reflects Australia's loyalty to the British monarchy, which has a strong Christian identity.



Source 4 Australia is considered a secular nation because the Church and the State (or government) are separate.

Source 5 Unlike Australia, Saudi Arabia is a non-secular nation, in that their legal system is based on religious teachings.

Australia's many faiths

Australia is a multicultural nation that is home to people from all over the world. These people brought with them their different customs, beliefs and religions. Australia's commitment to the freedom of religion has allowed people to practise whichever religion they choose, as long as it does not interfere with the rights of others or break any laws. This tolerance for many people's beliefs is a core value of Australian society, one that allows us to live in harmony with one another.

Separation of church and state

One of the core principles of Australia's democracy is that it does not allow religious institutions (the Church) to directly influence the decisions of government (the State). Australia's public health, education and political institutions are all free from religious connections. This ensures that religious beliefs of one group of people are not forced onto Australians of other faiths. It also means that decisions about what is best for today's society can be made through open discussion. Despite being a secular nation, religions still influence the beliefs and decisions of many Australians who, as both voters and politicians, determine how the nation is governed.

Check your learning 20.2

Remember and understand

1 What is 'secularism'?
2 Which two nations are examples of non-secular states?
3 Describe two benefits of having a separation of church and state.
4 What is the religion of the British monarchy?

Apply and analyse

5 What do you think it might be like to live in a non-secular nation of a different religion from your own?
6 Look at Source 1. List the faiths in order of highest to lowest number of followers in Australia.
7 Look at Source 2.
   a Which affiliation has been increasing over the years?
   b What has been happening to the proportion of Christian followers (including Catholic and Anglican) over the years?
8 Look at Source 3.
   a What elements of the flag show Victoria's identity as part of the British empire?
   b What part of the flag shows a distinctly Christian identity?

20A rich task

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. 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.

However, the data collected by the ABS isn't 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.

Source 1 Australia has a population of more than 24 million. Conducting a census of this many people is a difficult and expensive task, which is why it is only done every five years.

Source 2 The government body in charge of collecting and analysing census data: the Australian Bureau of Statistics (ABS).

skill**drill:** Reasoning and interpretation

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 of 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.

Apply the skill

1. Conduct a census of your class to find out information about their 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.
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?

Extend your understanding

Use the Internet to find out information from Australia's most recent census. A link to the ABS website is provided on your obook assess.

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. In 2011, which state or territory in Australia had the highest population?
5. When is the next census scheduled to occur?
6. According to the ABS data, how often is a new person added to the Australian population?

20.3 Multiculturalism in Australia

Australia is one of the most culturally diverse nations in the world. Today, Australia's population is made up of three key groups:

- **Indigenous Australians** – the original inhabitants who began settling here around 60 000 years ago. This group makes up around 3% of the total population.
- **migrants** – people who were born overseas and travelled to Australia to begin new lives. This group makes up around 28% of the total population.
- descendants of migrants – people who were born here and whose ancestors travelled to Australia since the arrival of the Europeans in 1788. This group makes up 69% of the total population.

All of these people carry with them a rich heritage and culture that has helped shape Australia's identity.

A history of multiculturalism in Australia

Up until the arrival of Europeans in 1788, Australia had been inhabited continuously by Indigenous Australians for more than 50 000 years. Since then, we have seen waves of migrants come to Australia from all over the world (see Source 2).

Source 1 This postage stamp was issued to commemorate Australia Day in 1982. It shows an Indigenous Australian, a British colonist, and a Muslim Australian.

50 000 BCE	According to the 'Out of Africa' theory, the first Australians crossed from Asia into Australia and began spreading out across the continent.
1788	The First Fleet arrives from Britain carrying Europeans to a continent inhabited by more than half a million Indigenous Australians.
1788–1868	Britain transports more than 160 000 convicts to Australia in order to ease their own overcrowded prisons.
1793–1850	Around 200 000 mainly English, Irish and Scottish people migrate to Australia voluntarily.
1850	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	The government promotes the importance of migration through its 'populate or perish' policy. This policy results in more than 3 million European migrants resettling in Australia from war-torn Europe.
1970s	The first waves of refugees arrive from Asia, most of whom are people fleeing the war in Vietnam. To this day, the treatment of asylum seekers is a hotly debated political issue in Australia.
Today	There are more than 24 million people living in Australia, half of whom were either born overseas or have at least one parent who was born overseas.

Source 2 Timeline of migration to Australia

Expressing cultural identity

Australia's core values of freedom and inclusion allow for people to respectfully express their cultural identity without being persecuted. This has resulted in vibrant cities and towns across the nation, bustling with a diverse range of music, food, beliefs and customs that one would otherwise have to spend several lifetimes travelling the world to explore. From pizza to pho, Australia has slices of culture from more than 200 nations. As a result of our diverse society, Australia is also given the opportunity to learn about other cultures through community events such as food festivals, film festivals and traditional celebrations from other countries like Lunar New Year. It is this ever-changing and exciting mix of cultures that forms the Australian identity. We live in a multicultural nation that people from all walks of life can call home.

Source 3 Each year, many Asian Australian communities across the nation celebrate Lunar New Year with colourful festivities that entertain large crowds of people.

Check your learning 20.3

Remember and understand

1 When did the first Europeans settle in Australia?
2 How long have the Indigenous Australians inhabited Australia?

Apply and analyse

3 Look at Source 1.
   a How does the stamp portray the Australian identity?
   b Why do you think the stamp shows the three individuals standing in that particular order?
   c When was the stamp released? Do you think it is still representative of Australia's multicultural identity?

Evaluate and create

4 Create a poster celebrating one of Australia's many cultures. You could use the Internet and the library to research information about the culture. You may wish to include the following:
   - customs
   - food
   - music
   - language
   - religion
   - famous Australians of that cultural background
   - significant historic events that caused that group of people to migrate to Australia
   - any other interesting information.

20.4 Indigenous Australians and the Australian identity

Australia's national identity is difficult to define because it can mean different things to different people. For some, the arrival of European settlers in Australia (and our colonial history) is something to celebrate and be proud of. For others, the arrival of European settlers in Australia (and their harsh treatment of Indigenous peoples) is something shameful that we need to take ownership of and express regret over.

Acknowledging the past

As the saying goes, 'History is written by the victors'. This is very true of Australia's colonial history. Since the arrival of the first European settlers in Australia in 1788, the official history of Australia has often ignored or misrepresented the harsh treatment of the **first Australians** – Australia's Indigenous peoples.

By the time Captain Arthur Philip established the first British colony at Sydney Cove on 26 January 1788 (see Source 1), Indigenous Australians had been living successfully in Australia for around 60 000 years. Within a few years of European arrival, the traditional lifestyles and cultural traditions of Indigenous peoples in Australia had been devastated. Many were pushed off their traditional lands to make way for European houses and farms. Many died from Western diseases (such as smallpox and influenza) that they had never been exposed to before. Finally, many were killed in violent conflicts. The treatment of Indigenous Australians by British colonists was often very severe and brutal (see Source 2).

Reconciliation

For many Australians, learning about this dark period in our history and acknowledging the unfair treatment of Indigenous Australians is an important first step towards defining and understanding Australia's national identity. Many historians argue that until we confront these issues and talk about them openly as a nation, we will never truly be able to live up to the values that we consider important as a nation.

Source 1 Governor Arthur Phillip raises the British flag over the new colony at Sydney in 1788.

Source 2 The treatment of Indigenous Australians by European settlers was often very harsh and inhumane. These Aboriginal men are shown chained at the neck for committing an offense. The use of neck chains on Indigenous Australians was not outlawed until the 1940s.

One way of dealing with these issues is through a process known as **reconciliation**. Put simply, reconciliation is the act of becoming friends again after a disagreement or fight. In Australia, the term has a deeper and more complex meaning. Aboriginal rreconciliation is about improving the relationships between Indigenous and non-Indigenous Australians. It aims to address some of the harm that was carried out against Indigenous Australians and address the inequity that still exists between Indigenous and non-Indigenous Australians today. In recent times, a number of efforts have been made towards achieving reconciliation such as handing back control of traditional lands to Indigenous peoples and changing laws so that they are fair to all Australians. Source 3 shows some other reconciliation events such as:

- National Reconciliation Week – an event that promotes reconciliation and encourages all Australians to get involved.
- National Sorry Day – an event that commemorates members of the Stolen Generations (Indigenous people who were forcibly taken from their parents by the government and put into state care)

In addition to these events, some people believe that our national symbols (such as our flag and Constitution) need to be redesigned to acknowledge our country's Indigenous heritage (see Source 4).

Despite these efforts, reconciliation is a slow and difficult process that will take many generations to achieve.

1975	The Racial Discrimination Act is passed to help ensure Australians of all backgrounds are treated equally by the law.
1985	Uluru is handed back to its Indigenous custodians (caretakers) – the Ananyu people.
June 1992	The High Court hands down the Mabo decision, recognising the special connection that Aboriginal and Torres Strait Islander peoples have with the land. The Court rules that Australia was never *terra nullius* (land belonging to no one).
1996	National Reconciliation Week is launched.
1998	National Sorry Day is marked on 26 May.
2008	Prime Minister Kevin Rudd formally apologises on behalf of the Australian Parliament to the Stolen Generations.

Source 3 Timeline of significant reconciliation events

Source 4 Some people believe that the Australian flag should be redesigned to include Aboriginal symbolism. This flag, designed by Brendan Jones, is one example of what our flag may look like in future.

Check your learning 20.4

Remember and understand

1 Why is Australia's national identity hard to define?
2 In your own words, define reconciliation.
3 What was one significant event that helped move Australia towards reconciliation?

Apply and analyse

4 Compare the flag in Source 4 to the official flag of Australia.
   a What are the differences and similarities?
   b Using the Internet, research what the symbols used in the two flags represent.
   c Which flag do you think better represents Australia today? Why?

Evaluate and create

5 Design an alternative to the Australian flag that you think best represents our nation's identity.

20B rich task

#ChangeTheDate

Australia Day is one of the most important days on our national calendar. Each year on 26 January, we commemorate the arrival of the First Fleet in Australia from Great Britain and the raising of the Union Jack at Sydney Cove in 1788.

For some Australians, celebrating the arrival of Europeans in Australia is both offensive and wrong. They argue that our national day should acknowledge Australia's Indigenous heritage. These people are part of a growing movement in the media and on social networking sites like Twitter, Facebook and Instagram to #ChangeTheDate.

The 26 January 1788 marked the beginning of British rule of the Australian continent. As a result, it is a day of great sorrow and mourning for Indigenous people in Australia. For them, 26 January 1788 marks the day that their traditional culture and way of life was disrupted forever.

Australia Day was first celebrated in 1934. At this time, the majority of all Australian's were of European descent and attitudes towards Indigenous Australians were largely negative. In fact, Indigenous Australians had very few legal rights and were not able to vote in elections.

The situation today is quite different. As a nation, Australia is a far more multicultural society that it was in 1934 and we have begun to acknowledge the unfair treatment and abuse that was carried out against Indigenous Australians as a result of European colonisation. Although all Indigenous Australians still struggle for rights and freedoms, legal recognition of their rights and acknowledgement of their culture is now more valued than ever before.

For this reason, people in favour of the changing the date believe it should reflect something more respectful to the Indigenous Australians.

People opposed to changing the date argue that it has become an important tradition that forms part of the Australian identity. Many of them believe that the nation we live in today was shaped by this historic event and that it should be remembered.

Whatever side they take, people across Australia are exercising their democratic rights to voice their opinion on this debate. One of the best ways of doing this is by contacting your local member of parliament, or even writing directly to the Prime Minister.

Source 1 Many Australians feel that 26 January represents British invasion of the continent.

Source 2 Many Australians celebrate the Australia Day public holiday on 26 January with a great sense of national pride.

skill**drill:** Citizenship, diversity and identity

Lobbying a politician

In Australia, politicians are employed to represent the opinions, concerns and interests of the people in parliament. One way of making sure that your opinion is heard on issues that are important to you is by contacting politicians directly. You can simply let them know how you feel about an issue, or try to argue for them to change their position on something that's important to you. This is known as lobbying. The best way to lobby for change is by sending a letter or email, but you might also try posting a comment on social media sites such as Twitter. The following steps will help you make sure your opinion is heard:

Step 1 Before you contact a politician about an issue that's important to you, you need to work out if it is a local, state or national issue. If you think a bike path needs to be built in your area, you should contact your local or state member of parliament. If you think the date of a national holiday should be changed, you should write to your federal member of parliament. If you are in any doubt, try contacting more than one person.

Step 2 Gather as much information as you can about the issue or topic you are concerned about. Make a note of the important facts that will support your point of view.

Step 3 Make sure you include your full name in the email and address the person you are writing to in the correct way:

Member (House of Representatives)	
Title used on envelope or in email subject line	Ms Nola Marino, MP Mr Michael Danby, MP
Greeting	Dear Madam or Dear Ms Marino Dear Sir or Dear Mr Danby
Senator (Senate)	
Title used on envelope or in email subject line	Senator Richard Di Natale Senator for Victoria
Greeting	Dear Senator
Prime Minister	
Title used on envelope or in email subject line	The Hon. Malcolm Turnbull, MP Prime Minister of Australia
Greeting	Dear Prime Minister

Step 4 Introduce yourself and explain the reason why you are writing. Make sure the tone of your letter is polite and that the points you include are clear. Explain what you would like to do about the issue and why you think it is important.

Step 5 Once you have outlined your position, sign of the letter 'Yours faithfully' and sign or print your full name.

Step 6 It may take some time to receive a response from the person you have written to. This is normal, as most politicians are very busy people. If you do not hear back within a few weeks, you should try resending your letter or email.

Apply the skill

1 Write an email or letter to lobby a politician about one or more aspects of Australia Day.

- Choose if you would like to focus on a local, state or federal issue relating to Australia Day and select the most relevant politician to contact.
- You might like to include these points in your email/letter (or think up some points of your own):
  - changing the date of Australia Day or keeping it the same
  - changing the name of Australia Day or keeping it the same
  - changing the focus of Australia Day to include Indigenous Australians.

Extend your understanding

1 Use the Internet or an Australian calendar to make a list of all the public holidays celebrated around Australia.

a Research the significance and history of these days. What do they commemorate and why?

b Which of these public holidays do you think best reflects our identity as a nation? Give reasons for your answer.

c Which of these are public holidays are only celebrated in Victoria? What do they have in common?

Glossary: Geography

A

aerial photograph a photograph taken at some distance above (for example, from an aeroplane)

alphanumeric grid a row of numbers and a row of letters on adjacent sides of a map or other image providing an easy way to locate particular features

amenity something that makes living someplace attractive (e.g. public transportation, good roads, a park)

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

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

B

bar graph a graph that shows information as a series of horizontal bars

barometer an instrument used to measure atmospheric pressure

BOLTSS a mnemonic (memory device) for remembering the essentials of a map: border, orientation, legend, title, scale and source

bore (also called an Artesian well) a drilled well that brings water up from deep in the ground

C

cardinal points the four main directions shown on a compass; north, south, east and west

change a key concept in geography: the dynamic nature of all processes on Earth, whether slow or fast, small or large

choropleth map a map that shows particular data or characteristics, such as population density, by using different shades of the same colour or different colours to show variations (e.g. light green to dark green)

civil unrest disturbances in a city characterised by protests against the government or ruling structures

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

climate change the generally accepted idea that the Earth's climate is warming and will continue to warm due to pollution and overpopulation

climate graph a combination column and line graph that shows the rainfall and temperature of a given place; also known as a climograph

column graph a graph showing information as a series of vertical columns

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

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

compound column graph a column graph that has subdivided columns for further comparison of groups

concept map a diagram or chart used to organise thoughts and ideas to show their relationship

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

consumption the use of a resource

continuous resource a resource, such as the Sun, that will never run out no matter how much we use it

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

D

delta a fertile area of land that forms at the mouth of a river

desalination the process of removing salt from sea water

desert area that receives less than 250 mm of rain every year; can be hot or cold

developing country a less economically developed country that has some difficulties in supporting its own people

direction a way of orienting a map, usually shown by the use of 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

dot distribution map a map using dots or other shapes to show the location of a particular feature

E

eastings the gridlines that run vertically on a topographical map

effluent contaminated water that flows out of a treatment plant, sewage system, industrial site, etc.

environment a key concept in geography: a specific place on Earth and all the things, both living and non-living, that are there

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

ethnicity the background, nationality or culture of a person or group of people

evaporation the process by which a liquid (such as water) is converted to a gas

exception in geography, a feature that falls outside a usual pattern or does not follow an observed pattern

F

feature a distinctive landform or characteristic of the landscape, either naturally occurring or made by humans

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

FIFO fly-in, fly-out; used to describe the lifestyle of workers who live far away from their place of employment (such as a mine)

floodplain low-lying land next to a river or stream that is regularly flooded by water

flow map a map that shows movement (such as people or goods) from one place to another

fossil fuel fuel made from the decomposed remains of plant and animals that lived millions of years ago (e.g. coal, oil)

G

geographical inquiry the stages that geographers follow to guide their investigations

geothermal energy energy that comes from the internal heat of the Earth

Geographic Information System (GIS) a software application designed to capture, store, manipulate, analyse, manage and present all kinds of geographical information

glacier a large frozen mass or river of ice that slowly moves down a mountain or valley in response to gravity

greenhouse gas a gas (e.g. carbon dioxide, methane) which is partially captured in the Earth's atmosphere preventing some of the Earth's warmth from escaping into space

gross domestic product (GDP) the total value of a country's goods and services

H

HIV/AIDS human immunodeficiency virus infection/acquired immunodeficiency syndrome; an illness that disrupts a person's normal immune system, making him or her susceptible to many other diseases

Human Development Index (HDI) a set of statistics used to indicate life expectancy, education and income for individual countries in order to compare and rank them

hydroponics a method of growing plants without using soil

I

ice cap a permanent layer of ice over the ground, such as found at the North and South Poles

iceberg a large mass of ice that has broken away from a glacier or ice sheet and is floating in open water

infiltration the process of water seeping through the earth

infrastructure the facilities and services necessary for any community, city or country to function (e.g. buildings, electricity, roads, airports and water supply)

interconnection a key concept in geography: the relationship between all things, both living and non-living, and all processes, both natural and human

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

K

key inquiry question a question that helps geographers to plan and focus their geographical inquiries

L

land use map a map that shows what segments of land are used for (e.g. residential, commercial, agricultural)

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

legend (also called a key) a guide to the symbols and shading used on a map or other image

levee a raised area between low-lying land and a body of water, built to prevent flooding

line graph a graph that displays data as a line

liveability a measure of what a place is like to live in according to particular criteria such as access to schools and work, climate, safety, etc.

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

magnetic north the physical place on Earth, near the North Pole, to which a magnetised needle points

map a simplified plan of an area shown from directly above

megacity a city with a population of more than 10 million people

meteorologist a scientist who studies the atmosphere, particularly the forecasting of weather

metropolitan a term used to describe a major city or urban area

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

N

natural resource a resource that occurs in nature (e.g. water, minerals, trees, livestock)

nomad a member of a community that moves from place to place, usually based on the availability of seasonal food and resources.

non-renewable resource a resource that cannot be regenerated once it is used up (e.g. oil, coal)

northings the gridlines that run horizontally on a topographical map

O

overlay map a map on some type of transparent paper or layer that is placed over a base map, used to show the relationship between features or events on the Earth's surface

P

physical map a map that shows the locations and names of physical features of the Earth, such as mountains and rivers

pie graph a graphical way of presenting data; a circle is divided up into segments to represent the distribution of data

place a key concept in geography: a part of the Earth's surface that is identified and given meaning by people

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

political map a map that shows the locations and names of built features of the Earth, such as country borders, cities, roads, dams and railways

population density a mesurement of the number of individuals per unit area (e.g. 1500 people per square kilometre)

population pyramid a graph that displays the percentage of males and females in a region by age-group

precipitation the process of water in its various forms (rain, snow, hail, etc.) falling to the ground

primary data data for a 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 a person who moves to another country because of a natural disaster or to avoid persecution

region an area on the Earth's surface that makes it different from surrounding areas

renewable resource a resource that can regenerate or be regrown (e.g. trees) as opposed to one that cannot be regenerated (e.g. coal)

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

run-off water that does not penetrate the ground but flows on the surface towards rivers, lakes and seas

rural–urban fringe the area where cities end and country or farming areas begin

S

sanitation measures designed to ensure good health in a community by preventing human contact with health hazards (such as sewage)

scale a key concept in geography: the level at which a geographical inquiry takes place – personal, local, regional, national or global

scale (mapping) a system that indicates how the distances on a map as represented in the real world (e.g. written scale, line scale, ratio scale)

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)

six-figure grid reference a system used to locate exact points on a topographic map

slum a settlement within a city where the inhabitants have inadequate housing and poor access to basic services

space a key concept in geography: the way things are arranged on the Earth's surface

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)

sustainability a key concept in geography: the ongoing capacity of Earth to maintain all life

sustainable capable of being continued with minimum long-term effects on the environment

T

tailings the waste material left over from commercial mining operations

thematic map a map that shows details about a particular topic, such as land use or the distribution of resources

topographic map a map that shows the shape of the land, its relief and landforms

trend a general direction in which something is developing or changing (e.g. the trend in population in Australia is positive)

tropics the area of the world between the Tropic of Capricorn and the Tropic of Cancer

tsunami a giant ocean wave caused by an underwater earthquake

U

unsustainable not capable of being continued without long-term effects on the environment

urban sprawl the growth of a city onto productive farming land on the city fringes

V

vertical aerial photograph a photograph taken from directly above the landscape or feature being photographed, usually from an aeroplane or satellite, giving a **plan view**

virtual water the volume of fresh water used to produce the product, measured at the place where the product was actually produced

voluntary migrant a person who is free to choose where and when they move

W

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

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 footprint an indicator of the amount of water (both direct and indirect) that is used to produce the goods and services

weather map a map that shows conditions in the Earth's atmosphere, such as air pressure, wind speed, wind direction, and warm and cold fronts

Glossary: History

A

Aboriginal peoples a term used to describe the original inhabitants of a country (e.g. Australia); more specifically, the original inhabitants of mainland Australia, Tasmania and offshore islands (except for the Torres Strait Islands)

acropolis a raised and fortified area (often on a rocky hill) within a Greek city-state on which public structures such as temples were built

AD the abbreviation of *Anno Domini* (year of our Lord), used to indicate any time after the birth of Christ (*see also* CE)

age a period of history with specific characteristics that make it stand out from other periods (e.g. Stone Age, Bronze Age)

agora a large open area at the base of an acropolis that was both a meeting place and the centre of business and government for a Greek city-state

amphitheatre an ancient version of today's football stadiums, where raised seating rose up around a flat central area where events or performances were held

amulet a magical charm thought to keep away evil

ancestors anyone from whom a person is descended (i.e. a distant family member or relation from the past)

aqueduct a channel (often on top of arches; other times underground) that carried water, by gravity, from distant mountain springs to settlements

archaeological dig a site known (or thought) to contain artefacts or items of interest from the past that is roped off and dug up by archaeologists

archaeologist a person who uncovers and interprets sources from the past, such as the remains of people, buildings and artefacts; archaeologists often take part in archaeological digs

aristocrat a person who (through wealth or birth) belongs to the upper class of a social group

artefact any object that is made or changed by humans (e.g. a primitive tool, remains of a building)

artisan a person who is skilled at working with his or her hands in some specialised way

astrologer person who studies the stars and planets to work out their effect on human affairs

auxiliary a soldier who fought in the Roman army but who was not Roman; often recruited from a faraway province

B

battering ram a long pole (often a tree trunk) with a carved ram's head at one end used to knock through enemy fortress doors

BC the abbreviation of Before Christ, used to indicate any time before the birth of Christ (*see also* BCE)

BCE the abbreviation of Before the Common Era, used to indicate any time before the birth of Christ (*see* BC)

bias a prejudicial attitude for or against something

bush medicine a term used to describe the traditional methods and natural treatment of illnesses and injuries

bush tucker a term used to refer to native foods gathered and eaten by Aboriginal peoples in Australia (including animals and plants)

C

canopic jar a jar used in ancient Egypt to store body parts removed during the mummification process

carnelian a reddish-orange semi-precious stone

caste system a strict hierarchy (class system) used to organise society in India according to the Hindu religion; each person born into society is assigned a certain caste (class) that determines the type of work they will do and their position in society for life; in ancient India there were four main castes ¬– Brahmin, Kshatriyas, Vaishyas and Shudras – as well as untouchables

catapult a weapon that worked like a giant slingshot; it hurled large rocks, burning pieces of wood or the infected bodies of people and animals over the walls of a city that an army was laying siege to

cause and effect a key concept in history: chains of events and developments over time (both long term and short term), and the impact these have on people and places

CE the abbreviation of Common Era, which refers to any time after the birth of Christ (*see* AD)

census an official population count of a society at a given point in time

century 1. a period of 100 years; 2. a military unit in ancient Rome that consisted of between 80 and 100 soldiers

chronology a record of events in the order they took place

chronological order the order in which events have taken place

circa a Latin word meaning 'around' or 'approximately' (abbreviated as '*c.*')

Circus Maximus a large racing track in ancient Rome where thousands of spectators were entertained by watching horse-drawn chariots race around a circuit

citizen someone who through birth (or by meeting certain conditions) is a recognised legal member of a community

Citizen's Assembly one of a number of assemblies of citizens set up in ancient Rome to help govern and administer the society

city-state an independent settlement (typical of those in ancient Greece) made up of an inner fortified city surrounded by houses

civilisation a society with large-scale urban settlements, defined systems of government, social organisation, religion and technologies

colony an outpost set up by a country, kingdom or empire, often for reasons of trade or defence

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 is kept for the pleasure and entertainment of a man who already has a wife (usually an emperor or leader); a mistress

conservator a person who is trained to preserve and restore important historical sources and artefacts (such as paintings, vases, jewellery) that may have been damaged

conserve, to to take the action needed to preserve something from the past for future generations; it might be restored to its original condition or adapted in some way; a person involved in this work is called a conservator

consul a title given to the top official in ancient Rome; there were two consuls, each with different responsibilities

contestability a key concept in history: the state of an interpretation being open to debate, because of a lack of evidence or understanding from a different perspective

contest, to to argue against an idea or theory because of new evidence, or because of a different interpretation of existing evidence; an idea or theory that can be contested is said to be contestable

continent one of seven main land masses on Earth; the continents are Europe, Asia, Africa, North America, South America, Australia and Antarctica

continuity and change a key concept in history: the state of remaining the same over time, and the state of progress or decline

corroborree a ceremonial gathering that was widely practised by the peoples of the Kulin nation; ceremonial dancing, storytelling and music were common at corroborrees; they were also opportunities for elders to settle disputes and decide on punishments for people who had broken traditional laws

cosmos the universe

Country a term used by Aboriginal people to refer to the land that they belong to and their place of Dreaming; Aboriginal language usage of the word 'country' is much broader than standard English

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

D

decade a period of 10 years

deity (pronounced DAY•ity) a god or goddess

democracy a political system in which people hold the power, either directly or through representative democracy

demotic a system of writing based on the original script of ancient Egypt (i.e. hieroglyphs) that is more like running writing; faster and easier to write than hieroglyphs

dendrochronology a method used to estimate the age of trees by counting the rings in the cross-section of a tree trunk once it has been cut down

desert an area that receives less than 250 mm of rain every year; can be hot or cold

DNA the short way of writing deoxyribonucleic acid; DNA is found in the cells of all known living organisms; it is the unique genetic code of each living thing

Dreaming, the a belief system at the centre of all Aboriginal cultures; the Dreaming has different meanings for different Aboriginal groups; it gives meaning to everything – including creation, spirituality, family, the land and the law; the Dreaming sets the rules governing relationships between the people, the land and all other things for Aboriginal peoples

dynasty a period of rule by members of the same family who come to power one after the other (e.g. the Han Dynasty in China)

E

elder a key person and keeper of cultural and spiritual knowledge within Aboriginal communities

empathy a key concept in history: the ability to understand from the point of view of a particular group or individual, by taking their special circumstances and values into consideration

emperor the title of someone who rules an empire; ancient Rome and ancient China had emperors

empire a group of countries and/or areas, often with different languages and having different cultures, that are ruled by a central power or leader (known as an emperor or empress)

***equite* (pronounced EH•kwit•ee)** a category of gladiators

era a period of time marked by distinctive characteristics, events or circumstances (e.g. the Roman era, the Victorian era)

evidence a key concept in history: information provided by a source that supports a given interpretation, or provides support for possible answers to inquiry questions

F

feudalism a system of rules and customs that helped to organise societies in Europe and Asia during the medieval period; feudalism organised every person in society according to a hierarchy (social structure) with the most important and powerful people at the top (such as a king or queen) and the least important people at the bottom (such as peasants)

first Australians a term used to describe Indigenous peoples in Australia and the Torres Strait Islands; the original inhabitants of Australia

fluorine dating a scientific method used to estimate the age of objects by measuring the amount of fluorine they contain

forum an open area in the centre of the city of ancient Rome where people met, debated and sold things

G

geneticist a scientist who specialises in the study of genetics

glacier a large frozen river or mass of ice that moves slowly down a mountain or valley in response to gravity

gladiator a person (usually male) who fought to the death in the amphitheatres of ancient Rome for the entertainment of the crowds; many were prisoners; some were criminals or slaves and a few chose to fight willingly

H

Hades (pronounced HAY•deez) 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

heir someone who will legally inherit the fortunes of another; often the firstborn son

hierarchy (pronounced HIRE•ark•ee) a way of organising things (or people) from top down in order of importance or significance; ancient societies had strict hierarchies with the ruler at the top and the peasants at the bottom

hieratic (pronounced hi•RAT•ic) a simplified form of writing based on hieroglyphs that was used to communicate in ancient Egypt, though not as easy to write as the demotic script

hieroglyph a picture-like sign used in the original writing system of the ancient Egyptiantrj

historical inquiry the process of examining historical evidence, conducting research and asking questions about it to find out about the past

Homo sapiens the scientific name for humans; a Latin term meaning 'knowing man'

hoplite a Greek warrior

hunter-gatherers a term used to describe peoples (such as Indigenous Australians) who moved around with the seasons, hunting animals and gathering foods (such as fruits, nuts, and insects)

hypothesis a considered opinion, theory or statement, based on research and evidence, about something that has not been proven (hypotheses is the plural form)

I

Indigenous Australians the original inhabitants of Australia, includes Aboriginal and Torres Strait Islander peoples

Inundation, the the yearly great flooding of the Nile River in Egypt; an inundation is a flood

K

***khepresh* (pronounced kee•PRESH)** 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

kinship an important part of Indigenous Australian cultures and values; kinship includes all relationships between people and between people and the land.

L

land bridge a stretch of land connecting between two land masses (especially during pre-historic times) that allowed humans to move from one area to another before being cut off by the rising sea

legion a military unit in the army of ancient Rome made up of 60 centuries (i.e. around 5000 soldiers); soldiers in a legion were called legionaries

M

megafauna a number of large animal species that lived in Australia during ancient times

Mesopotamia (pronounced mes•oh•po•TAY•mee•a) 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'

midden an ancient rubbish heap (that contains the remains of meals such as shells and bones)

millennium a period of 1000 years

moiety totem a special kind of totem that indicates a person's family relationships within a group; a person's moiety is inherited from their father; people of the same moiety are considered siblings (brothers or sisters) and not allowed to marry

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; the mummy was then buried

mummy a body prepared for burial or entombment in ancient Egypt (see mummification)

mythology a set of beliefs held by a particular people to help explain things that were not understood (e.g. strange natural events); these may include individual stories called myths

O

'Out of Africa' theory the theory that all humans have their origins in Africa

P

palaeontologist a scientist who studies life in the geological past by examining the fossils of plants and animals

palynology the study of microscopic organic matter found in soil

***pankration* (pronounced pank•RAY•shun)** a dangerous fighting event held as part of the ancient Olympic Games with virtually no rules

papyrus (pronounced pa•PIE•rus) a type of paper that the ancient Egyptians made from the crushed pulp of a riverside plant; the plant itself is also known as papyrus

***paterfamilias* (pronounced PAH•ter fam•ILL•ee•us)** a Latin word meaning 'father of the family'; male head of a household in ancient Rome

patrician an educated and usually influential male member of one of ancient Rome's aristocratic families; usually a wealthy landowner

pentathlon an event of the ancient Olympic Games comprising five events: wrestling, javelin tossing, discus throwing, jumping and running

perspectives a key concept in history: a point of view about an event or issue; a person's perspective is often influenced by their knowledge, culture or beliefs

***phalanx* (pronounced FAL•anks)** 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

pharaoh (pronounced FAIR•oh) the leader of ancient Egypt who was believed to be a god; the pharaoh had absolute power and total control

plateau a large section of flat land

plebeian (pronounced PLEH•bee•un) a term used to describe one of the many poor and uneducated people in ancient Rome

polygamy marriage to more than one person at the same time

***praetor* (pronounced PRE•tor)** an ancient Roman official whose responsibilities included running the law courts, leading armies and governing provinces of Rome

prehistory the period of time before written records

primary source a source that existed or was made at the time in the past being studied

pyramid a geometrical shape with triangular sides sloping up to a single point from a square base; in ancient Egypt, stone pyramids were built as royal tombs for pharaohs

Q

***quaestor* (pronounced KWEE•stor)** in ancient Rome, an official in charge of financial matters

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

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 during the mummification process to glue bandages together

S

sacred site a place that has special importance or cultural significance to Aboriginal 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 (called amulets) made in ancient Egypt in the form of the scarab beetle

scribe a highly educated person in ancient Egypt who was able to read and write

seals engraved stamps

secondary source a source created after the time being studied

Senate a group of officials (senators) with ruling power during ancient Rome's history; the Senate had a lot of power during the republic; it continued to function during the empire, but its power was reduced

siege warfare a military strategy used to weaken a town or city by cutting it off from the outside world

significance a key concept in history: the importance given to a particular historical event, person, etc.

Silk Road a trade route stretching west from China to the Mediterranean Sea; it was the main way in which silk was introduced to the West

sistrum a metal musical instrument in ancient Egypt that rattled when shaken; the plural form is sistra

society a community of people living in a particular area who have a shared culture, customs and laws

source anything that allows us to better understand the past; sources can be primary sources or secondary sources

standard-bearer a soldier in many ancient armies chosen to carry the standard (a banner or flag showing the symbol or emblem of an army or people) into battle; in ancient times, a standard had a similar symbolic significance to a country's national flag

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

stupa a religious structure built to house Buddhist relics

T

tanderrum a term used by the peoples of the Kulin nation to describe the 'Welcome to Country' ceremony

terra nullius a Latin term meaning 'land belonging to no one' or 'empty land'; a concept used by the British to justify the colonisation of Australia based on the idea that Indigenous Australians did not own the land or possess any claim to it

timeline a sequence of related historical events shown in chronological order

time period a block of time in history

toga an item of clothing worn by the male citizens of ancient Rome

Torres Strait Islander peoples term used to describe the original inhabitants of a the Torres Strait Islands

totem an animal (such as an eagle or crow) or object that has spiritual significance for Aboriginal peoples; different totems were given to children at birth and were their spiritual guides and protectors

U

Underworld a place that the people of some ancient cultures (e.g. ancient Greeks) believed their souls went when they died

V

Valley of the Kings a deep, rocky valley close to the Nile where many Egyptian pharaohs were buried

value a quality of character that a society or community regards highly; for example, an important Australian value is freedom; a traditional Japanese value is honour

***Via Appia* (pronounced VEE•a AH•pya)** a road built by the ancient Romans in the late 4th century BCE; it was about 200 kilometres long and connected the city of Rome to other important cities; it became one of the most important roads of the Roman Empire

W

World Heritage Site a natural or built site, structure or natural feature deemed to be of international importance and worthy of special protection

Y

year a period of 365 days

Glossary: Economics and business

A

Australian Competition and Consumer Commission (ACCC) the federal government authority in charge of enforcing the *Competition and Consumer Act 2010*

C

Competition and Consumer Act 2010 the Australian law that aims to promote fair trading, competition and protection for consumers

Consumer Affairs Victoria the regulatory body that aims to make a fair and competitive marketplace for businesses and consumers in Victoria

consumers people who buy things to use

D

debt money that is owed to others

E

economics the study of how people (known as producers) produce goods and services for other people (known as consumers) to consume and buy; more specifically, economics is about maximising the amount of goods and services that can be produced from the limited supply of resources on Earth

employee a worker who receives money for effort

employer businesses who employ workers to produce goods and services

ethical consumers people who make an effort to purchase goods and services that do not have a negative impact on other people, animals or the environment.

G

goods and services a term used in economics to describe all products sold or traded within an economy; goods are items (such as books and pens) and services are activities performed by others (such as cleaning and visits to the doctor)

I

importer a business that brings in products made overseas to sell in the Australian market

interest the amount of money paid to a person by a bank for keeping their money in an account with the bank; a person who borrows money from a bank will have to pay the bank interest on top of the original amount borrowed

investment when a person uses their money to make more money over time, for example, buying a house to rent out to tenants

L

labour the skills, knowledge and effort provided by a worker.

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; when prices fall, the quantity demanded increases

law of supply the higher the price that a good or service can be sold for, the higher the quantity that suppliers are willing to produce

lease a contract that allows a person to use a property for a period of time, usually in exchange for rent money

M

manufacturer a business that produces a good and sells it to retail businesses where that good can be sold to the end customer, for example, Nike is a manufacturer of sportswear while Rebel Sport is a retail business that sells Nike and other brand products to customers

market where buyers and sellers exchange money for goods and services

N

needs things that we physically cannot survive without, including food, water and shelter

O

opportunity cost what we miss out on when making a choice; when more than two options are available, our opportunity cost is what we miss out on from the next best option (not all of the options combined)

P

price mechanism the way price can affect the supply and demand of goods and services

producers people or businesses who make and sell things for a profit

profit the amount of money a business earns after taking away the expenses that it has to pay

R

regulatory body an organisation that monitors or oversees a certain aspect 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 limited

rent the money paid by a tenant to live in a house owned by a landlord

resource anything human or natural that can be used to satisfy a need

S

social outcast someone who is not accepted or is ignored by the people around them

T

tenant a person who pays rent in exchange for living in the house owned by someone else

W

wage the money paid to an employee in exchange for their labour

wants things that we desire but can survive without

Glossary: Civics and citizenship

A

asylum seeker a person who has fled from their own country due to fear of persecution and has applied for (legal and physical) protection in another country; if their application is accepted, they are granted a refugee status in that nation

Australian Constitution a document that describes the rules, or laws, that govern Australia and defines its structure, and its citizens' rights

C

census an official survey performed by the government in order to gather information about its population.

citizenship a term used to describe the act or status of being a citizen of a society or country

civics the study of the rights and responsibilities of citizens within a society or country

colonisation the large-scale migration of people to a new location where they take control

G

government a group of people and/or system with the authority to govern (rule) a society or country

M

migrant a person who moves from one nation to another

P

pioneers people who are the first to explore or settle a new country or area

R

reconciliation coming to an agreement after a period of disagreement

S

secularism the separation of church and state that prevent religion from directly being involved in the affairs of the government

settlers people who settle in an area that was previously unoccupied

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