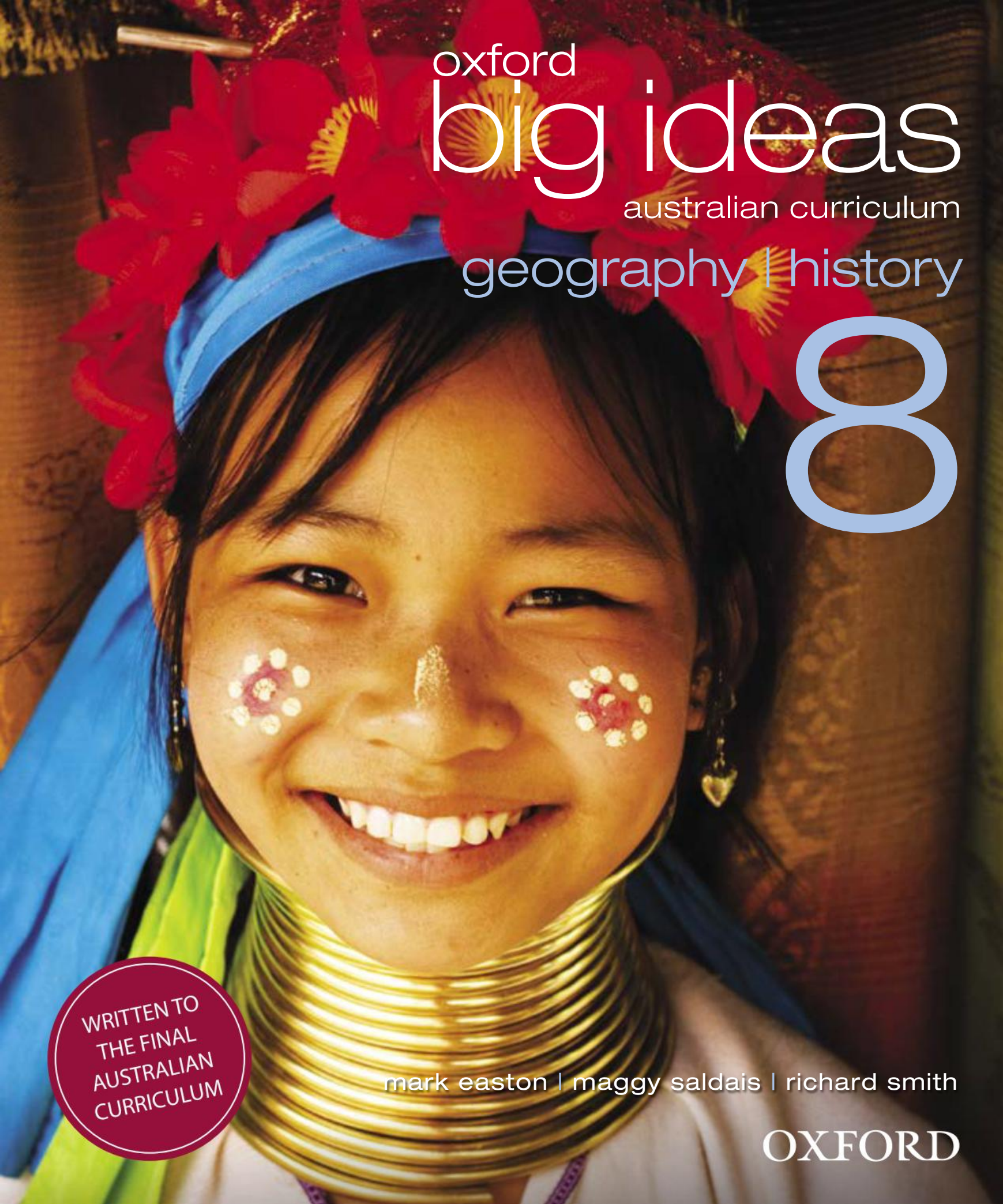


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WRITTEN TO THE FINAL AUSTRALIAN CURRICULUM

mark easton | maggy saldais | richard smith

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Using Oxford Big Ideas Geography | History

Oxford Big Ideas Geography | History is a brand-new series developed and written to meet the requirements of both the *Australian Curriculum: Geography* and the *Australian Curriculum: History* across Years 7 to 10. Based on the big ideas framework, it follows an inquiry-based approach that encourages students to develop deep, transferable skills and understanding in Geography and History.

Big questions

Each chapter of *Oxford Big Ideas Geography | History* is structured around key inquiry questions from the *Australian Curriculum: Geography* and the *Australian Curriculum: History* – supporting teachers and students as they implement an inquiry-based approach to Geography and History.

Stunning full-colour photography generates discussion and interest



Engaging learning

Each chapter of the student book combines a range of engaging source materials – maps, photographs, timelines, data tables, satellite imagery, graphs and illustrations – all with supporting questions and activities.

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



Stunning full-colour source materials inspire a sense of wonder about the world and encourage even the most reluctant learners to engage in geographical and historical inquiry.

Deep understanding

Geography and History syllabus content is covered in full and sequenced for depth of learning.

Focus on skills

All key concepts and skills are clearly outlined in two stand-alone reference sections – **The geographer's toolkit** and **The historian's toolkit**. These sections have been purpose-written to support the *Australian Curriculum: Geography* and the *Australian Curriculum: History*. These can be used flexibly – as introductory skills units or stand-alone reference sections that can be revisited throughout the year.



Every concept and skill required by students to take part in geographical and historical inquiries is introduced clearly and supported by question and activity blocks.



Check your learning question and activity blocks appear at regular intervals throughout each chapter, 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.



Key concepts are explicitly taught in both the geographer's toolkit and historian's toolkit, and are revisited throughout each chapter.

Skill drill blocks support an explicit focus on geographical and historical skills.

Extend your understanding blocks present a challenge by asking students to conduct research, or complete group work, to deepen their understanding on an issue being investigated.

Integrated teaching and learning support

obook assess

obook assess provides an interactive electronic version of the student book in an easy-to-read format. It features multimedia links, interactive learning objects, note-taking, highlighting and bookmarking tools and question blocks. **obook** is compatible with laptops, iPads, tablets and IWBs, and also offers page view (in flipbook format) that can be used offline. **assess** provides 24/7 online assessment designed to support student progression and understanding.

obook assess TEACHER

Professional support is offered in both print and digital formats. Teaching strategies, lesson ideas, planning tips, assessment advice and answers to all activities support the implementation of the Australian Curriculum and cater for ongoing professional development.

obook assess allows teachers to manage their classes by assigning work tracking progress and planning assessment.

Australian Curriculum: Geography 8—Scope and sequence

	Level description and key inquiry questions
Level description	There are two units of study in Year 8: **Landscapes and landforms** and **Changing nations.** *Landforms and landscapes* focuses on investigating geomorphology through a study of landscapes and their landforms. This unit examines the processes that shape individual landforms, the values and meanings placed on landforms and landscapes by diverse cultures, hazards associated with landscapes, and management of landscapes. *Landforms and landscapes* develops students' understanding of the concept of environment and enables them to explore the significance of landscapes to people, including Aboriginal and Torres Strait Islander Peoples. These distinctive aspects of landforms and landscapes are investigated using studies drawn from Australia and throughout the world. *Changing nations* investigates the changing human geography of countries, as revealed by shifts in population distribution. The spatial distribution of population is a sensitive indicator of economic and social change, and has significant environmental, economic and social effects, both negative and positive. The unit explores the process of urbanisation and draws on a study of a country of the Asia region to show how urbanisation changes the economies and societies of low- and middle-income countries. It investigates the reasons for the high level of urban concentration in Australia, one of the distinctive features of Australia's human geography, and compares Australia with the United States of America. The redistribution of population resulting from internal migration is examined through case studies of Australia and China, and is contrasted with the way international migration reinforces urban concentration in Australia. The unit then examines issues related to the management and future of Australia's urban areas.
Key inquiry questions	• How do environmental and human processes affect the characteristics of places and environments? • How do the interconnections between places, people and environments affect the lives of people? • What are the consequences of changes to places and environments and how can these changes be managed?

	Geographical knowledge and understanding
Unit 1 – Landforms and landscapes	• The different types of landscapes and their distinctive landform features • The aesthetic, cultural and spiritual value of landscapes and landforms for people, including Aboriginal and Torres Strait Islander Peoples • The geomorphic processes that produce landforms, including a case study of at least one landform • The human causes and effects of landscape degradation • The ways of protecting significant landscapes • The causes, impacts and responses to a geomorphological hazard
Unit 2 – Changing nations	• The causes and consequences of urbanisation, drawing on a study from Indonesia, or another country of the Asia region • The differences in urban concentration and urban settlement patterns between Australia and the United States of America, and their causes and consequences • The reasons for and effects of internal migration in Australia • The reasons for and effects of internal migration in China • The reasons for and effects of international migration in Australia • The management and planning of Australia's urban future

	Geographical inquiry and skills
Observing, questioning and planning	• Develop geographically significant questions and plan an inquiry, using appropriate geographical methodologies and concepts
Collecting, recording, evaluating and representing	• Collect, select and record relevant geographical data and information, using ethical protocols, from appropriate primary and secondary sources • Evaluate sources for their reliability and usefulness and represent data in a range of appropriate forms, for example, climate graphs, compound column graphs, population pyramids, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies • Represent the spatial distribution of different types of geographical phenomena by constructing appropriate maps at different scales that conform to cartographic conventions, using spatial technologies as appropriate
Interpreting, analysing and concluding	• Analyse geographical data and other information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to identify and propose explanations for spatial distributions, patterns and trends, and infer relationships • Apply geographical concepts to draw conclusions based on the analysis of the data and information collected
Communicating	• Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose, using geographical terminology and digital technologies as appropriate
Reflecting and responding	• Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal

Year 8 achievement standard

By the end of Year 8, students explain geographical processes that influence the characteristics of places and explain how places are perceived and valued differently. They explain interconnections within environments and between people and places and explain how they change places and environments. They propose explanations for spatial distributions and patterns among phenomena and identify associations between distribution patterns. They compare alternative strategies to a geographical challenge and propose a response, taking into account environmental, economic and social factors.

Students identify geographically significant questions from observations to frame an inquiry. They locate relevant information from a range of primary and secondary sources to answer inquiry questions. They represent data and the location and distribution of geographical phenomena in a range of appropriate graphic forms, including maps at different scales that conform to cartographic conventions. They analyse geographical data and other information to propose explanations for spatial patterns, trends and relationships and draw reasoned conclusions. Students present findings, arguments and ideas using relevant geographical terminology and graphic representations in a range of appropriate communication forms. They propose action in response to a geographical challenge taking account of environmental, economic and social considerations and predict the outcomes of their proposal.

Australian Curriculum: History 8—Scope and sequence

	Level description and key inquiry questions
Level description	**The ancient to the modern world** The Year 8 curriculum provides study of history from the end of the ancient period to the beginning of the modern period, c.650 AD (CE)–1750.
Key inquiry questions	• How did societies change from the end of the ancient period to the beginning of the modern age? • What key beliefs and values emerged and how did they influence societies? • What were the causes and effects of contact between societies in this period? • Which significant people, groups and ideas from this period have influenced the world today?

	Historical knowledge and understanding
Overview	The following content is taught as part of an overview for the historical period. It is not intended to be taught in depth. An overview will constitute approximately 10 per cent of the total teaching time for the year. Overview content identifies important features of the period, c.650 AD (CE)–1750, as part of an expansive chronology that helps students understand broad patterns of historical change. As such, the overview provides the broader context for the teaching of depth study content and can be built into various parts of a teaching and learning program. This means that overview content can be used to give students an introduction to the historical period; to make the links to and between the depth studies; and to consolidate understanding through a review of the period. Overview content for the ancient to modern world (Byzantine, Celtic, Anglo-Saxon, Viking, Ottoman, Khmer, Mongols, Yuan and Ming dynasties, Aztec, Inca) includes the following: • The transformation of the Roman world and the spread of Christianity and Islam • Key features of the medieval world (feudalism, trade routes, voyages of discovery, contact and conflict) • The emergence of ideas about the world and the place of people in it by the end of the period (such as the Renaissance, the Scientific Revolution and the Enlightenment).
Depth studies	**The depth studies for this year level include:** **1 The Western and Islamic world** Choose ONE of the following depth study options • The Ottoman Empire (c.1299–c.1683) • Renaissance Italy (c.1400–c.1600) • The Vikings (c.790–c.1066) • Medieval Europe (c.590–c.1500) **2 The Asia–Pacific world** Choose ONE of the following depth study options • The Khmer Empire (c.802–c.1431) • Japan under the shoguns (c.794–1867) • The Polynesian expansion across the Pacific (c.700–1756) **3 Expanding contacts** Choose ONE of the following depth study options • Mongol expansion (c.1206–c.1368) • The Black Death in Asia, Europe and Africa (14th century plague) • The Spanish conquest of the Americas (c.1492–c.1572)

	Historical skills
Chronology, terms and concepts	• Sequence historical events, developments and periods (ACHHS148) • Use historical terms and concepts (ACHHS149)
Historical questions and research	• Identify a range of questions about the past to inform a historical inquiry (ACHHS150) • Identify and locate relevant sources, using ICT and other methods (ACHHS151)
Analysis and use of sources	• Identify the origin and purpose of primary and secondary sources (ACHHS152) • Locate, compare, select and use information from a range of sources as evidence (ACHHS153) • Draw conclusions about the usefulness of sources (ACHHS154)
Perspectives and interpretations	• Identify and describe points of view, attitudes and values in primary and secondary sources (ACHHS155)
Explanation and communication	• Develop texts, particularly descriptions and explanations that use evidence from a range of sources that are acknowledged (ACHHS156) • Use a range of communication forms (oral, graphic, written) and digital technologies (ACHHS157)

Year 8 achievement standard

By the end of Year 8, students recognise and explain patterns of change and continuity over time. They explain the causes and effects of events and developments. They identify the motives and actions of people at the time. Students explain the significance of individuals and groups and how they were influenced by the beliefs and values of their society. They describe different interpretations of the past. Students sequence events and developments within a chronological framework with reference to periods of time. When researching, students develop questions to frame a historical inquiry. They analyse, select and organise information from primary and secondary sources and use it as evidence to answer inquiry questions.

Students identify and explain different points of view in sources. When interpreting sources, they identify their origin and purpose, and distinguish between fact and opinion. Students develop texts, particularly descriptions and explanations, incorporating analysis. In developing these texts, and organising and presenting their findings, they use historical terms and concepts, evidence identified in sources, and acknowledge their sources of information.



oxford big ideas australian curriculum

geography 8



Landforms and landscapes
Changing nations



The geographer's 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 cultural practices).

Geographers use a range of key concepts and 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 Uluru in Uluru-Kata Tjuta National Park, Northern Territory, shown in Source GT.1, they wonder about many aspects of this natural feature. They want to know about:

- its size
- its location
- what it is made of
- how it formed
- 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.

This curiosity and wonder gives geographers a special view of the world. You can share that view. Welcome to the wonderful world of Geography!

GT.1

Concepts for geographical understanding



Source GT.1 Uluru – an enormous sandstone rock formation in Uluru-Kata Tjuta National Park in the Northern Territory

GT.2

Geographical inquiry and skills

GT.3

Fieldwork in geography

GT.1 Concepts for geographical understanding

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. The seven key concepts in geography are:

- 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 was World Heritage listed. Aboriginal people refer to their place as 'Country' and believe that they have a responsibility to look after it.



Source GT.2 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 GT.2) 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 GT.3) 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 GT.3 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).

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.



Source GT.3 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.

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 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 GT.4), 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 GT.4 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 GT.5 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 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 the climate, plants, animals, oceans, soils, and the atmosphere) 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 GT.5 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 GT.6 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 generations 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 amount of trees that need to be cut down and 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 GT.6).

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 GT.7 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 GT.8). Changes that take place on a global scale can take much longer to occur. 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 GT.8 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 it had struck.

Check your learning GT.1

Remember and understand

1 Examine the photo of Uluru (Source GT.1). Is this a natural or built environment? Give reasons for your answer.

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

3 Look carefully at Source GT.3. 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:

- a new supermarket is being built near your house
- trees are being planted on your street
- the polar ice caps are melting
- a tornado is destroying a town in the USA
- the Great Barrier Reef is being damaged by the Crown-of-thorns starfish.

a Conduct some research online in order to 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; that is, local, regional, national, international or global.

5 Using Source GT.5, 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 GT.6. Work with a partner to conduct research on the importance of the Southern Ocean Whale Sanctuary in conserving endangered whale species.

8 Study Source GT.8. 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 GT.4). 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.

GT.2 Geographical inquiry and 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 – they ask questions, collect evidence, analyse the evidence to find an answer, communicate their findings, reflect on what they have found out and, finally, decide on a course of 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 GT.9 The skills needed by every geographer. Think of each of these skills as a tool in your geographer's toolkit.

Observing, questioning and planning

Observe the world and its geographical characteristics

Developing an awareness and understanding of our world begins by observing the processes that are taking place in it. Geographers look at people, land, air, water, plants and animals and the connections between them to understand what is happening. They also seek to investigate where, why and how natural and built environments are formed and changed. These observations often include identifying any problems or issues that need to be investigated and resolved.

Seeing the world through a geographer's eyes

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 about the human and environmental processes shaping places

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.



Source GT.10 Developing geographical questions is an important part of a geographical inquiry

skill**drill**

Developing geographical questions

Study Source GT.10. 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 ideas such as:

- Where is it?
- How many are there?
- How big is it?
- What pattern or shape is it?
- Why is it like this? Is it like this because something else is at this location?
- How does it interact with other things in this place?
- Who interacts with it?
- Is it changing? If so, why is it changing and what will it look like in the future?
- How should people best manage this change?

The very best questions open up an exciting area for you to explore. For example, the visitor 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 Where could you look to find answers to the question 'Why is Uluru so big?'

3 Examine the photograph of Uluru at the beginning of this chapter. Work with a partner to develop geographic questions about this landscape.

Plan and implement 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 GT.11 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

Check your learning GT.2

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.

Evaluate and create

4 Develop five questions that may assist a geographer in conducting an inquiry into the proposed development of a new shopping centre within his or her local area. Create a planning table similar to that used in the text for the inquiry into Uluru (Source GT.11).



Source GT.12 Kata Tjuta in the Northern Territory

Collecting, recording, evaluating and representing

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 GT.13 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) taken 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 GT.14 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 GT.15 An aerial photograph of Sydney Harbour and the city

SYDNEY: HARBOUR AND CBD



Source GT.16 A map of Sydney Harbour and the city (as shown in GT.15)

Source: *Oxford Atlas*



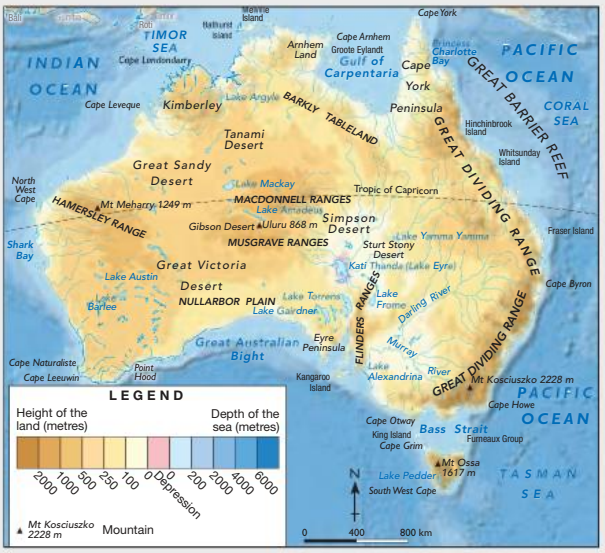
Simple maps

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. These maps include:

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 GT.17 Source: *Oxford Atlas*

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 GT.18 Source: *Oxford Atlas*

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 GT.19, 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 shops or hospitals. 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

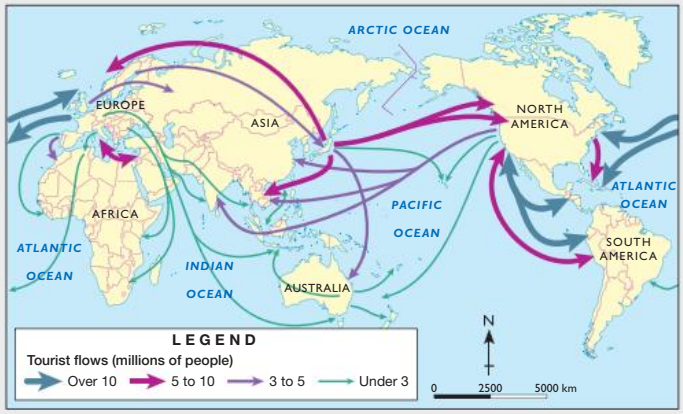


Source GT.19 Source: Oxford University Press

Flow maps

Flow maps show movement from one place to another. Arrows of different thicknesses and 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

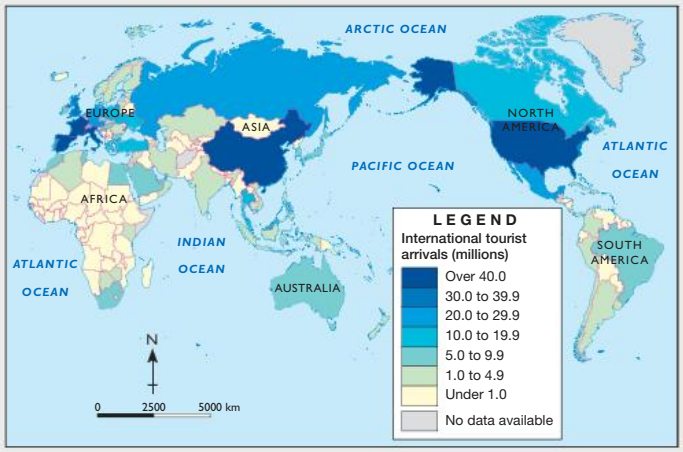


Source GT.20 Source: Oxford University Press

Choropleth maps

Choropleth maps use different colours or 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.

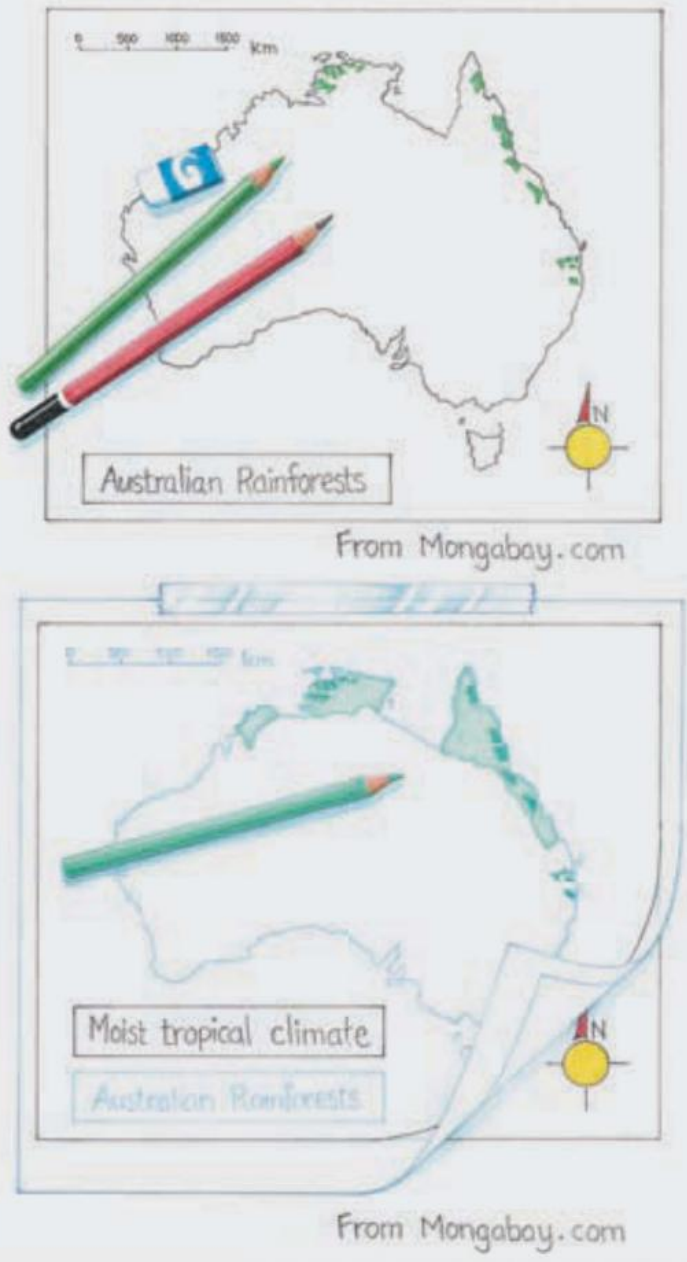
CHOROPLETH MAP SHOWING INTERNATIONAL TOURIST ARRIVALS WORLDWIDE



Source GT.21 Source: *Oxford Atlas*

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 GT.22 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)

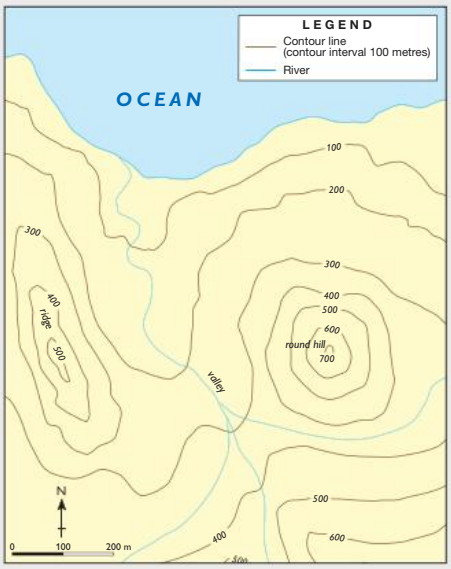
More complex maps

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. These maps include:

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 GT.23.

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



A ROUND HILL



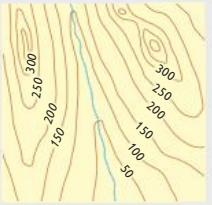
A VALLEY

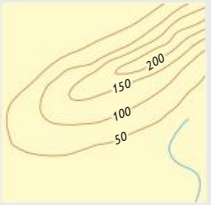


A RIDGE









Source GT.23 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 GT.24 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 GT.25 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

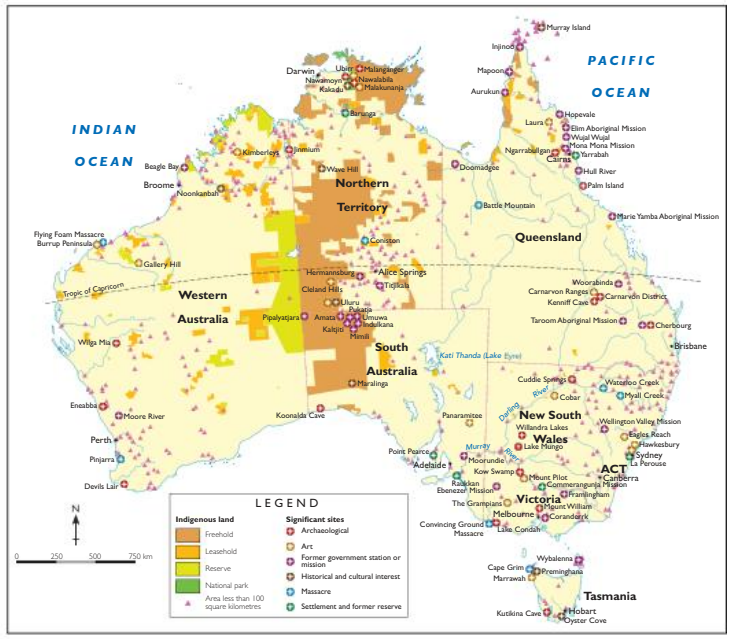
BOLTSS

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, remember you can use a mnemonic (memory aid) that consists of the first letter of each of the features. Together, these six letters make up the word **BOLTSS**:

B	**Border** – an outline or box drawn around the map
O	**Orientation** – an indication of direction, usually shown with a north arrow or compass rose
L	**Legend** – an explanation of the symbols, colours and patterns used on the map (also known as a key)
T	**Title** – a heading that describes the map and what it is showing
S	**Scale** – a way of indicating what distances on the map represent in the real world. Scale can be shown in three different ways: as a written scale, a line scale or a ratio. Source GT.29 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]'.

Source GT.26 shows a map of Australia that is held together with BOLTSS.

AUSTRALIA: INDIGENOUS LAND AND SITES, 2006



Source: *Oxford Atlas*

Source GT.26 A map of Australia showing all the features of BOLTSS

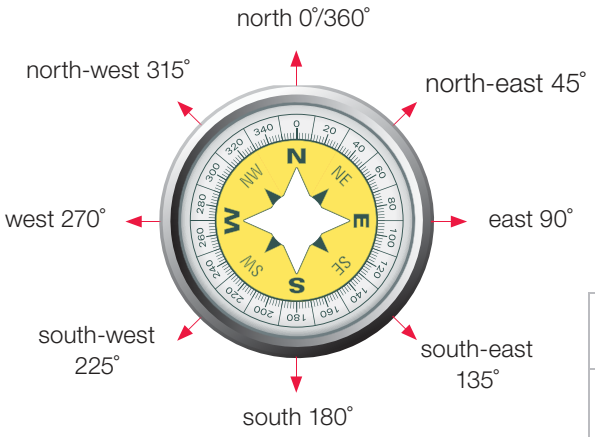
Direction

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 GT.27).

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 shown in GT.27.



Source GT.27 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.

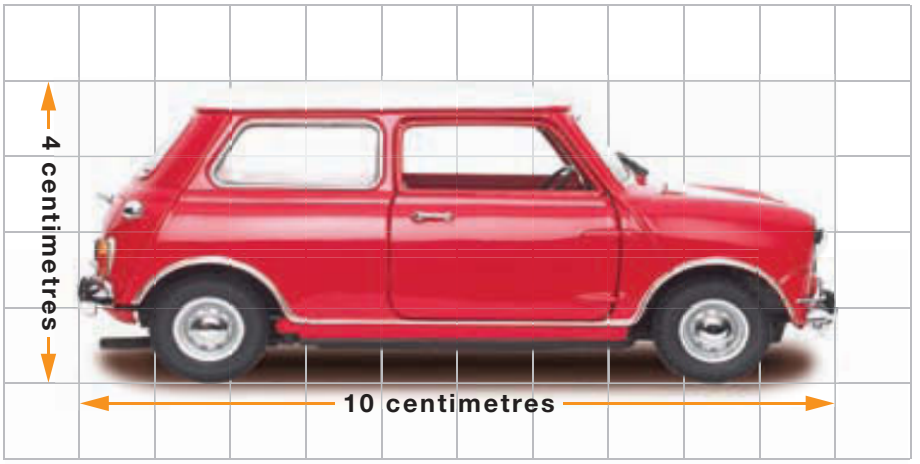
The model shown in GT.28 looks like the real car, only smaller. It is a 1:35 scale model. This means that 1 centimetre on the scale model is equal to 35 centimetres on the real car. If 1 centimetre represents 35 centimetres, then 10 centimetres (the total length of the model) represents a total length 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 GT.29). 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 GT.29 is '1 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 GT.29 line scale shows 1 centimetre is equal to 30 kilometres.
- **Ratio scale** – A ratio scale shows scale in numbers. The ratio scale for Source GT.29 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 GT.28 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 GT.29. 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 GT.29 and GT.30 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 GT.29 Source: *Oxford Atlas*



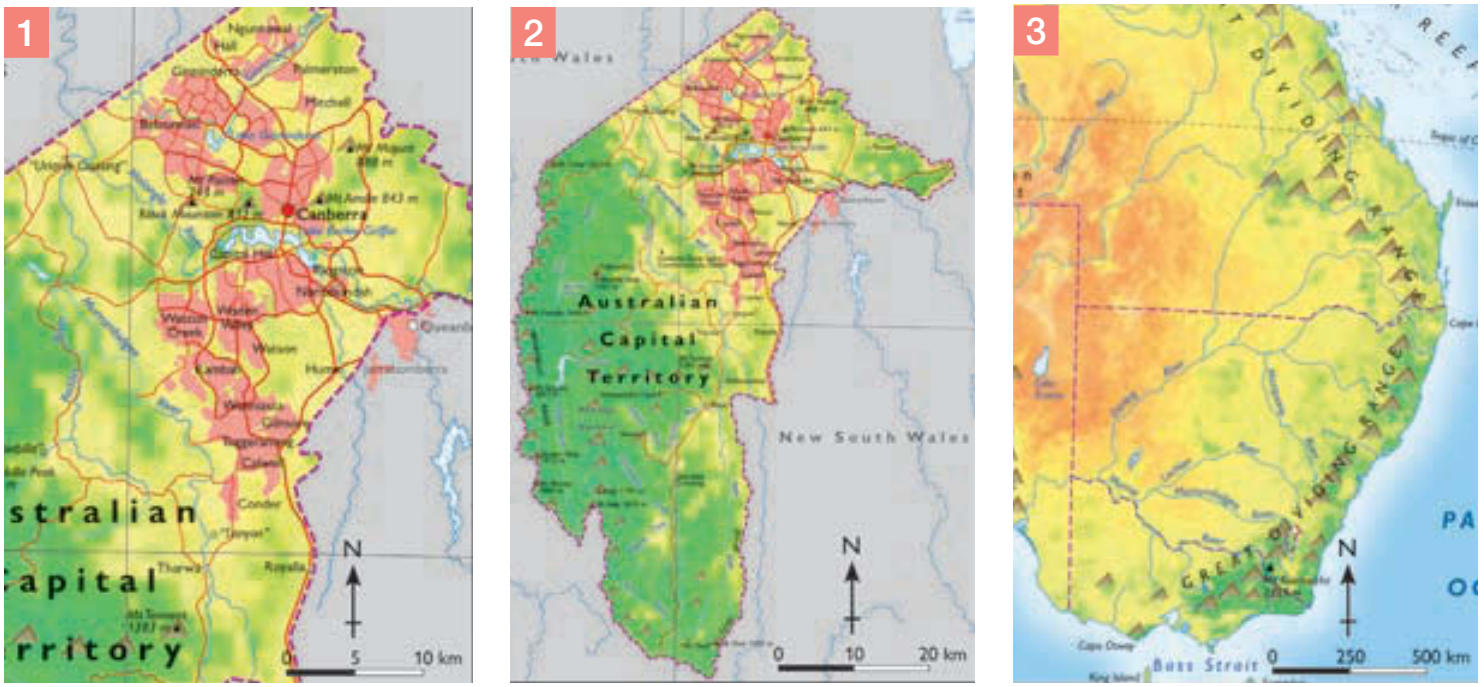
Source GT.30 Measuring straight distances on a map using a sheet of paper

Comparing map scales

Maps are often shown at different scales depending on the amount of detail they need to show. Source GT.31 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 GT.31

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 GT.32

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 GT.32 the grid reference for the Paradise Centre is J6.

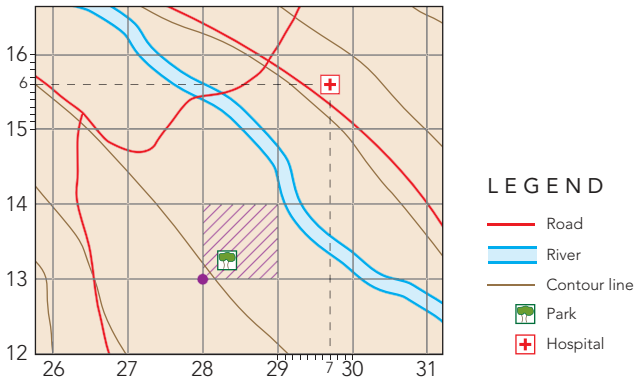
Area referencing (AR)

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 GT.33 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 10 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 GT.33 the hospital is located at GR297156.

TOPOGRAPHIC MAP EXTRACT SHOWING AR AND GR



Source GT.33 Source: *Oxford Atlas Project 3*

Latitude and longitude

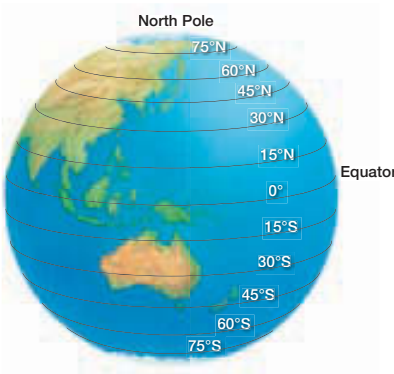
Maps that show large areas of the Earth's surface (such as world maps) use a set of imaginary lines that form a grid. These gridlines, known as **latitude** and **longitude**, help us to locate places accurately.

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.

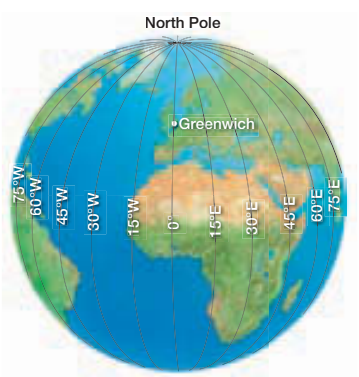
The line of latitude midway between the north pole (90 degrees north) and south pole (90 degrees south) is known as the **Equator**, which is located at 0 degrees latitude. It divides the Earth into the northern hemisphere and southern hemisphere.

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.



Source GT.34 Lines (or parallels) of latitude



Source GT.35 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. These include:

- Tables – These allow geographers to present and compare data by organising it under different headings (see Source GT.36).
- 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 GT.34 and Source GT.35).
- 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 GT.36 A table showing the populations of Australian states and territories in 2011

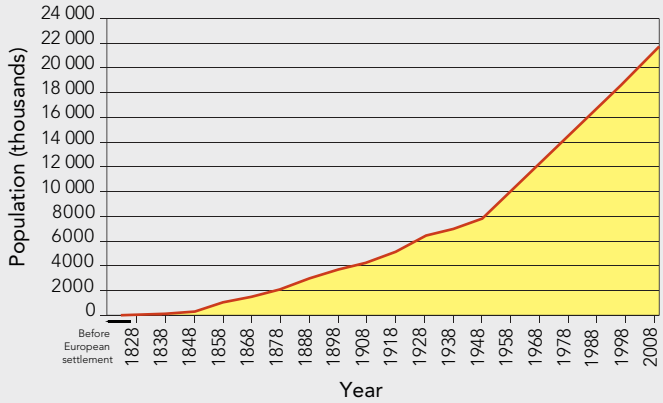
State/Territory	Population	Percentage of Australia's population
New South Wales	7 317 500	32.3
Victoria	5 640 900	24.8
Queensland	4 599 400	20.3
Western Australia	2 366 900	10.4
South Australia	1 659 800	7.3
Tasmania	511 000	2.3
Australian Capital Territory	366 900	1.6
Northern Territory	231 200	1.0
Australia	22 693 600	100.0

Simple graphs

Graphs are one of the most effective graphical 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

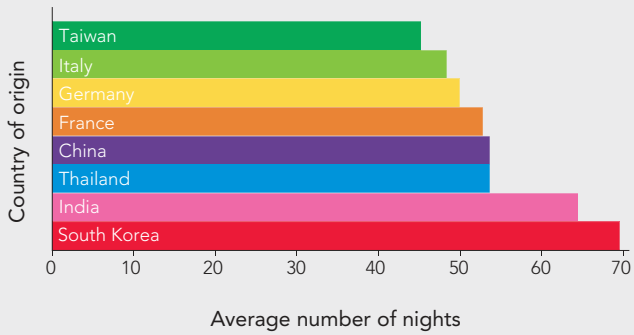
Line graphs show information as a series of points that are joined up to form a line. The line shows a trend or change over time. The horizontal axis (x) will usually show units of time and the vertical axis (y) will usually show amounts.



Source GT.37 A line graph showing the increase in Australia's population, 1828–2011

Bar graphs

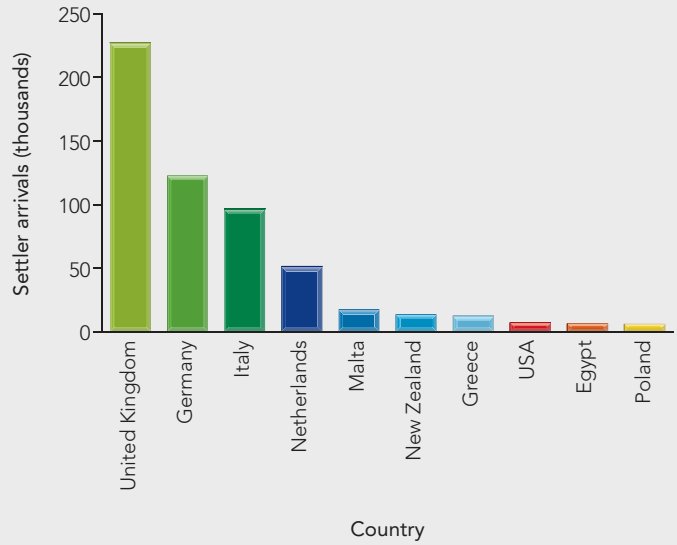
Bar graphs show information as a series of bars that run in a horizontal direction and are stacked one on top of the other. They are usually used to compare quantities.



Source GT.38 A bar graph showing average number of nights spent in Australia by tourists from different countries, 2009

Column graphs

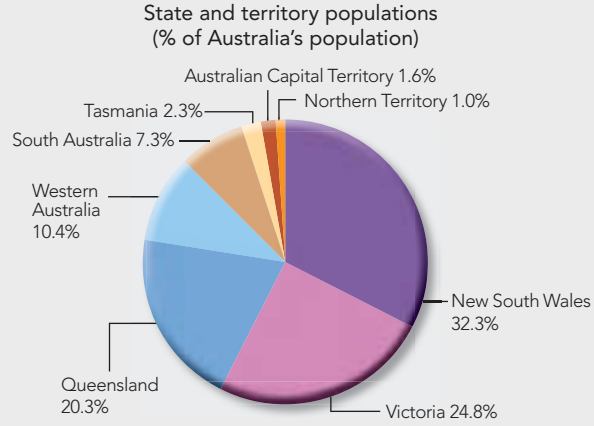
Column graphs are similar to bar graphs, but they show information as a series of vertical columns that are arranged side by side. They are also usually used to compare quantities.



Source GT.39 A column graph showing top 10 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.



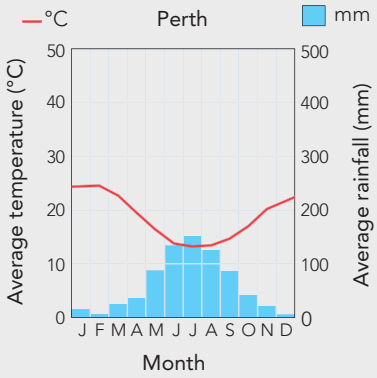
Source GT.40 A pie graph showing state and territory populations as a percentage of Australia's total population, 2011

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

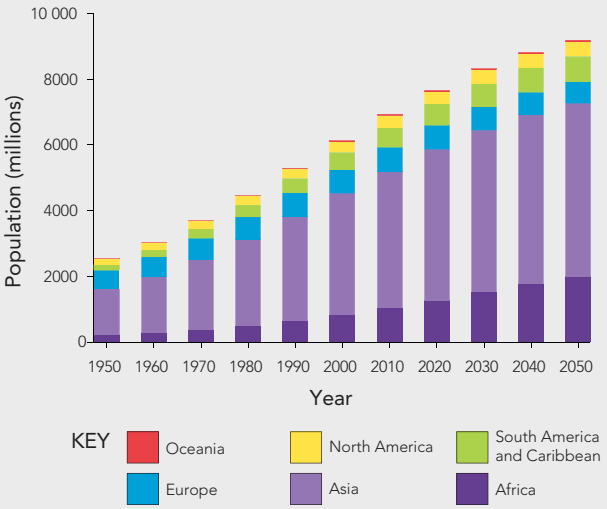
Climate graphs show the average monthly temperature and rainfall for a place over a year. Climate graphs combine line and column graphs. Temperature is recorded as a line graph and rainfall is recorded as a column graph.



Source GT.41 A climate graph showing the average monthly temperature and rainfall in Perth

Compound column graphs

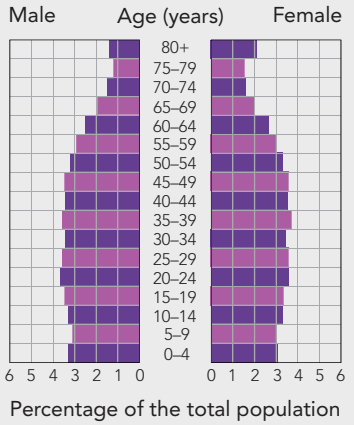
Compound column graphs are a more complex type of column graph in which each column is split into sections so results can be more easily compared.



Source GT.42 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 GT.43 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 GT.3

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 GT.29 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 GT.37 and construct a bar or column graph to represent this data graphically.

Interpreting, analysing and concluding

Use methods to identify trends, 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 (all of which are primary data). You will also have collected information from various other sources, such as textbooks, websites, GIS and atlases (all of which are secondary data). Now it is time to look at this information, identify any possible links and relationships and draw conclusions.

There are a number of methods that geographers use to help them during this stage of their inquiries. These include the:

- PQE method
- SHEEPT method.

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 any form of 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 colour or 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 GT.44) you might say, 'Most mountains run along the coast in the east.'

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 just saying 'Most mountains run along the coast in the east,' you would need to quantify this statement. You might instead say 'A mountain range known as the Great Dividing Range extends more than 3500 kilometres along the eastern cost 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.

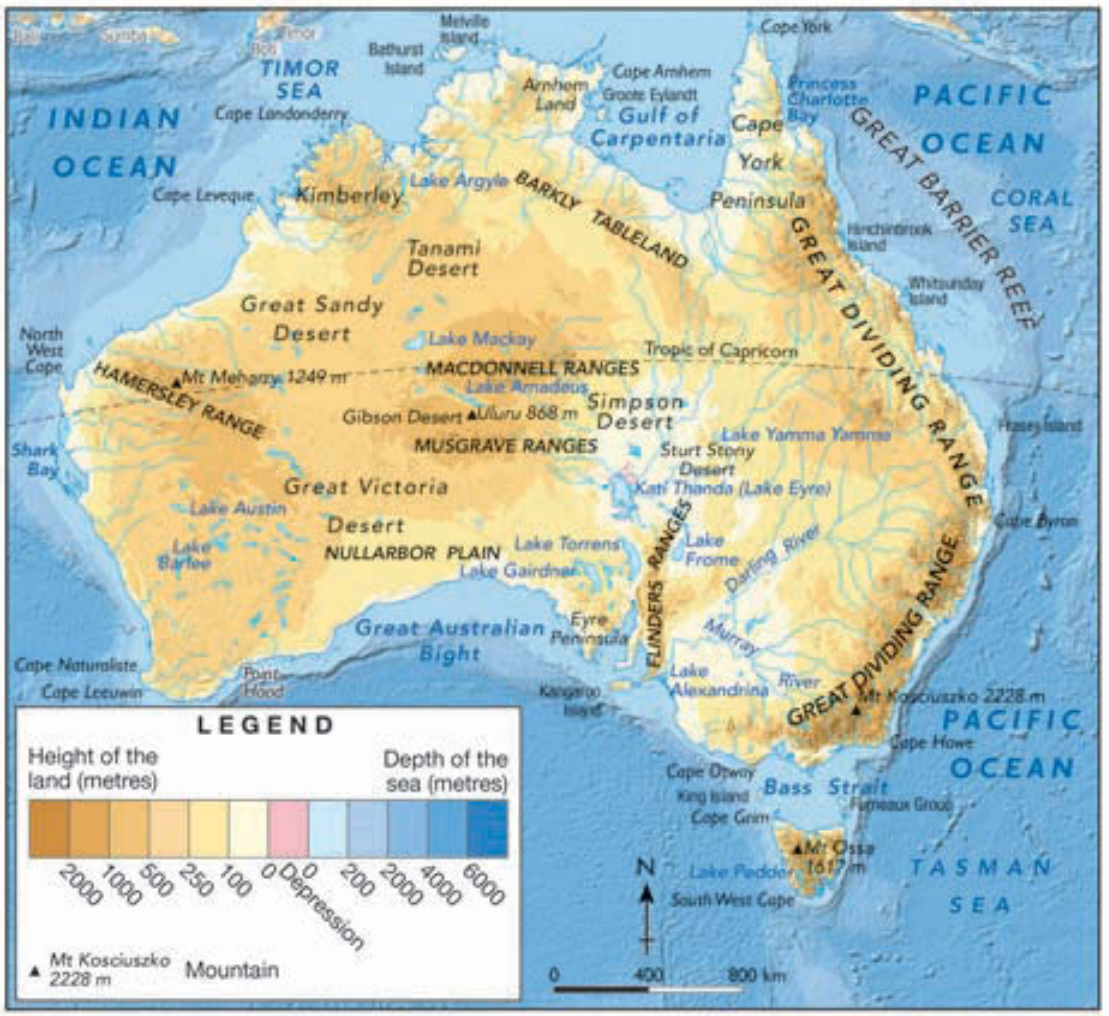
Often you may find that there are things in your data that do not fit into a pattern you have identified. These are called exceptions. They also need to be identified and quantified. For example, you might say 'There are a number of other mountain ranges that are not on the east coast. These include 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 of 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 GT.44

Source: *Oxford Atlas*

Check your learning GT.4

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 GT.44. 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.

Communicating

Present conclusions 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, graph 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.

skilldrill

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:

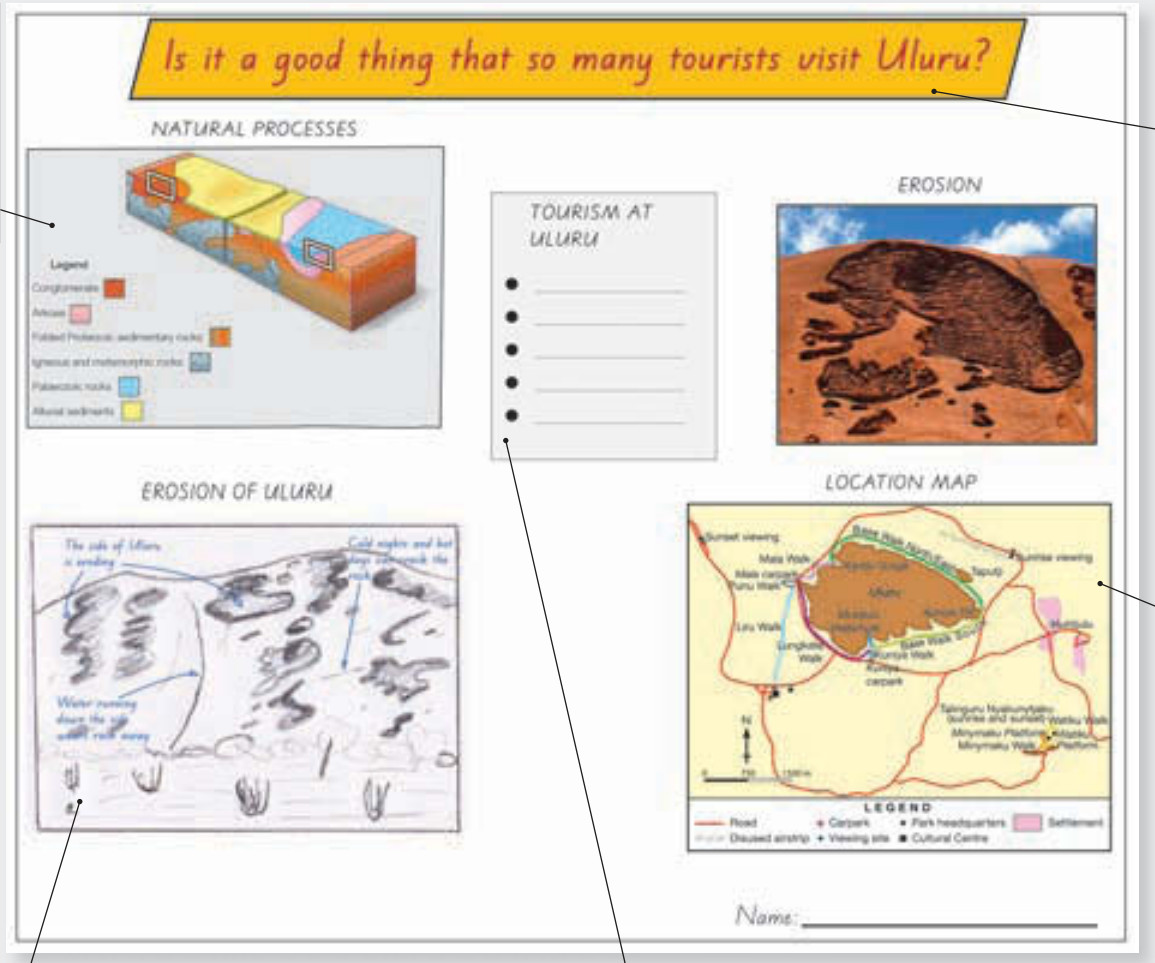
- information about Uluru and its physical features
- tourist statistics and other data that show the effects that visitors are having on Uluru and its surroundings
- an analysis of the data. A conclusion that answers the key inquiry question.

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 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.



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

Make the heading stand out

Always include a location map; remember BOLTSS

A simple sketch can break up lots of writing

Lists may be better than long paragraphs

Source GT.45 An annotated visual display (AVD)

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

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 practice 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 GT.46 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 GT.46 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 GT.5

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.

Reflecting and responding

Reflect on what you have learned

The final stage of a geographical inquiry is to reflect on what you have learned and decide whether any action needs to be taken. Reflecting involves not only looking at what you have learned but also how it has been learned. 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 GT.47 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:		
IMPORTANT ISSUES HIGHLIGHTED BY MY INQUIRY	**Comments**	
The most important thing I learned from my inquiry was:		
This issue is important to me because:		
This issue is important to my community/country/world because:		

Source GT.48 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 about the issue to inform your class, 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 GT.47.

Check your learning GT.6

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 GT.48? What questions could be changed or added so that you could improve on the reflection process?

GT.3 Fieldwork in geography

What is fieldwork?

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 also 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 (built) 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 GT.49). 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.

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 GT.50 provides examples of fieldwork locations and activities for a range of topics.



Source GT.49 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.

Source GT.50 Examples of fieldwork locations, activities and key inquiry questions for a range of topics

Topic	Possible locations	Sample fieldwork activity	Possible key inquiry questions
Mountain landscapes and processes	A local mountain range, peak or rock formation	Taking geographical photographs	How are mountain landscapes used by people? Why are some mountains higher than others? How do mountain landscapes change over time?
Mountain hazards		Asking geographical questions	Why are some mountain landscapes hazardous? Why do some volcanoes erupt while others lay dormant? How many people are affected by mountain hazards?
Coastal landscapes and processes	A local beach, harbour or inlet	Field sketching	How are coastal landscapes used by people? How do waves change coastal landscapes? Why do some coastal areas erode more quickly than others? How will this coast change in the future? How have human activities interfered with natural coastal processes?
Coastal hazards		Sketching a cross-section	How has coastal erosion affected people living near the coast? Why are some coastal landscapes more dangerous than others? How many people are affected by coastal hazards?
Natural features of rivers	A local river, creek or stream	Observing and describing	Why do rivers bend? How do rivers change over time? How do rivers change other features of the natural environment?
Human interaction with rivers		Water sampling	How do human activities interfere with natural river processes? How do people respond to the risk of flooding? How have natural river processes affected built structures?

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:

1 Observing, questioning and planning
2 Collecting, recording, evaluating and representing
3 Interpreting, analysing and concluding
4 Communicating
5 Reflecting and responding.

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

Stage 1: Observing, questioning and planning

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: Collecting, recording, evaluating and representing

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 survey and gather data. You may 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: Interpreting, analysing and concluding

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

Stage 4: Communicating

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

Stage 5: Reflecting and responding

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

A fieldwork example: Westside Park investigation

In the following example, Year 8 geography class at Gumtree College (8B) decided to conduct fieldwork on how a park in their local area (Westside Park) was being used. Their aim was to make suggestions about how the park could be improved for the local community and environment.

Stage 1: Observing, questioning and planning

To begin with, the class discussed some of the issues and problems they might be able to investigate. During a brainstorming session a range of possible inquiry questions were raised by 8B. These included:

- Who is Westside Park used by?
- What activities is Westside Park used for?
- How does the local community feel about Westside Park?
- Is Westside Park safe for all park users?
- What environmental impacts are people having on Westside Park?

As a group, 8B decided that these questions were all suitable for a geographical inquiry because they would allow students to explore a topic in depth by gathering data, drawing conclusions and developing possible responses. After further discussion, the class decided to focus on the last question about environmental impacts.

Most students in the class thought that this issue was important because a number of articles and letters published in the local newspaper over the last year had expressed concerns about the levels of litter and tagging (spray painting of letters and symbols) in the park.

Next, students in 8B planned the types of information and data they would need to investigate this issue. They decided that they should visit Westside Park a few times to gather data about who was using it and how it was being used. They decided they would visit once during a busy period and once during a quiet period. Visting the park during a busy period would allow them to record how many people were using the park, what they were using it for and what impacts these users were having on the environment. Visiting the park during a quiet period would allow them to take photographs, measurements and sketches without disturbing park users.

Stage 2: Collecting, recording, evaluating and representing

To investigate the ways in which the local park was affecting the environment, students in 8B set out to collect and record a range of geographical data:

- Before their first visit, they designed a questionnaire for users of the park to fill in. This asked park users to list how and when they use the park.
- During their first visit, students created data tables and recorded the numbers of people using the park. They also divided these users into a number of categories; for example, parents with children, dog walkers, skateboarders and picnickers.
- The students measured the boundary of the park and its key features with measuring wheels and tape measures and created a simple sketch map of the park.
- They took a number of photographs documenting a range of environmental issues in the park, such as tagging, litter in garden beds, dog poo, trampled grassed areas and damaged vegetation due to use of cars and motorbikes in the park.



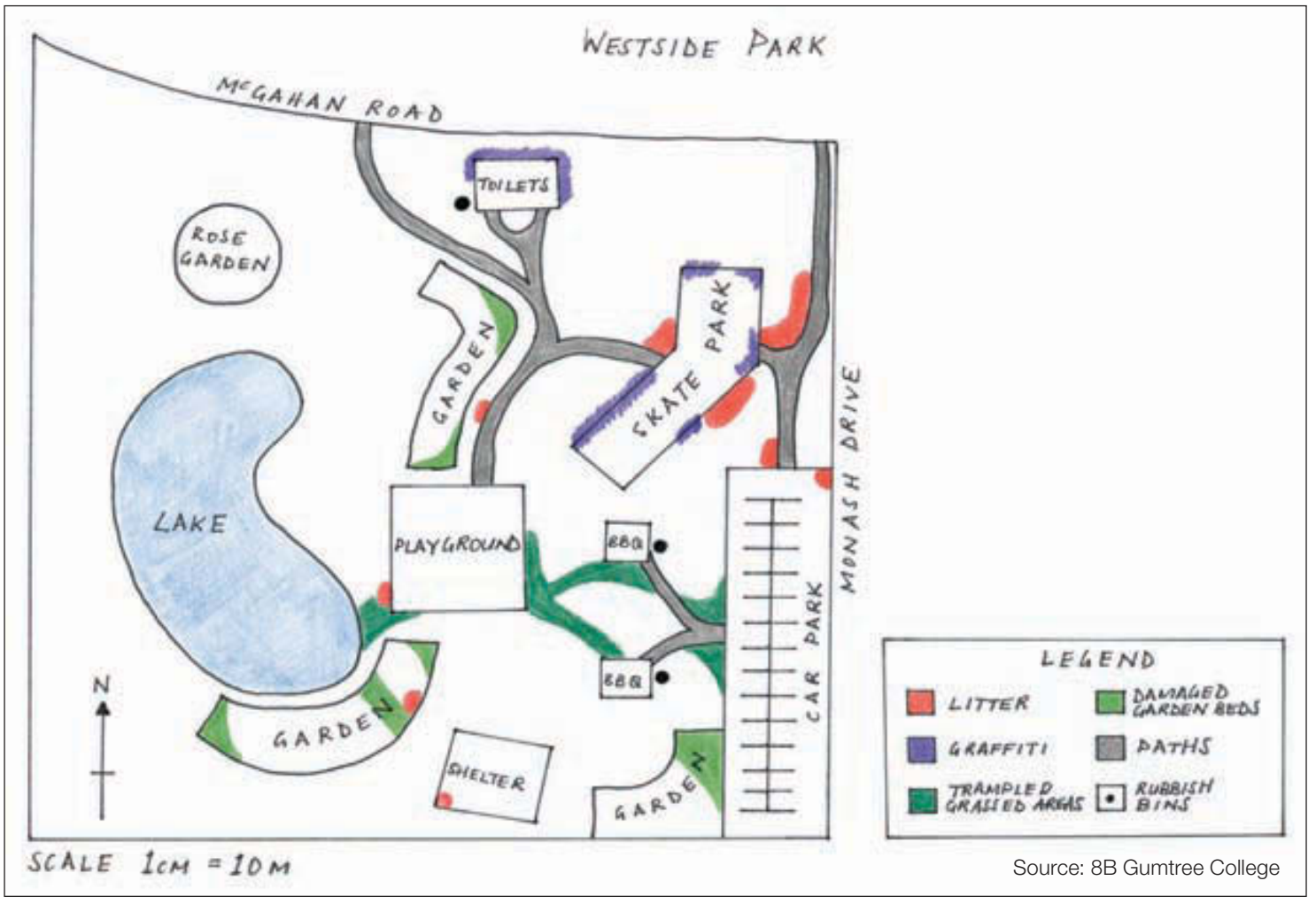
Source GT.51 Students from Gumtree College measuring and recording features to be mapped at Westside Park

After collecting and recording this data, they returned to school and used it to create some graphical representations:

- They used the measurements they had recorded to create a second, more detailed sketch map of the park – this time to scale.
- Using the records and photographs they had taken, they marked the locations of the three most serious environmental impacts on the map.
- They collated the information from the questionnaires and created a pie graph showing the number of people using the park during busy and quiet periods. They also created a bar graph showing the different activities that people used the park for.



Source GT.53 Students measuring an area of trampled grass to be added to their sketch map



Source GT.52 A sketch map of the local park identifying the locations of a range of environmental issues

Stage 3: Interpreting, analysing and concluding

Once they had converted their primary data into a range of graphs and maps, the students analysed it much more easily and looked for patterns and trends that would help them answer their key inquiry question: How do people using the local park affect the environment?

Students identified that the two main groups of park users were parents with children and skateboarders. The three main environmental problems were litter, tagging and the trampling of grass and gardens in the park.

Based on these findings, the students of 8B concluded:

- About 80 per cent of the litter was located at or near the skate park. Data gathered showed a lack of rubbish bins close to the skate park. Students concluded that lack had led to the build-up of litter and that the skate park users were most probably responsible. The grass was trampled primarily near the car park and paths leading to the playground. These areas were mainly used by families. They concluded that families with prams and small children trample grass while moving between the car park and the playground.
- There were six observed pieces of tagging – five on the walls of the skate park and one on the toilet block. They concluded that the skate park area was a key target for taggers, but could not draw conclusions about who actually did the tagging.

Stage 4: Communicating

Students prepared a group field report based on their findings. It included their maps, photographs and observations. Each student also made recommendations about ways in which the park could be used more sustainably to resolve these environmental issues. The report was sent to the local newspaper and a number of the findings were published. The students also sent their report to members of the local council.

Stage 5: Reflecting and responding

Following the submission of their field report and recommendations for change, students reflected on their findings and the methods they used to reach their conclusions. They decided that the key inquiry question they had chosen was a good one because it allowed students to work as a team but in different areas of the park and on things that interested them most. Many of the students commented that fieldwork helped them better understand this local issue more than if they read about it in the newspaper.

A few months after 8B had completed their geographical inquiry, the local council installed bins near the skate park and put up signs around it asking park users not to litter. They also commissioned an artist to create a graffiti-style mural, to discourage taggers.

Check your learning GT. 7

Remember and understand

1 Why is fieldwork an essential part of geography?
2 Why are rivers and coasts popular for fieldwork?
3 What activities did the Gumtree College students complete in order to collect information?

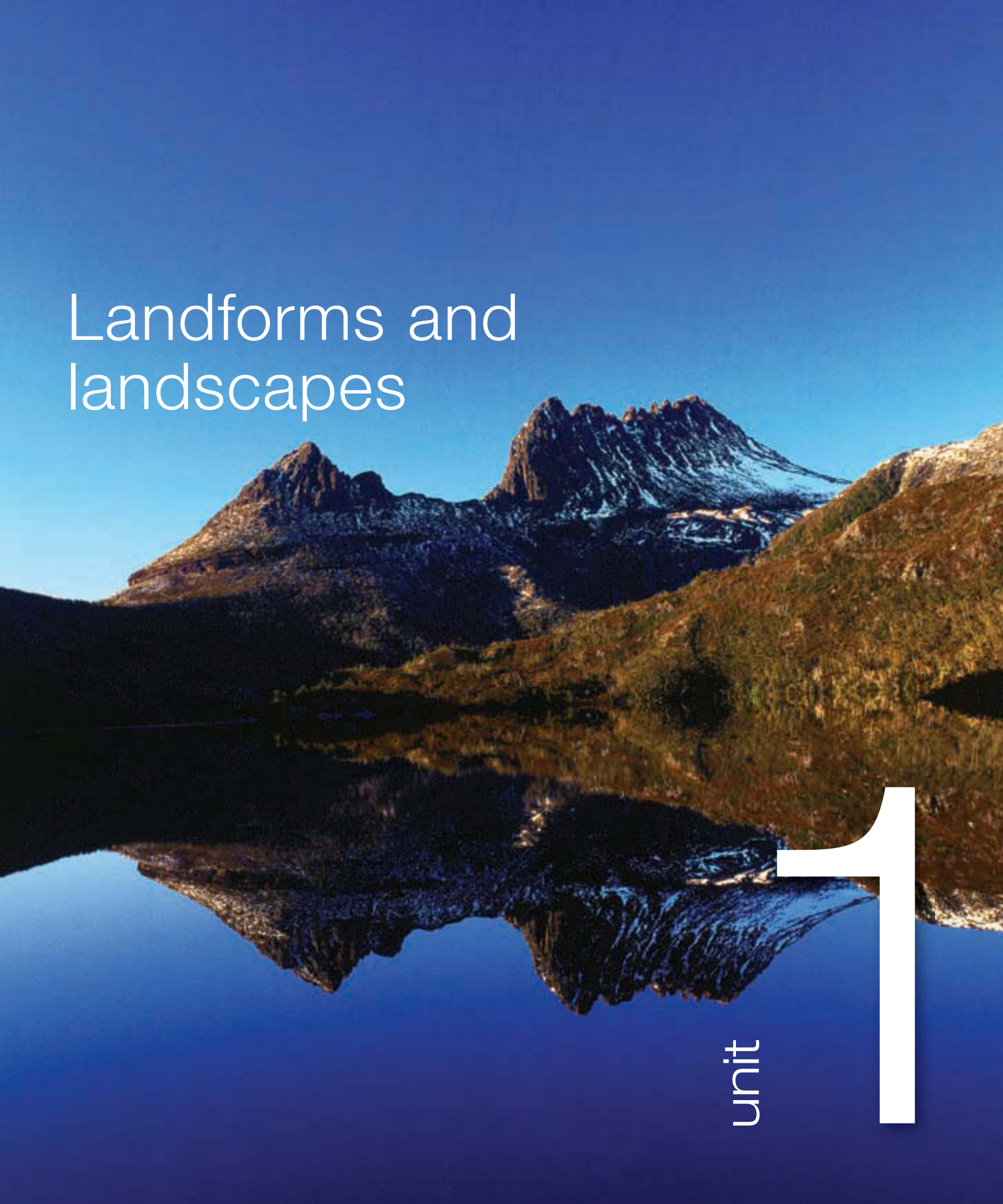
Apply and analyse

4 What are some inquiry questions that could be explored with a field trip to a large amusement park?
5 Do you prefer working in a classroom or working in the field? Discuss your response with the class.

Evaluate and create

6 Select one of the key inquiry questions listed in Source GT.50. Using the Gumtree College example as a guide, explain the steps you would undertake to explore this question using fieldwork.

Landforms and landscapes



unit 1

Landforms and landscapes



The Earth's surface is made up of a vast number of elements that have been brought together to create amazing shapes and formations. To study and understand all these formations, geographers organise them into groups based on characteristics that are similar. These different groups are referred to as landscapes. There are many different types of natural landscapes on Earth – including mountain landscapes, coastal landscapes and riverine landscapes. Landscapes created by people are called built landscapes. Natural landscapes are made up of a variety of geographical features known as landforms such as hills, caves and valleys.

1.1

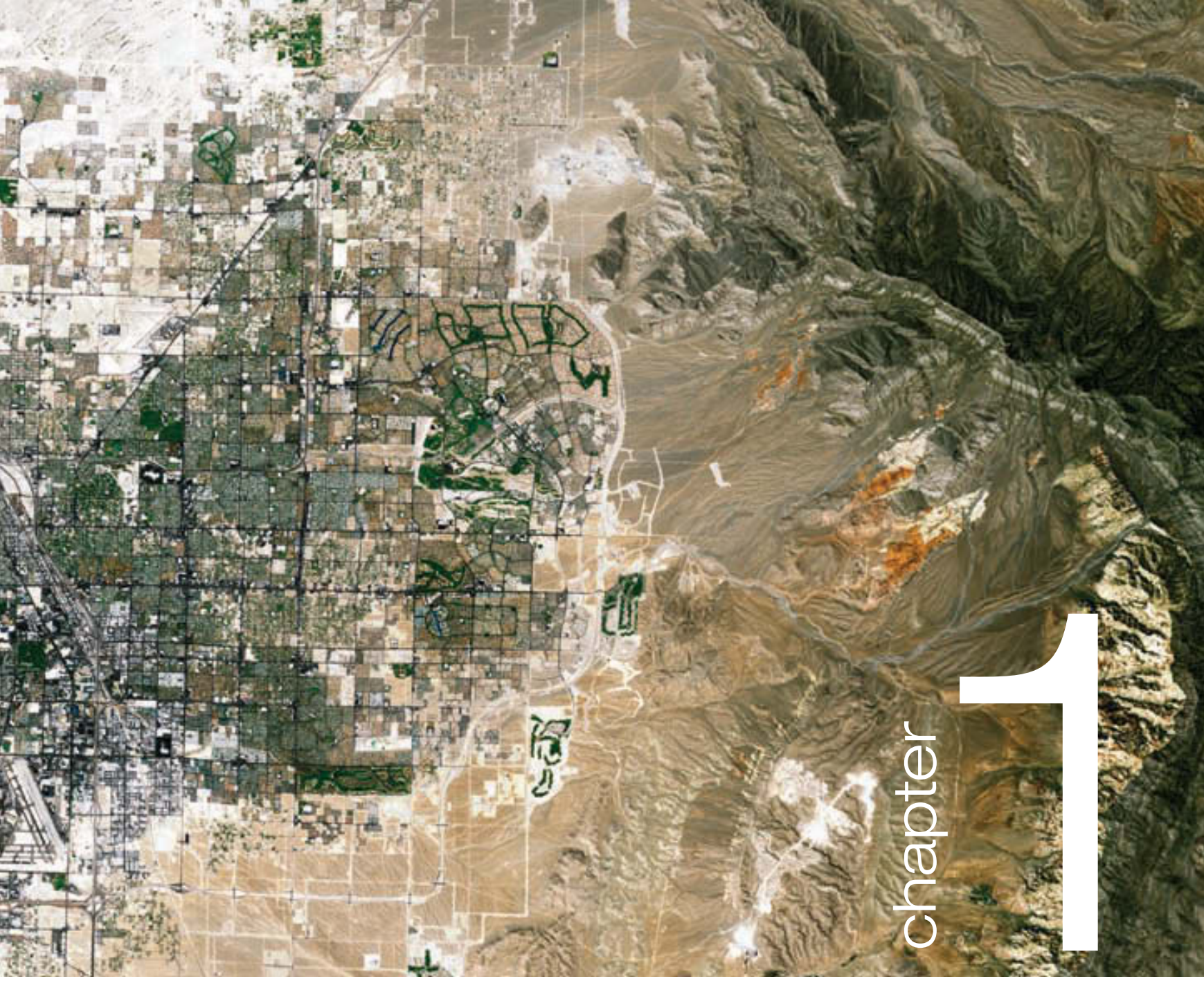
What are landforms and landscapes?

1. Use Source 1.1 to identify two different landforms and two types of landscapes.
2. Think about the place in which you live. Can you identify two different landforms and two types of landscapes that you see every day?

1.2

How are landforms and landscapes valued by people?

1. What value do you think landscapes and landforms have for people?
2. Think about one of the landscapes mentioned above. Describe why this landscape is important to you.



Source 1.1 This satellite image of Las Vegas shows many different landscapes and landforms.

1.1 What are landforms and landscapes?

The Earth's landscapes

A **landscape** is part of the Earth's surface. It consists of a variety of geographical features that are characteristic of an area. Landscapes are divided into two main categories – natural and human. Natural landscapes (for example, mountains and deserts) are mainly unaffected by human activity and typical to particular areas of the world. Human landscapes (for example, cities and farms) have been created and modified by people. Human landscapes are sometimes also referred to as cultural landscapes. Some different types of landscapes are described below.

WORLD: EXAMPLES OF DIFFERENT LANDSCAPES



Source 1.2



Source 1.3 The Himalayas in Asia are an example of a mountain landscape.

1 Mountain landscapes

Mountain landscapes are formed by **tectonic plates** on the Earth's surface pushing against each other. This movement and pressure causes the shape of the land to change. The land is pushed up in a vertical direction and over time forms mountains. Mountains rise high above their surroundings. Mountains can stand alone, be grouped in ranges, or form ridges. We will explore mountain landscapes in more detail in Chapter 2.

2 Coastal landscapes

The coast is where a land mass meets the sea. Coastal landscapes are shaped by the natural forces of the wind and waves. These geographical forces erode (wear away) or construct (build up) the natural environment, constantly changing its shape. Features of coastal landscapes include beaches, dunes, bays, cliffs, platforms, spits and lagoons. We will explore coastal landscapes in more detail in Chapter 3.



Source 1.4 Peggy's Cove in Nova Scotia, Canada, is an example of a coastal landscape.



Source 1.5 The Whanganui River system in New Zealand is an example of a riverine landscape.

3 Riverine landscapes

A riverine is a landscape formed by the natural movement of a water system such as a river. A riverine landscape includes the **ecosystems** (all living things including plants and animals) in and around the area of a river. A riverine may also be defined as a network of rivers and the surrounding land. Riverine landscapes are excellent for agricultural uses such as farming because the land is rich and fertile. They are a valuable resource for growing food.

4 Desert landscapes

A desert is defined as an area of land which receives no more than 25 millimetres of rain per year. Deserts cover about one-third of the Earth's surface and contain some of the most uninhabitable regions on Earth. There are two types of deserts – hot deserts and cold deserts. Hot deserts are located along the tropics of Cancer and Capricorn (the latitude lines to the north and south of the Equator). Cold deserts are located closer to the Arctic and Antarctic Circles (the circles of latitude in the far north and far south). Because of the lack of rain they have little vegetation (plant life). Instead deserts are characterised by sand dunes, rock and gravel.

5 Karst landscapes

A karst landscape is formed when easily dissolvable bedrock (the rock below the surface of the land, such as limestone) is worn away by slightly acidic water, from an underground source or a source on the Earth's surface. These flows of water form unique features such as caves, stalactites, springs and sinkholes. Karst landscapes are extremely unstable areas of land. Sinkholes are formed when rock beneath the Earth's surface has eroded away and sections of land on the surface collapse. Sinkholes can range in size from a few metres to over 1 kilometre deep and have been known to occasionally collapse, swallowing up everything on the surface including cars and buildings.



Source 1.7 The Skocjan Caves in Slovenia are an example of a Karst landscape.

Source 1.6 The Sahara desert in North Africa is an example of a desert landscape.

6 Tropical rainforest landscapes

Tropical rainforests are lush forests which can be found along the Equator. Rainforest landscapes receive lots of sunlight and rainfall – at least 1500 millimetres per year. This abundance of rainfall and sunlight means that vegetation grows rapidly. Rainforest ecosystems are complex and highly productive. They are home to a wide variety of species of flora (plants) and fauna (animals), about 50 to 70 per cent of all the species on Earth. Tropical rainforests cover about 6 per cent of the Earth's surface.

7 Built landscapes

Unlike the types of naturally occurring landscapes described above, built landscapes are created by humans. Built landscapes provide evidence of human settlement and occupation of an environment. Features of built landscapes include elements of infrastructure such as buildings, roads, transport, energy, sewerage and telecommunication systems. The construction of built landscapes often results in the damage or destruction of natural landscapes but commonly incorporates some natural geographical features in its design, for example harbours and mountains.



Source 1.8 The capital city of China, Beijing, is an example of a built landscape.



Source 1.9 The Amazon is an example of a tropical rainforest landscape.

Check your learning 1.1

Remember and understand

1 What is the meaning of the geographical term 'landscape'?
2 Which types of landscapes are found around the Tropics of Cancer and Capricorn?
3 Why do you think built landscapes are included in the definition of the word 'landscape'?

Apply and analyse

4 Look carefully at Source 1.2
   a How many different types of landscapes are shown on this map?
   b What types of landscapes can you identify in Australia?
   c Write a description of the location of desert landscapes. Give possible reasons to explain why they are found there.

Evaluate and create

5 Research one landscape that interests you. Your chosen landscape might be on the World Heritage List (such as karst in The Skocjan Caves Regional Park) or in your local area. Investigate what makes this landscape unique, and provide information about how it is used. Present your research in the form of a brochure, poster or webpage.

The Earth's landforms

A **landform** is a natural geographical feature or shape that appears on the Earth's surface. Large landforms include mountains, plains and rivers, while small landforms include hills and billabongs. Landforms are created and shaped by geographical forces of nature, such as **tectonic plate** movement and **erosion**. Natural landscapes are made up of a variety of landforms. Often landforms are not unique to a single landscape; for example, a hill can be found in many different landscapes.

Source 1.10 Some common landforms found in different landscapes, with an Australian example

Landscape type	Some common landforms found in that landscape	An Australian example
Mountain landscape	• Mountain – a large elevation on the Earth's surface • Ridge – a long, narrow, elevated surface • Valley – a low area enclosed by mountains	At a height of 2228 metres above sea level, Mt Kosciuszko in NSW is the highest mountain in Australia 
Coastal landscape	• Stack – a vertical column of rock • Beach – a sandy or pebbly shore • Headland – a high, rocky outcrop of land	The Twelve Apostles is a group of limestone stacks off the shore of the Port Campbell National Park in Victoria. They were created by erosion. 
Riverine landscape	• Flood plain – a low-lying area regularly flooded by a river • Riverbed – the channel in which the river flows • Billabong – an arm of a river which forms a pool, only joining with the river in times of flooding	The Riverina area in NSW is made up of flat flood plains irrigated by the Murrumbidgee, Edward and Lachlan rivers. It is a key food-producing area in Australia. 

Landscape type	Some common landforms found in that landscape	An Australian example
Desert landscape	• Inselberg – an isolated steep-sided rock hill on a plain • Oasis – a supply of groundwater in the desert • Grassland plains – a large, flat area sparsely covered with grasses	Uluru is a large sandstone rock formation in the southern part of the Northern Territory, known as an inselberg. It has great spiritual significance for the local Aboriginal people and is a popular tourist attraction. 
Karst landscape	• Spring – a basin in the rock allowing water to come to the Earth's surface • Cave – a large hollow underground with an opening • Stalactite – a formation that hangs from the ceiling of a cave, formed by dripping water and minerals	The Wombeyan Caves in NSW consist of nine limestone caves with spectacular stalactites and other formations. 
Tropical rainforest landscape	• Mountain – a large elevation on the Earth's surface • Valley – a low area enclosed by mountains • Wetlands – a swamp or similar area of land that stays wet	The Daintree Rainforest is a tropical rainforest on the north-east coast of Queensland. It is approximately 1200 square kilometres in size. Mountains, valleys and wetlands are all found in this landscape. 

Check your learning 1.2

Remember and understand

1 What is the meaning of the geographical term 'landform'?

2 In which two landscape types would you find valleys?

3 In which Australian location would you find an inselberg?

Apply and analyse

4 Look carefully at Source 1.10.

- a How many different types of landforms are included in this table?
- b Why do you think Australia has so many different landforms?
- c Write a short description of the image of the Riverina flood plain in NSW. Describe the advantages and disadvantages of living in this area.

Evaluate and create

5 Create a travel brochure for the Tourist Authority in your state or territory promoting one of the landforms listed in Source 1.10. Conduct some research to provide a description of this landform, including information about how it was formed. You should include a persuasive text that aims to encourage tourists to visit your chosen landform type.

Uluru: an iconic Australian landform

Uluru is an iconic symbol of the Australian outback and one of the most visited landforms in Australia. Part of the desert landscape and close to the continent's geographical centre, Uluru attracts around 200 000 visitors a year.

Uluru rises approximately 348 metres above the ground and measures about 10.6 kilometres around its base. It is a sacred place for the local Aboriginal people, the Anangu.

Although the Northern Territory has the smallest population of any Australian state or territory, it has by far the highest percentage of Indigenous Australians. Around one in three people there (33 per cent) are of Indigenous heritage.



Source 1.11 Uluru is Australia's most recognisable landform.

skill**drill**

Constructing a population pyramid

In order to better understand a group of people living in the same place (i.e. a population), geographers often need to analyse and compare the different groups within that population (for example the number of men versus women, or young people versus old people). They do this by representing population data visually on a population pyramid.

Although population pyramids are a type of bar graph, they are a little different. While standard bar graphs have one horizontal axis (or x-axis) and one vertical axis (y-axis), population pyramids have one y-axis and two x-axes, like graphs back to back. The y-axis runs vertically through the middle separating the data for males on the left and females on the right.

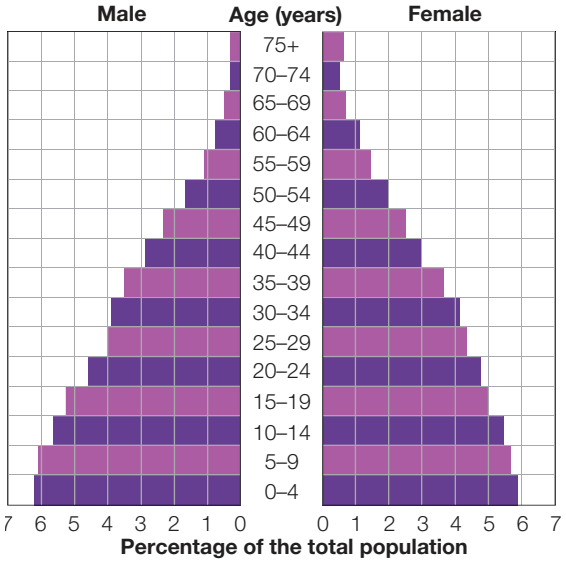
Rather than show the actual numbers of men and women at each age group, population pyramids show each of these groups as a percentage of the total population. This makes it easier for geographers to identify trends and changes in different areas of the population.

Population pyramids are created from a table of data. Source 1.12 is the data for the Northern Territory's Indigenous Population and Source 1.13 is the population pyramid. For more information on population pyramids refer to section GT.1 of The geographer's toolkit.

Source 1.12 The Northern Territory's Indigenous population

Northern Territory	Indigenous population %	
Age group (years)	Males	Females
0–4	6.2	5.9
5–9	6.1	5.7
10–14	5.7	5.4
15–19	5.3	5.0
20–24	4.7	4.8
25–29	4.0	4.3
30–34	3.9	4.1
35–39	3.5	3.7
40–44	2.9	3.0
45–49	2.3	2.5
50–54	1.7	2.0
55–59	1.1	1.4
60–64	0.8	1.1
65–69	0.5	0.7
70–74	0.3	0.5
75+	0.3	0.6

Source 1.13 Population pyramid for the Northern Territory's Indigenous population



The steps to construct a population pyramid using the statistics in Source 1.12:

Step 1 Using 5 mm grid paper, rule your axes as follows:

Vertical y-axis: There are 16 age groups in our example. The age groups start at the bottom, with the 0–4 age group, and finishing at the top with the 75+ age group. Keep this in mind while completing your y-axis, because the table shows the age groups from lowest to highest going down the page. However, the population pyramid shows the age groups from lowest to highest going up the page.

Label the top of your y-axis, 'Age (years)'.

Horizontal x-axes (left and right): Find the highest percentage of both Males and Females. In our example, this is 6.2. Round this up to the nearest whole number, which is 7. Use two 5 mm grids per unit to create two 7 cm axes. Rule your x-axes with a scale from 0 to 7 from each side of the central y-axis to the left and right.

Label the left side 'Male' and the right side 'Female' and write 'Percentage of the total population' along the bottom.

Step 2 Using a sharp lead pencil, create your bar graphs for each gender – first Males, then Females. Be as accurate as you can, and use the millimetre marks on a clear plastic ruler. First draw 5 mm high vertical strokes to end each individual bar. You can rule up the horizontals of each bar later.

Step 3 Choose two different colours; alternate with one colour and then the other. This makes it easier to read the graph.

Step 4 Give your population pyramid a title.

Apply the skill

1 Construct a population pyramid using the second set of data (Source 1.14) on Northern Territory's non-Indigenous Population, following steps 1–4.

Source 1.14 The Northern Territory's non-Indigenous population

Northern Territory	Non-Indigenous population %	
Age group (years)	Males	Females
0–4	3.5	3.3
5–9	3.4	3.1
10–14	3.4	3.2
15–19	3.2	2.9
20–24	3.9	3.5
25–29	4.3	4.2
30–34	4.6	4.3
35–39	4.6	4.2
40–44	4.6	4.0
45–49	4.4	3.9
50–54	4.0	3.5
55–59	3.7	2.8
60–64	2.4	1.7
65–69	1.5	1.0
70–74	0.7	0.5
75+	0.8	0.8

Extend your understanding

1 Use your population pyramid to answer the following questions:
   - a Which age group has the largest percentage for both males and females?
   - b Which is the smallest age group for each gender?
   - c What is the total percentage for the 0–4 age group?
   - d What is the total percentage for the 35–39 age group?
   - e What is the total percentage for the 70–74 and 75+ age groups?

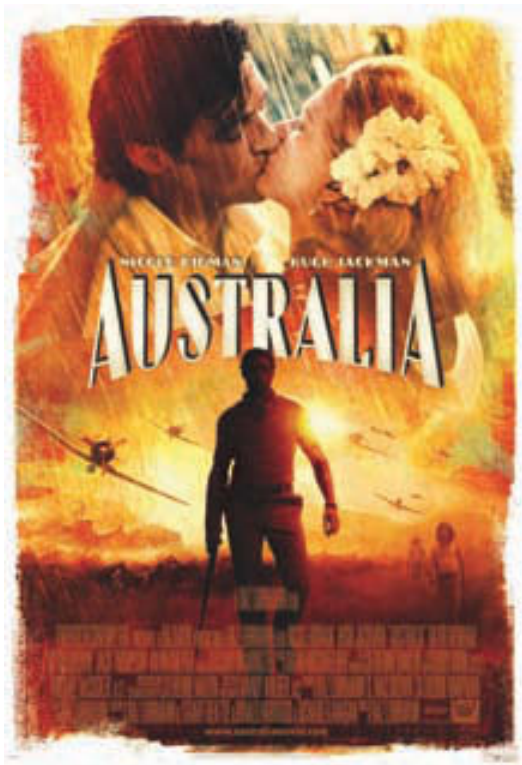
2 Compare your population pyramid with Source 1.13 and answer the following questions:
   - a Describe the key differences that you can see between the population pyramids. What does this tell you about the Indigenous and non-Indigenous populations in the Northern Territory?
   - b Research the 'standards of living' and 'life expectancy' of Indigenous people in Australia. Does this help to explain the differences in the shapes of the population pyramids?

1.2 How are landforms and landscapes valued by people?

Valuing landforms and landscapes

Landforms and landscapes around the world are valued by many different people for many different reasons. Some people may feel a deep personal connection to a particular landscape, while others are more interested in the money that can be earned from it. The value a person attaches to a particular landscape often depends on factors such as their age, occupation, education, cultural background and experiences. In general, geographers divide the ways in which people value landforms and landscapes into four categories:

- cultural value
- aesthetic value
- spiritual value
- economic value.



Source 1.15 This poster for the film *Australia* reflects the colours of the Australian outback. It is an example of how the Australian landscape has cultural value.



Source 1.16 Karlu Karlu (also known as The Devil's Marbles) is sacred to Indigenous Australians. This is an example of how landforms can have spiritual value.

Cultural value

Cultural value is linked to the importance of landforms and landscapes as expressed by people through creative means such as poetry, literature, art and films. Australia's landscapes and landforms have shaped Australian culture and identity. The film *Australia*, shown in Source 1.15, was a box-office hit in Australia. Set in northern Australia at the start of World War II, the film features the vast, unforgiving landscapes of the outback, as well as the tropical landscape of the Far North. These unique landscapes have a transformative effect on the English Lady Sarah Ashley, and by the end of the film she feels Australian.

Indigenous Australians express the importance of the land to them through Dreamtime stories, song and dance, and their art. Nearly all Aboriginal art relates to the landscape and maps the landscape and the landforms of importance to the Indigenous community.

Spiritual value

For Indigenous Australians the spiritual value of land is expressed through the concept of 'Country'. Indigenous peoples believe that the myths of their Dreamtime bind them to the land. They also believe that their ancestors live on through the land and ensure their continued connection with it. Landscapes contain many sacred sites of spiritual importance. Uluru, for example, is a sacred place to the Anangu people who live in the area. They believe that in the Dreamtime, a great sand hill was transformed into this rock along with the Kunia people who lived there.



Source 1.17 Unique and beautiful landscapes along the Australian coast are an example of aesthetic value.



Source 1.18 Landscapes with high mineral and metal deposits are an example of economic value.

Aesthetic value

The aesthetic value of a landscape is closely linked to its beauty and uniqueness. The aesthetic value attached to a place is always subjective (personal). People are drawn to places for many reasons. Being surrounded by the beauty of the landscape may give someone a sense of freedom, stability and wellbeing. An individual might be drawn to a particular landform because of its overwhelming majesty, creating a personal connection to that place.

The aesthetic value of the landscape to the community has been recognised through the creation of national parks, where land has been set aside for the public's use and enjoyment. The first national park in Australia, the Royal National Park, south of Sydney, was established in 1879. There are now 516 national parks.

Economic value

Economic value is a measurement of how financially important landscapes and landforms are. Economic value is particularly relevant to the tourism and mining industries in Australia. Tourism Victoria, for example, wants regular visitors to its state because people who travel spend money on accommodation, transport, food, souvenirs and activities. This money provides income for the tourism and hospitality industries and the State of Victoria. The Great Ocean Road is a landscape in Victoria with a high economic value due to its popularity with tourists.

Mining is the process of extracting natural resources from within the earth. These resources are sold, processed and used to manufacture a variety of goods – from jewellery to toys, to construction materials. The mining industry attaches economic value to landcapes that contain sought-after metals and minerals like coal and gold.

Competing values

The same landscape can be valued by different people for different reasons. To a mining corporation, the economic value of a landscape might be most important. To an Indigenous Australian community, however, the spiritual value may be most important. Then again, an artist might appreciate the aesthetic value of a landform. All these values are important to consider when deciding on how a landscape is best put to use.

Check your learning 1.3

Remember and understand

1 Describe the concept of 'value'.
2 What does it mean for a landscape to have aesthetic value?
3 What does it mean for a landscape to have cultural value?

Apply and analyse

4 Look carefully at Source 1.18.
   a Which value is being attached to this source?
   b What groups of people are most likely to have a different opinion as to the value of this landscape? Create a table to show the groups and their possible opinions.
   c What reasons might you list to account for, or explain, these differences of opinion?

Evaluate and create

5 Research a book, poem, movie or website that has cultural value for Australia, or a country or place that you feel connected to. Create a digital poster on Glogster (http://edu.glogster.com/) or use another design program to present your findings. Include the title of the work, its author, a blurb about it and an image to represent it. Most importantly, provide three reasons why you feel it has particular cultural significance.

The Chinese tourism boom in Australia

The unique landscapes and landforms in Australia attract tourists from around the world. Landscapes and landforms such as Uluru, the Great Ocean Road, Kakadu National Park and Sydney Harbour not only have cultural, spiritual and aesthetic value, they also have an economic value to Australia because of tourism.

In recent years, there has been a significant increase in the number of tourists coming to Australia from China. In 2012, China became Australia's second-largest tourism market, after New Zealand. Many of these tourists come because they want to see landforms and landscapes that are different from those they see at home.



Source 1.19 Chinese tourists in Australia enjoying the aesthetic value of the Twelve Apostles on the Great Ocean Road.

In terms of economic value, Chinese tourists are the biggest spenders in Australia, contributing $3.5 billion a year to the Australian economy. Tourism researchers are predicting that the number of Chinese visitors coming to Australia will continue to increase, and that by 2020 this number will exceed 850 000 a year.

skill**drill**

Analysing statistics

Many organisations collect information that geographers can use to describe and explain human activities. Sometimes this information is in the form of numbers, known as statistics. By learning a few simple techniques you can use this information to better understand changes and trends. Follow these steps to learn how to identify maximum and minimum in order to rank entries as well as calculate averages.

Step 1 Look carefully at the title of the statistics so you understand exactly what has been measured. Note the date in particular.

Step 2 Consider the source of the information. Statistics collected by government agencies such as the Australian Bureau of Statistics are generally more reliable than those collected by individuals and companies.

Step 3 To identify the maximum and minimum, list the statistics in order from the largest to the smallest. This list is known as the rank, and the position of each country within it is known as a ranking or rank score.

Step 4 To calculate the average, add all the numbers together and divide this total by the number of countries in the table. Take note of the title of each column in the table as this will inform you of the quantities being counted – for example, it may be in thousands (000) or billions of dollars ($ billions).

Step 5 You can calculate averages of each row as well as each column. For example, by dividing the economic value of each country by the number of visitors from that country you will find out the average value to Australia of each person from that country.

Step 6 Use the numbers you have calculated – average, rank, maximum and minimum – to make some statements about the statistics. In particular, focus on trends or changes that you can identify as these can be used to make predictions about future changes.

Source 1.20 Tourist arrivals in Australia from the top 10 countries, 2011

Country of origin	Economic value to Australia ($ billions)	Number of tourists (000)	Change in visitor numbers from 2010 (%)
China	3.5	542	+19.5
United Kingdom	2.6	608	-6.0
New Zealand	2.0	1173	+0.9
USA	1.8	456	-3.4
Japan	1.1	333	-16.5
South Korea	1.1	198	-7.6
Singapore	1.0	318	+3.4
Malaysia	0.9	241	+1.7
India	0.9	148	+6.9
Germany	0.7	154	-4.0

Source: Australian Bureau of Statistics and Tourism Research Australia.

Apply the skill

1 The statistics in Source 1.20 are for which year?

2 What is the source of these statistics? How do you think they were collected?

3 Rank the 10 countries in Source 1.20 from most tourists to Australia in 2011 to least tourists.
   a What is the rank score of Singapore?
   b Which country contributed the most number of tourists?
   c Of the top 10, which contributed the least tourists?

4 Calculate the average economic value to Australia of these 10 countries.

5 Which country's visitors contribute the highest economic value per person?

6 What are Australia's two fastest growing tourism markets?

Extend your understanding

1 Using Source 1.22 describe the growth in the number of Chinese tourists visiting Australia from 1992 to 2012.

2 Brainstorm possible reasons for this growth.

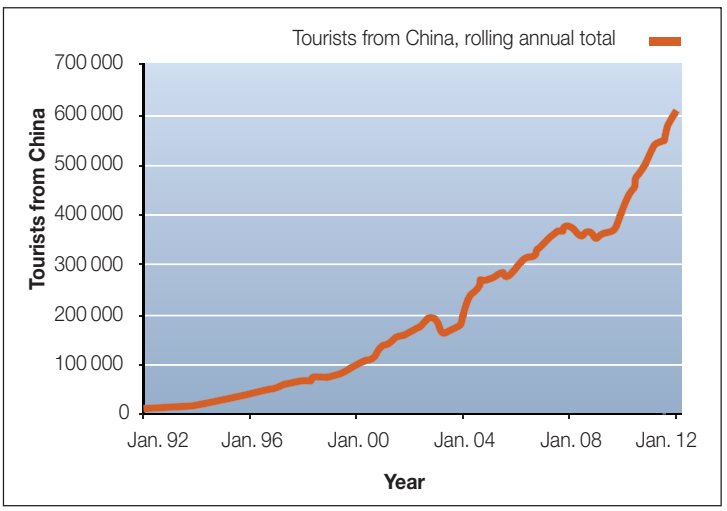
3 Tourist researchers classify international tourists into groups so that people who work in the tourism industry, such as hotel owners and tour operators, can better understand their clients. The following five groups have been identified among Chinese tourists:

Source 1.21 Types of Chinese tourists to Australia

Name of group	Description	Percentage of Chinese tourists
Self-challengers	An inner drive to learn about other cultures through travel	22
Family connections	Holidays are driven by family connections beyond all other reasons for travel	13
Sightseers	The guarantee of seeing world famous sights in a comfortable, secure fashion	18
Ready to leave	Keen to see more of the world beyond South East Asia	25
Close to home	Somewhere familiar and welcoming to relax and feel safe	22

Source: Tourism Research Australia: *The Chinese Traveller* (2005)

   a Which of these five groups do you believe are the biggest spenders in Australia? Give some reasons for your answer.
   b Which do you believe are the lowest spenders? Give some reasons for your answer.
   c Tourism Australia is keen to attract more Chinese visitors to Australia. On which of these five groups do you think they should focus?
   d Create a poster, brochure or web page that is designed to attract this group to Australia.



Source 1.22 Growth in numbers of Chinese tourists to Australia



Mountain landscapes

A mountain is an elevated landform that rises above the surrounding landscape. Mountain landscapes appear on every continent on Earth. Mountains are created by the movement of the Earth's **tectonic plates**. The imposing form of a mountain in a landscape has made mountains significant in the spiritual and cultural lives of many groups, including Indigenous Australians.

Weather conditions at high elevations are harsh and changeable. Humans and animals that live in the mountains have adapted their lifestyles to suit these extreme conditions. For those living close to mountains, there are also risks from volcanic eruptions, landslides and avalanches. In this chapter we will explore these mountain landscapes in detail.

2.1

What forces shape mountain landscapes?

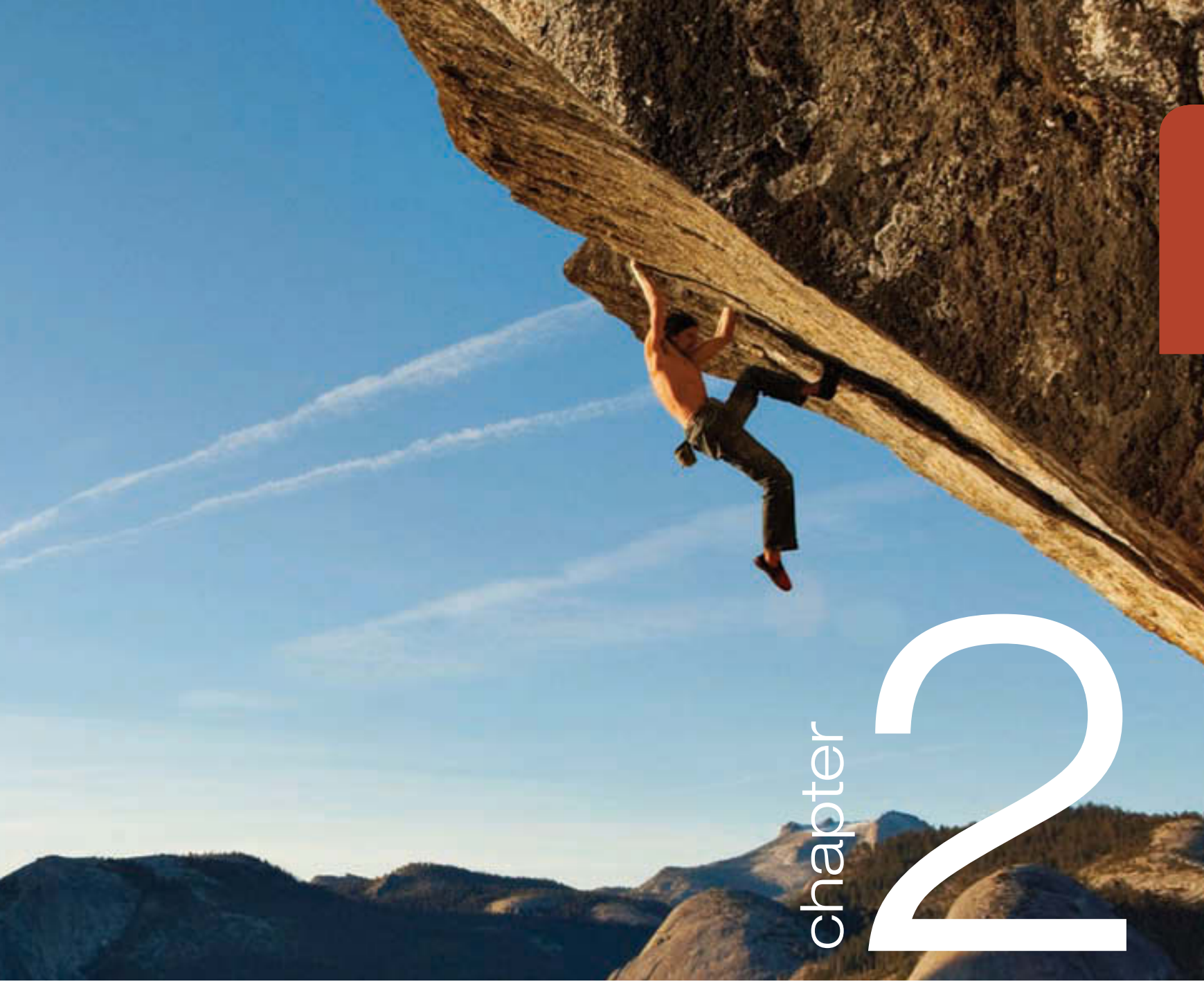
1 Yosemite National Park is one of the world's most popular rock-climbing destinations because of the type of rock found there. What features of the rock do you think might be important to this climber?

2.2

How are mountain landscapes used and managed?

1 This climber has no safety ropes. Do you think this type of climbing should be allowed?

2 What effect does the presence of Yosemite National Park have on the region in which it is located? Name some Australian national parks.



chapter 2

Source 2.1 A rock climber in Yosemite National Park, California, United States. This type of climbing — without ropes — is known as free climbing.

2.3

Are mountain landscapes hazardous places?

1 Which natural hazards do you think might be common in mountainous regions?

2 Do you think some of the mountains in this region are likely to be active volcanoes? Give some reasons for your answer.

2.1 What forces shape mountain landscapes?

The world's mountains

Mountains are defined by most geographers as 'large natural elevations of the Earth's surface'. Although everyone generally agrees on this definition, there is some disagreement about exactly how elevated (high) the land must be in order for it to be classified as a mountain. In some countries, any land 1000 metres or more above sea level is classified as a mountain, while in other countries the minimum height is closer to 2500 metres. If we go by this second definition, Australia's highest mountain, Mount Kosciusko, at 2228 metres, is not really a mountain at all.

Some countries, such as Nepal and Lesotho, are very mountainous, while others, such as Australia and Egypt, are relatively flat. Lesotho (in southern Africa) is the only country in the world that is entirely more than 1 kilometre above sea level.

The Transantarctic Mountains (in Antarctica) make up one of the world's longest mountain ranges. Due to the huge volume of ice covering the land, Antarctica holds the record for the greatest average height above sea level of any continent (as shown in Source 2.3).



Source 2.2 The Himalayas contains nine of the world's ten highest mountains, including the highest, Mount Everest.



Source 2.3



Source 2.4 The Sierra Nevada Mountains in the United States. Their sheer sides are a result of parts of the Earth's crust lifting and dropping away steeply.

WORLD: MAJOR MOUNTAINS AND MOUNTAIN RANGES



Source: Oxford University Press



Source 2.5 The Blue Mountains in New South Wales are the worn away remains of a much larger and higher plateau. This plateau was lifted up by forces within the Earth's crust.

Check your learning 2.1

Remember and understand

1 Study Source 2.3. There are seven continents. Can you find the highest mountain in each? Which continent has the highest mountain of all? Which has the lowest?

2 What is the highest mountain in the world that is not part of a mountain range (a long line of mountains)? Where is it?

Apply and analyse

3 Mountains are often part of a mountain range. Why do you think this is the case?

4 Why do you think some places are mountainous and others are not?

5 Study Source 2.3. Select a continent other than South America or Antarctica. Describe the distribution of mountains on this continent using this description of South America as an example: 'Most of South America is relatively flat. However, a long, high mountain range – the Andes Mountains – extends along the western edge of the continent, from the very north to the very south.'



Source 2.6 Mount Kilimanjaro is Africa's highest mountain. It is also the highest mountain in the world that stands alone, rather than being part of a mountain range.

Mountain landscape stories

The legend of the Glasshouse Mountains: a creation story from Australia

According to the Gubbi Gubbi people, Mount Tibrogargan, the father, and Mount Beerwah, the mother, had many children, the eldest of whom was Mount Coonowrin. One day, Mount Tibrogargan was looking out to sea and saw a great wave approaching. He called out to his eldest son, Coonowrin, to help his mother, Mount Beerwah, who was pregnant with child.

In the meantime, Tibrogargan gathered up his other children and began to run towards higher land. When Tibrogargan looked back to check that Coonowrin was helping his mother, he was angered to see him running off alone. He chased his son and, in a great rage, smashed him on the head with his club, dislocating his neck.

Later, when the floods had gone, Coonowrin begged his father for forgiveness, but all his father could do was weep in shame, creating the streams that still run in the region. He asked his son why he had not helped his mother. Coonowrin – not knowing his mother was pregnant – replied that Beerwah was the biggest of all of them and could look after herself. This angered Tibrogargan even more. He turned his back and vowed never to look at his son again.

Even today, Tibrogargan gazes out to sea and Coonowrin hangs his head and cries, his tears running off to the sea. His mother Beerwah is still pregnant as it takes a long time to give birth to a mountain.

The legend of Mount Tongariro: a creation story from New Zealand

According to the Māori people, the mountains of New Zealand were once warriors and gods who moved about the landscape. In the centre of the North Island stood seven great mountains. Six of the mountains were male; Mount Pihanga was the only female. Clothed in native trees and vegetation, she was a great beauty and all the other mountains loved her deeply. One night they decided to fight for her and a fierce battle erupted. The land shook. Smoke, fire and hot rocks filled the sky.



Source 2.7 Mount Coonowrin sitting beside his pregnant mother, Mount Beerwah, Queensland

key**concept:** place

Links between people and the natural landscape

Not all people think about and see the same place in the same way. These differences result from many factors, such as cultural background, education and life experiences. Scientists such as geologists and vulcanologists have studied mountains and revealed a great deal about their formation. Local Indigenous people, too, have their own stories relating to the creation of these landscapes. For many Indigenous people around the world, mountains are much more than lifeless rocks.

Many Indigenous people believe that the mountains were alive in the time before humans walked the Earth. They believe that the shapes and locations of mountains can tell us about ancient events. Learning these stories helps us to appreciate that we do not all see the same place in the same way. For many people there is a deep spiritual link between the landscape and themselves.

For more information on the key concept of place, refer to section GT.1 of 'The geographer's toolkit'.

Eventually, Tongariro was proven to be the supreme warrior and won the right to stand beside Pihanga. The losers were given one night to move away or else they would be turned to stone. Taranaki, filled with anger and jealousy, fled to the coast, gouging out a mighty valley as he went. Reaching the sea, he slept. When the day broke he was trapped, and he still hides beneath a cloak of cloud.



Source 2.8 Mount Taranaki wearing a cloak of clouds

The legend of Mount St Helens: a creation story from North America

According to the Puyallup Tribes, long ago two tribes lived across the river from one another. They were friendly and peaceful tribes, and the Great Spirit built a bridge across the river for them. Then the tribes began to quarrel. The Great Spirit became angry. To punish the tribes he took away fire. The tribes prayed to the Great Spirit to return fire to them and eventually he agreed.

To restore fire, the Great Spirit had to go to an old woman named Loo-Wit who, because of her goodness, still had fire. She promised to share her fire with the tribes if the Great Spirit could make her young and beautiful forever. Fire was restored and the two tribes were peaceful for a short time. However, the chiefs both fell in love with Loo-Wit and went to war. In anger, the Great Spirit turned them into mountains: Mount Hood and Mount Adams. The Great Spirit made Loo-Wit into Mount St Helens, clothed in white and beautiful forever.



Source 2.9 Mount St Helens clothed in white with the Toutle River valley shown in the foreground

Check your learning 2.2

Remember and understand

1. Examine Source 2.7. Which of these mountains is Beerwah and which is Coonowrin? Give reasons for your answer.
2. According to the creation story from New Zealand, why did the volcanoes fight?
3. Why do you think many Indigenous people have legends to explain landscapes?

Apply and analyse

4. Compare the three legends.
   a. What features do all three have in common?
   b. What is unique about each legend?
5. As well as helping people to understand their natural environment, each of these legends contains advice about how to live and behave. What is this advice?
6. What did you learn about the Indigenous people of these three regions by reading their legends?

Evaluate and create

7. Examine the image of the Blue Mountains in Source 2.5. Imagine that you lived in Australia thousands of years ago, before there were scientific explanations for this landscape. Write and illustrate a legend that explains how this landscape was created.

Traditional Aboriginal land use and mountains



Source 2.11 A Bogong moth

Aboriginal people have a special connection with the land. They see themselves as being responsible for looking after the stories, places, resources and culture of their land. In this way, they seek to live sustainably. This concept is sometimes called Caring for Country and applies to all landscapes, including the forests, deserts, wetlands and mountains.

> The Mountains are very old and an ongoing life force that strengthens the ancestral link of our people. We have a living, spiritual connection with the mountains. We retain family stories and memories of the mountains, which makes them spiritually and culturally significant to us. Our traditional knowledge and cultural practices still exist and need to be maintained.
>
> Kosciuszko Aboriginal Working Group

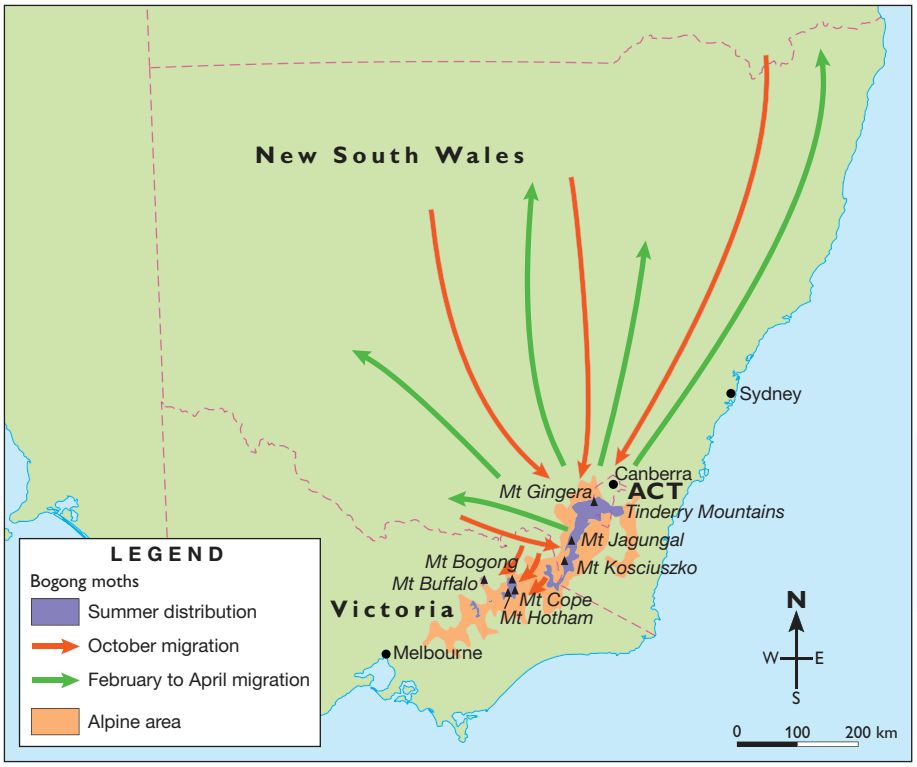
The Bogong moth, a prized food source, can be found in great abundance in the Australian Alps. In early summer, tribes would travel great distances into neighbouring tribal areas to feast on the moth. Rich in fat content, they also provide an important food source for alpine animals, such as the mountain pygmy possum (see Source 2.43), lizards, birds and fish. Each year millions of these brown moths migrate up to 1000 kilometres to the mountain tops of the Great Dividing Range. As the moths sleep in huge colonies during summer they are easy to catch. Thrown into the ashes of a fire to burn off their wings and legs, they were then roasted and eaten.

Important as food, the moths also served an important social purpose. As hundreds of people met at each nesting site, links between tribes and language groups were made and strengthened. Up to 1000 people may have converged at some sites, representing some of the largest gatherings of Aboriginal people. These feasts were an opportunity for people to share or swap food and other resources from their own Country and to learn more about the customs and languages of other tribal groups.

Source 2.10 Aboriginal rock art in the Kimberley region of Western Australia



BOGONG MOTH MIGRATION ROUTES



Source 2.12

Source: Oxford University Press



Source 2.13 Stone tools made using greenstone from Mount William in central Victoria

As well as providing food, the mountains provided traditional Indigenous people with other resources. Some alpine plants, for example, were used in medicine and others were used in important ceremonies. The Bangalow palm, which grows in the rainforests of the eastern Australian coastal mountains, was used for thatching roofs and making water carriers.

The rocks of the mountains also had their uses, and Indigenous tribes would travel to particular stone quarries to collect rocks for tools such as axes and hatchets. Often they would trade other goods for these rocks and this strengthened the ties between and within tribal groups. One of the most important of these quarries was Mount William in central Victoria, which was the source of greatly prized greenstone hatchet heads.

Check your learning 2.3

Remember and understand

1 Why was the Bogong moth an important resource for Indigenous Australians?

2 Why did people travel to Mount William?

3 How do you think the tools shown in Source 2.13 were used?

Apply and analyse

4 Examine Source 2.12.
- a Describe the migration patterns of the Bogong moth. Include compass directions, distances and times of the year in your description.
- b How did these migration patterns influence the movement of some Indigenous people?

5 Imagine that you are an Indigenous Australian and have travelled hundreds of kilometres to reach the nesting site of the Bogong moths. When you arrive the harvest is well under way.
- a Describe what you see, smell and hear as you arrive.
- b What would you bring with you?
- c Explain why your trip is an important annual event for you and your tribe.

Evaluate and create

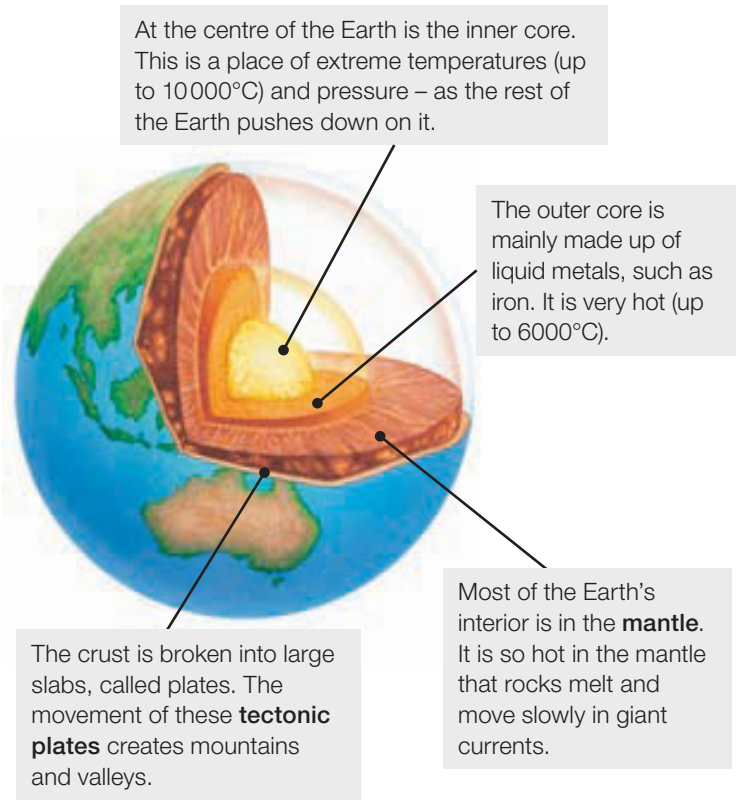
6 Was the harvesting of the Bogong moth a sustainable use of this resource?

7 What questions could you ask to help you decide if the quarrying of stone at Mount William was a sustainable use of this resource?

How mountains are formed

Mountains are formed where the surface of the Earth has been pushed upwards. Tremendous forces inside the Earth can crumple the surface into long mountain chains, such as the Andes or Himalayas, or punch right through the surface to create volcanoes, such as Kilauea on the island of Hawai'i and Mount Kilimanjaro in Tanzania. To understand how this happens you need to know about the world beneath your feet.

You may be used to thinking of the Earth as a solid ball like a giant shot-put, but this is far from the reality. The Earth is more like a giant peach with a thin skin and a core at the centre surrounded by soft flesh. Scientists believe that the Earth is made up of four layers (see Source 2.14).



Source 2.14 The Earth's layers

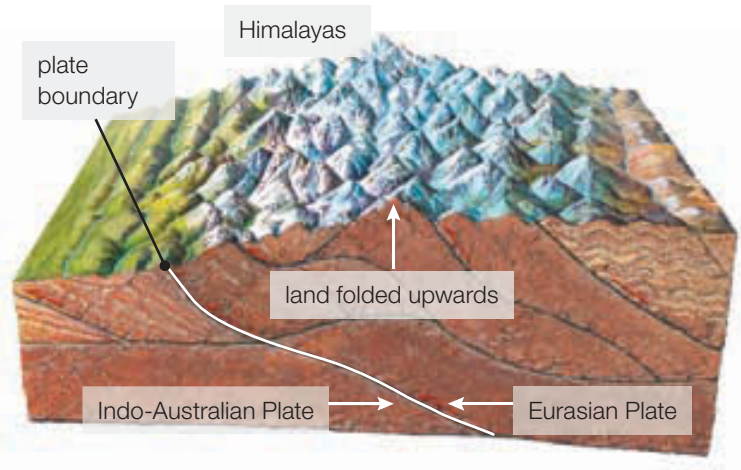
Tectonic plates

The outer layer of the Earth's surface (known as the crust) is broken into large pieces called **tectonic plates**. These plates are around 100 kilometres thick and fit together like enormous pieces of a jigsaw puzzle. Currents in the red-hot molten material (**magma**) under these tectonic plates cause them to move about (see Source 2.14).

In some places, they are being pushed into one another (converging). This process creates mountain ranges. The world's highest mountain ranges such as the Himalayas and the Andes are located along a converging plate boundary.

In other places, tectonic plates are being pulled apart from one another (diverging). This process creates rifts in the Earth's surface that allow hot magma to ooze to the surface and create new land. The world's longest mountain range, the mid-Atlantic Ridge, is an undersea mountain range formed along a diverging plate boundary.

The movement of tectonic plates is also responsible for many other features and natural events on the Earth's surface, such as volcanoes and earthquakes. Volcanoes are formed when magma is pushed through an opening in the Earth's crust. Earthquakes are caused when the edges of tectonic plates push and grind against one other.



Source 2.15 The collision of tectonic plates caused the formation of the Himalayas.

Types of mountains

Mountains are classified according to how they were formed. There are three main types of mountains:

1 fold mountains
2 block mountains
3 volcanic mountains.

1 Fold mountains

Fold mountains are created by upward pressure where two tectonic plates collide. As the plates converge, layers of rock are buckled and pushed upwards creating fold mountains. Most of the world's highest mountain ranges are fold mountains.

The world's largest fold mountains are the Himalayas, which separate southern Asia from central Asia. They have been formed by the collision between the Indo-Australian plate and the Eurasian plate over the last 55 million years. Currents within the mantle are moving the Indo-Australian plate northwards, and its front edge is bulldozing into the Eurasian plate, folding the edges of both plates upwards.



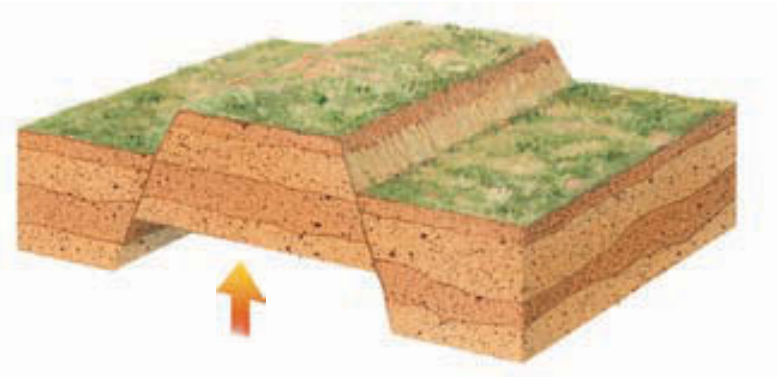
Source 2.16 Creation of a fold mountain



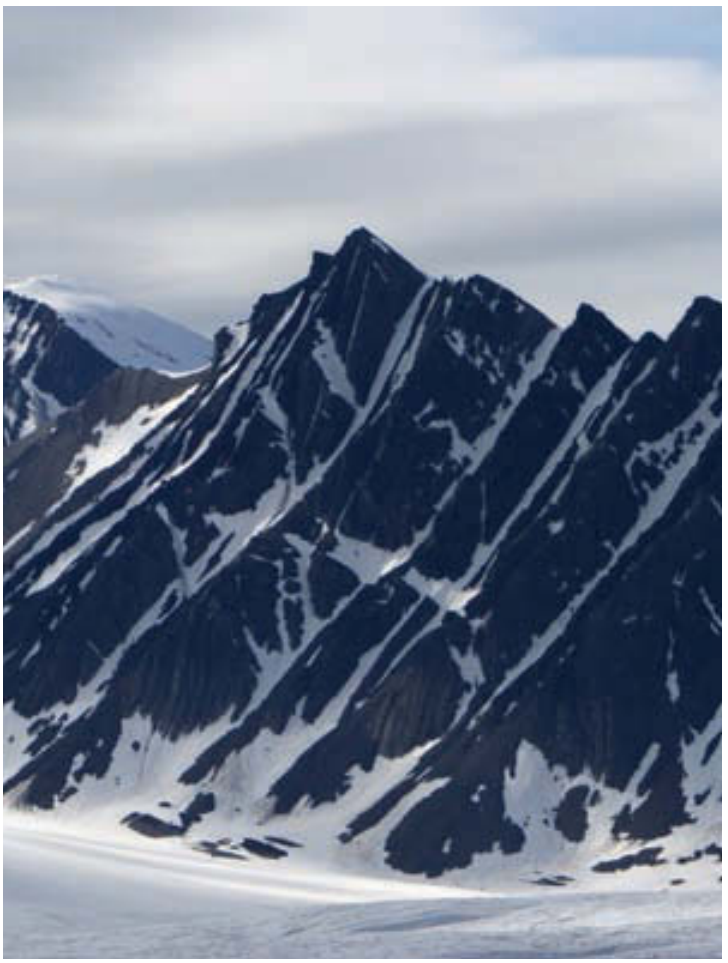
Source 2.17 These mountains on the edge of the Zanskar Valley in Ladakh, India, are clearly distinguishable as fold mountains.

2 Block mountains

Block mountains are created when cracks in the Earth's crust known as faults force blocks of land upwards. Rocks that are cooler because they are close to the surface tend to crack and break apart when compressed from the sides. Rather than folding, they are often lifted up in giant blocks along fault lines to create block mountains. Geologists refer to this mountain-building process as faulting.



Source 2.18 Creation of a block mountain



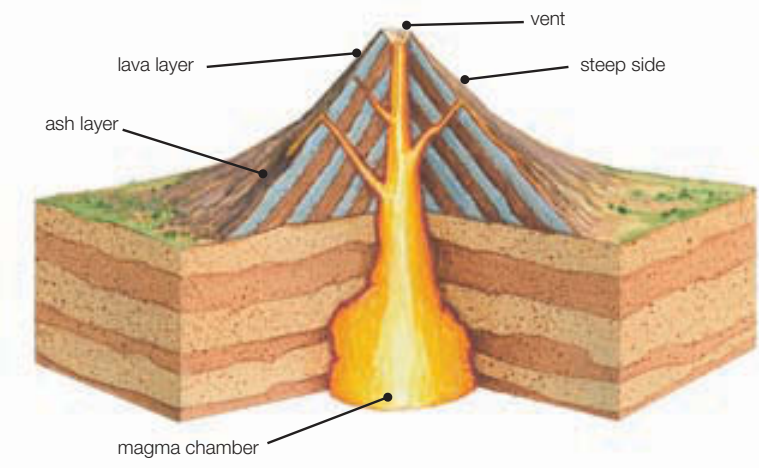
Source 2.19 Block mountains in the Arctic region of Norway

3 Volcanic mountains

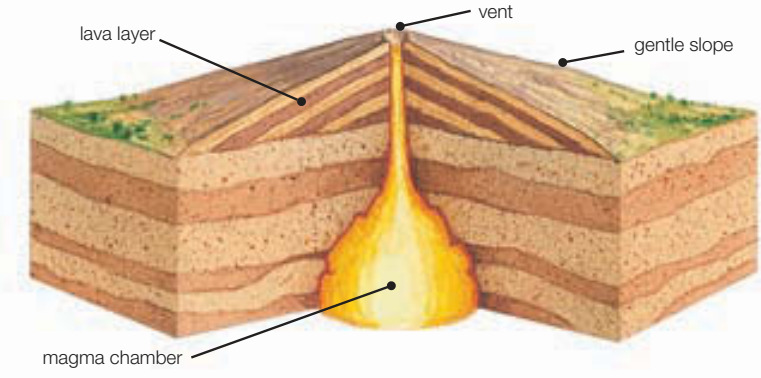
Volcanic mountains are created by volcanoes, as the name suggests. They are created when magma pushes its way from beneath the Earth to the crust. The material that comes out of a volcano builds up the Earth's surface, creating new land and new landforms.

Each eruption brings new material to the surface, as ash or **lava** or both. As lava flows across the surface it covers the rocks from previous eruptions and builds up the height of the land in layers. Runny lava can travel many kilometres from the crater and leave behind a shallow layer of new rocks over a wide area. These types of volcanoes are known as **shield volcanoes** (see Source 2.21).

The Hawaiian volcanoes and Mount Kilimanjaro in Tanzania are examples of shield volcanoes. The more familiar steep-sided volcanic cones (see Source 2.20), such as New Zealand's Mount Taranaki and Mount Fuji in Japan, are formed when lava and ash do not travel far from the crater. These materials are then left as a new layer on the sides of the cone, building it higher.



Source 2.20 A cutaway diagram of a volcanic cone



Source 2.21 A cutaway diagram of a shield volcano

Most of the world's volcanoes are located on or near plate boundaries where plates collide and one plate is forced downwards into the mantle. This causes pressure to build up and molten rocks, called magma, to rise to the surface and force their way out through a weakness in the crust. This is what we see as an eruption. Other volcanoes are located in **hot spots**, which are areas that are often in the centre of a plate where the mantle is particularly hot. In these places molten rock from the mantle is forced upwards through the moving crust.

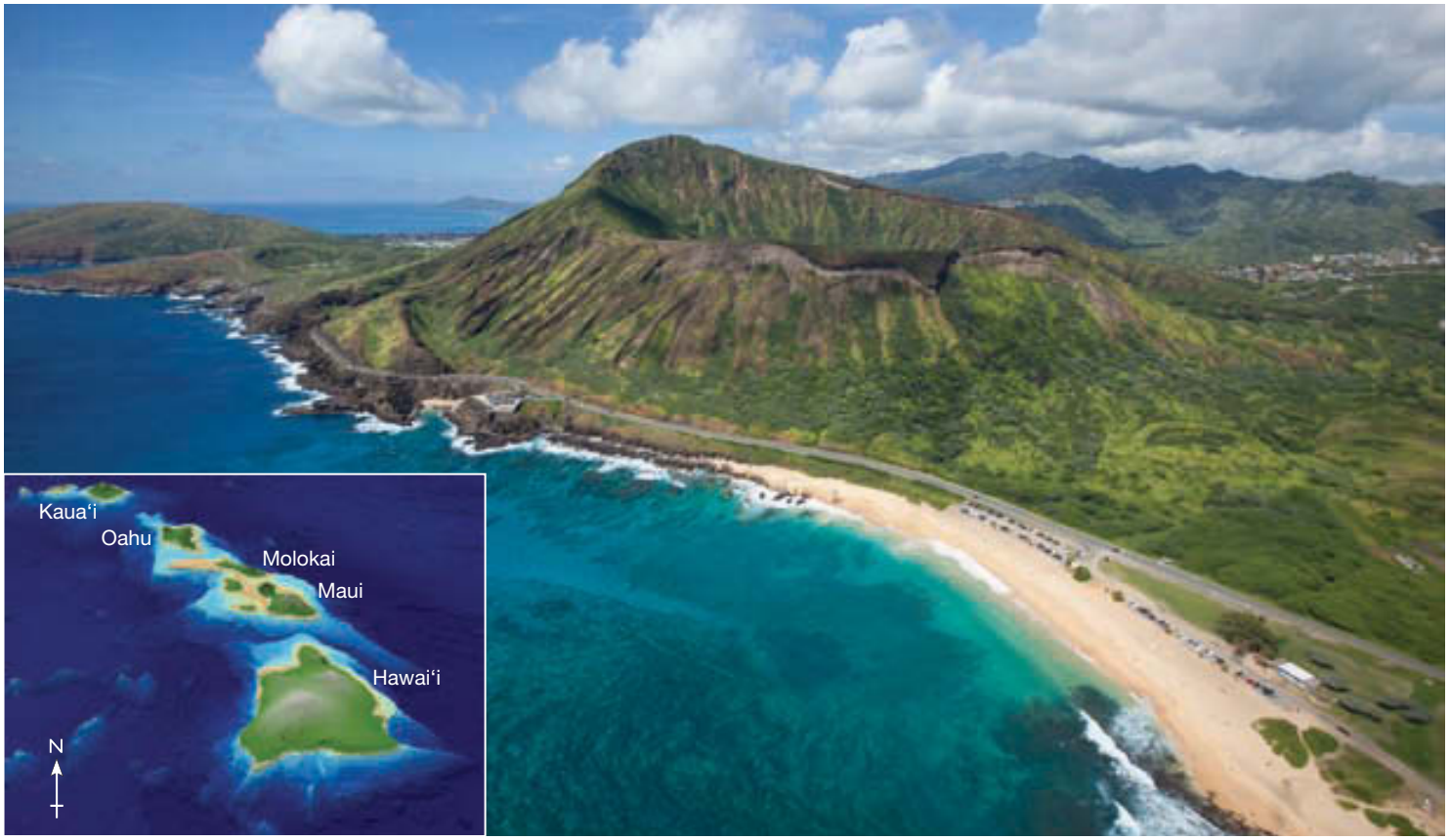
The Hawaiian Islands have been formed above a hot spot. As the Pacific Plate moves over the hot spot a line of volcanoes has been created. The oldest volcanoes have been eroded so that little remains above sea level. The newest island, Hawai'i, has many active volcanoes and is increasing in size every year.



Source 2.22 Mount Fuji in Japan is an example of a volcanic cone.



Source 2.23 Rangitoto Island in Auckland, New Zealand, is an example of a shield volcano.



Source 2.24 The Koko Crater on Oahu (main) and a digital terrain model of the Hawaiian Islands showing them sitting on top of a chain of massive volcanoes (inset)

Check your learning 2.4

Remember and understand

1 What are the four layers of the Earth?
2 In this section, the Earth is described as being more like a peach than a shot-put. In what ways is the Earth like each of these objects: an inflated balloon, an apple and an egg?
3 How do the Earth's tectonic plates move?
4 Describe the process of folding.
5 How does a volcanic eruption change the shape of the land?

Apply and analyse

6 What are the similarities between folding and faulting? What are the important differences?
7 Sketch and label a diagram of the block mountains in Norway (Source 2.19) to show how they are formed.
8 Explain why some volcanoes are steep-sided cones and some are not.
9 Why is every volcano in the world a different shape?

Evaluate and create

10 Scientists have been able to work out the age of the lava flows on each of the Hawaiian Islands. Here is their data with the age of lava in millions of years.

Island name	Age of lava (million years)
Kaua'i	3.8–5.6
Oahu	2.2–3.4
Molokai	1.3–1.8
Maui	0.8–1.3
Hawai'i	0.7

a On which island is the oldest lava found?
b On which island is the newest lava found?
c How does this data support the theory that the islands formed as they passed north over a hot spot?
d Which of these islands is the smallest?
e Which of these islands is the largest?
f Suggest a possible reason for this difference.

Tectonic plate boundaries

Source 2.28 shows the Earth's tectonic plates. The plate boundaries are shown to be either converging (pushing into each other) or diverging (pulling apart). This activity on the boundaries has a number of effects on the Earth's surface.



Source 2.25 In North America, two plates are sliding past each other creating the San Andreas Fault.



Source 2.26 In South America, four plates are colliding with each other creating the Andes.



Source 2.27 In Africa, three plates are moving apart creating the Great Rift Valley.

skilldrill

Using overlay maps

An overlay map is a transparent, or semi-transparent, sheet that lies over another map to show the link between different features or events and how they may be related to each other. Follow these steps when reading an overlay map:

Step 1 Look carefully at the base map to understand what it is showing.

Step 2 Apply the overlay map to see if there are any links with the base map.

Step 3 Describe the degree to which patterns are connected.

Step 4 Try to suggest reasons for the connection between the two patterns.

Apply the skill

Look at Souce 2.28:

1. What features are shown on the overlay?
2. What relationship is there between the pattern of the overlay map and the pattern on the base map?
3. Suggest why there is a relationship between these patterns.
4. Use the Internet to locate five major cities situated near active volcanoes. Mark these cities on the overlay.

Check your learning 2.5

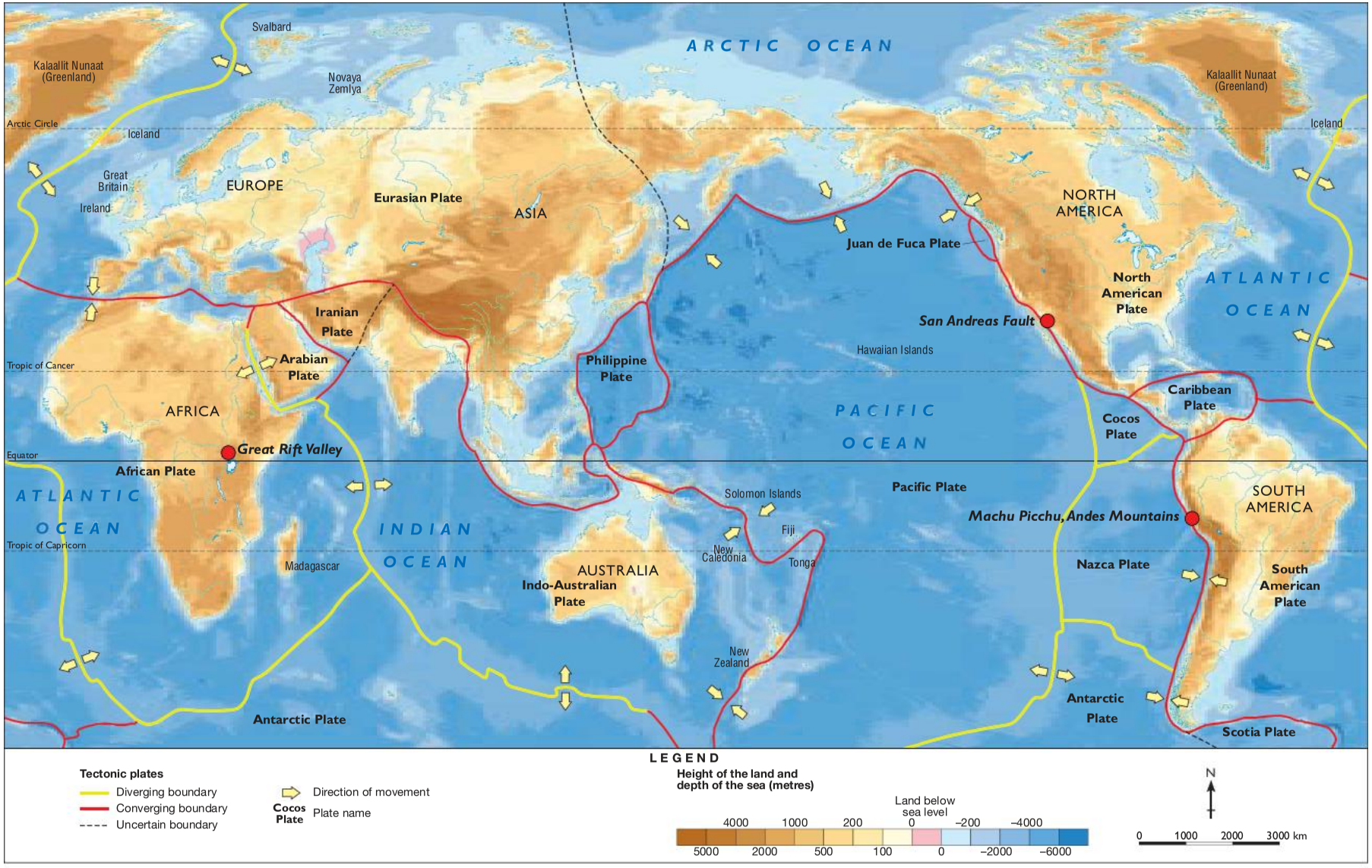
Remember and understand

1. Which of these statements are true and which are false?
   - a Africa is moving away from Europe.
   - b Australia is moving closer to Antarctica.
   - c South America and Africa are moving further apart.

Apply and analyse

2. Carefully examine Source 2.28.
   - a On which plate is Australia located?
   - b In which direction is this plate moving?
   - c What is the main difference in terms of plate boundaries between the location of New Zealand and the location of Australia?
   - d Identify any possible links you notice between plate boundaries and:
     - i mountain ranges
     - ii volcanoes
     - iii earthquakes.

WORLD: MAJOR TECTONIC PLATES



Source 2.28

Source: Oxford University Press

The mountains of Antarctica

Antarctica is the world's highest continent. Its average height above sea level is 2500 metres whereas Australia's is about 340 metres. Antarctica's great height is largely due to the two enormous ice sheets that cover virtually the whole continent. Up to 4 kilometres thick, these ice sheets hold 90 per cent of the world's ice and 70 per cent of its fresh water. Antarctica is also home to vast mountain ranges. Most of its mountains lie hidden beneath the ice, but some are tall enough to poke through the ice. One range, the Transantarctic Mountains, is over 3000 kilometres long and tall enough to hold back the world's largest ice sheet.



Source 2.29 A section of the Transantarctic Mountains in Antarctica

skill**drill**

Interpreting a cross-section

Maps are useful tools for showing where places are located, but they don't usually show the height of the land. This is because they show a view from above, rather than from the side. Some maps, such as Source 2.31, show the height of the land through contour lines. These lines help us to visualise the shape of the land. One of the most useful tools that geographers use to see a landscape from the side are cross-sections.

Step 1 Look at the map of Antarctica in Source 2.31. Find the line that runs from A to B on the map. This identifies the section of land to be shown as a cross-section.

Step 2 Look at the cross-section of Antarctica shown in Source 2.30. This shows the section running A – B – C as a cross-section.

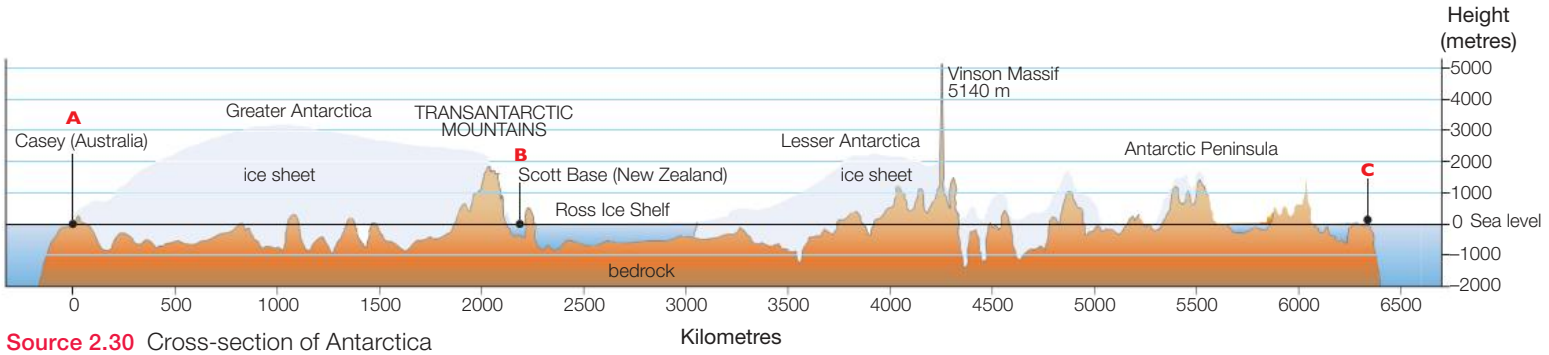
Step 3 Use the cross-section to estimate the height of the mountains and the thickness of the ice that covers them.

Apply the skill

1. Why can't we see most of Antarctica's mountains?
2. Which of Antarctica's two ice sheets is the highest?
3. Describe the shape of the landforms beneath Antarctica's ice sheet.
4. How high above sea level is the Ross Ice Shelf?
5. When explorers first began to try to reach the South Pole they used the Ross Ice Shelf as a way to access the interior of Antarctica. Use the cross-section to explain why this was both a good idea and a bad idea.

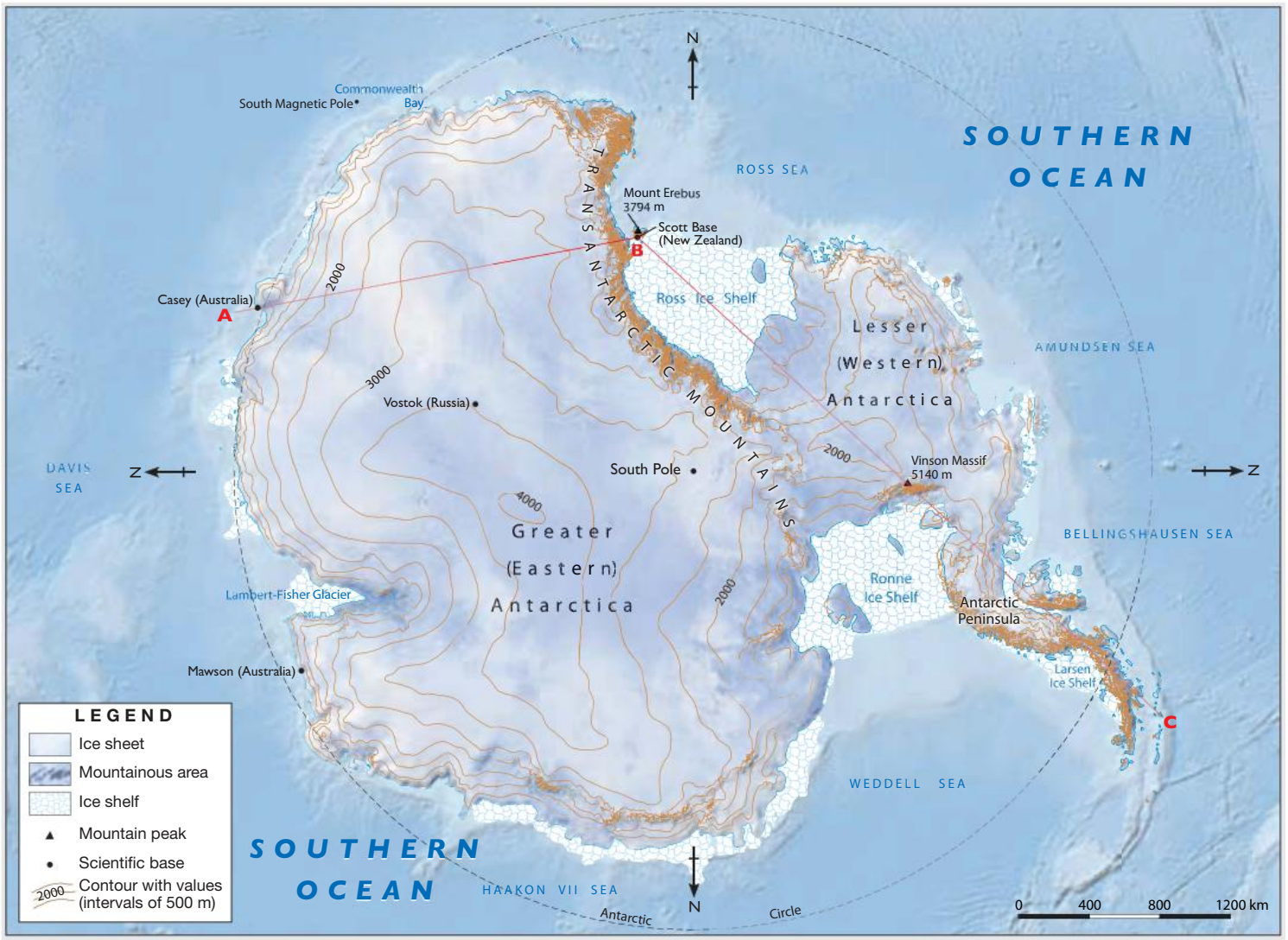
Extend your understanding

1. Use the map of Antarctica (Source 2.31) to describe the distribution of mountains on that continent.
2. How do you think the Transantarctic Mountains were formed? Give some reasons for your answer.
3. Mount Erebus, located on the edge of the Ross Ice Shelf, is an active volcano. Do you think it is located over a hot spot? Give some reasons for your answer.



Source 2.30 Cross-section of Antarctica

ANTARCTICA



Source 2.31

Source: *Oxford Atlas*

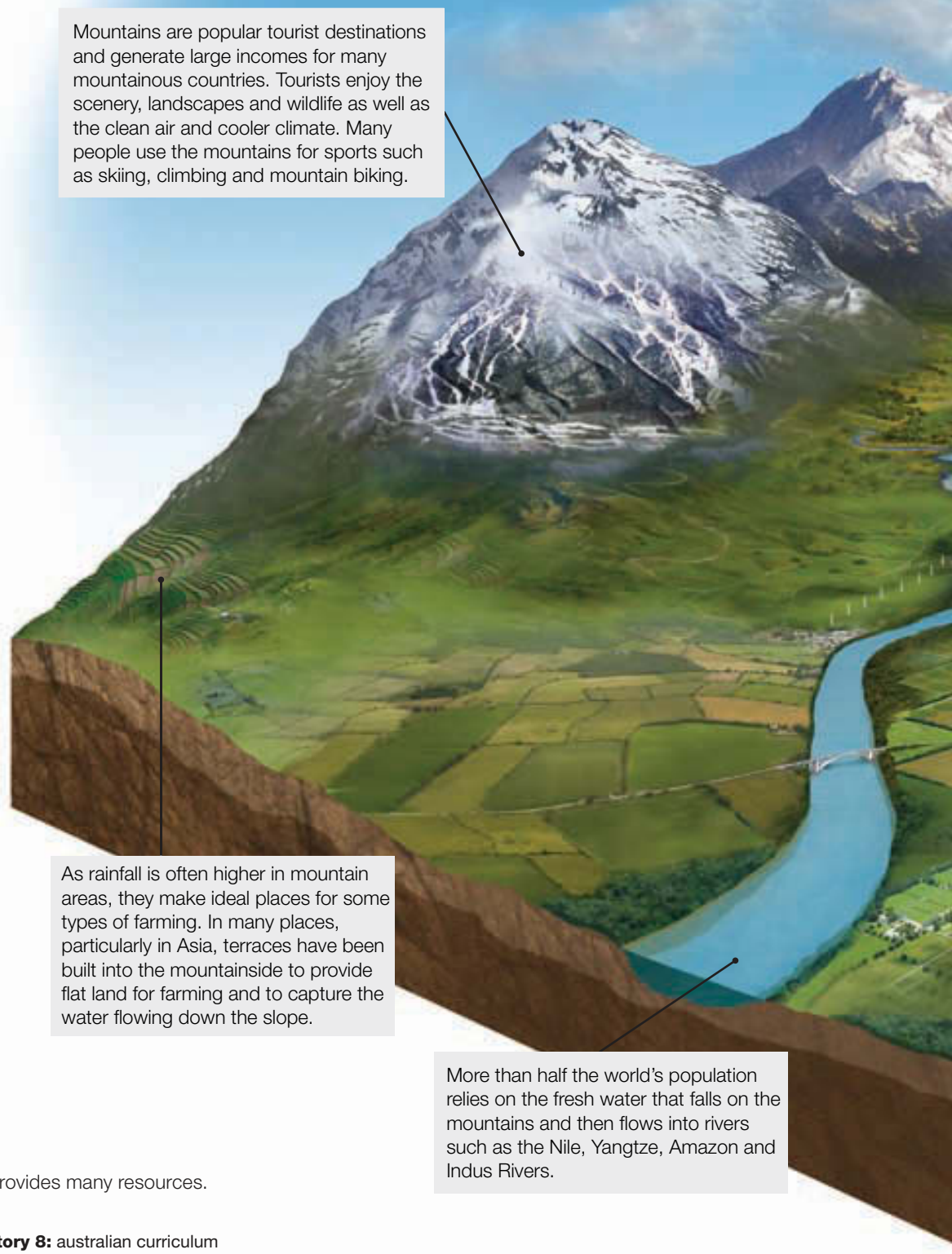
2.2 How are mountain landscapes used and managed?

One landscape, many uses

Like many of the world's landscapes, mountains are used by people as a resource. Billions of people rely on them to satisfy certain needs and wants. Some of the ways in which we use mountains do not change them at all, while others can affect them dramatically.

Mountain landscapes are often fragile. Small changes caused by human activities can greatly affect the plants and animals, soil and even the climate in these areas.

Depending on the society and culture into which people are born, and their personal circumstances, they will view and value different parts of the natural world in very different ways. For example, a tribesman from the highlands of Papua New Guinea may value mountains as a place to live and grow crops; an Indian farmer may value mountains as a source of fresh water for irrigation; and an Australian city-dweller may value mountains as a holiday destination for skiing and snowboarding.



Source 2.32 The mountain landscape provides many resources.



Check your learning 2.6

Remember and understand

1 Which use of mountain landscapes shown in Source 2.32 do you think has the greatest impact on the natural environment? Justify your answer.
2 List three uses that have little or no impact on the natural environment.
3 In what ways do you use mountains as a resource?
4 Can you think of any other uses of the mountains not shown in Source 2.32?

Apply and analyse

5 In what ways does tourism change the natural environment?
6 How might tourism benefit people who live in mountainous places?

Evaluate and create

7 Select two uses of mountains that can co-exist without affecting each other. Explain why there is no conflict in these uses.
8 Select two uses that conflict or compete with each other. Explain why there is this conflict. Can you think of any real-life examples of this type of conflict?
9 In small groups, rank the uses of mountain landscapes shown from most to least harmful to the environment. When you have decided on the most harmful, brainstorm exactly what these impacts might be. Share your brainstorm with the rest of the class and be prepared to add to your list of potential impacts.

The impacts of living in the mountains



Source 2.33 Lhasa is located on a flat area in the bend of the Kyi River.

One of the world's highest cities is Lhasa in the region of China known as Tibet. Lhasa is located high up in the Himalayas at an altitude of 3.5 kilometres above sea level. This is more than 1 kilometre higher than the top of Mount Kosciuszko — Australia's highest mountain. The city is located in a small river basin and is surrounded by high mountains. This meant that for centuries the people who lived in the city had very little contact with people from other places. Due to their isolation, the people of Lhasa have developed a unique way of life.

Most people who live in Lhasa are ethnic Tibetans. Virtually all Tibetans are Buddhists and recognise the Dalai Lama as their spiritual leader. For hundreds of years the region of Tibet has been a 'disputed territory'. At times the Chinese have ruled the region, at other times the Tibetans have ruled the region under the leadership of the Dalai Lama. At present, Tibet is officially recognised as part of China.

Getting to and from Lhasa

Living in such a mountainous place brings unique challenges to the people of Lhasa. One of these challenges is accessing other places. The high mountains that surround the city have made it difficult to build and service reliable roads. For many years the only way into Lhasa was to walk across one of the mountain passes and into the valley. The Chinese Government has spent billions of dollars in recent years to connect Lhasa to other parts of China. This has been spent on new highways and bridges, an airport and a railway line. Some of these new structures (see Sources 2.34 and 2.35) are among the most amazing pieces of engineering on Earth.



Source 2.34 The world's highest bridge helps to link Lhasa to China's Sichuan province.



Source 2.35 The world's highest railway links Lhasa to Shanghai, China's largest city. About 550 kilometres of the line are built on permafrost, which freezes solid in winter and turns to mud in summer.



Source 2.36 Perhaps the greatest climber of all, Apa Sherpa has climbed Mount Everest a record 20 times.

Living with less oxygen

It has long been a medical puzzle why many visitors to Lhasa suffer mountain sickness, while most Tibetans seem to be largely unaffected by the oxygen-thin air that causes this condition. Symptoms of mountain sickness range from mild problems, such as headaches and shortness of breath, to severe symptoms, such as a coma. It was long thought that Tibetans have larger lungs than outsiders and so can cope with less oxygen, but scientists now believe that it is the Tibetan's genes that protect them from this condition. It appears that people who live at high altitudes for generations, such as the Tibetans, have undergone a genetic change in their blood that allows them to live comfortably with less oxygen.

Other ethnic groups who live in the Himalayan Mountains also cope well with less oxygen. The Sherpa people of Nepal and Northern India, for example, are renowned as mountaineers. Most climbers who try to scale mountains in this region (such as Everest, K2, Kanchenjunga, Lhotse and Makulu) use Sherpas as guides, porters and fellow climbers. The first men to climb Mount Everest, for example, were New Zealander Edmund Hillary and his Sherpa climbing companion Tensing Norgay.

Check your learning 2.7

Remember and understand

1 What are some of the problems faced by people who live in mountainous regions?
2 What difficulties do people face reaching Lhasa?
3 How have some of these difficulties been overcome?

Apply and analyse

4 Look closely at Source 2.33.
   a Why do you think Lhasa was built in this place?
   b In what ways do you think the people of Lhasa use the river shown in the foreground?
   c How do you think these mountains were formed?
   d How are natural forces changing these mountains?
   e How are human activities changing these mountains?

Evaluate and create

5 Why do you think the Tibetan region is a disputed territory? Discuss with your classmates why different groups can come into conflict over control of land.
6 With new road and rail links, Lhasa is being visited by more outsiders than ever before. While some people in Lhasa welcome the new arrivals, many are concerned about their influence on their way of life. Complete a PMI (plus, minus, interesting) chart on the impacts of this increased accessibility.

The impacts of farming on mountain landscapes

Farming in mountainous areas has many advantages, such as reliable rainfall and fertile soils, but it also brings many challenges. These difficulties include accessing raw materials (such as grain for planting) and getting crops to market for sale. There are also many natural hazards to overcome, such as landslides and earthquakes. Despite all these obstacles, a lack of flat land is perhaps the greatest challenge for many mountain-dwelling farmers. Flat land allows farmers to irrigate their fields without the water draining away and also makes it easier to use animals or tractors for tasks such as ploughing.

Rice terraces

Throughout much of Asia, flat land has been carved out of steep mountains by creating steps on the hillsides known as terraces. These terraces have a dramatic impact on the natural landscape as shown in Source 2.37.

Terraces are built in three stages:

- Stage 1 – The farmer selects a good site with a reliable source of water, such as a stream or spring. A wall of large stones is then laid down across the slope of the hill.
- Stage 2 – Using the stream to carry material down the slope, the farmer fills the area behind the wall with gravel and then topsoil. The stone wall is built up as more gravel and soil are added.
- Stage 3 – Once the terrace is large enough, it is flooded with water so that rice can be grown. The flow of water down the terraced slope is controlled by removing and replacing stones from the wall.

Some terraces, including those shown in Source 2.37, are thousands of years old and farmers often spend many hours a day maintaining them. The crop most often grown in these terraces is rice, which is the staple food of half the world's population.

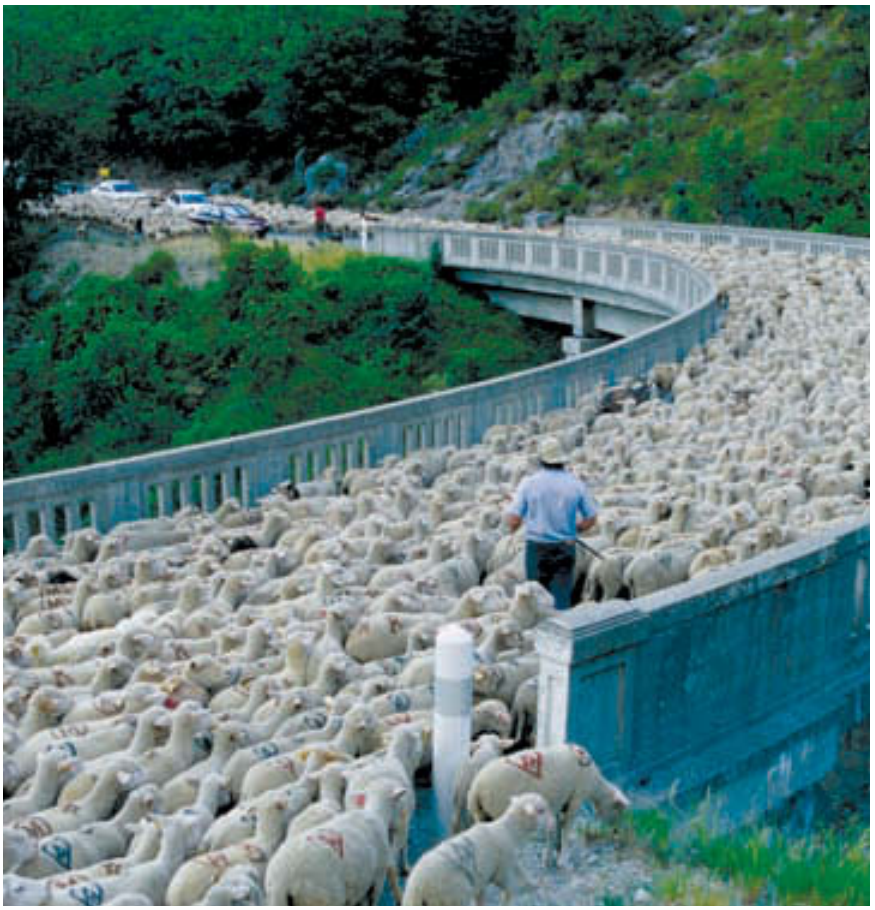


Source 2.37 The rice terraces of Luzon Island in the Philippines are a World Heritage site. Built by the native Ifugao people, some of the terraces are more than 2000 years old.

Moving with the herd

In mountainous areas there can be dramatic differences between summer and winter. In winter, snow blankets the grass on the ground and animals (including farm animals, such as sheep, goats and cows) cannot feed. As temperatures rise in spring, the snow melts and the grass recovers. The warmer temperatures also allow moss, lichens (fungi) and wildflowers to flourish, providing food for grazing animals. Farmers respond to these seasonal changes by moving their herds between summer pastures in the mountains and winter pastures in mountain valleys and the plains below.

In some parts of Asia and Europe, including the French Alps (see Sources 2.38 and 2.39), this type of farming is centuries old. An Australian equivalent is the summer movement of cattle into the Australian Alps in parts of Victoria and New South Wales, a practice that has now largely been stopped because of the damaging effects it can have on the landscape.



Source 2.38 A shepherd takes his flock of sheep into the French Alps for summer.

Month	J	F	M	A	M	J	J	A	S	O	N	D
Average low temperature (°C)	–3	–3	–2	0	5	8	10	11	7	4	–1	–3
Rainfall (mm)	164	100	84	125	127	72	42	52	153	232	225	167

Source 2.39 Climate data for the town of Mende in the French Alps

Check your learning 2.8

Remember and understand

1 Why is rice often grown in terraces?
2 What is often the most challenging problem facing people farming in mountainous areas?
3 Why do many farmers in Europe live some of the year in the mountains and some of the year on the plains below?

Apply and analyse

4 Using the information provided, together with Source 2.37, complete the following tasks:
   a Create a diagram illustrating the three stages required when constructing a rice terrace.
   b Name two natural features that make the area shown in Source 2.37 suitable for farming.

Evaluate and create

5 Compare the two methods of mountain farming described here. Complete a Venn diagram showing the features unique to each and the features they share.
6 Study the climate data for the town of Mende in the French Alps. This town is located near some of the summer pastures used by French farmers. Complete a climate graph for the town of Mende and answer the questions that follow.
   a In which month do you think farmers bring their herds to the meadows near Mende?
   b In which month do you think they leave?
   c What would this mean for shop owners in Mende?

The impact of cattle grazing on mountain landscapes

For many years, people have argued over the use of Victoria's mountain landscapes for grazing cattle in summer. The area, known as the 'high country' (including the Alpine National Park), has been used by cattle graziers for over 100 years. Each summer they bring small herds of cattle into the region from lower altitudes to graze on the grass of the high plains. Over that time they have established a network of mountain huts built near reliable sources of water. As temperatures drop and snow begins to fall in autumn, the cattle return to their lowland pastures. The cattle graziers claim that they are an important part of the heritage of the area, and that their grazing causes little or no environmental damage and may actually reduce the risk of serious bushfires.

There are many opponents of high-country grazing. They claim that scientific studies have shown that cattle cause great environmental damage to the region.

key concept: sustainability

High-country grazing

Sustainability refers to the way in which we use the resources of our planet. If we use too much of a resource, or use it too quickly or unwisely, we can affect the quality or amount of that resource. For example, if we take too many fish from the oceans, we make it difficult for the numbers of fish to return to previous levels. This is referred to as unsustainable resource use. If, on the other hand, we only take a few fish then the numbers of fish will quickly return to their previous level. This is a sustainable use of the fish resource.



Source 2.41 The Victorian National Park Association organises opposition to stop the high-country grazing

While this seems simple, it can be very difficult to work out exactly what is sustainable and what is not. A great deal of evidence needs to be collected and analysed to find out if a resource is being used sustainably. In many cases, such as in the example of high-country grazing, there are individuals and groups who strongly believe that their use of this resource is sustainable, while other groups strongly believe it is not. Each side of the issue may interpret scientific data in their own way or they may look only for evidence to support their point of view.

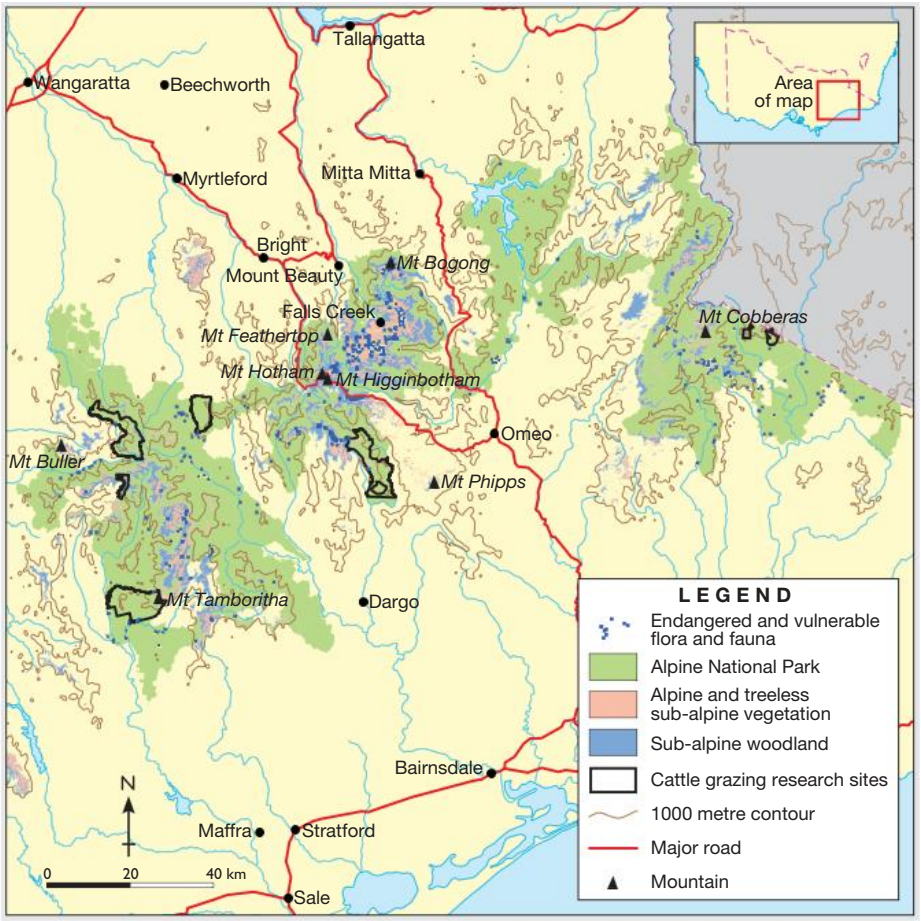
For more information on the key concept of sustainability, refer to section GT.1 of 'The geographer's toolkit'.

Source 2.40 Farmers take their cattle into the Alpine National Park in Victoria's high country to graze.

This damage includes the trampling of the banks of streams and other sources of water, such as springs, and beds of alpine moss. The cattle also pollute the water, spread weeds and cause soil erosion. The critics of the grazing also believe that there is no evidence that grazing reduces the bushfire risk and that, instead, it may increase the time taken for plants to recover from fire. Opponents believe that grazing should not take place in national parks.

After much consultation, the Victorian Government banned grazing in the high country in 2005, following New South Wales and the ACT which had banned the practice years earlier. In 2010, following a change in government in Victoria, however, cattle were once again allowed into the high country as part of a study into reducing the bushfire risk. This trial ended in 2011 with no real conclusion being reached about the role of cattle in bushfire management.

VICTORIA: HIGH COUNTRY



Source 2.42 Source: Oxford University Press

Check your learning 2.9

Remember and understand

1 How do some cattle graziers use the high country in Victoria?
2 What are some of the impacts of this use on the natural environment?
3 What is the difference between sustainable and unsustainable use of resources?

Apply and analyse

4 Look closely at the map showing the location of the grazing research sites within the Alpine National Park (Source 2.42).
   a Describe the distribution of these six sites.
   b In establishing these research sites the aim was to establish a variety of sites. Choose two of these sites and list the differences between them.
5 Use the SHEEPT (social, historical, economic, environmental, political and technological) method to describe the factors that have led to this debate.
6 Source 2.41 is the notice of a public meeting to be held on the issue. Who do you think would attend this meeting? What do you think their point of view would be?

Evaluate and create

7 The Alpine National Park is controlled by Parks Victoria. Two of its objectives are to 'conserve park and waterway ecosystems' and 'to protect cultural heritage in parks'.
   a Which of these objectives could be used by the cattlemen to support their argument? Explain your answer.
   b Which could be used by environmentalists to support their argument? Explain your answer.
   c How do you think Parks Victoria feels about high-country grazing?
8 Why is it difficult to decide whether this use of the mountains is sustainable?
9 Do you think it is a sustainable use of this resource? Give some reasons for your answer.

The mountain pygmy possum: an endangered alpine animal

Living in the high country of Victoria and New South Wales is the mountain pygmy possum, the only Australian mammal whose entire population lives in an alpine habitat. With a lifespan of almost 12 years, it is perhaps the longest living small mammal on Earth. The mountain pygmy possum is one of the very few marsupials that hibernates.

The mountain pygmy possum was thought to be extinct until one was found in a Mount Hotham ski lodge in 1966. It is now considered one of the world's most endangered animals, numbering around 2000 in the wild. There are a number of reasons for its population decline:

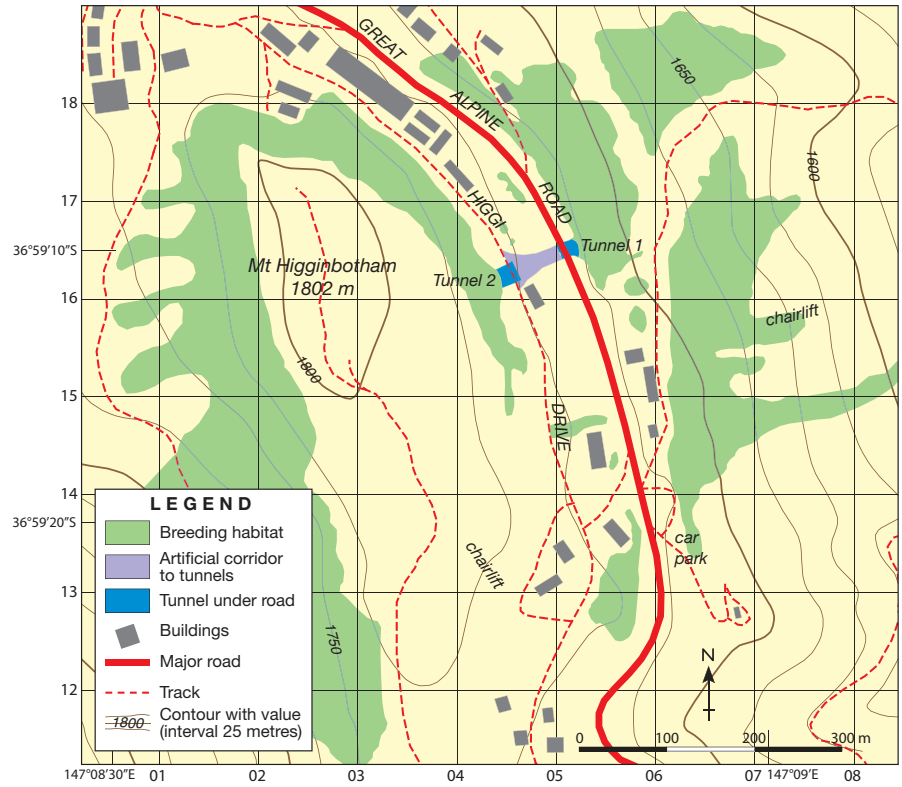
- They share their mountain home with tens of thousands of skiers. The roads and ski runs in this region cut across their habitat, interrupting their breeding cycle and exposing them to being hit by vehicles.
- Bushfires burnt much of the possum's habitat in 2003.
- Foxes and feral cats prey on the few individuals who remain.
- Warmer temperatures have resulted in less snow.

The last of these factors, climate change, may be the pygmy possums' greatest threat. In more recent times, the snow has been melting earlier in the year, meaning that the possums are emerging from hibernation sooner. In many cases, this has meant that they emerge before the arrival of their summer food supplies, Bogong moths (see Source 2.11). The early snow melt also leaves them vulnerable in other ways: snow insulates the possums from temperature extremes and helps to



Source 2.43 About the size of a mouse, the mountain pygmy possum emerges from hibernation at the beginning of summer.

MOUNT HIGGINBOTHAM: MOUNTAIN PYGMY POSSUM HABITAT AND 'TUNNELS OF LOVE'

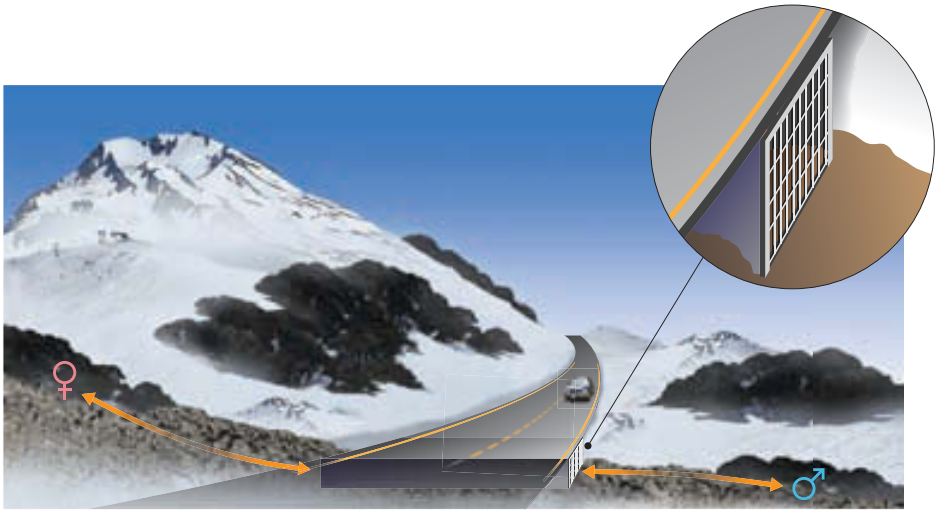


Source 2.44 Source: Oxford University Press

MOUNT HIGGINBOTHAM: LOCATION IN RELATION TO REST OF VICTORIA



Source 2.45 Source: Oxford University Press



Source 2.46 A diagram showing a cross-section of one of the tunnels and (inset) an entrance to the tunnel

control the number of foxes and feral cats, the possum's predators. Put simply, warmer temperatures result in less snow, and less snow means fewer pygmy possums. Some scientists are predicting the extinction of this remarkable animal within a decade.

Tunnels of love

As mentioned, the roads intersecting their alpine home have interfered with the breeding cycle of the pygmy possums. In one location, this problem has been solved in a clever way. Females and males live in separate locations and only come together during the mating season. Females generally live at higher altitudes on Mount Higginbotham and males migrate up the slopes to meet them and mate. Near the Mount Hotham ski resort, the Great Alpine Road runs between the males and females. The males were reluctant to cross the road due to the dangers of passing cars and predator attack.

Following a study by researchers, two tunnels were constructed under the road. The entrances to these tunnels were covered with metal grates to prevent larger animals from entering. The tunnels were then lined with large rocks to provide protection and shelter. Slopes leading to the tunnels were also covered with boulders and rocks. Within a week, males were observed using the tunnels to reach the females. The solution was instantly given the name the 'tunnels of love'. Similar corridors have since been constructed across roads and ski runs at Mount Blue Cow in New South Wales. As virtually all the possums live in ski resort areas more tunnels may yet be needed.

Check your learning 2.10

Remember and understand

1 Why are pygmy possums unique?
2 How are warmer temperatures brought about by climate change affecting the possums?
3 How are the 'tunnels of love' helping to conserve pygmy possum numbers?
4 Why are the possums at risk from predators as they cross the road?

Apply and analyse

5 Look closely at the topographic map (Source 2.44).
   a How can you tell that this is a ski resort area?
   b What threats to pygmy possums can you identify?
   c In which direction do the males travel to reach the females on the higher ground?
6 Study Source 2.46. Describe the design of the tunnels. Why do you think there is a grate on the tunnel opening and why is the tunnel filled with large rocks?
7 Why do you think skiers and possums are both located in the same tiny region of Australia?

Evaluate and create

8 Design a sign to be displayed in the Mount Hotham ski resort to make skiers aware of the impact of their activities on the endangered pygmy possums.
9 Do you think that skiing is a sustainable use of this mountain landscape?
10 What other actions could be taken to protect the mountain pygmy possum?

Protecting the mountains

In many places, mountain landscapes are under threat from human activities such as tourism, mining, river damming and wars and other conflicts. Some countries protect their mountains by declaring them to be national parks or nature reserves. Some of these are given further protection by being included on the United Nations World Heritage list. One of these special places is the Tasmanian Wilderness World Heritage Area in south-west Tasmania.

One-fifth of Tasmania is included in this World Heritage area. The Tasmanian Parks and Wildlife Service claims that the area 'protects one of the last true wilderness regions on Earth and encompasses a greater range of natural and cultural values than any other region on Earth'. While fold mountains dominate in the east of the Tasmanian Wilderness, rugged block mountains dominate the west. Much of the area has been eroded by glaciers and this has led to some spectacular landforms. Most of the area is blanketed by rainforest but there are also areas of mountain vegetation and wetlands. Nineteen endangered animal species are found in the World Heritage area, including the Tasmanian devil.

TASMANIA: TASMANIAN WILDERNESS WORLD HERITAGE AREA



Source 2.47

Source: Oxford University Press

The World Heritage list

The World Heritage list is administered by the United Nations. It is a list of the world's most important natural and human features. Individual countries are able to nominate their most special places for inclusion on the list. If a nominated place meets certain criteria then it can be given World Heritage status. Once the site is listed, the nominating country then has the responsibility to protect and preserve that place for future generations. The United Nations seeks to help countries to protect and preserve their sites by providing technical and emergency assistance, particularly for conservation of the site. There are currently more than 960 World Heritage sites, 19 of which are in Australia.

Many of the world's mountain landscapes have been given this special status. They include the volcanoes of New Zealand, the Blue Mountains, Yosemite National Park and Mount Everest. The United Nations also has a list of World Heritage sites where the special features of the place are threatened by natural disasters or human activities, such as war or tourism. The home of the mountain gorillas, the Virunga Mountains, is on this list, as are rainforests in the mountains of Madagascar and Indonesia.

Source 2.48 Frenchmans Cap in the Tasmanian Wilderness World Heritage Area was carved by glaciers thousands of years ago.

Check your learning 2.11

Remember and understand

1 What is the World Heritage list?
2 Name some mountain areas that have been included on the World Heritage list.
3 Why do you think the Tasmanian Wilderness area has been included on the list?

Apply and analyse

4 Look carefully at Source 2.47.
   a How many national parks are shown on this map?
   b Using the scale provided in Source 2.47, estimate the total area of the Tasmanian Wilderness World Heritage Area.
   c Conduct some Internet research to determine the actual area of the Tasmanian Wilderness World Heritage Area. Is this figure more or less than your estimate? Give possible reasons for this difference.

Evaluate and create

5 Research the Virunga Mountains, the Atsinanana region of Madagascar or the rainforests of Sumatra to find out why these mountain areas are in danger. Do you think the Tasmanian Wilderness area faces the same threats as these places?



Wolong National Nature Reserve, China

Mountain landscapes are home to some of the world's most endangered animals, including one of the most well known – the giant panda. Once widespread throughout the mountains of southern China, they are now limited to a few bamboo forest reserves. The largest of these reserves is the Wolong National Nature Reserve in Sichuan Province, which is home to about 150 pandas as well as other endangered animals, such as the red panda and the golden monkey.



Source 2.49 A giant panda in the Wolong National Nature Reserve

skill**drill**

Six-figure grid references (GR)

In order to communicate the location of different features on topographic maps with pin-point accuracy, geographers use a system known as six-figure grid referencing (GR).

The lines than run from top to bottom (i.e. vertically) across a map are known as **eastings**. The lines that run from left to right (i.e. horizontally) are known as **northings**. In order to create a six-figure grid reference, the area between each easting is divided up into 10 equal parts (i.e. tenths). The area between each northing is also divided up into tenths. 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.

In order to create a six-figure grid reference, follow these steps:

Step 1 Find any point on the map that you want to communicate the exact location of. Mark this point on the map.

Step 2 Run your finger from this point to the left until you hit the first easting. Record the number of that easting. This will be the first two numbers in your six-figure reference. Now work out how many tenths from the easting your point is. This will give you the third number in your six-figure grid reference.

Step 3 Now, run your finger from the same point down until you hit the first northing. Record the number of that northing. This will be the fourth and fifth numbers in your six-figure reference. Now work out how many tenths from the northing your point is. This will give you the final number in your six-figure grid reference.

Apply the skill

1 What is the name of the river at GR 992137?

2 Give the six-figure grid reference for the epicentre of the 2008 Sichuan earthquake.

3 Give the six-figure grid reference for the Wolong Panda Research Centre.

4 Complete the following table:

Grid reference	Name of village
072114	
	Xindianzi
	Dengsheng

WOLONG NATIONAL NATURE RESERVE, CHINA



Source 2.50

Source: Oxford University Press

CHANGE IN PANDA HABITAT IN CHINA OVER TIME



Source 2.51

Source: Oxford University Press

Extend your understanding

1. What is the main type of vegetation found inside the area where pandas are found?
2. How many towns are located in the these areas?
3. How much cultivated land is found in the panda areas?
4. Study Source 2.51. Describe the change over time between the giant pandas' original and current habitats. Give a possible reason for it.
5. Do you think that reserves like Wolong will save the panda from extinction? Give some reasons for your answer.

2.3 Are mountain landscapes hazardous places?

Mountain hazards

Mountains can be hazardous places. The obvious danger in a volcanic area is an eruption, but there are other dangers too. The steep hillsides and unpredictable weather in mountainous regions can contribute to landslides and avalanches which can sweep with terrifying speed and force down the mountain slopes. Earthquakes are also a common hazard in mountainous places as sudden plate movements cause the ground to shake, dislodging rocks and even entire hillsides.

Volcanic eruptions

Volcanoes are dangerous natural features and can erupt without warning, devastating local environments. Lava can flow like a molten river or rain down like bombs many kilometres from the eruption site. Ash can cover the sky and blanket the landscape in a cloud that can kill people and animals alike. Humans are generally powerless in the face of such power and many thousands have died from hazards caused by eruptions. They include ash clouds, lava flows, mudslides, floods and **tsunamis**.

Perhaps the biggest danger in an eruption is the huge clouds of volcanic ash that can be produced. These clouds result from the sudden release of enormous pressure from within the Earth's mantle and crust. When Italy's Mount Vesuvius erupted in 79 CE it covered the nearby town of Pompeii in a thick layer of ash, killing 2000 people. The town lay forgotten beneath the ash for almost 1600 years before being discovered by workmen digging a canal.

The ash produced in an eruption can travel straight up (vertical) and then fall on the surrounding landscape, as in the case of Mount Vesuvius, or it can travel sideways (horizontal). Horizontal eruptions are perhaps the most dangerous as the ash – along with rocks, boulders and gases – can travel at speeds of 700 kilometres per hour and carry material heated to 1000 degrees Celsius. These are called **pyroclastic flows** and are responsible for many of the most devastating volcanic eruptions.



Source 2.52 Visitors watch lava from Hawai'i's Kilauea volcano roll downhill to the ocean in 2004

Another danger can be the sudden melting of the snow and ice on the sides of the volcano or the release of water from a crater lake in an eruption. These events can cause huge mudslides called **lahars** up to 50 metres thick to sweep down the sides of mountains. The eruption of Colombia's Nevado del Ruiz volcano in 1985 covered whole villages with thick mud and ash, killing 23 000 people. This makes it the deadliest volcanic eruption of the last 100 years.

Tambora: the world's deadliest eruption

The deadliest volcanic eruption in history took place in 1815 in Indonesia, when Mount Tambora erupted. About 92 000 people were killed by the pyroclastic flow from the eruption and the tsunami that was triggered by the eruption. More than 50 square kilometres of new material (ash and lava) was produced by the eruption and deposited on the Earth's surface.

Located where the Indo-Australian tectonic plate **subducts** (moves down) below the Eurasian plate, Indonesia has been home to more active volcanoes than any other nation over time. Vulcanologists estimate that Indonesia's 76 active volcanoes have produced more than 1000 eruptions.

Check your learning 2.12

Remember and understand

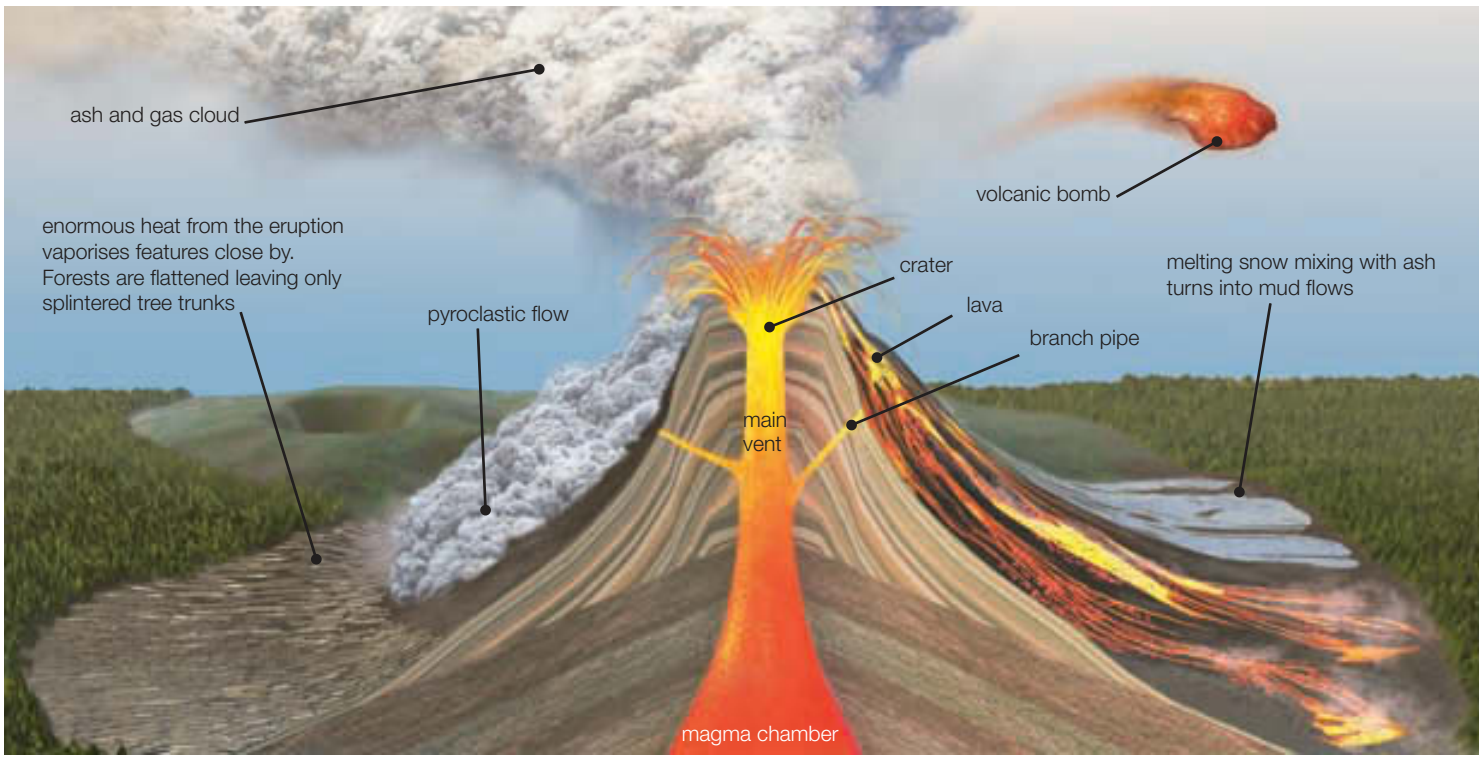
1 Make a list of the dangers faced by communities living close to volcanic eruptions.
2 Why is a sideways eruption more dangerous than a vertical one?
3 What is a volcanic bomb?
4 Name two countries close to Australia that experience many tectonic disasters.

Apply and analyse

5 Use Source 2.53 to explain how volcanic eruptions take place.
6 Almost every resident of Tambora died in the eruption of Mount Tambora. Why do you think that was the case?

Evaluate and create

7 Conduct some research on the Internet to find out what people who live near Mount Tambora today could do to protect themselves from the effects of another eruption.



Source 2.53 Features of a volcano and the hazards caused by eruptions

Vesuvius: studying a killer volcano

Mount Vesuvius, near the Italian port city of Naples, is one of the world's most dangerous volcanoes. Over the course of human history it has erupted many times, most notably in 79 CE when an eruption buried the Roman towns of Pompeii and Herculaneum.

Mount Vesuvius erupted releasing a deadly cloud of stones, ash and fumes up to 33 kilometres into the air. With molten rock and pumice coming down at the rate of 1.5 million tons per second, the towns of Pompeii and Herculaneum were quickly buried and few in the towns managed to escape. An estimated 16 000 people died from the eruption, most being killed by the heat of the eruption and ash suffocation.

Since this date, Mount Vesuvius has erupted more than 30 times, with the last eruption taking place in 1944. This eruption destroyed the surrounding villages of San Sebastiano al Vesuvio, Massa di Somma, Ottaviano and part of San Giorgio a Cremano. For the last 70 years it has laid quiet but many experts believe that it is once again due to erupt.

Over time, the city of Naples has grown at the foot of Vesuvius. There are also many other **urban** centres in the area surrounding Vesuvius. Some of these areas have a **population density** greater than 15 000 people per square kilometre, making them some of the most densely populated places on Earth. With more than 4 million people living near Vesuvius, it has the greatest population density of any volcanic region in the world.



Source 2.54 A sensor on the slopes of Mount Vesuvius



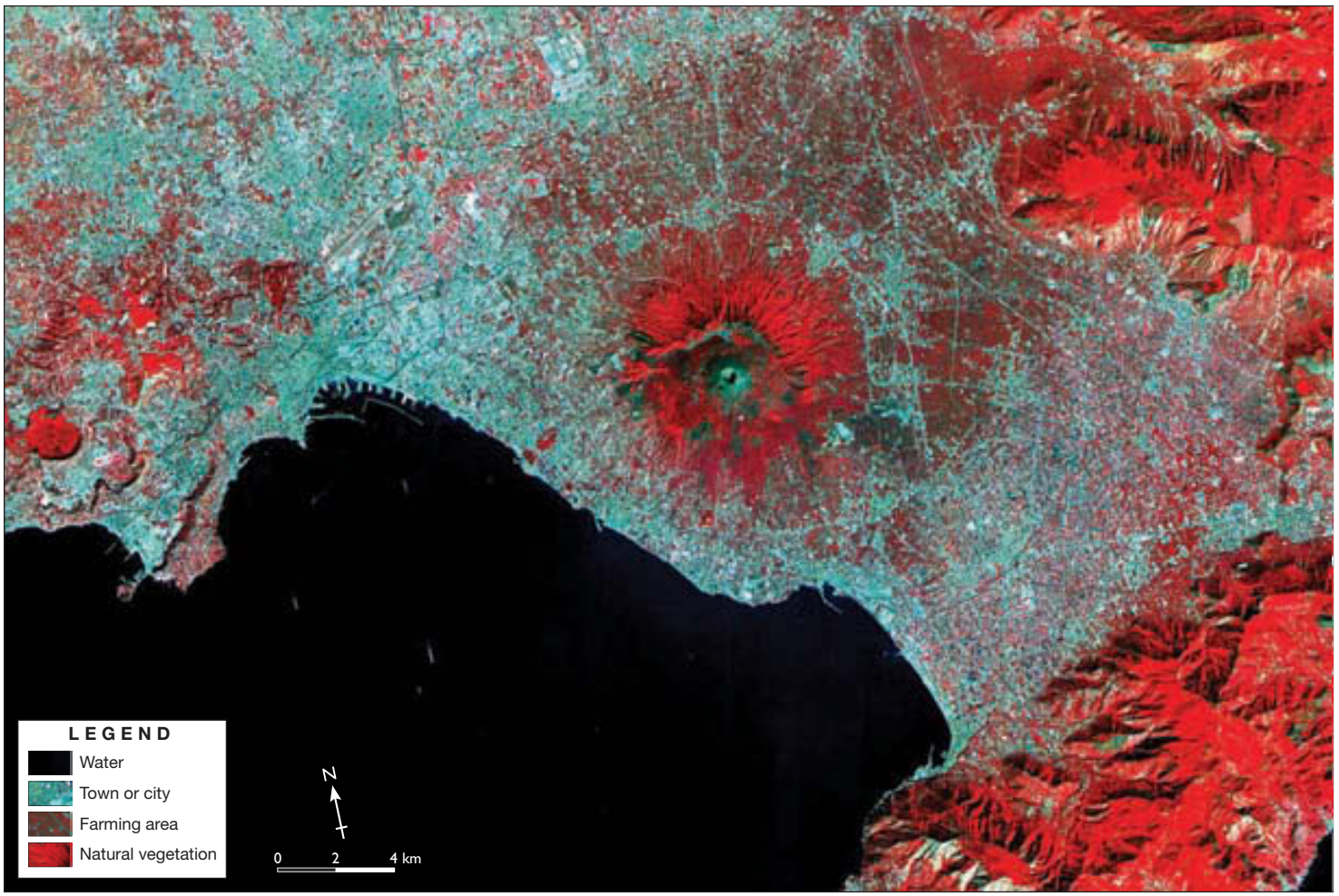
Source 2.55 Mount Vesuvius erupting in 1944. The ash cloud viewed from the nearby city of Naples

Like many volcanoes around the world, Vesuvius is being carefully monitored. It is studied from the ground, from underground, and even from space. **Vulcanologists** are watching for changes in the shape and internal chemistry of the volcano that will reveal when an eruption is about to happen so they can warn people to leave the area.

Preparing for an eruption

A number of measures have been implemented to help reduce the effects of another eruption of Vesuvius:

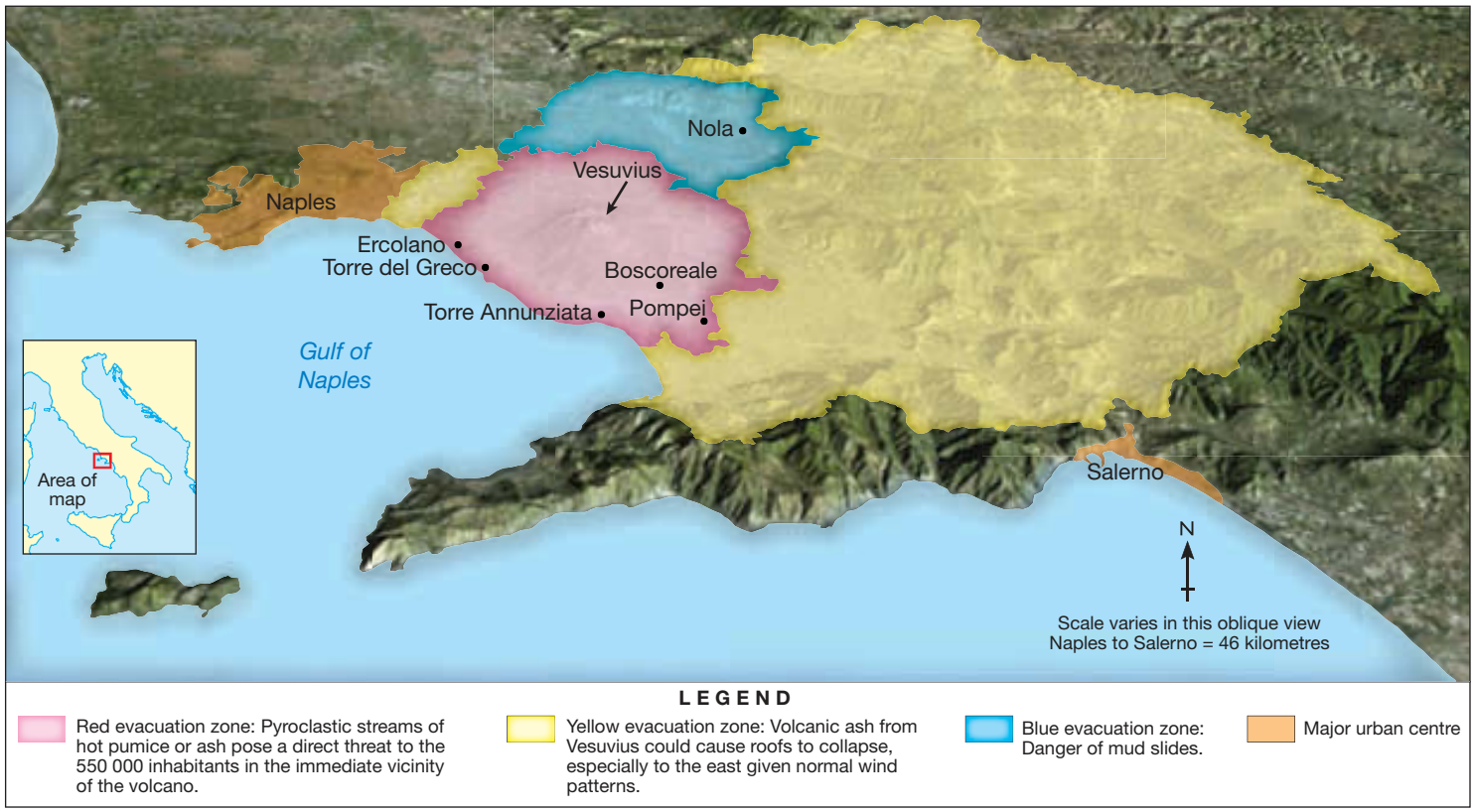
- An evacuation plan has been developed so that residents can more easily understand the risks faced in the region where they live (see Source 2.57). This will also help authorities to evacuate the area. Experts estimate that 600 000 people now live in the red evacuation zone.



Source 2.56 A false colour satellite image of Mount Vesuvius and the Italian city of Naples highlights the key features of the region.

- People living on the side of the mountain have been offered up to 30 000 Euros to move to safer areas. Their houses will be demolished and no new ones can be built in the same area.
- A national park has been established on the upper slopes so that authorities can stop any further building of homes and other structures. Authorities estimate that 800 structures have been illegally built in the park and will need to be demolished.
- On the side of Vesuvius there are dozens of sensors, such as the one shown in Source 2.54. These record earthquakes, gas temperatures and changes in the shape of the volcano. All these measurements can help vulcanologists predict an eruption. Monitoring the changing shape of a volcano, for example, can tell scientists if the mountain is bulging outwards. A bulge is a clue that lava is rising and may erupt. Signals from these sensors are sent automatically to a volcano observatory in Naples where there are always at least two scientists on duty to analyse the data.
- A satellite from the European Space Agency measures the temperature and shape of the crater and mountain slopes as it passes overhead. Analysis of data showed that an area south-west of Vesuvius had risen by more than 2 centimetres in a year. Satellites are also useful in tracking the movement of ash clouds following an eruption.

NAPLES REGION: MOUNT VESUVIUS EVACUATION ZONES



Source 2.57

Source: Oxford University Press

Check your learning 2.13

Remember and understand

1 Examine Source 2.57.
   - a List the dangers that people could face in the event of a volcanic eruption.
   - b How would the wind direction affect ash movement?
   - c What would happen if the wind was blowing to the west during an eruption?

2 Why has a national park been established on Mount Vesuvius?

3 Why do vulcanologists monitor the shape of the volcano?

Apply and analyse

4 Describe the pattern of human settlement around this volcano.

5 What makes this mountain so dangerous? Consider both natural and human factors in your answer.

6 Study Source 2.54. What do you think the object sticking out from the side of the white box is used for?

Evaluate and create

7 Despite authorities offering up to 30 000 Euros to thousands of residents in order to move only a few have done so. Why do you think this is the case?

8 Surveys have shown that residents of Naples are largely unaware of the danger posed by Mount Vesuvius and most have never heard of the evacuation plan.
   - a Why do you think this is the case?
   - b What is the greatest natural hazard you face?
   - c What preparations have you made in the event of a natural disaster?

9 Design a pamphlet that will be distributed to all Naples residents outlining the risks posed by a volcanic eruption. Your pamphlet must include some of the actions that individuals can take to prepare for an eruption, including having an evacuation plan.

Landslides

Landslides are one of the most common types of hazard affecting mountain landscapes. The term landslide is used to describe any type of large-scale movement of soil, mud, rocks or snow carried by the force of gravity downhill. The movement can be as slow as a few centimetres a year or very rapid. Large, rapid landslides have the potential to destroy towns, roads and bridges, block rivers and take human lives. They are among the most dangerous of all hazards in mountain landscapes.

Landslides are often caused by a combination of natural processes and human factors. Natural factors include heavy rain, unstable slopes, an earthquake or volcanic eruption, and erosion by rivers or waves. The likelihood of a landslide happening is often increased by human activities, such as vegetation clearing, road or mine construction that requires cutting into a slope, leaking pipes and vibrations caused by rock blasting or heavy traffic.

Types of landslides

There are five main types of landslides that can affect different mountain landscapes. These include:

Soil creep

Soil creep is the gradual movement of soil, rocks and earth down a gentle slope. This is the slowest-moving type of landslide and can take place over many years. As a result, it is often unnoticeable to people living in the area. Areas affected by soil creep can be identified by features such as leaning telegraph poles and fences, cracked walls and bowed trees.

Slumping

Slumping is the movement of larger sections of soil and rocks down a steep, curved slope. These sections slip down the surface of the slope to different degrees, often creating a number of different levels (called scarps). Slumping is usually triggered by earthquakes, excessive rain, or freezing or thawing of the land.

Mudslides

Mudslides (also known as lahars) are often triggered by heavy rain, quick thawing earth, earthquakes or volcanic activity. For example, snow on the sides of active volcanoes is caused to melt quickly and combine with soil and rocks to create mud slurry that travels downhill. The mud can be up to 50 metres thick and travel at speeds of up to 80 kilometres an hour, burying entire villages and killing many people.

Avalanches

Avalanches are the rapid movement of snow down steep mountain slopes. They are the fastest-moving type of landslide. Avalanches are triggered by natural movements of the Earth (such as earthquakes and weather events) and human movements (such as skiers and snowboarders).

When landslides strike

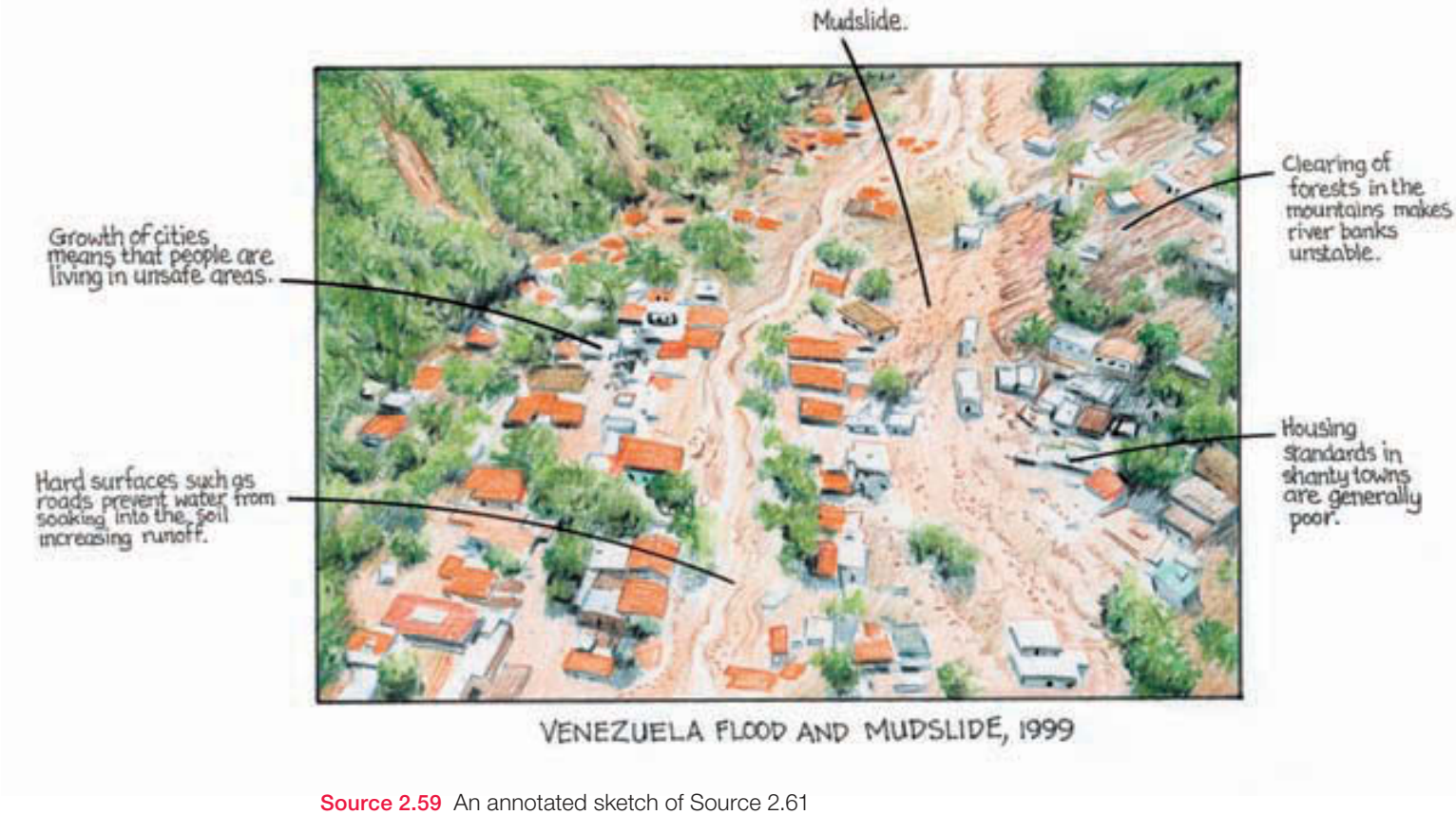
As with many natural disasters, people in poorer countries are more at risk. There, homes and other buildings are often poorly made and hillsides are often cleared of trees as timber is needed for fuel and building. With few planning restrictions in place people often live in landslide danger zones, with devastating results.

When heavy rains hit the South American country of Venezuela in late December 1999 they triggered the world's deadliest landslide. The rains were heaviest in the mountainous area in the north of the country. As the swollen rivers swept down from the mountains, they eroded their banks, turning the rivers into raging torrents of mud. Charging towards the coast, the rivers swept through towns and cities perched between the mountains and the ocean, covering them in a sea of mud. Hardest hit were the poorer residents of the country who had built their homes in shanty towns on cheap land on the steep mountain slopes. The mud quickly engulfed the streets and homes of these shanty towns, sweeping them away or burying them.

To try to avoid the danger of disease the dead were quickly buried and so the scale of the disaster will never be fully known. It is believed that more than 30000 people lost their lives in these floods, but some estimates have placed the final figure closer to 50000.



Source 2.58 An oblique aerial image of a mudslide in Vargas, Venezuela, 1999



Source 2.59 An annotated sketch of Source 2.61



Source 2.60 A landslide in Haiti, triggered by an earthquake, killed thousands in 2010.

Managing landslide risk

Although landslides can strike with great speed and little warning there are some measures that communities can implement to prepare for them and reduce their effects. Perhaps, most importantly, they can recognise that some human activities make landslides more likely. Careful planning is needed before cutting a road into the side of a hill, for example, as it makes the slope less stable.

key concept: scale

Landslide prediction

There are landslides in many mountainous areas around the world but the reasons for them differ from place to place. Geographers who try to predict where there will be a landslide need to study factors at a range of scales:

- At the local scale they need to consider steepness of the slope, soil type and changes made by people.
- At the regional scale they need to consider rainfall patterns and the likelihood of storms.
- At the global scale they need to consider the location of plate boundaries and tectonic movement.

For more information on the key concept of scale, refer to section GT.1 of 'The geographer's toolkit'.

Check your learning 2.14

Remember and understand

1. What is a landslide?
2. Why are landslides more of a hazard in mountainous areas than in flatter places?
3. What can people do to reduce the likelihood of landslides?

Apply and analyse

4. Some landslides are so slow they are known as soil creep. How might a very slow landslide affect human activities and structures?
5. Which natural processes contributed to the landslides in Haiti? Which human activities contributed?
6. Use a series of sketches to explain why digging into a hillside for mining or road building can lead to a landslide.

Evaluate and create

7. Use Source 2.59 as a guide to create a geographical sketch of Source 2.60. Label your sketch with those factors that contributed to the landslide.
8. Do you think that natural factors or human factors were most responsible for the Venezuelan landslides? Give some reasons for your answer

The Tumbi Landslide, Papua New Guinea

On the night of 24 January 2012 there was a massive landslide in the Southern Highlands of Papua New Guinea. The landslide buried whole villages and killed dozens of people. It was triggered by the collapse of a 150-metre wide section of hillside, and carved a 560-metre long path of destruction through the forests and villages below. More than 3 million cubic metres of rubble thundered downhill in the disaster. The Highland Highway, which runs through the area, was destroyed. Quarry workers and machinery were buried in debris up to 15 metres thick. Rescue efforts were hampered by heavy rain in the hours and days following the landslide. Landslides are a hazard in Papua New Guinea, particularly during the wet season from December to May.



Source 2.61 The landslide that engulfed the village of Tumbi in Papua New Guinea

keyconcept: environment

Possible causes of the Tumbi Landslide

The ways in which humans use and change the natural world is an important part of the key concept of environment. By examining the possible causes of this landslide you will learn how environments are changed by a complex series of human activities and natural processes. As with many disasters such as this, the exact causes are unclear. Initial newspaper reports focused on a nearby natural gas plant under construction and some associated quarrying near the slip site, but the gas company denied any connection. Here are some of the possibilities and some of the evidence.

WAS IT HEAVY RAINFALL?

PNG is experiencing one of the worst wet seasons, which traditionally runs from December to May, ever, local authorities say.

United Nations report

The ground water level rose significantly above its historical levels … This caused the two minor, and one major, streams to combine, forcing water levels to rise beneath the limestone substructure of the hillside.

Papua New Guinea Government report

WAS IT THE TUMBI QUARRY?

Local people have blamed blasting from nearby quarries, which sent hundreds of tonnes of earth crashing down on the village of Tumbi.

Newspaper report, *Mail Online*, 26 January 2012

WAS IT THE SHAPE OF THE LAND?

[The land where the slip occurred is] characterised by high terrain and precipitous [steep] slopes.

United Nations report on the disaster

WAS IT AN EARTHQUAKE?

The Geophysical Observatory (PMGO) reported no seismic activity within the area in the past two weeks.

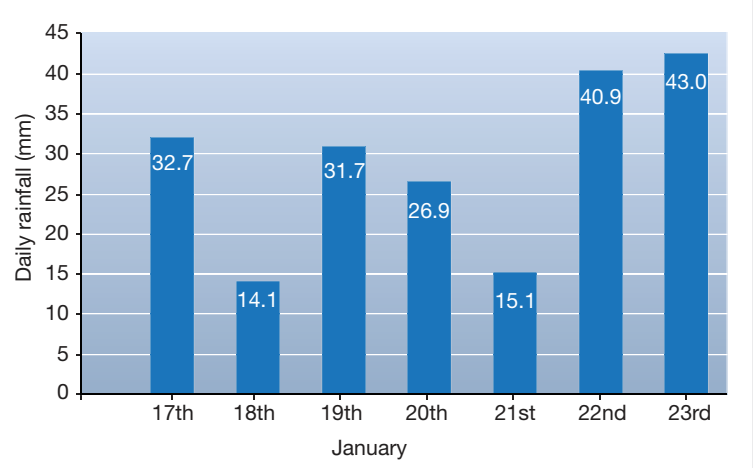
Papua New Guinea Government report

WAS IT THE FARMERS?

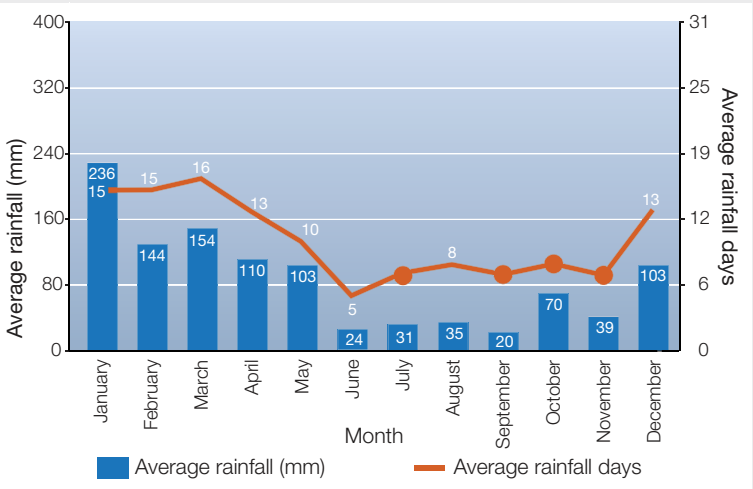
Intensive cultivation of the surrounding land may have also been a contributing factor by denying the ground of its natural vegetation.

Papua New Guinea Government report

For more information on the key concept of environment, refer to section GT.1 of 'The geographer's toolkit'.



Source 2.62 Daily rainfall totals from 17 to 23 January 2012 in Komo, a town near the Tumbi Landslide site



Source 2.63 Average rainfall graph for Komo

Check your learning 2.15

Remember and understand

1. Describe the scene in Source 2.61.
2. On what date was there a landslide? Is this during the wet season?
3. Describe the shape of the land at the site of the landslide.

Apply and analyse

4. Study Source 2.62. How much rainfall was recorded in Komo in the seven days before the landslide? Compare this with the weekly average in January of 53.9 millimetres.
5. How does a quarry change the shape of a hillside? How might this contribute to a landslide?
6. Divide the possible causes of this landslide into two lists: natural processes and human activities.

Evaluate and create

7. Rank the possible causes from those that you consider most responsible for the landslide to those that you consider had no influence. Write a few sentences explaining your choice of the top contributor.
8. Compare your ranked list with those of your classmates. Is there some general agreement about the leading cause? Why/Why not?
9. What further questions could you ask to help you work out the causes of this disaster?

Avalanches

More than 150 people a year, mostly skiers and snowboarders, are killed by avalanches. Avalanches are a type of landslide. They involve the rapid movement of snow down mountain slopes. Some slopes are more likely to produce an avalanche than others, mainly due to their steepness. Snow resting on a layer of slippery ice on a steep slope can easily collapse. The resulting avalanche can reach speeds of up to 130 kilometres per hour. In 2010, a lone snowboarder was killed by an avalanche in Glacier National Park in Montana in the United States. The site of the avalanche is shown in Source 2.68.



Source 2.64 A skier in the path of an avalanche

skill**drill**

Constructing a cross-section

Step 1 **Identify the cross-section**. Find the two points on the map that form the outer edges of your cross-section. In this case, these points are labelled A and B.

Step 2 **Mark the outer edges**. Place a straight-edged piece of paper across the map so that it crosses both points A and B. Mark these two points on your piece of paper. Be careful not to draw on the map.

Step 3 **Mark the contour lines**. Working from left to right, put a small mark on your piece of paper at every point that it crosses a contour line. You need to know the height of each of these lines so jot this down on the piece of paper as well.

Step 4 **Draw the axes**. On another piece of paper draw a set of axes for your cross-section. The horizontal axis is the same width as the distance between points A and B on the map. The vertical scale must begin below the lowest height on your cross-section and extend above your highest point. Put a vertical scale on both the left-hand side and right-hand side of your cross-section.

Step 5 **Transfer the contour line heights**. Lay your straight-edged piece of paper along your horizontal axis. For each contour height shown on your piece of paper, you must place a dot on your cross-section at the correct height according to your vertical scale.

Step 6 **Join the dots**. Join the points with a smooth line. Use a graphite pencil and take care to make your sketched line as 'natural' as possible. It should not be a series of short, straight lines but one long, smooth line.

Step 7 **Add the finishing touches**. Lightly shade the area below your line to show that this is solid land. Label both axes with their correct scales and give your cross-section a title.

Apply the skill

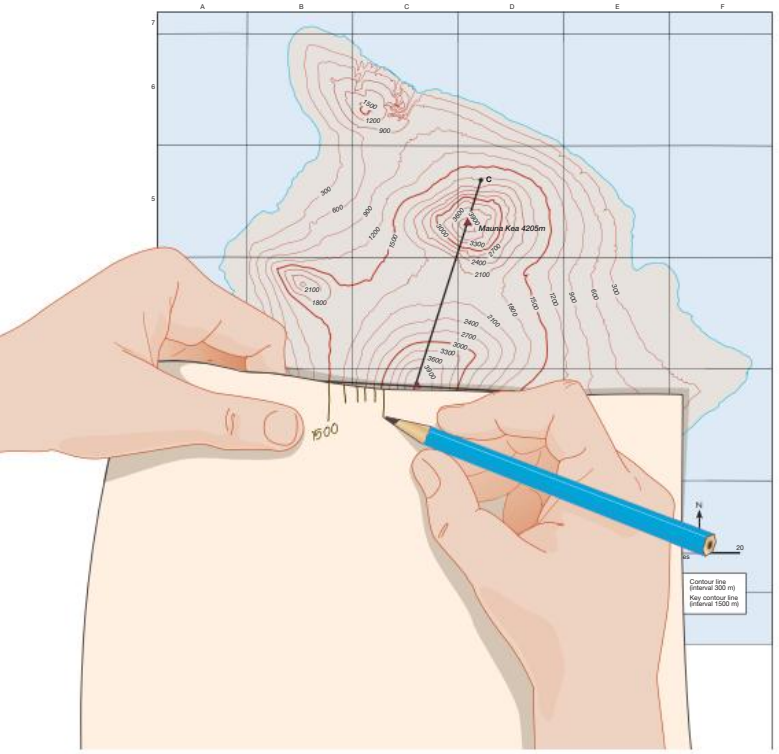
1 Construct a cross-section of the avalanche site along the line A–B marked on Source 2.65.

GLACIER NATIONAL PARK, UNITED STATES: SITE OF AVALANCHE IN 2010



Source 2.65

Source: Oxford University Press



Source 2.66 Marking contour lines

Extend your understanding

1 Study Source 2.65.
   - a In which direction did the avalanche travel?
   - b How far was the snowboarder carried?
   - c Using your cross-section as a guide, describe the steepness of the slope at this place.
   - d Did the avalanche travel down a gully or a ridge?

2 Rangers at Glacier National Park monitor snow conditions carefully and sometimes close dangerous areas such as this to skiers and snowboarders. What do you think they look for when they examine the snow conditions?

3 Study Source 2.65. On this map the beginning of the avalanche is labelled as A and the point at which it stopped is B.
   - a How do you think the boarder accessed this slope?
   - b What could the snowboarder have done to minimise the risks of an avalanche?
   - c What could he have done to increase his chances of surviving an avalanche?

Coastal landscapes

Coasts are very dynamic places – they are constantly changing. Crashing waves, strong currents, tidal waters and hazards (such as **tsunamis**) all transform coastal landscapes. Along the east coast of England and Scotland the coast is under constant attack from the sea. In some places large waves wear away the coast at the rate of about 2 metres every year. Roads, buildings and farms tumble slowly into the sea and many villages dating as far back as ancient Roman times have disappeared.

People, too, bring about changes to coastal landscapes. These changes range from small human activities, such as walking across a sand dune, to large activities, such as building ports and sea walls.



3.1

What forces shape coastal landscapes?

1. What evidence is there in Source 3.1 that this coast is changing?
2. What changes do you think will take place here over the next 20 years?

3.2

How are coastal landscapes used and managed?

1. How is this coast being used by people?
2. What could be done to control this erosion to protect these homes?



chapter 3

Source 3.1 A section of road on the Holderness coast in Yorkshire, England, shows the devastating effect that coastal erosion can have on communities. Many villages in this region have already been lost to the sea.

3.3

Are coastal landscapes hazardous places?

1 How could people be injured or killed by coastal erosion in this place?

2 What other natural hazards are present in coastal areas?

3.1 What forces shape coastal landscapes?

Coastal landforms

Constant movements of water and wind carve coastal landscapes into an amazing variety of shapes. Geographers, who refer to these shapes as **landforms**, are particularly interested in exploring the forces that create them. To begin your own investigation into coastal landscapes, you should start by finding out the names of the most common landforms, shown in Source 3.4. Some of them you may have heard before but others may be new to you.

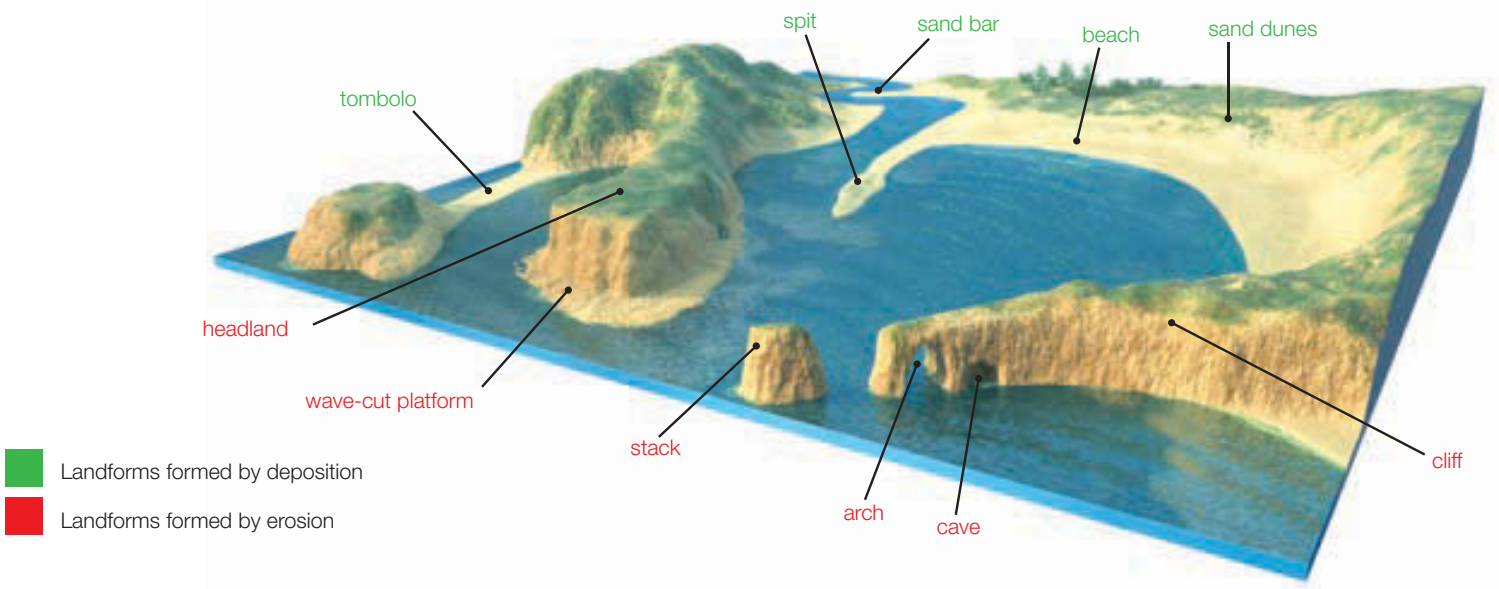
Coastal landforms can be formed in two different ways, either by **erosion** (the wearing away of land by waves and wind) or by **deposition** (the building up of land through deposits of sand and other materials). Because of these processes, there is no 'typical' or 'average' coastal landform: every **arch**, **stack**, **cave** or **headland** will be unique. There are, however, common features for each type of landform. Geographers examine and describe the similarities and differences of these features and use them to explain how they were formed. For example, Sources 3.2 and 3.3 show two Australian coastal landforms. Geographers would describe both of these landforms as headlands, despite the fact that they look quite different.



Source 3.3 A headland at South West Cape, Tasmania



Source 3.2 Headlands at Port Campbell, Victoria



Source 3.4 Some common coastal landforms

key**concept:** change

A day at the beach



Source 3.5 Bondi Beach in Sydney is located between two headlands.

Like all landscapes, coasts are constantly changing. During a five-hour visit to a beach, about 2500 waves hit the shore. Each wave picked up millions of grains of sand and moved them. Some grains were moved further inland, some along the beach, some out to sea, and some were picked up and put back in the same place. The wind picked up millions of particles of dry sand and blew them onto the dunes. People walked through the dunes, trampling the plants and creating a wind tunnel that sped up erosion. In the course of the day, the sea level rose and fell about 2 metres as the Moon's gravity pulled the oceans towards shore and away from it, creating tides.

What makes beaches perfect for geographers to study is the rapid rate of change that takes place there. This is mainly because:

- one wave crashes about every 8 to 10 seconds and each of them changes the coast
- sand is easily eroded and deposited
- people use the coast in many ways, constantly changing it.

For more information on the key concept of change, refer to section GT.1 of 'The geographer's toolkit'.

Check your learning 3.1

Remember and understand

1 How do beaches change?
2 What natural forces are working continuously on the coast carving new landforms?

Apply and analyse

3 Describe a stack. How do you think stacks are formed?
4 Sketch the image in Source 3.2 and label four landforms.

Evaluate and create

5 How have people used the headland in the foreground of Source 3.5? Why might this be a hazardous place to live?
6 Each of the three photographs in this section shows headlands. Examine each of these photographs.
   a Based on these photographs, give a definition of a headland.
   b What features does each share?
   c In what ways is each unique?
   d In pairs, discuss some geographical questions you would ask to explore why the headlands are different.
   e Where would you find some answers to the geographical questions you have discussed?

The power of waves

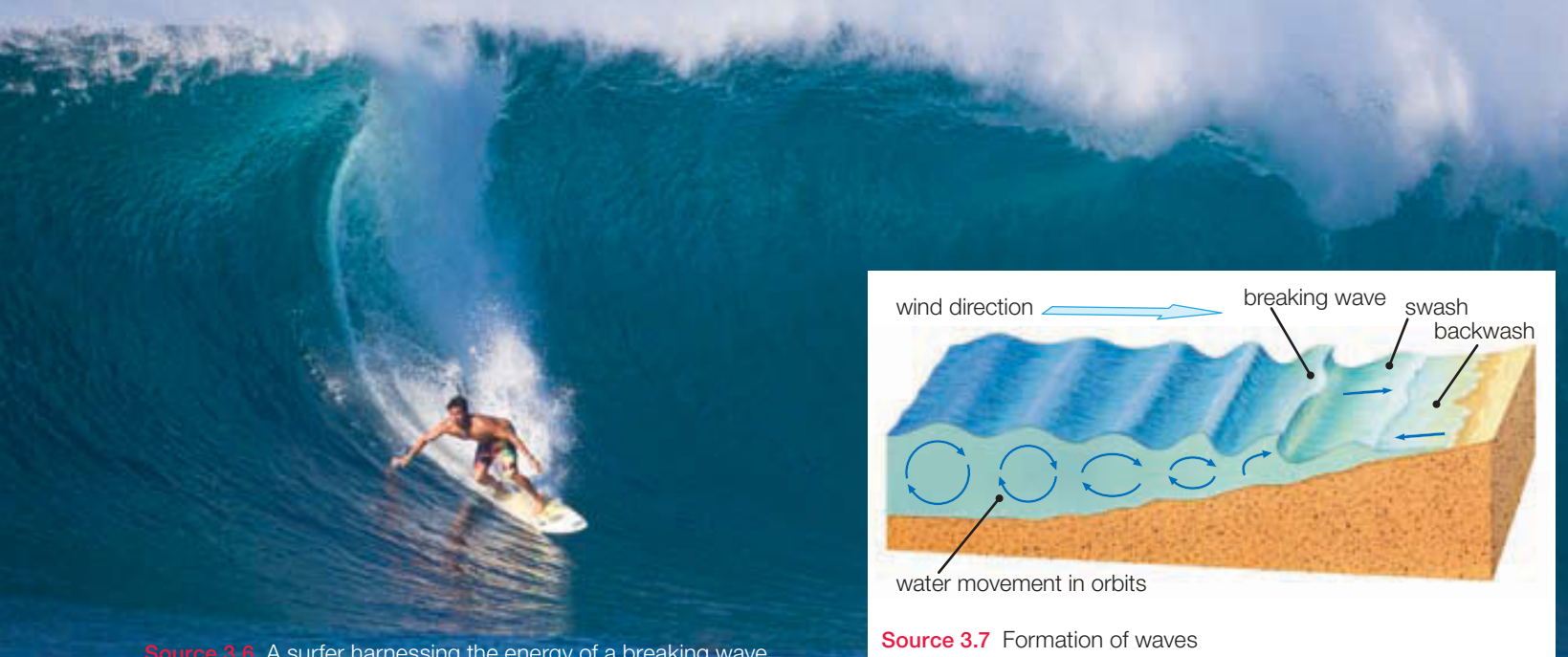
Waves are the main force that shape coastal landscapes. Waves begin at sea when the wind blows across the surface of the water. The water surface rises along with the wind, but then is pulled back down by the power of gravity. This tug-of-war between the drag of the wind and the pull of gravity creates an **orbit** – a circular movement of water (see Source 3.7) beneath the surface. This orbit creates what we see as a wave.

As waves move into the shallower waters near the coast, the bottom of the orbit comes into contact with the sea bed. Friction generated on the sea bed slows the bottom of the wave more quickly than the top. The top (or crest) of the wave continues moving and finally falls forward onto the shore (much as a person can stumble and fall over, head first). The water that falls forward and moves up the shore is called the **swash**. The **backwash** is the water that runs back to the ocean.

The energy in waves can travel thousands of kilometres before it is released on the coast. This energy then changes the coast in three important ways. Firstly, it erodes the coast by breaking down the rocks of cliffs and headlands into small pieces of stone or sand, eventually forming a beach. Secondly, along with tides and currents, the wave energy transports the sand out to sea and along the coast. Thirdly, the waves deposit the sand in new places, forming new beaches, spits and sand bars.

Longshore drift

Although some waves can hit directly onto a shoreline, most waves hit the coast at an angle. This occurs because of the varied shape of the land and the varying direction of the wind that produces the waves. When the waves hit the coast at an angle, the swash picks up the sand and carries it along the beach rather than just dumping it directly forward onto the shore. The next wave that comes along will also move the sand along the beach until eventually, after hundreds of small zigzags, many grains of sand are moved to one end of the beach. They may pile up to form long deposits of material, such as



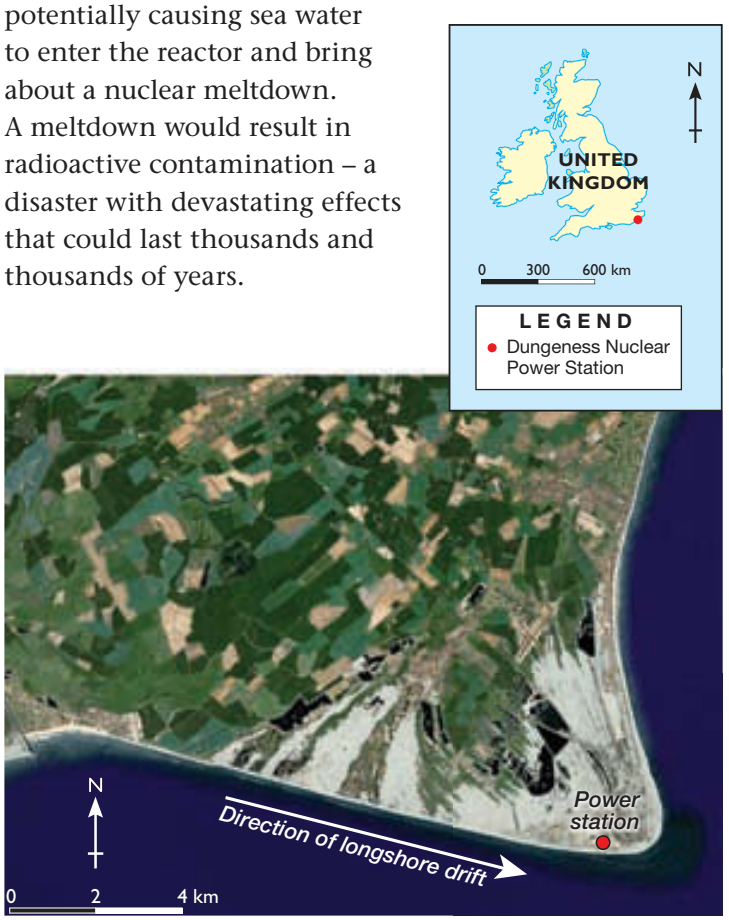
Source 3.6 A surfer harnessing the energy of a breaking wave

Source 3.7 Formation of waves

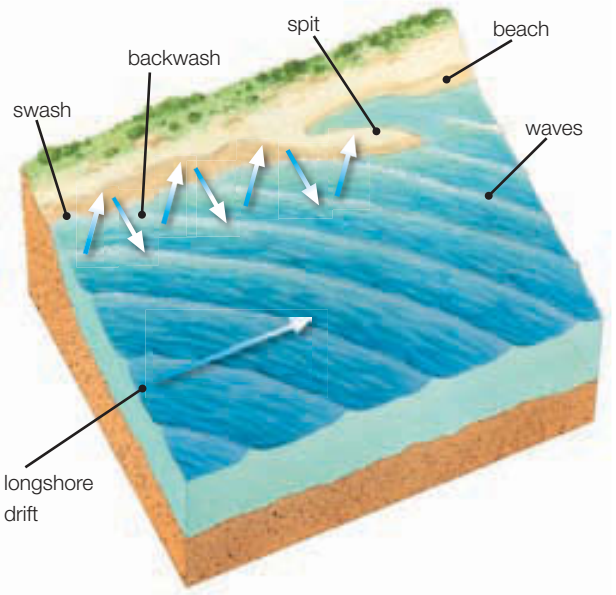
spits and **tombolos** (see Source 3.4), or the wind may change direction, causing new waves to carry sand back in the opposite direction. This movement of sand along a coast is called **longshore drift**. It is a major contributor to the shape of the coastline.

Longshore drift is also responsible for many problems faced by those people who live along the coast. The movement of sand can clog harbours and river mouths. Many coastal communities in Australia spend millions of dollars a year digging up the sand moved by longshore drift and putting it back on the beaches where local residents want it.

One of the most dramatic examples of problems caused by longshore drift can be found on England's south-eastern tip, in a town called Dungeness. Here, a nuclear power station has been built near the coast on an ancient and very large spit made of small stones called shingle. For centuries, this shingle has been shifting back and forth along the southern coast. Currently, huge amounts of the small shingle stones have to be moved to prevent the shingle from eroding. Erosion would threaten the station itself, potentially causing sea water to enter the reactor and bring about a nuclear meltdown. A meltdown would result in radioactive contamination – a disaster with devastating effects that could last thousands and thousands of years.



Source 3.8 Longshore drift is threatening Dungeness Nuclear Power Station



Source 3.9 Longshore drift

Check your learning 3.2

Remember and understand

1 What is the difference between swash and backwash?
2 How do waves begin?
3 Why do waves break?

Apply and analyse

4 How do waves change the coast?
5 What do you think happens to sand on a beach where the waves strike directly onto the beach rather than on an angle?

Evaluate and create

6 Describe the journey of a grain of sand on a beach where the waves strike at an angle.
7 Like many beaches around the world, Dungeness is being changed by longshore drift.
   a What are the local authorities doing about this?
   b Why is this particularly serious at Dungeness?
   c Discuss with a partner some other possible solutions. Decide on your best solution and then sketch it so that you can present it to the class.
   d When you have heard all the possible solutions from your classmates, decide on the one you consider to be the most likely to succeed. Explain why you think this would work.

Erosional landforms

Coastal landforms are created in two main ways. This is due to the fact that when waves hit the shoreline their effects can be varied. They can help to create landforms that allow plants and animals to live and thrive, or they can destroy landforms, killing plants and animals or driving them away.

The types of waves that erode and destroy sections of coast are known as **destructive waves**. Destructive waves are tall and frequent, which means they crash into the shoreline, digging out large chunks of land and eroding the beach. Their swash is weaker than their backwash, causing soil and nutrients to be drawn back into the sea rather than deposited on land.

Destructive waves begin in a large, stormy ocean. The waves travel thousands of kilometres, building up energy that is unleashed onto the rocks and sands of the coast. These waves carve the coastline into amazing shapes in much the same way that a sculptor carves shapes from a piece of marble. This process of wearing away is known as erosion, and the landforms created this way are known as erosional landforms.

A stretch of coastline close to the town of Port Campbell in southern Victoria (Source 3.10) provides a good example of erosional landforms. This part of Australia's coast is constantly being battered by waves from the Southern Ocean. As a result, the limestone cliffs in the area are being slowly chipped away, creating an ever-changing coast.

1 Cliff

Cliffs along coasts are formed by the action of waves on rock. The power of the waves erodes softer rock, leaving the more durable rock behind.

3 Gorge

Some caves can be hundreds of metres long. Waves entering long caves can wear away the roof, causing it to collapse and forming a deep gorge.



Source 3.10 A section of coastline near the town of Port Campbell in Victoria

2 Cave

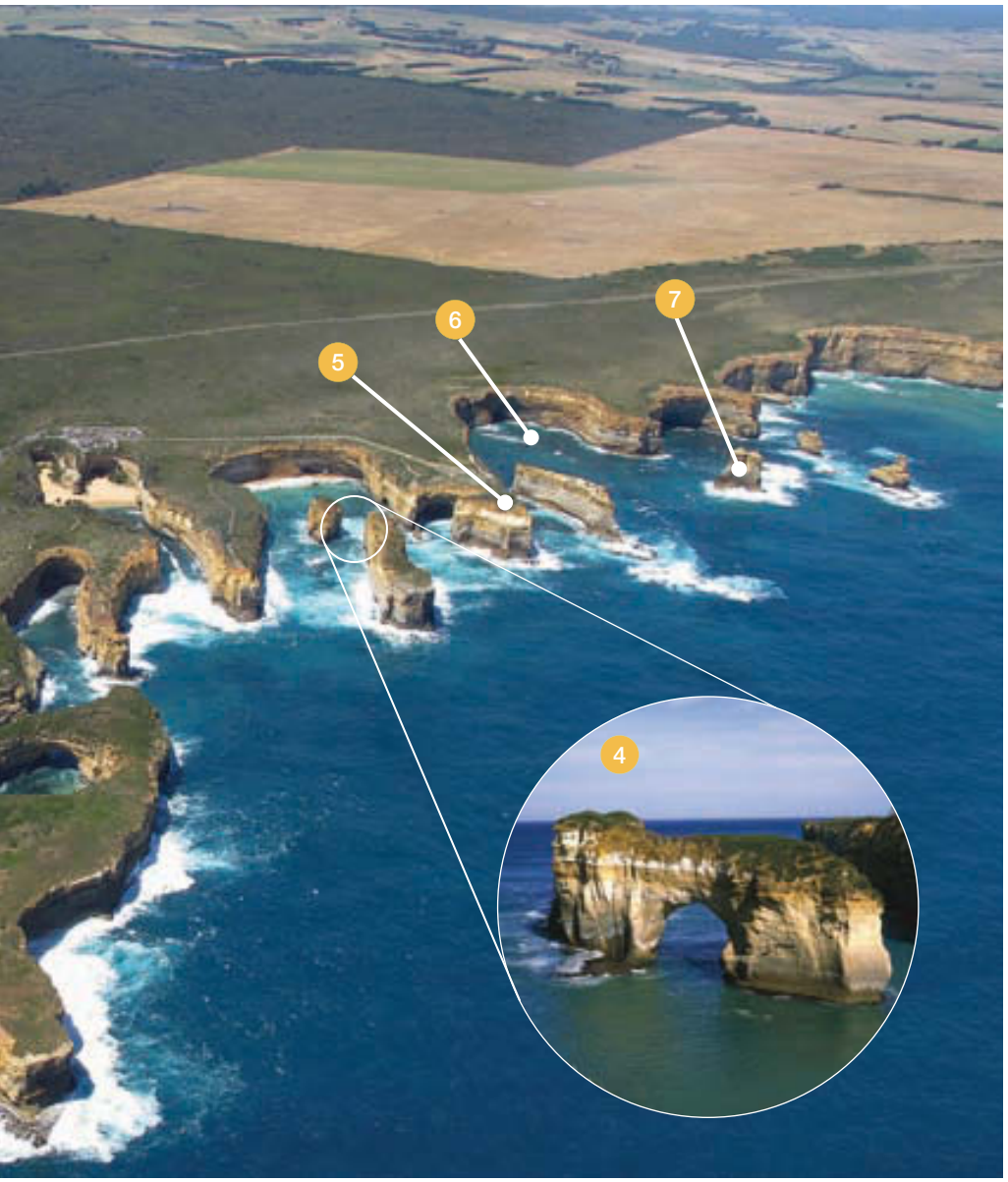
As waves approach the coast they tend to bend around headlands and islands and attack them from the side in a process known as **refraction**. When waves encounter a weak spot in the cliff (such as a section of soft limestone) they wear away the rock. They create a small opening, which is soon enlarged into a cave. The waves can now enter the cave and erode the sides and top.

4 Arch

As waves erode the back of a cave they may penetrate right through the headland and produce an arch. Waves may pass through the arch, eroding the sides and top. The arch here (inset) has recently eroded and fallen into the sea creating two stacks (main image).

5 Headland

Some sections of the coastline are made up of harder rock than other sections. These can resist the energy of the destructive waves longer than the softer parts and remain as headlands – high, rocky outcrops of land.



6 Bay

The softer parts of a coastline wear away more quickly than headlands and become bays.

7 Stack

As the soft rock of arches is eroded by the destructive waves, the rock above the arches eventually falls into the sea leaving behind stacks – vertical columns – of rock.

Check your learning 3.3

Remember and understand

1 Describe what a destructive wave is in your own words.

2 Why do some rocks erode more quickly than others?

Apply and analyse

3 Study Source 3.10.

- a How many caves, arches and stacks can you identify?
- b Describe the waves in this landscape. What evidence is there that they are destructive waves?

Evaluate and create

4 Predict what changes might occur in the next few thousand years in the landscape shown in Source 3.10. On a sketch or copy of the photograph, sketch and label the following features of a future landscape:

- a collapsed stack
- a new arch
- a new stack
- the shape of the new coastline
- a new gorge.

5 This coastline is moving inland at the rate of about 2 centimetres a year. The Great Ocean Road, which you can see in the background, is about 200 metres from the coast at present.

- a Estimate the date at which it will fall into the sea.
- b What other features of the human environment in this region will also change by then?

Depositional landforms

Unlike destructive waves, **constructive waves** have characteristics that help to create landforms that allow plants and animals to live and thrive. Constructive waves are long and low which means they begin far out at sea and gently roll onto the shore, allowing for a smooth and gentle landing. In this way, soil and plants are deposited onto the shore. The swash of these waves is slow and strong, which means that materials from the sea can be brought further inland. The backwash, in contrast, is very weak, which means materials are not dragged back into the sea. In this way, a wide, gently sloping beach is formed. Plants can grow and thrive, and the animals that feed on them will settle there.

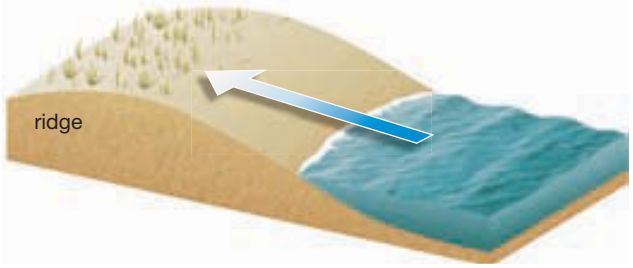
When waves are small and gentle, they do not generate enough energy to erode the land or cause great and sudden destruction. This is generally the case in bays and harbours that are sheltered from strong winds, such as Port Phillip Bay in Melbourne and Sydney Harbour. Sandy soil is moved from the base of cliffs and from the mouths of rivers by the action of the water. It is carried by constructive waves to new sites along the shore and gently deposited there. Whereas erosional landforms are the result of the removal of material from the shoreline, depositional landforms are the result of this addition of material. Constructive waves and the shapes they create are called depositional landforms.

The most common depositional landforms are beaches. A beach is formed when constructive waves carry sand, pebbles and broken coral or shells in their swash and deposit them on the shore (see Source 3.12). These small waves do not have enough energy in their backwash to take the sand back to sea, so it remains as a beach. Storms may bring destructive waves several times a year and wash away parts of the beach, but the slow, gradual process of beach building repairs this damage.

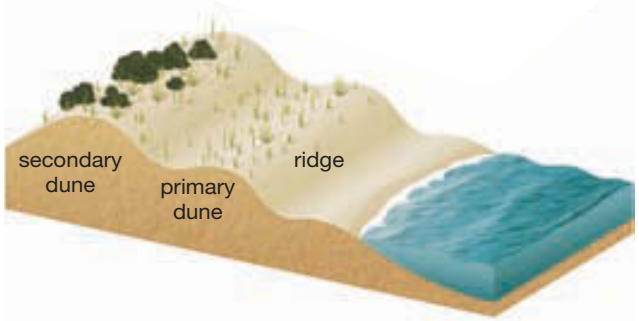
As the tide goes out, the sand dries out and the wind can then pick up individual grains and blow them inland. As the grains move, they may be trapped by an obstruction, such as plants, or they may collect in areas sheltered from the wind. As the sand piles higher it forms **sand dunes** (see Source 3.13). Plants grow on these dunes and hold them together, which allows even larger plants to take root and grow. But if the plants are removed,



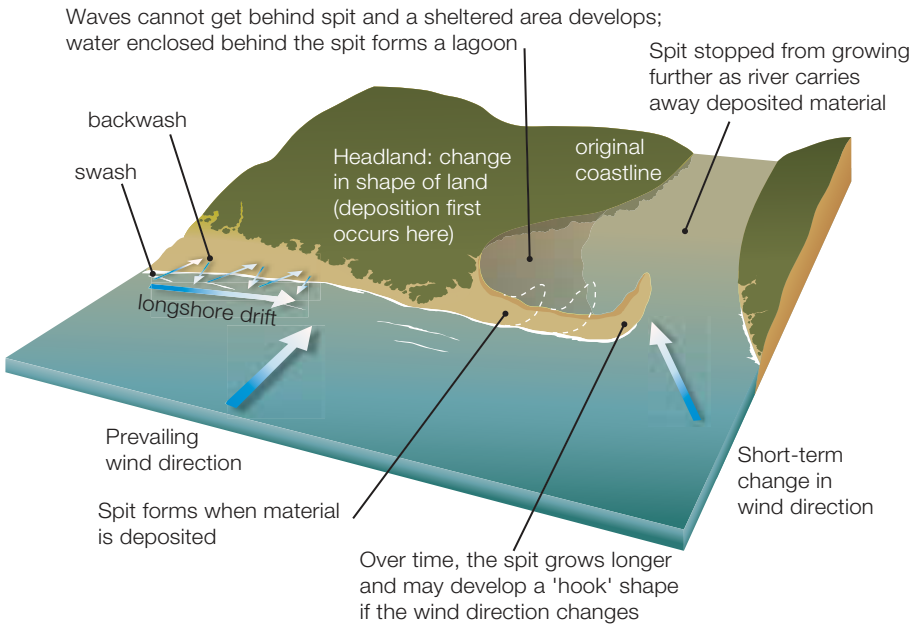
Source 3.11 Whitehaven Beach, Queensland, is an example of a depositional landform.



Source 3.12 Constructive waves carry sand onto the shore where it collects and forms a beach. Wind picks up dry sand and blows it inland.



Source 3.13 Sand is trapped by plants and collects in dunes. Over time larger plants grow over the dunes, holding them together and making them stable.



Source 3.14 How spits form



Source 3.15 A massive blowout dune inches its way across Fraser Island away from the beach.

entire dunes can gradually move further inland, covering roads, car parks, paddocks and plants. These are called **blowout dunes** (see Source 3.15).

As well as moving inland, sand moves along the coast as a result of longshore drift. As sand is deposited along coasts, other landforms can be created by the forces of water and wind.

A **spit** is a long, curved landform that is built up at the mouth of a river, which is where the river widens and ends. A river carries soil and rocks from upstream in its swiftly moving water. This material is dumped at the river mouth, forming a spit. Over time further soil and rocks collect at the river mouth, making the spit larger and more secure. This more stable environment encourages the growth of plants, which, in turn, provide habitats for animals.

Some spits grow so large that a river may be forced to change its course to reach the sea. Over thousands of years, the river mouth may move hundreds of metres along the coast and a stretch of calm water behind the spit, known as a **lagoon**, is formed. These are often home to communities of plants and wading birds, such as herons and egrets.

A **tombolo** is formed when waves curve around an island close to shore and deposit a bar of sand or other sediment on the lee side of the island (the side closest to the mainland). Eventually, enough material builds up on the leeward side that a permanent connection, or tombolo, is made between the island and the mainland (see Source 3.4).

Check your learning 3.4

Remember and understand

1 Why do constructive waves tend to add sand to a beach rather than take it away?
2 What role does the wind play in the formation of sand dunes?
3 What is a lagoon and how does it form?

Apply and analyse

4 Why are waves important to the formation of a tombolo?
5 Is the dune in the photograph of Fraser Island (Source 3.15) advancing towards the camera or away from it? How can you tell?
6 Describe three key steps in the formation of a spit.

Evaluate and create

7 Draw a sketch map of Whitehaven Beach (Source 3.11) showing the locations of sand, sea, rivers and forest. (For more information on sketch maps refer to section GT.2 of 'The geographer's toolkit'.) Remember that a map is a view from above, not on an angle as in the photograph. On your sketch map, use arrows to show the movement of sand.

Mandurah, Western Australia

The city of Mandurah, south of Perth in Western Australia, is typical of many Australian coastal communities; it has a growing population, with thousands of people flocking to its beach in summer. However, the beaches at Mandurah have a problem – the sand there just will not stay put! For much of the year, winds approaching the coast from the south-west cause waves to strike the coast at an angle. These waves move sand northwards along the beach in the process known as longshore drift. At other times, winds from the north-west move sand away from Mandurah in a southwards direction.



Source 3.16 The fieldwork site at Silver Sands beach, Mandurah

skill**drill**

Measuring longshore drift

The coast is a popular place for geography field trips because it is possible to see and measure many of the changes that are taking place there. There are several ways to measure the forces responsible for longshore drift. You will need some equipment to do this and you will need to record your findings carefully so you can process the data back in the classroom and present your findings.

Step 1 **Measuring wind direction.** Stand on the beach and feel the wind. Use a magnetic compass oriented to north (see Source 3.17) to determine the direction from which the wind is blowing. You may need to drop a few grains of dry sand to help you establish the wind direction. Try to establish the wind's 'average' direction. Draw a line in the sand showing this direction.



Source 3.17 A magnetic compass oriented to north



Source 3.18 This boy is measuring wind speed with a hand-held anemometer

Step 2 **Measuring wind speed.** The device for measuring wind speed is called an anemometer. Your school's sports department may have an anemometer, as they are sometimes used to measure wind speed at athletic events. Set up the anemometer and take regular readings of the wind speed every 5 minutes over a 20-minute period. This will allow you to work out the average wind speed.

Step 3 **Measuring longshore drift.** Measure and mark out a set distance of 10 metres on the beach near the water's edge. Stand at the upwind end of your marked-out area and throw an orange out into the water directly from that point. Record the time taken in seconds for the orange to move 10 metres along the coast. Divide this number by 10 to find out the rate of longshore drift in metres per second. Try this at a few different places along the beach and a few different distances

from the shoreline in order to work out the average speed of longshore drift. Use your magnetic compass to work out the direction of this drift.

Apply the skill

1 List the equipment you would need to complete the fieldwork activities described.

2 Why is measuring wind direction important in understanding longshore drift?

3 Source 3.20 shows a student's notes from a field trip to Silver Sands beach at Mandurah (Source 3.16). Read them carefully and answer the questions that follow.

- a Calculate the average wind speed by adding together all the recorded speeds and dividing the total by four.
- b What other evidence was provided that it was windy on the day of the field trip?
- c Calculate the average rate of longshore drift. Add together the five observations and then divide the total by five.
- d Why was the sand moving northwards on the day of the field trip?
- e What other trend is apparent in the measurements of the longshore drift?

Year 8 Fieldwork: Silver Sands beach, Mandurah

Date: 7 September 2012
Location: Silver Sands beach, Mandurah
Weather: Fine (no rain) a bit windy
Waves: Medium (about 1–2 metres high) and choppy
Wind Direction: South–westerly

Wind speed observation

Time	Wind speed
10.00	22 km/hr
10.15	18 km/hr
10.30	26 km/hr
10.45	14 km/hr

Longshore drift observation

Test no.	Approximate distance from shore line	Time (in seconds) taken to travel 10 metres
1	5 metres	182
2	4 metres	190
3	12 metres	228
4	20 metres	425
5	10 metres	212

Direction of movement:
Northwards

Evidence of sand movement:
I noticed that sand has banked up beside a stone wall that has been built into the sea. There was a lot of sand on one side of the wall but hardly any on the other side. When the wind blew strongly, sand was being blown along and across the beach. Some of this was blowing as far as the car park.

Source 3.20 Student fieldwork recorded at the fieldwork site at Silver Sands beach, Mandurah (Source 3.16)



Source 3.19 Mandurah, Western Australia

Extend your understanding

1 Is Silver Sands beach being changed mainly by constructive waves or destructive waves? Give two reasons for your answer.

2 Look carefully at the oblique aerial photograph in Source 3.19.

- a In which direction is longshore drift moving sand at Mandurah beaches in this photograph? Give some evidence from the photograph for your answer.
- b How might longshore drift affect the opening of the river in the centre of the photograph?
- c What evidence is there of measures taken to try to limit and control longshore drift?

3.2 How are coastal landscapes used and managed?

One landscape, many uses

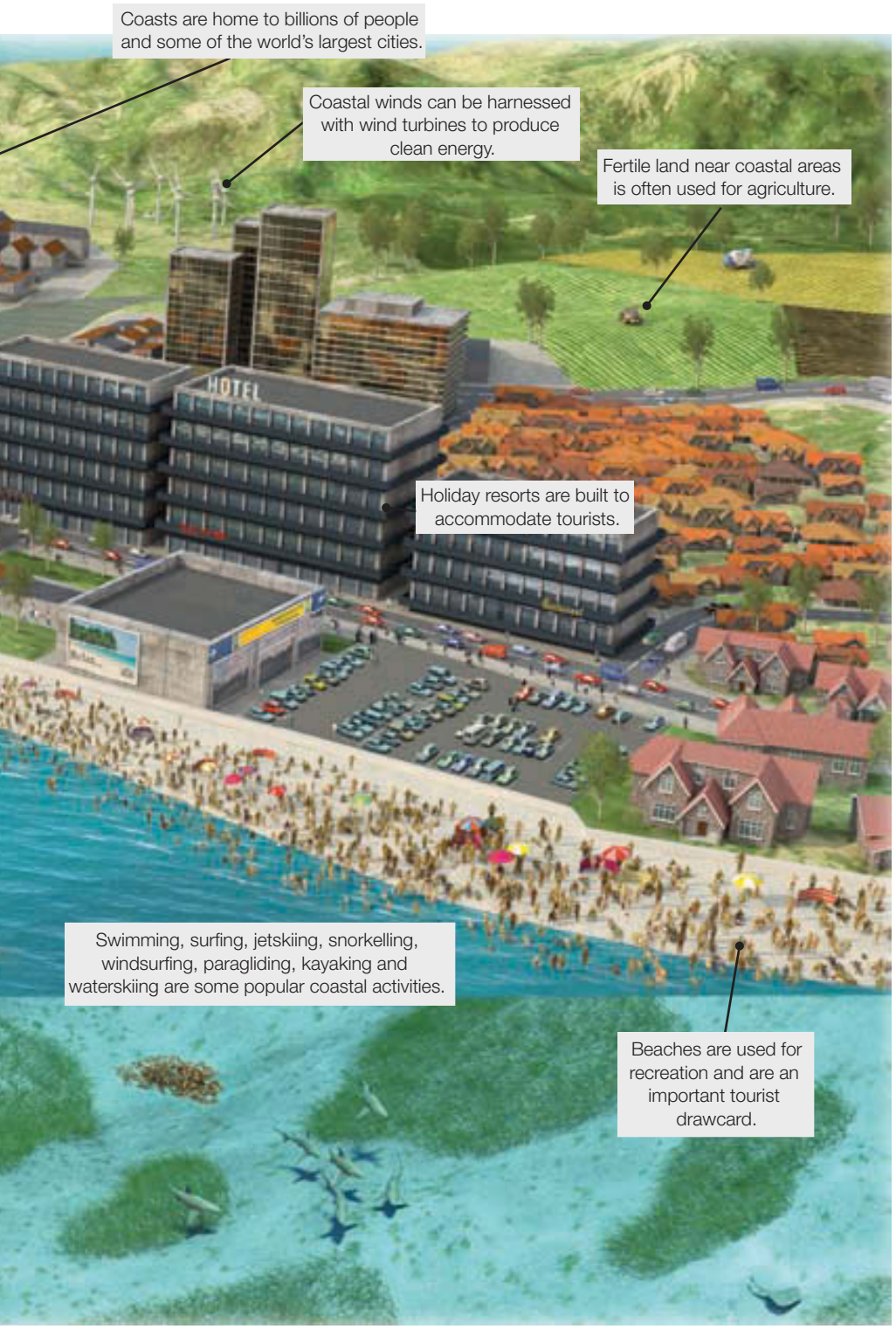
Coastal landscapes are some of the most highly populated areas on Earth. About 3.5 billion people – more than 50 per cent of the world's population – live on or near a coast. Some geographers estimate that this number will double over the next 15 years.

In Australia, this figure is already much higher – 85 per cent of us live within 50 kilometres of the sea. Many coastal towns and cities are currently experiencing rapid population growth, increasing this figure even more.

Coastal areas are used for much more than places to live. Source 3.21 shows some of these uses and their impacts on the environment.



Source 3.21 How and why people use coastlines



Check your learning 3.5

Remember and understand

1 Name two ways in which ships and boats are used in a coastal landscape.
2 Which parts of the coastal landscape in Source 3.21 have attracted the most people? What are these people doing.

Apply and analyse

3 How do you use the coast? Which of the labels on Source 3.21 describe ways you use the coast?
4 Has the artist chosen to show a coast shaped by destructive or constructive waves? How can you tell?
5 How does tourism change coastal areas?
6 Why do you think so many people live near the coast?

Evaluate and create

7 Can you think of any uses of the coast not shown in Source 3.21?
8 Which activities shown in Source 3.21 would have no or very little impact on the natural environment? Which three would have the greatest impact?
9 Identify one activity shown in Source 3.21 that you believe has the greatest impact on the environment. Work with a partner to discuss some ways in which people could reduce the impact of this activity on the environment.
10 Use a street directory (or Google Maps) to examine a coastal city in Australia. Carefully examine the coastline of this city and list all the ways in which the people of the city have changed the coast or used it in some way. What are some common changes or uses and what are some surprising ones?

Managing coastal landscapes

The forces of nature are constantly changing coastal landscapes around the world. The shapes of beaches are changed; spits are formed; harbours fill with sand; and waves erode the coast, causing houses, roads and other structures to collapse into the sea. Cities and towns built in coastal areas are often affected by these natural processes.

The residents of coastal cities and towns around the world have responded by trying to control or manage the natural processes. Their responses differ depending on the types of forces being dealt with. For example, along depositional coastlines responses are designed to combat the presence of too much sand, while along erosional coastlines the responses are designed to combat the wearing away of the land.



Source 3.22 These groynes near Brighton Beach in Adelaide were built to protect the millions of cubic metres of sand pumped onto this beach in the 1990s.



Source 3.23 Two training walls and a breakwater have helped to trap sand at the mouth of Glenelg Harbour in Adelaide.

Coastal management for depositional coasts

The main issue confronting communities along depositional coasts is sand movement. For example, the sand that makes up Adelaide's beaches is gradually moving northwards under the influence of longshore drift. This is causing the beaches in some areas to become narrower, leading to waves eroding land close to roads and houses. In other areas, sand is being deposited in river mouths, blocking boat access to the sea. In Australia, the Department of Sustainability, Environment, Water, Population and Communities is trying a number of measures to address this problem.

Constructing sea walls from large rocks, concrete blocks or sandbags can slow or even stop the movement of sand along the coast. **Groynes** – walls that jut out from a beach into the sea – prevent erosion of a beach by stopping waves from pounding onto the shore, and by directing them away from specific areas of the beach (see Source 3.22). **Training walls** – walls on either side of the mouth of a river – are built to prevent sand from blocking a harbour or river mouth (see Source 3.23).

Another method to prevent the erosion of beaches is to move sand from one place to another. This method, known as beach nourishment (or beach replenishment), may involve moving thousands of truckloads of sand every year to reverse the effects of longshore drift. In Adelaide, millions of cubic metres of sand have been dredged from the sea floor or taken from dunes in other places and trucked onto the eroding beaches.

Coastal management for erosional coasts

In places where destructive waves are eroding the coast, communities have responded by building barriers, parallel to the coast, to prevent waves from reaching the coastline. These barriers are usually made of concrete or piles of rocks or rubble. Walls that are built out in the sea are called **breakwaters**. Walls that are built close to the coast are called **seawalls**. These barriers are designed to direct the water's force at the solid walls made of hard materials rather than the soft and easily moved sands and dunes.

While these walls may help in the short term, they can often create new problems. The energy of the wave may be deflected downwards, for example, eroding the front of the wall, weakening it until it eventually collapses into the sea. The shoreline is then left unprotected.



Source 3.24 Lakes Entrance on Victoria's east coast

Check your learning 3.6

Remember and understand

1 What are groynes and why have they been built in Adelaide?

2 Have the structures built at Glenelg Harbour (see Source 3.23) been successful in controlling the movement of sand? Give some evidence for your answer.

Apply and analyse

3 Examine Source 3.24 carefully.
- a Is this an erosional or depositional coast? What is your evidence for your answer?
- b What is the groyne designed to do? Is it working?
- c What is the training wall designed to do? Is it working?

Evaluate and create

4 There is a large build-up of sand in the river channel at site A in Source 3.24. Over time it may build up further and become a danger to small boats using the river.
- a What does this build-up of sand tell you about the river?
- b What would you do to try to control this sand build-up? You may like to sketch your solution onto a copy of the photograph.

5 Draw a sketch map of a coastline that includes a groyne, training walls, seawalls and a breakwater. (For information on drawing sketch maps refer to section GT.2 of 'The geographer's toolkit'.) Show these features in your map legend.

The impacts of gas exploration on coastal landscapes

In many coastal areas, human activities impact on natural processes and environments. An example of this is the development of a natural gas plant on Curtis Island off the coast of Queensland near the town of Gladstone. The plant being built will allow liquefied natural gas (LNG) to be stored and loaded onto ships for transportation. LNG is gas that has been compressed into liquid form to make it easier to transport and store. The gas is extracted from onshore coal seams before being piped to the island. Ships then transport the gas to ports around the world, particularly in Asia.

The facility will allow the company building it and the 520-kilometre pipeline that brings the gas to the port to sell the gas and make a profit. The company argues that building the facility also creates thousands of jobs and boosts the economy of the region.

Gladstone is the largest port in central Queensland with over 1500 large ships using the port facilities every year. Large quantities of coal, petroleum and cement are already moved through the port. When the plant is



Source 3.25 A typical LNG ship is 300 metres long, 45 metres wide and needs a channel at least 12 metres deep.

Source 3.26 An oblique view of the construction site at Laird Point on Curtis Island

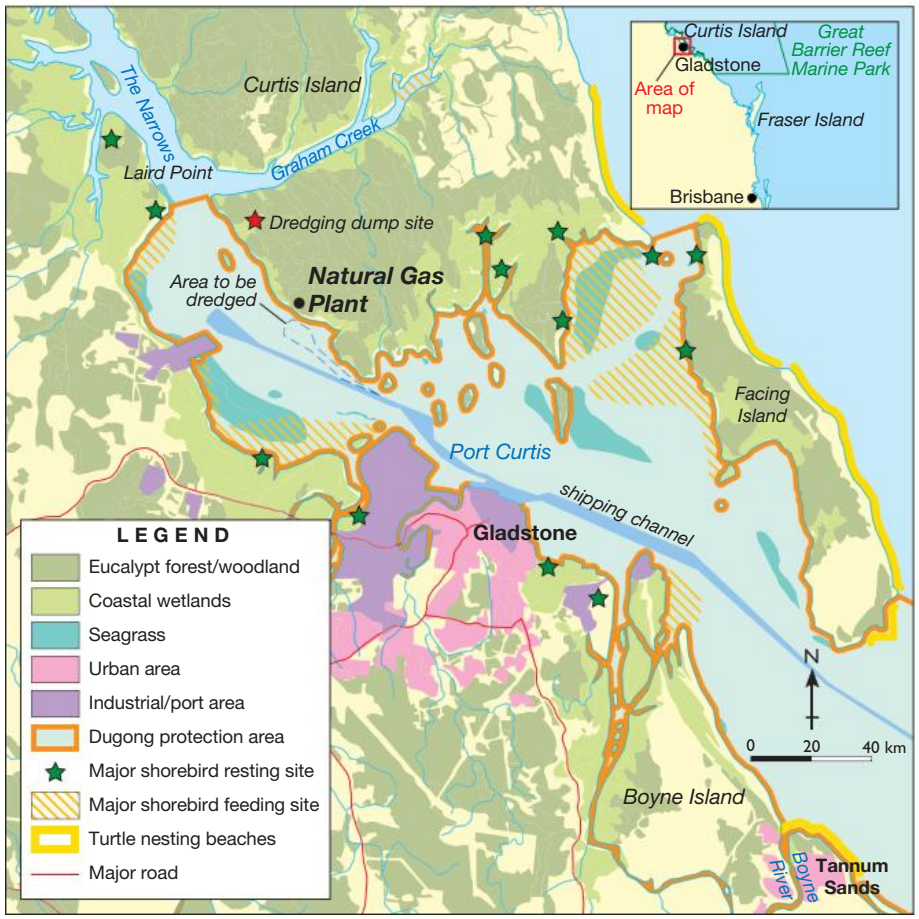
completed, each week two to three specially designed ships will carry LNG from Curtis Island to export markets. Other companies are also interested in building LNG plants on the island.

Gladstone port and Curtis Island are located beside the Great Barrier Reef. The reef is the largest in the world and is considered one of the world's great natural wonders. It is also included on the UN World Heritage list. Curtis Island sits within the Great Barrier Reef World Heritage area, so the companies building the plant have had to ensure that they follow strict guidelines about changes to the environment.

Some people remain concerned that the new gas facility will endanger the natural environment, including the reef. In particular, they are worried about the following:

- To allow large LNG ships to reach the gas plant 8 million cubic metres of sand and mud need to be dredged from the channel between Curtis Island and the mainland. This environment is home to marine life, such as turtles and dugongs.
- Dredged material will be dumped near the reef.
- The LNG plant requires a reliable supply of fresh water so a desalination plant is being built as part of the facility. This takes water from the sea, removes the salt and pumps the salt back into the sea.
- The movement of ships through the reef means there is the potential for a shipping accident that may damage the reef.

NATURAL GAS PLANT DEVELOPMENT AREA



Source 3.27

Source: Oxford University Press

Check your learning 3.7

Remember and understand

1 What changes are taking place on Curtis Island? Why are these changes taking place?

Apply and analyse

2 Construct a table with two columns: 'Arguments for the new LNG plant' and 'Arguments against the new LNG plant'. List the various arguments in the correct columns.

3 Imagine that you are a representative of the World Heritage committee that has come to Curtis Island to find out whether the LNG plant is going to affect the Great Barrier Reef. Make a list of the questions you would ask in your investigation. Discuss these with a partner before sharing them with the class.

4 Carefully examine the map showing the natural environments in this region (Source 3.27).

a Describe the natural environment in which the LNG plant is being developed. In your description include details about vegetation as well as birds and animals.

b Dugongs are marine mammals that feed on seagrass on the sea floor. How might dredging affect these animals?

Evaluate and create

5 Design and produce a poster either supporting or opposing the expansion of the Curtis Island plant for display in the Gladstone town hall.

6 Debate the topic, 'While the development might have some impact on the environment, Australia's prosperity is more important.'

Caring for coastal landscapes

Many human activities are changing coastal landscapes in negative ways. Some of these changes (such as the building of new ports or holiday resorts) are deliberate, but many are accidental. A line of litter (such as fishing nets, plastic bottles and household rubbish) can be seen along the high tide mark of some beaches. The fragile vegetation on sand dunes is sometimes trampled and destroyed by thoughtless beach-goers; without the small bushes and trees that hold the dunes together, the wind blows sand further inland. Beaches are eroding, water quality is declining because of pollution and, in many places, coastal animals and plants are endangered by human activities.

Recognising that these threats exist, many people and organisations are working to preserve and protect our coastlines: from large global programs to individual volunteers who donate their time and energy. One such organisation is Coastcare, whose 60 000 volunteer members identify environmental problems in local coastal regions and work to solve those problems. Coastcare volunteers remove invasive weeds, litter and trampled plants from dune areas, and they plant new vegetation to anchor the dunes and keep the sand from blowing away.



Source 3.28 Years 9 and 10 students turn a beach into an open-air laboratory as part of the Teach Wild program

Source 3.29 Coastcare volunteers planting native vegetation on dunes near Darwin

Another organisation, Ocean Care Australia, is part of a global network that helps school and community groups to clean litter from coasts as part of an 'adopt-a-beach' program. Many schools, particularly those in coastal areas, have become involved in initiatives such as this.

Governments and large organisations have recognised the vital role that schools can play in educating young people about coastal issues. The Teach Wild program is just one of these. A partnership between the Australian Government (through **CSIRO**), Shell and Earthwatch Australia, this program enlists the help of school students to monitor the health of coastal ecosystems. As part of this program, school students collect and map debris (such as bottles, nets and other litter) found along the coast.

Case study: saving the Fairy Tern

Many plants and animals that live in the coastal environment are under threat from human activities. One bird that is considered to be at risk of extinction in Australia, New Zealand and New Caledonia is the Fairy Tern. There are about 5000 Fairy Terns in Australia. About half of these live in Western Australia; the rest are found in a few smaller colonies, primarily in South Australia, Victoria and southern New South Wales. Fairy Terns lay their eggs and raise their chicks in open nests in sand dunes, without cover from grasses and bushes. This makes them especially vulnerable to attack from introduced predators, such as wild foxes and domestic cats and dogs. The other major threat comes from four-wheel-drive vehicles, which disturb nesting pairs and destroy nests by driving straight over them.

Those terns that nest in national parks, however, have a helping hand. The managers of national parks can make and enforce clear rules about visitor behaviour. Restrictions on where people can go, and what they can and cannot do, are designed to protect the environment and to make the area safe for terns. In Coffin Bay National Park in South Australia, for example, Fairy Tern nesting sites have been fenced off and all vehicles are banned from these areas. Dogs are forbidden and fox numbers are kept under control through the use of poison baits. The numbers of birds are monitored by park rangers and by volunteer groups, such as Friends of Parks. These measures have seen the numbers of Fairy Terns in Coffin Bay stabilise. Rangers hope they will soon increase.



Source 3.30 A Fairy Tern nesting on an open beach

Check your learning 3.8

Remember and understand

1 What are some of the problems caused by people in coastal environments?
2 How are the individuals and groups in Sources 3.28 and 3.29 responding to these problems?
3 Why are the Fairy Terns so vulnerable to attack from predators?

Apply and analyse

4 While Coastcare is a national organisation, each local group can respond differently to issues at the coast. Explain why it is important that responses differ from place to place.
5 What could a Coastcare group at Coffin Bay do to help protect the Fairy Tern?
6 What could visitors to the coast do to reduce their impact on the natural environment?

Evaluate and create

7 Parts of Coffin Bay National Park are remote and wild places where access is only possible with a high-clearance four-wheel-drive vehicle.
   a Why do people visit wild places such as Coffin Bay?
   b What impacts might human activities have on the natural environment?
8 Create a leaflet that encourages people in coastal areas to join their local Coastcare group.

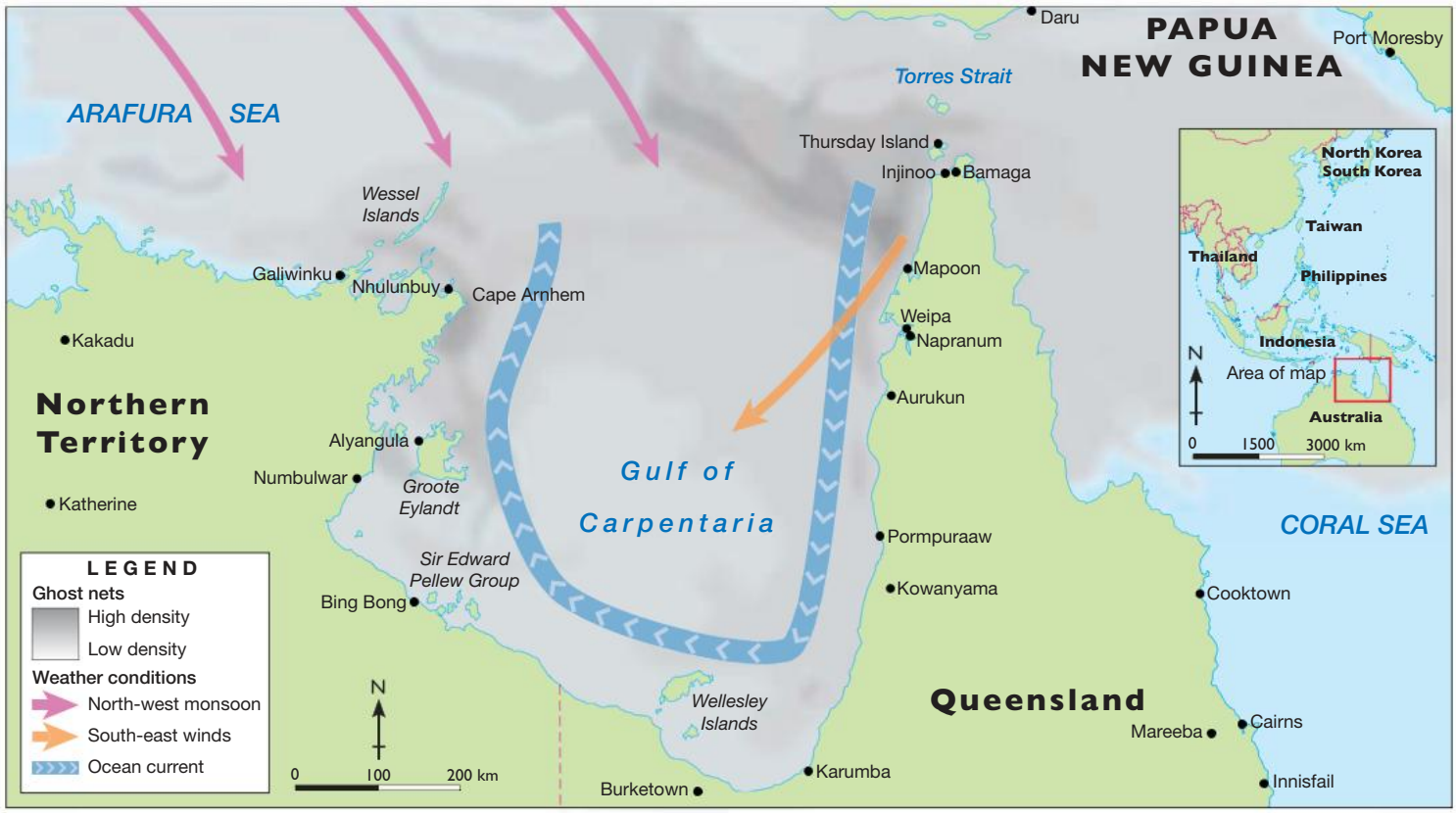
The impacts of fishing on coastal landscapes: Ghost nets

Every year, about 6.4 million tonnes of fishing gear (nets and tackle) is lost in the world's oceans. Most of this is made up of abandoned fishing nets that have drifted free from boats in extreme weather conditions or have been cut free because they became entangled. In many cases it is cheaper and easier for fishermen working in waters to the north of Australia to cut these tangled nets free than to haul them in and untangle them. The nets, still afloat because they are plastic, are carried south on ocean currents and continue to entangle fish and other marine species, such as turtles, dugongs and even crocodiles. They are referred to as **ghost nets** and at any one time there are thousands of them in the ocean.



Source 3.31 Yirralka Laynlapuy rangers remove a ghost net from a beach in Eastern Arnhem Land.

THE GULF OF CARPENTERIA: WEATHER PATTERNS AND DENSITY OF GHOST NETS

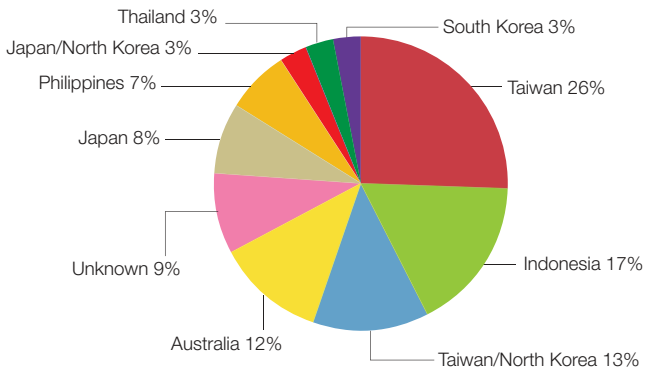


Source 3.32

Source: Oxford University Press

About 100 000 marine mammals are killed by ghost nets every year. This includes endangered animals, such as whales, Australian sea lions and turtles. In northern Australia, ocean currents and winds carry ghost nets into the Gulf of Carpentaria where they can remain for years, trapped by circulating currents (see Source 3.32). Tides and storms wash them onto the shore and then drag them back to sea or bury them in the sand.

In response to this issue, GhostNets Australia, an organisation dedicated to removing ghost nets from the waters and beaches of northern Australia, was formed in 2004. It is an alliance of coastal Indigenous communities from Queensland, Northern Territory and Western Australia. Since GhostNets Australia was formed its rangers have retrieved about 12 000 nets from Australian waters. This represents about 90 kilometres of netting. As well as removing the nets, these rangers also free trapped wildlife, map the location of the nets using GPS systems, and try to identify the origin of the nets using resources supplied by the World Wildlife Fund.



Source 3.33 Origin of nets found at Cape Arnhem, Northern Territory

key concept: interconnection

Where do the ghost nets come from?

Although some environments are unique, no environment exists in isolation from others. There are links between places, and by exploring these links we can develop a better understanding of the ways in which networks and systems work. This may help us to solve problems such as marine and coastal pollution. In the case of the ghost nets of the Gulf of Carpentaria, geographers examine the winds and currents of the area to help explain why nets collect in this region. By examining the data collected by the GhostNets Australia rangers and other researchers we can also find out the origin of the nets (see Source 3.33).

For more information on the concept of interconnection, refer to section GT.1 of the 'The geographer's toolkit'.

Check your learning 3.9

Remember and understand

1 What are ghost nets?
2 Why do ghost nets create problems for the natural environment?
3 Describe the work done by the GhostNets Australia rangers.

Apply and analyse

4 Examine Source 3.32. How do ocean currents and winds affect the movement of ghost nets. Refer to specific winds and places in your answer.
5 Why do you think most GhostNets rangers are Indigenous Australians?

Evaluate and create

6 On an outline map of the Asia–Pacific region, locate and label the countries of origin of fishing nets found at Cape Arnhem (see Source 3.33).
   a Shade in each of these countries using darker shades for countries that have contributed many nets and lighter colours for those with fewer nets. For example, you may use red for countries with more than 15 per cent, orange for those with 5 to 15 per cent, and yellow for those with less than 5 per cent.
   b Describe the pattern shown on your map.
   c Use arrows to show the paths that may have been taken by these nets to reach Cape Arnhem.
   d Use BOLTSS to finish your map.
   e How far have the Japanese nets travelled to reach the Gulf of Carpentaria? Why is this hard to estimate correctly?
   f Why are rangers and researchers interested in the origins of the nets?
7 What do you think should be done to reduce the number of ghost nets in the oceans? Why do you think this is such a difficult problem to solve?

Gold Coast Seaway, Queensland

A good example of coastal management in action can be seen on Queensland's Gold Coast. Northward sand movement over centuries has caused the mouth of the Nerang River to be pushed north along the coast. This created a long spit sheltering a lagoon (known as The Broadwater). Although this is a natural process, it created several problems in the region. The southern tip of South Stradbroke Island was being eroded by the waters emerging from the mouth of the Nerang River, the spit was unstable and large amounts of moving sand in the mouth of the Nerang River made boating hazardous.

The solution was to build training walls at the mouth of the Nerang River to stabilise the sand and to direct the river flow away from the southern end of South Stradbroke Island. This structure became known as the Gold Coast Seaway. To move the drifting sand from one side of the seaway to the other, a 490-metre-long sand-collection jetty was built. Beneath the jetty are 10 pumps that collect the sand and pipe it to South Stradbroke Island. This sand-bypass system, which can move 500 cubic metres of sand an hour, was the only one in the world when it was completed in 1986.

skill**drill**

Drawing sketch maps

One of the most useful skills a geographer can master is the drawing of sketch maps. Sketch maps show the main features of the landscape that you are studying, but do not contain the details you would be expected to include on a formal map. While conducting fieldwork you will probably start with a basic outline map of the main features of the location you are studying, such as a coastline. The steps listed here are for a sketch map that you would complete as part of your fieldwork.



Source 3.34 Aerial photograph of the Nerang River entrance, 1984. You can see how the southern tip of South Stradbroke Island has been eroded by the waters flowing out of the river.



Source 3.35 An aerial photograph of the Nerang River entrance, 1985, at the beginning of the construction of the Gold Coast Seaway

Step 1 Look closely at the outline map you have been given to see if you can recognise some of the features around you. Orient your map by turning it around so that it is facing the right way.

Step 2 Decide on the focus of your fieldwork. If you are studying the ways in which people have managed a coastal landscape, for example, you will mark on your map features such as training walls and a sand collection jetty.

Step 3 Label the features that you recognise. Keep your writing neat and level across the page.

Step 4 Look around the area you are studying in your fieldwork and find other examples of ways in which people have managed the coast. Locate and label these on your sketch map. You may find it best to shade large areas, such as the training walls, and to add a legend to show the shading and any other symbols you use.

Step 5 Add carefully labelled arrows to show examples of movement. For example, in the sketch map of the Gold Coast Seaway (Source 3.37), an arrow shows the direction in which sand is moving. Other examples may include the movement of people, cars and water.

Step 6 Add any examples you can find of change over time. A build-up of sand on one side of a groyne, for example, shows that sand is moving along a beach. A collapsed stack or a pile of rocks at the base of a cliff is evidence of erosion.



Source 3.36 An aerial photograph of the Gold Coast Seaway, 2002. You can see how South Stradbroke Island has built up and become stabilised with natural vegetation.

Step 7 Add a title that includes the date, and a north arrow. (You may need to use a compass.)

Apply the skill

1 Create a sketch map of the area shown in Source 3.34. Remember that all maps show a view from directly above. On your sketch map, show how people have managed this coast.

Extend your understanding

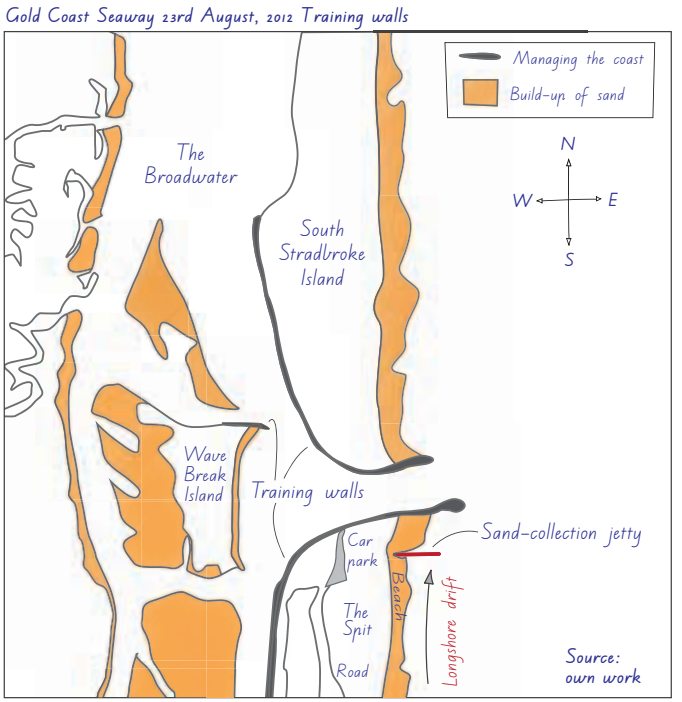
1 Why were training walls built at the mouth of the Nerang River?

2 What effect did the training walls have on the direction of water from the Nerang River?

3 Name the coastal process that the training walls are designed to manage.

4 How successful have the structures been? Give some evidence from the vertical aerial photograph (Source 3.36) for your answer.

5 What evidence is there in the photograph (Source 3.35) that sand is moving down the Nerang River?



Source 3.37 A sketch map

3.3 Are coastal landscapes hazardous places?

Coastal erosion

Waves and currents are constantly changing coastal landscapes. In some places, wave action erodes beaches and cliffs, which can create many problems for people who live in coastal communities. Many built features (such as caravan park facilities, roads, houses, walls and playgrounds) on or near an eroding coastline face the constant threat of collapsing into the sea. Most at risk are communities built on sandy coastlines, as these landforms can change very rapidly – with devastating consequences.

Case study: Kingscliff, New South Wales

A community affected by coastal erosion is Kingscliff in northern New South Wales. At times, a wide beach, popular with holiday-makers, extends in front of the town. Structures such as a bowling club and surf life saving club have been built beside the beach. Roads, paths and car parks have also been built along the coast. However, storm waves occasionally batter the beach and scour out huge quantities of sand. The beach can disappear overnight and waves then directly erode the base of the buildings and roads.

The local community has responded to this changing coastal landscape in a number of ways. A **training wall** and **groyne** have been built at the mouth of the river that flows into the sea. This controls flooding and has helped to secure the southern end of the beach. Trees have been planted to help hold the larger dunes in place and a sea wall has been built in front of some of the buildings, including the bowling and surf clubs. Storm waves have, however, at times eroded the base of this wall, and large textile bags filled with sand have had to be piled in front to help protect the wall from wave erosion.



Source 3.38 In 2010, storm waves in Kingscliff caused a road to fall into the sea (foreground) and threatened the local surf life saving club (background).



Source 3.39 Kingscliff beach in July 2012 showing a seawall that has been built to protect homes and businesses along the coast.

keyconcept: change

Future changes at Kingscliff

A study of the Kingscliff coastline has found that a strip of land 40 metres wide is vulnerable to strong storms and could be eroded to the point where it disappears entirely. This includes much of the caravan park and surf club and the entire bowling club. More alarmingly, the study found that a combination of rising sea levels due to climate change and the natural process of erosion will threaten much greater areas around Kingscliff in the future. The authors of the study estimated the rate of erosion in this area as about 20 centimetres a year. On the satellite image (Source 3.40), lines have been drawn that show areas at immediate risk in a storm, areas at risk in 40 years and areas at risk in 90 years.

For more information on the key concept of change, refer to section GT.1 of 'The geographer's toolkit'.



Source 3.40 A satellite image of Kingscliff showing areas at risk of coastal erosion

Check your learning 3.10

Remember and understand

1 Why are some coastal communities more at risk from coastal erosion than others?

2 How has the Kingscliff community responded to coastal erosion?

Apply and analyse

3 Examine Sources 3.38 and 3.39 showing Kingscliff beach severely affected by erosion.
- a List any changes as a result of erosion that you can identify in these sources.
- b Use your understanding of the way in which sand moves to explain these changes.
- c How might these changes affect local residents and holiday-makers in the region?

Evaluate and create

4 Examine Source 3.40 showing predicted changes over the next 90 years.
- a Describe the area at immediate risk from coastal erosion.
- b Use the scale to estimate the distance the coastline is predicted to move inland in the next 90 years.
- c Describe the changes to this area if this prediction is correct.
- d What natural processes may occur in the next 90 years that will make this prediction incorrect?

5 Based on the evidence that you can see in these images, has the local community been successful in controlling coastal erosion? Use the evidence in your answer.

6 Imagine that you have been asked by the Kingscliff community to help protect their coast from further erosion by storms. They also want their beach to be attractive to tourists. What advice would you give them?

Rip currents

On Australian beaches the biggest threat to people enjoying the sea is being swept away by a **rip current** while swimming, and then drowning.

At least one-half of all beach drowning deaths in Australia involve rip currents (more commonly known in Australia as 'rips'). During the summer, on average, there is a death related to rip currents every two or three days. Rip currents account for more deaths in Australia than bushfires, floods, cyclones, shark attacks and **tsunamis** combined in an average summer. So what is a rip current, and how can you avoid being caught in one?

A rip current is a channel of water (like a river within the sea) that moves swiftly from the beach out towards open water. This kind of current can develop on any shoreline affected by wave action. When waves are small their swash is slow and gentle, but in rougher water waves coming into shore will push water towards the shoreline. This water needs a place to go, and will move sideways along the shore and then shoot back out to sea at the first opportunity. If there is an opening in a sand bar offshore, the water will head quickly in that direction. The resulting 'river within a sea' will usually travel at about half a metre per second, but can also be several times that speed. Because this quickly moving water appears to be quite smooth on the surface, swimmers frequently mistake these patches of water for safe, calm waters – and that is when they find themselves in great danger.

In some places, such as at Bondi Beach, rip currents are almost constant features. The rip current at Bondi Beach even has a name – the Backpackers' Express – after the many inexperienced foreign backpackers who are caught in it each year. In other places, rip currents can suddenly appear and disappear. They may stay in place for a few hours or for only a few minutes. On one day they may be at one end of the beach and the following day appear at the other end. These temporary rip currents are generally more dangerous, as beachgoers can be caught by surprise.



Source 3.41 The 'Backpackers' Express' rip current at Bondi Beach, Sydney, can make this popular beach a dangerous place to swim.



Source 3.42 A surf life saver pulls a swimmer from a rip current. Surf life savers have patrolled Australian beaches for over 100 years and in that time they have saved more than 600 000 lives.



Source 3.43 A poster released by Surf Life Saving Australia with advice about avoiding and escaping a rip current

Staying safe

The best way to stay safe at the beach is to avoid rip currents in the first place. Before you enter the water, watch the surf for a few minutes. Areas of calm, darker or murky water may indicate that a rip current is present. You should always swim between the flags at beaches that are patrolled by surf life savers. Surf life savers carefully inspect the beach and find a safer swimming area away from rip currents. Red and yellow flags indicate where this section of the beach is located and also show that life savers are on duty, watching swimmers and helping when needed.

Check your learning 3.11

Remember and understand

1 What is a rip current?
2 What is the best way to avoid being caught in a rip current?

Apply and analyse

3 Why do you think people swim where there is a rip current rather than on a sandbank which is relatively safer?
4 Why do you think the Bondi Beach rip current is called the Backpackers' Express?
5 There are no flags on the beach shown in Source 3.41. What does this tell you about this beach? What does it tell you about the people who are swimming?

Evaluate and create

6 Design a sign that could be used to warn swimmers about rip currents. Use a symbol or picture rather than words on your sign to explain the danger.

Tsunamis

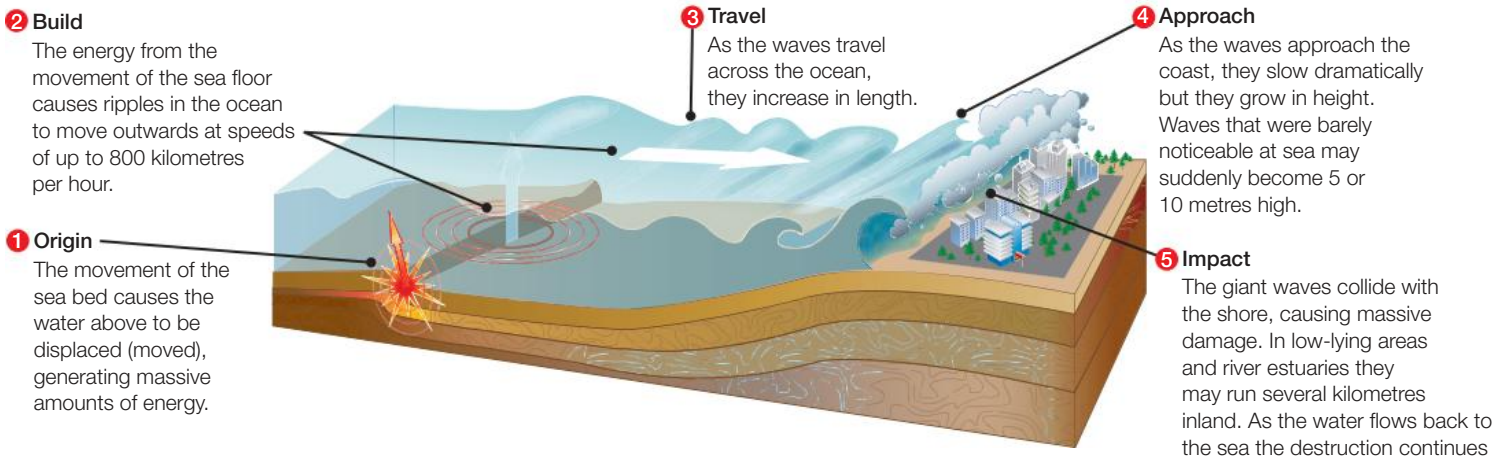
Giant waves called **tsunamis** (a Japanese word meaning 'harbour wave') are perhaps the most terrifying coastal hazard. A tsunami is created when natural events move a huge amount of water in a short period of time. The largest and most common tsunamis are created when the sea floor moves upwards during an earthquake. This causes a series of high, very broad waves to be generated. Other events that can cause tsunamis include underwater volcanic eruptions and landslides. Smaller tsunamis can be created when a large landslide reaches the sea or when large sheets of ice break off glaciers.

2004 Indian Ocean earthquake and tsunami

On Boxing Day 2004, a natural disaster of epic scale and force struck many of the countries surrounding the Indian Ocean. A huge earthquake near the southern coast of the Indonesian island of Sumatra triggered massive, broad waves of water that slammed into nearby coastal towns and cities, such as Banda Aceh in Indonesia. The tsunami then travelled across the Indian Ocean, sending huge amounts of water inland with tremendous force wherever it encountered low-lying coastal areas. Indonesia, Sri Lanka, India and Thailand were most affected, but deaths were recorded as far away as Somalia, Tanzania and even South Africa. By the time the tsunami had run its course, much of coastal Asia lay in ruins.



Source 3.45 Banda Aceh, Indonesia, before and after the tsunami struck – 23 June 2004 (top) and 28 December 2004 (bottom)



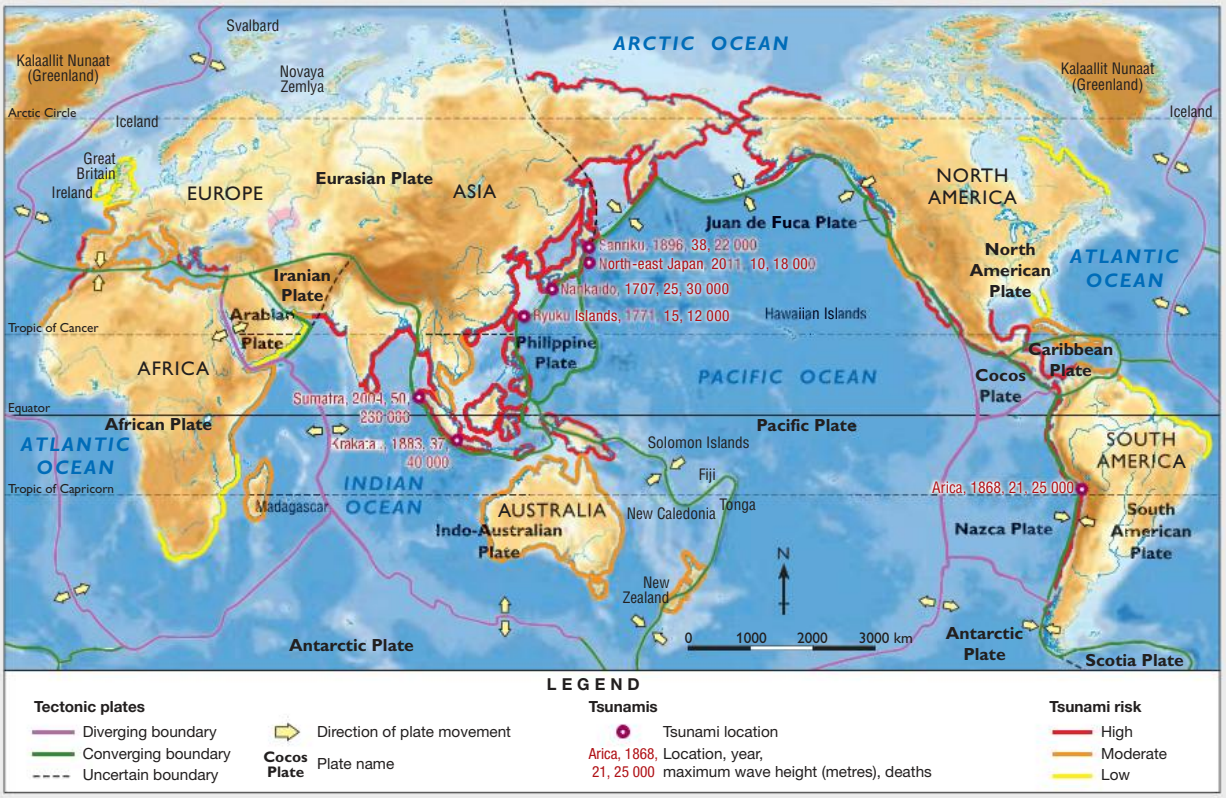
Source 3.44 The life cycle of a tsunami

Where do tsunamis occur?

Geographers have noticed that some coastal areas are much more at risk from tsunamis than others. By comparing the distribution of tectonic plate boundaries, earthquakes and tsunamis, they found that coastal areas facing a region where undersea earthquakes occur are most at risk from tsunamis. Japan is the world's most earthquake-prone country, as its east coast lies within 100 kilometres of a very active plate boundary.

For more information on the key concept of space, refer to section GT.1 of 'The geographer's toolkit'.

WORLD: TSUNAMI THREAT AND OCCURRENCE



Source 3.46

Source: Oxford University Press

Check your learning 3.12

Remember and understand

1 What are some of the causes of tsunamis?

2 In 2004, which countries were worst hit by the Indian Ocean earthquake and tsunami?

3 Describe how a tsunami wave changes as it approaches the coast. How do these changes make it more dangerous?

Apply and analyse

4 Study the map (Source 3.46). Describe the distribution of the most tsunami-prone regions of the world.

5 Describe the relationship between plate boundaries and the level of tsunami threat as shown on the map. Give the names of specific places and plates in your answer.

6 Hawaii lies thousands of kilometres from a plate boundary and yet it is one of the world's most tsunami-prone places. Explain why this is the case.

Evaluate and create

7 Sketch the outline of the Banda Aceh coast as shown in the June 2004 satellite image (Source 3.45 (top)). On your sketch label five changes caused by the 2004 tsunami.

8 While the 2004 tsunami caused immediate damage to Banda Aceh, some of its effects will be felt for years. In a small group, discuss how tsunamis affect people and places, and classify the effects as either short term or long term.

2011 Japanese earthquake and tsunami



The world's largest **tectonic plate**, the Pacific Plate, is moving slowly westwards towards Japan at the rate of about 80 millimetres a year (see Source 3.46). This movement causes many earthquakes and makes Japan the tsunami capital of the world. Because of the danger, many Japanese towns and cities are protected from tsunamis by high sea walls. There are also many tsunami evacuation centres built on higher ground across Japan. Japanese people, aware of the threat, are educated about ways to prepare for a tsunami event.

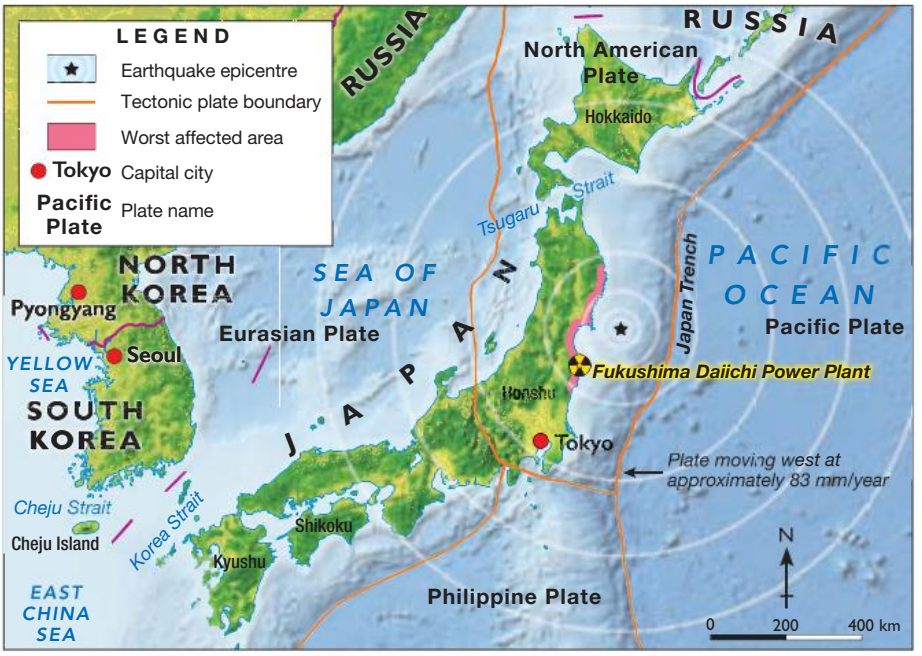
On 11 March 2011, all these preparations were put to the test when one of the largest earthquakes ever recorded sent massive tsunami waves racing towards Japan and eastward across the Pacific Ocean. Within an hour, tsunami waves up to 7 metres high reached Japan's east coast and caused immediate devastation.

The waves in some places pushed several kilometres inland. The water cascaded over the tsunami walls and washed away buildings, cars, roads and people. The damage was worst in areas close to the epicentre of the earthquake; in these areas entire towns were destroyed or entirely washed away. The movement of the tsunami waves was strongly influenced by the shape of the land, as the water tended to be funnelled into estuaries and bays. In one location, researchers found fishing equipment that had been carried 30 metres up a cliff face, making these waves among the highest ever recorded in Japan.

In some places, the earthquake caused land to sink (subside) and this allowed the waves to travel even further inland. Almost 300 000 buildings were completely destroyed and more than 1 million were damaged. Four large shipping ports were destroyed and a further 300 fishing ports were damaged. Damage to power stations and electricity lines left more than 4 million homes without electricity. An estimated 25 million tonnes of debris was created in the earthquake and tsunami, 5 million tonnes of which was washed into the Pacific Ocean. Items such as boats and soccer balls began washing onto the west coast of North America about a year after the disaster.

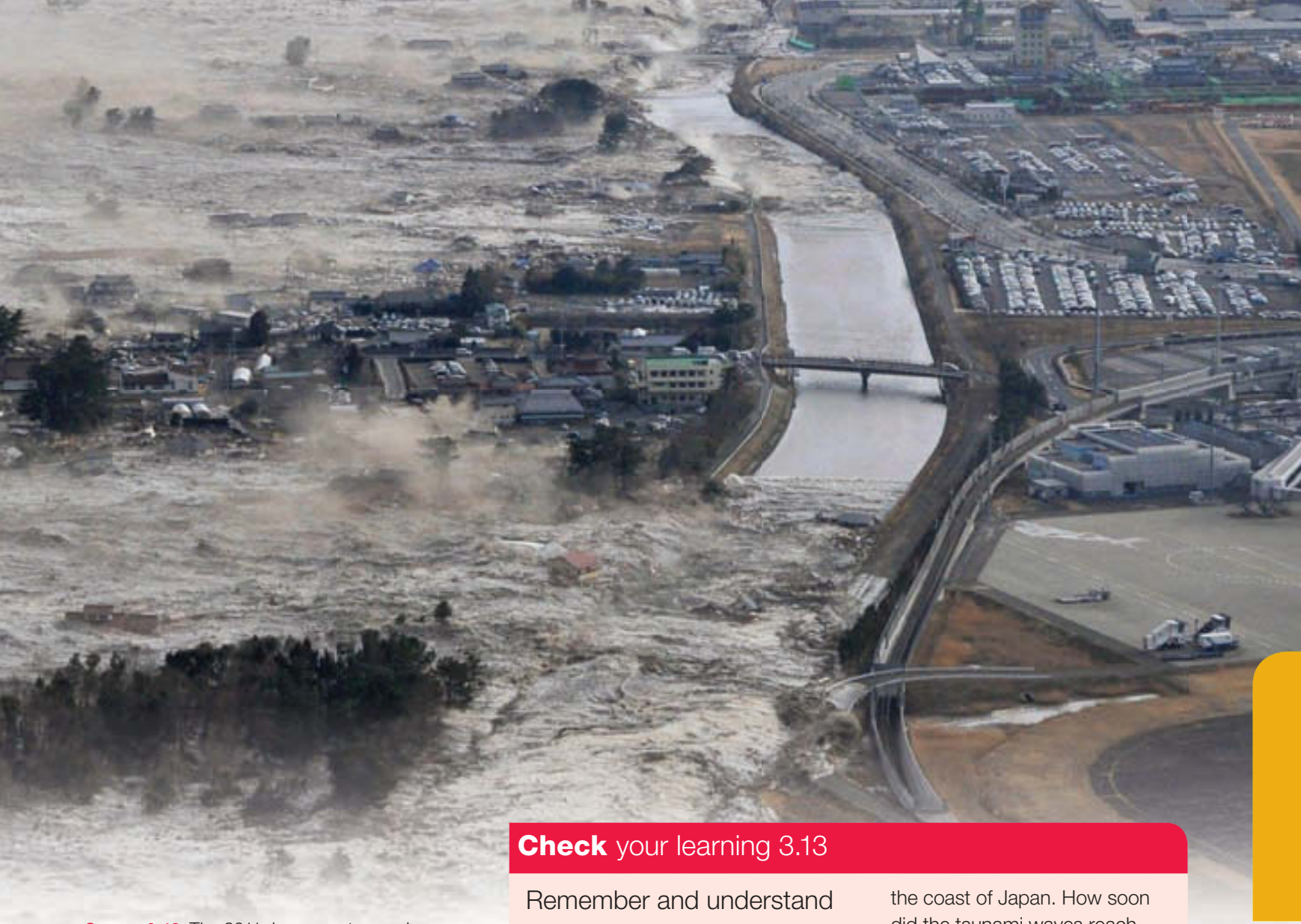
Eleven nuclear reactors that supplied electricity in Japan were immediately shut down after the initial earthquake, but the safety systems of several of these plants were destroyed in the tsunami that followed.

JAPAN: 2011 EARTHQUAKE AND TSUNAMI



Source 3.47

Source: Oxford University Press



Source 3.48 The 2011 Japanese tsunami destroyed everything in its path as it moved inland (from left to right)

This caused three of the nuclear reactors at the Fukushima Daiichi Power Plant to overheat and go into meltdown, releasing high levels of radiation into the atmosphere. In response to the disaster, all people living within 20 kilometres of the damaged power plant were ordered to evacuate their homes.

The final death toll may never be known but authorities estimate that nearly 16000 people were killed by the earthquake and tsunami and more than 6000 were seriously injured. More than 12 months after the disaster, more than 3000 people were still listed as missing.

Check your learning 3.13

Remember and understand

1 What event triggered the Japanese tsunami in March 2011?

2 What were some of the effects of the tsunami on people within an hour of the waves striking the coast? What were some of the effects that would still be felt a year later?

Apply and analyse

3 Examine Source 3.47. Describe the location of Japan relative to tectonic plate boundaries. How does this location make the country the 'tsunami capital of the world'?

4 The centre of the earthquake was about 70 kilometres from the coast of Japan. How soon did the tsunami waves reach Japan's east coast? How fast were they travelling? At this speed, how long would they take to reach California, 7800 kilometres away?

Evaluate and create

5 In the photograph (Source 3.48), the first tsunami wave can be seen as it moves from left to right. Describe what you think will happen in this place in the 15 minutes after this photograph was taken.

6 Japanese children are taught what to do if a tsunami wave is approaching. What do you think they are told to do?

The Twelve Apostles

Victoria's south-western coastline is under constant attack from the water. Large, destructive waves from the Southern Ocean are eroding the soft limestone. Softer rocks are being eroded more quickly, while harder rocks are withstanding the attack a little longer. These harder rocks remain as stacks, arches and headlands, producing one of the world's most spectacular coasts. More than 1 million visitors a year are drawn to the Port Campbell coast, many of whom are secondary-school students who come to see and study coastal erosion in action.

skill**drill**

Creating a field sketch

Field sketching is an important skill for all geographers. Field sketching is used to show the different geographic features of a landscape in a simple visual form. Being able to sketch the features of an environment is useful as it can provide the geographer with a visual record of their observations while in the field. Outlines, shading and annotations and labels are all used by the geographer to capture all relevant details of the environment being observed in their sketch.

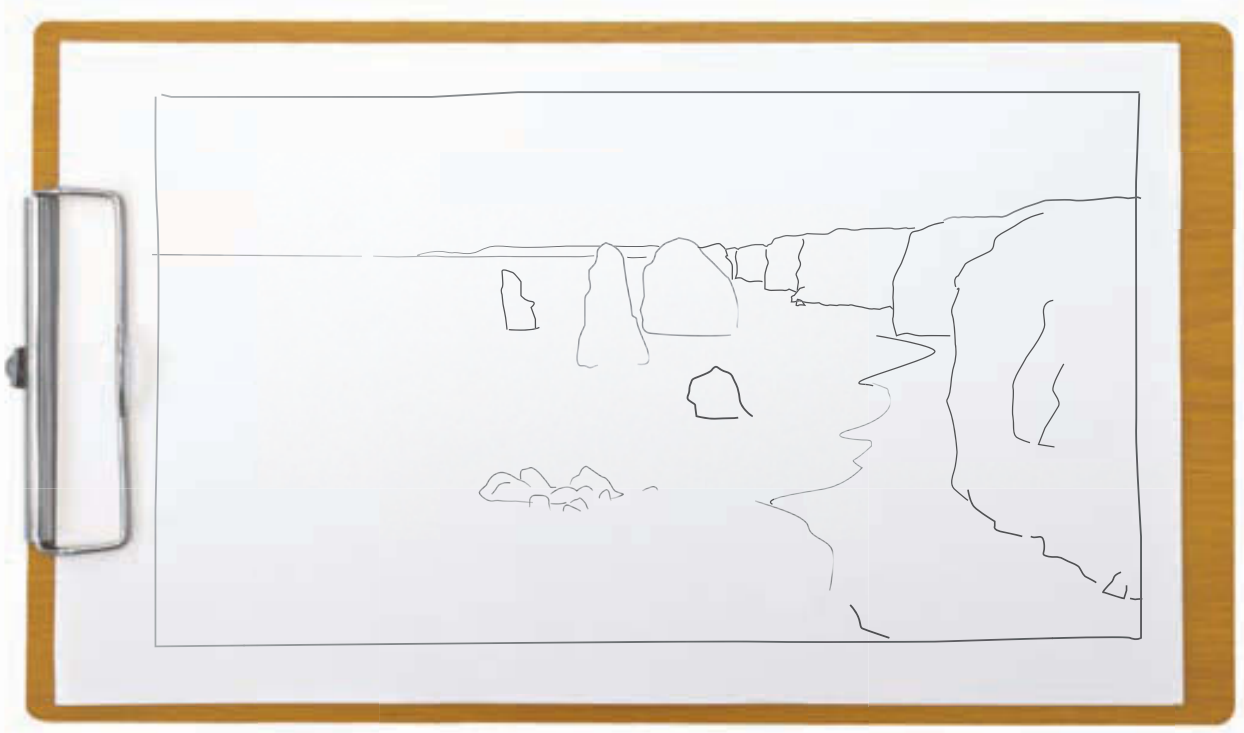
For example, imagine that you are standing on the viewing platform looking at the Twelve Apostles while on a geography field trip. You have been asked to complete a field sketch with a focus on the ways in which this coast is changing. Sources 3.50 to 3.52 demonstrate how to build up a field sketch. Here are the steps to take when completing a field sketch.



Source 3.49 The Twelve Apostles seen from the visitor's viewing platform

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

Step 2 With a 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.



Source 3.50 Stage 1 in completing a field sketch of the Twelve Apostles

Step 3 Keeping in mind the features that you want to focus on, add detail to your sketch.

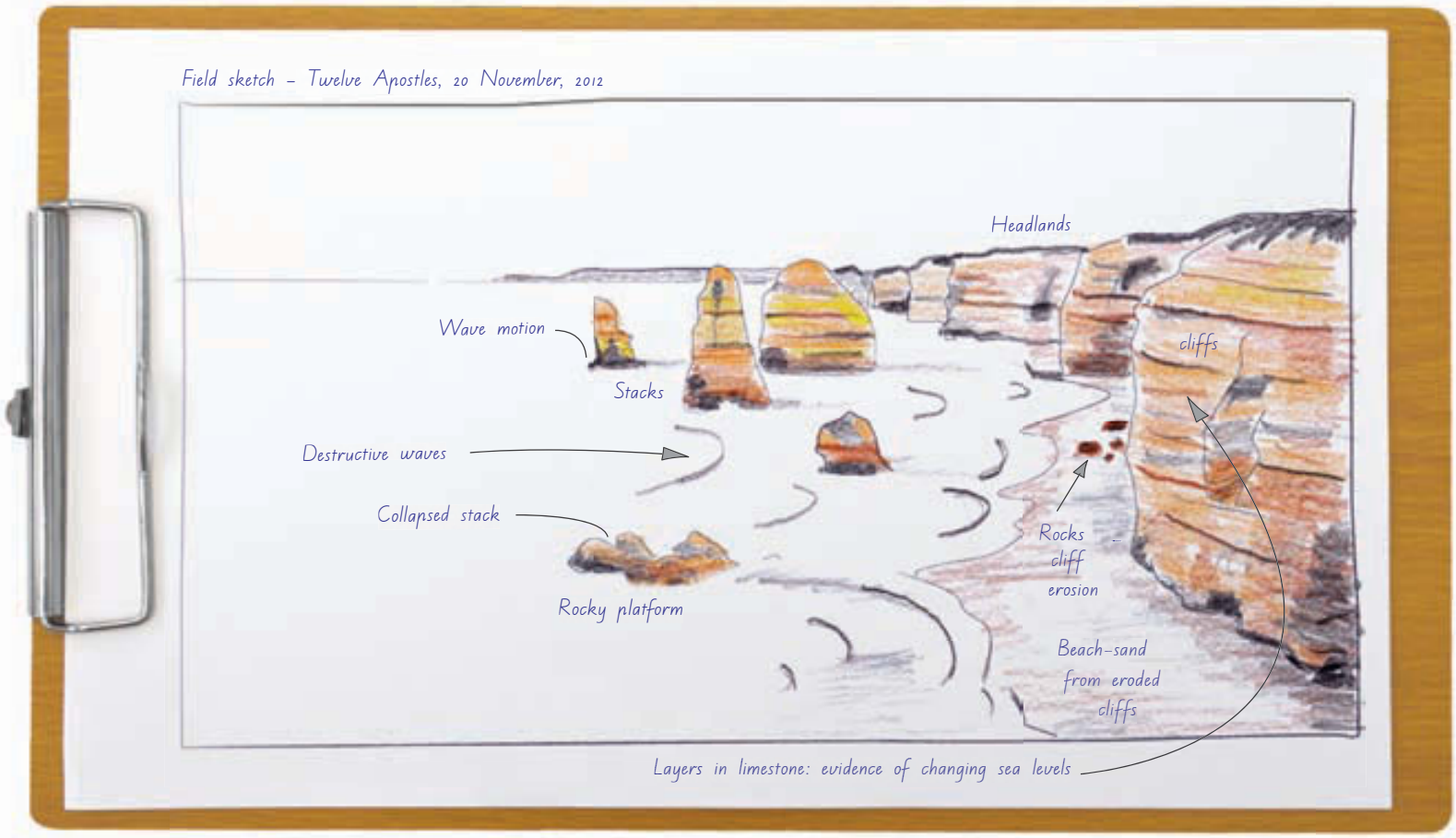
Step 4 Add shading. Shading helps to establish depth in your sketch and also helps to show the shape of objects.



Source 3.51 Stage 2 in completing a field sketch of the Twelve Apostles

Step 5 Add some colour if you wish. Don't try to copy every subtle colour of nature; just give a hint of the right colour. Label those parts of the scene that you consider most important.

Step 6 Label your sketch with the location and date.



Source 3.52 Stage 3 in completing a field sketch of the Twelve Apostles

Apply the skill

1 Complete a field sketch of Bondi Beach using Source 3.41. On your sketch label the following features:
- rocks
- beach
- swimmers
- rip currents.

Use arrows to show the movement of water towards and away from the beach.

Extend your understanding

1 What evidence is there in the photograph that this coast is changing over time? Give some reasons for your answer.
2 What natural forces are bringing about these changes?
3 What hazards exist in this place for visitors?
4 How could these hazards be minimised?
5 If you were visiting a depositional coast on a field trip what could you sketch to show how the coast is changing?



Changing nations

unit 2

Life in different cities



Australia's original coastal settlements were established near sources of fresh water and deep harbours. Over time these settlements grew into cities, and Australia is now one of the most urbanised countries in the world, with nine out of 10 Australians living in an urban area. Around the world, cities keep getting bigger. Growing cities put pressure on land resources and require investment in **infrastructure** such as housing, roads, schools and other services. **Megacities**, many of which are located in Asia, can become swamped with so many people that even the basic supply of housing, clean water and sanitation is difficult.

4.1

Why do people live in cities?

1. Why might the English settlers who arrived in Australia in 1788 have chosen Sydney (Source 4.1) to begin their new colony?
2. Some of the world's cities are growing rapidly. What types of things attract people to cities?
3. What are some of the disadvantages of living in cities?

4.2

Where do people in different countries live?

1. In which areas of Australia do most people live today?
2. Why do you think Australians live in these areas and not in other parts of the continent?
3. Where do you think most people live in the United States of America?



Source 4.1 A view of Sydney's CBD taken from the Sydney Harbour Bridge. The Rocks (left foreground) is a historic part of Sydney's city centre and a popular tourist attraction today.

4.3

How can we plan for Australia's urban future?

1 Look carefully at Source 4.1. How can you tell that Sydney has grown into a large city over a long period of time?

2 What problems do you think city planners might have to deal with?

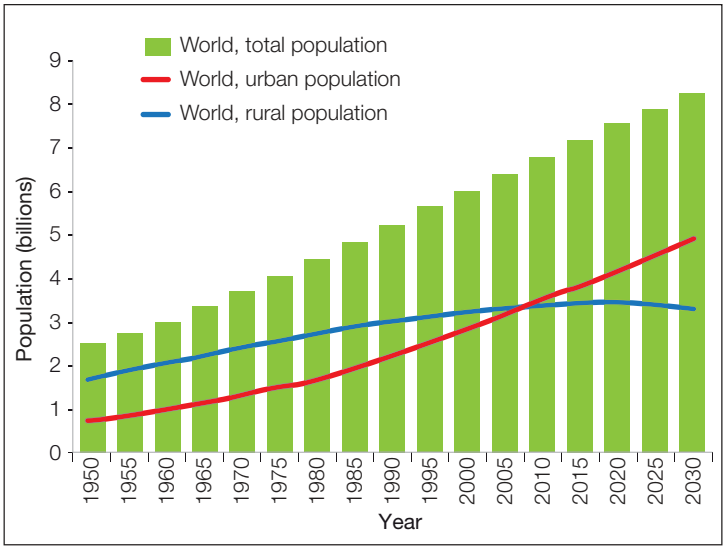
4.1 Why do people live in cities?

The urban explosion

On an ordinary day in 2007, something extraordinary happened. For the first time in human history, the number of people living in urban areas (cities) was greater than the number of people living in rural areas. Since that day, the world's cities have continued to grow at a faster rate than rural areas. **Urbanisation** – the increase in the proportion of people living in urban areas – is one of the most significant changes in human population trends ever recorded.

For thousands of years of human history, cities have been the exception rather than the rule. In fact, billions of people have lived and died without ever seeing – let alone living in – a large city.

This all changed about 200 years ago with the arrival of the industrial age. New, improved farming methods and farm machinery meant that fewer people were needed to produce larger amounts of food. In the cities, new inventions, such as the steam engine and the knitting mill, created new jobs for many people. Less work in rural areas caused people to flood into cities looking for work and new opportunities. This trend quickly changed the economies of many countries, and cities became centres of industry and commerce.



Source 4.2 The urban and rural population of the world, 1950–2030



Source 4.3 1950 – New York was the world's largest city, with a population of just over 12 million people.



Source 4.4 1990 – Tokyo's population reached 25 million, making it easily the world's largest city.



Source 4.5 2030 – Based on current trends, New Delhi is expected to be the world's largest city by 2030 with a population of over 40 million.

Cities around the world have grown rapidly in the last 70 years. By around 1950, the world's population was 2.5 billion and there were seven cities with more than 5 million inhabitants. The largest of these cities was New York, with a population of around 12 million. Today, there are more than 7 billion people on Earth and just over half of them live in cities. While many of these cities have populations under 1 million, there has been an explosion in the number and size of the world's very large cities. These cities, with a population greater than 10 million, have become known as **megacities**. As of 2012, there are 27 megacities around the world. Eleven of these have populations greater than 20 million. Geographers refer to the rapid growth of the world's cities in the last 20 years as an urban explosion.

skilldrill

Generating questions for a geographical inquiry

Geographers look carefully at the world around them and ask questions about what they see. The questions they ask often come from natural curiosity and may start a major investigation. When developing questions of your own for a geographical inquiry, follow these steps:

Step 1 Think about a topic or problem you would like to investigate. Conduct some research online or in the field in order to identify an exciting area to explore.

Step 2 Think about the types of patterns or exceptions that are linked to the topic you are investigating. Write a series of open-ended questions that help you to explore them. Open-ended questions can have more than one correct answer and cannot simply be answered with 'yes' or 'no', such as 'Why are cities sometimes abandoned?'

For example, when investigating the image of the ancient ruins of the city of Uruk in Iraq (Source 4.6), a geographer would ask why this city was built in such a barren, dry place. This would then lead them onto other questions such as:

- Was this place wetter in the past?
- How did the people who lived here grow their food?
- Where did their water come from?

Apply the skill

1 Look carefully at Source 4.6 showing the ruins of part of one of the world's oldest cities.
   a What looks out of place in this image?
   b Generate an open-ended question that may help you investigate why this feature appears in this place.
   c Generate another open-ended question about the people who once lived in this place.

2 Can you think of some more questions to ask about the city of Uruk, based on Source 4.6?



Source 4.6 Excavations in Iraq have revealed the ruins of the ancient city of Uruk.

Check your learning 4.1

Remember and understand

1 Do most people in the world today live in cities or in the countryside?
2 What is a megacity? Name three megacities.
3 Why has most of the world's population growth occurred in cities rather than in rural areas?
4 Study Source 4.2. Describe the growth of the world's population since 1950. Give two reasons for the trends you have described.

Apply and analyse

5 Why do you think many people in poorer countries move from rural areas to urban areas?

Evaluate and create

6 Compare the photos of New York, Tokyo and New Delhi (Sources 4.3, 4.4 and 4.5). What are some features common to all three cities? In what ways have large cities changed between 1950 and today?

How cities are organised

For many people, cities can appear to be confusing and disorganised places – not for geographers, though. Geographers identify patterns in the way areas and features of cities are organised. These patterns bring a sense of order to these complex places. Like a jigsaw puzzle, cities are made up of individual pieces that, together, make up a distinctive **landscape** (see Source 4.7).



Central business district (CBD)

The central business district (CBD) is generally the oldest and most accessible part of any city. Because lots of people and businesses compete to have offices there, land prices are higher than other parts of cities. Because of this, developers build tall buildings to maximise the available land and provide office and living space for more people.



Residential areas

The largest area of any city is used for housing and to provide facilities, such as hospitals and schools, for the people who live there. Australian cities are renowned for their sprawling residential areas.

MELBOURNE: LAND USE, 2006



Source 4.7

Source: Oxford University Press



Commercial areas

Commercial areas are usually located on major roads. Large shopping centres are now a feature of many suburbs in Australian cities. With 530 shops, Chadstone Shopping Centre is the largest such centre in Australia.



Industrial areas

Factories, mills and warehouses are important parts of most cities. Industrial areas are often located near important transport links (such as ports, freeways and rail lines) but as far away as possible from residential areas.



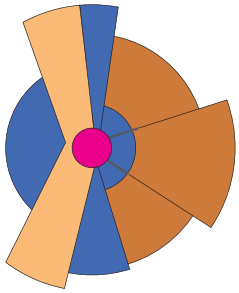
Parkland and nature areas

Parkland and nature areas are important as they offer people living in cities sporting and recreation opportunities. They are also essential for ensuring that native plant and animal populations remain healthy.

Models of city land use

Although every city is unique, they all share certain characteristics. For example, tall buildings tend to be located near the centre of every city, because land there is expensive. Land is usually cheaper near the edges of every city, so that is where people tend to live. By mapping the main land uses in a range of cities it is possible to identify similar patterns.

Some geographers have tried to explain these patterns by developing models that illustrate these patterns. One of these is the sector model. It shows how a city is divided into sectors (similar to slices of a cake) that are used for different purposes.



Source 4.8 The sector model is one of many used to understand and explain land use in cities.

Check your learning 4.2

Remember and understand

1 Why are there often tall buildings near the city centre?

2 Look closely at the oblique aerial photograph of Chadstone Shopping Centre (Source 4.7). Which features suggest that most customers arrive by car?

Apply and analyse

3 Look carefully at Sources 4.7 and 4.8.
   a In what ways does land use in Melbourne resemble the pattern of land use shown in the sector model?
   b In what ways is it different?

4 Study Source 4.7. How has Port Phillip Bay influenced the way land is used in Melbourne?

5 Why are industrial areas usually located near major transport links?

Evaluate and create

6 Work in small groups to copy and complete the following table. In the left-hand column identify land use patterns in Source 4.7. In the right-hand column record possible reasons for this pattern. An example has been done for you. Try to identify two more.

Land use pattern in Melbourne	Possible reasons for this land use pattern
Tall buildings found in the CBD of the city	This is the most accessible part of the city; land is expensive there.

7 Why are models used to describe and explain things such as land use?

The advantages of cities

Australia's high level of urbanisation can have advantages not only to the people who live in cities, but also to the nation as a whole. These advantages can roughly be divided into two categories – economic and social.

Economic advantages

Among the economic advantages offered by cities are access to work, industry, trade and, of course, income. Because cities are home to so many people, they are an obvious location for businesses and large companies to base their offices. Cities also provide companies with huge numbers of customers in a relatively small space, making it easier for them to sell their goods and services there. In addition, cities offer the best access to transport links, such as major highways, ports, railway lines and airports. These services (known as **infrastructure**) are vital for factories and businesses to manufacture and trade efficiently.

Probably the most obvious economic advantage offered by cities is the wide range of jobs available to those who live there. These range from jobs that involve little training and education through to highly skilled jobs requiring years of university study and training. Three-quarters of all jobs in Australia are based in our major cities and the income generated in those cities accounts for around 80 per cent of the total economy.



Source 4.10 Cities, such as Perth (shown here), provide a range of travel and transport options for the people who live there.



Source 4.11 Cities, such as Sydney (shown here), offer a wide range of world-class hospitals and health care options for the residents there.



Source 4.9 Cities, such as Brisbane (shown here), are obvious locations for both small and large companies to base their offices because they offer access to a large number of potential customers.

Throughout history, cities have been the birthplace of new ideas and inventions that have changed the world. Some of these (such as skyscrapers, subways, elevators and sewerage systems) were invented in response to the challenges of city living. Other great inventions (including telephones, computers, cameras, the iPod and the Internet) all began in cities. Many of history's greatest thinkers, including William Shakespeare and Albert Einstein, lived in cities. Cities continue to be places of innovation and change as they allow individuals and organisations to share ideas and resources effectively.

Social advantages

There are a range of social advantages of city life, including access to schools, hospitals and other services, and activities such as entertainment, sporting and cultural events.

Cities generally offer more social advantages than rural areas because there is a higher concentration of people in a smaller area. It is usually easier and cheaper to supply services to people who live closer together than to those who live far apart. As a result, city-dwellers have access to an enormous range of goods and services. Cities provide their residents with essential services, including water, electricity, supermarkets, public transport, health care, communication services (such as Internet access and Wi-Fi), schools and universities. In addition to these services, cities offer access to a range of non-essential products and services, including specialty boutiques, movie theatres, art galleries, casinos, aquariums, and major sporting and entertainment events.

One of the main ways in which the populations of Australian cities grow is through the arrival of people from overseas. For many newly arrived immigrants, the first experience of Australia will be a new home in a large city. Cities are obvious choices for new arrivals because they offer the best opportunities for employment, good access to government and support services (such as translators and community workers), and the best possibility of making links with people from their own cultural and language backgrounds. Immigration results in cultural diversity, which can often be seen in the range of shops, social and cultural organisations, restaurants and religious buildings (such as churches, mosques and temples). Over time, these new arrivals contribute to Australian cities and customs in many subtle ways. These changes help to make our cities dynamic and vibrant places.



Source 4.12 Constable Amitoj Singh, a member of the Sikh religion, is an example of how cultural and religious diversity can be seen across Australian cities. He is the first member of the Victoria Police to wear an official police-issue turban.

Check your learning 4.3

Remember and understand

1 Why do city-dwellers usually have access to a wide range of goods and services?
2 Why are cities often places of innovation and invention?

Apply and analyse

3 People in cities usually live longer than people in rural areas, particularly in poorer countries. Why do you think this is the case?
4 Examine Sources 4.9 to 4.11. What advantages of city living are shown in each of these images?
5 Why do you think young people in country towns often move to a city after they finish their high school education?

Evaluate and create

6 List a number of advantages of life in cities and then rank them from most to least important. How did you decide on your ranking? Did any of your classmates have a list similar to yours? Why/why not?
7 Australian inventions include the black box flight recorder, Google Maps, spray-on skin, the bionic ear, Wi-Fi and plastic bank notes. Select one of these (or another Australian invention) and research its inventor and the place where the invention was developed.

The disadvantages of cities

Although there are many advantages to city life, there are also a number of disadvantages. Cities house a large number of people in a relatively small space, and this can create a number of unwanted problems and disadvantages. These disadvantages can roughly be divided into two categories – environmental and social.

Environmental disadvantages

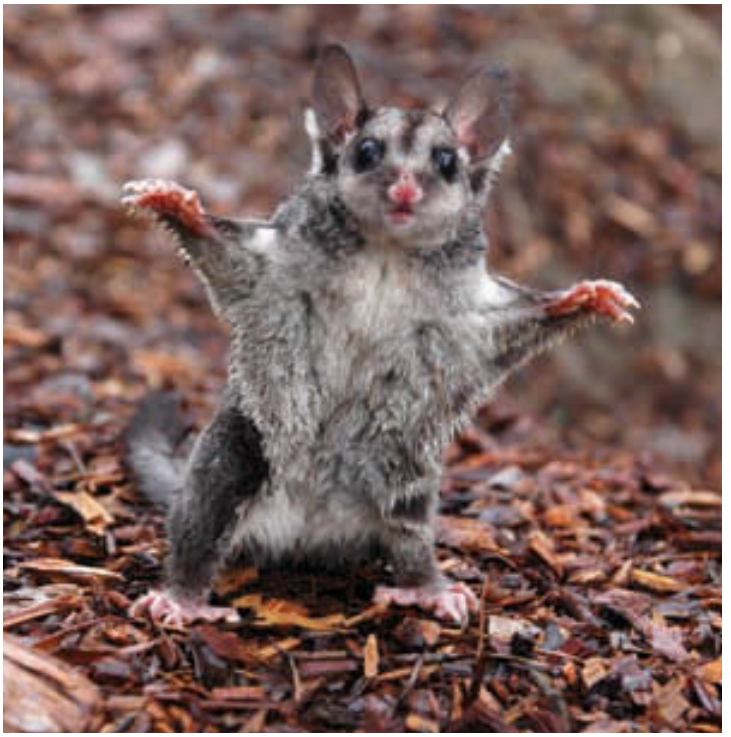
Cities change the natural environment in many ways. The people, factories, cars and industries based in cities often pollute the air, water and soil. The goods and services needed by the residents of cities include food, water, electricity, petrol and gas, and these often have to be transported long distances, creating even more pollution. As Australian cities grow in size they place an enormous amount of stress on the natural environment around them.

The locations we have chosen for our cities are often home to native plants and animals. As our cities and suburbs grow, forests and grasslands are cleared, lakes and wetlands are drained, and rivers are diverted or dammed. Soft earth is replaced with hard surfaces, such as concrete and roads. This often has disastrous consequences for native animal and bird populations. A recent study found that more than half of Australia's rare or threatened plants, mammals, birds, reptiles and fish live in or near our cities.

Social disadvantages

The social disadvantages faced by city-dwellers can vary widely from suburb to suburb, so one person's experience may be very different from another's. Overcrowding and rising house prices might be a disadvantage for those living in the inner city, while lack of schools and hospitals might be a disadvantage for those living in new housing estates on the edge of the city.

As the populations of Australian cities grow, land on the edges of cities is often converted from farmland and green spaces into residential areas. This urban sprawl comes at a cost to both the environment and to people.



Source 4.13 The squirrel glider, native to eastern Australia, is endangered by the loss of its habitat due to the sprawling city suburbs along the east coast.



Source 4.14 New suburbs on the city fringes of Perth expanding into areas of native bushland



Source 4.15 Traffic congestion is now a common problem in all major cities in Australia.

Regardless of where the residents of a city live, many will experience some form of disadvantage that impacts on their quality of life. Most of these disadvantages are linked to competition for services and resources. Because cities are home to large numbers of people concentrated in relatively small areas, these services and resources can be stretched beyond their limits. Some of the problems most commonly experienced by people living in cities include:

- traffic congestion – the result of too many people trying to use the roads at the same time
- rises in the cost of housing, food and utilities – the result of greater numbers of people competing for resources than can be supplied
- waiting times for schools, public transport and medical care – the result of more people trying to access these services than they were originally designed to accommodate
- rates of crime – the result of a complex combination of factors including unemployment, cultural and economic background, age and gender.

Check your learning 4.4

Remember and understand

1 Why is traffic congestion a common problem in many Australian cities?

2 How are squirrel gliders (Source 4.13) being impacted by urban sprawl in eastern Australia?

Apply and analyse

3 Describe the changes taking place in Source 4.14. How will these changes impact on the people who already live in this place? How will they impact on the natural environment?

Evaluate and create

4 With a partner, choose a large city in a developing country, such as Lagos (in Nigeria) or Mumbai (in India), and conduct a brief Internet search into the disadvantages of city life for people living there.

- a How might the problems experienced by people living in your chosen city be different from those experienced by city-dwellers in developed countries such as Australia and the United States?
- b Make a list of the disadvantages experienced by people living in your chosen city and another list of disadvantages experienced by people living in a large city close to you.
- c Which problems are the same and which are different?

5 What strategies do you think could be put into place to protect endangered species whose natural habitat is near a city, such as the squirrel glider in Source 4.13?

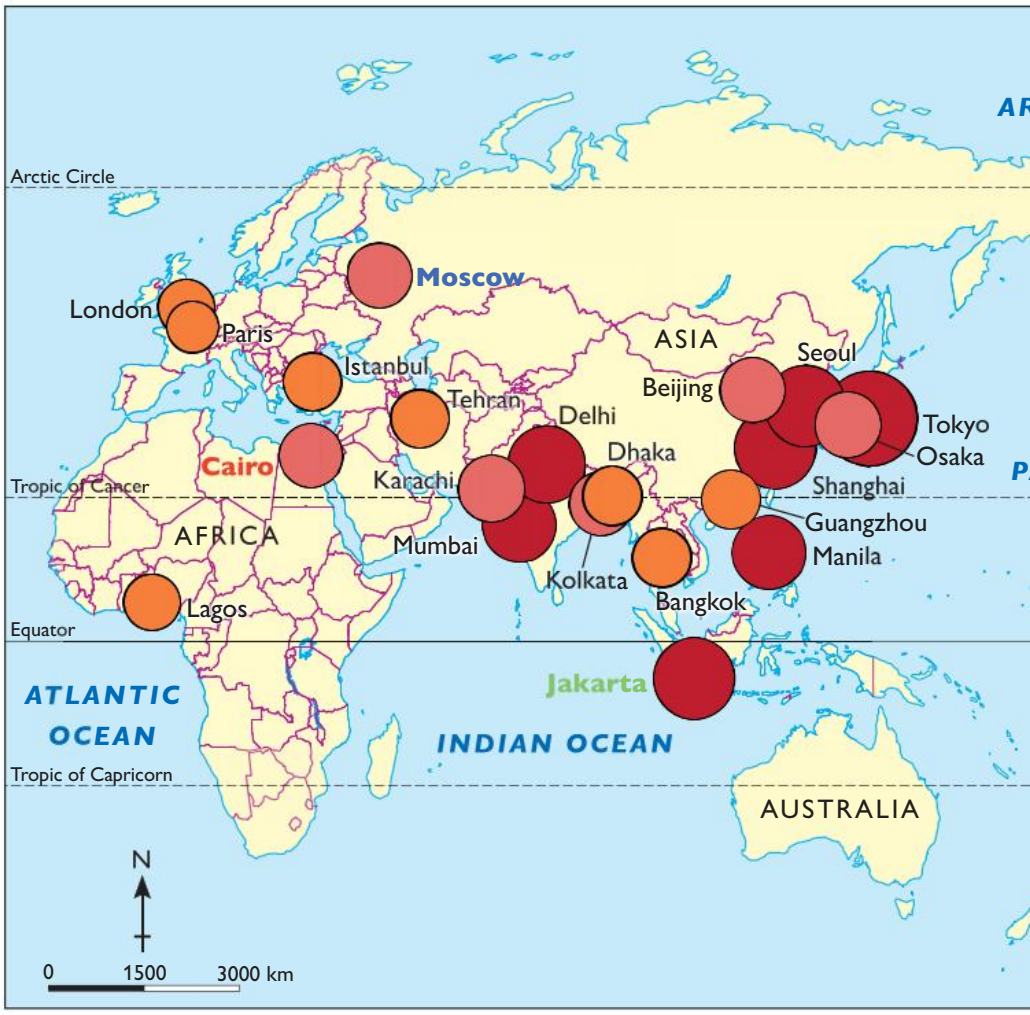
The rise of the megacity

Today, more people around the world are living in cities than ever before. A century ago, only about 15 in every 100 people lived in cities. Today, that number is more than 50 in every 100 people. This increase has resulted in the creation and growth of many cities worldwide, and an explosion in the number of very large cities, known as **megacities**. Megacities are urban areas with populations of more than 10 million people.

In addition to the increase in the number of megacities over the last century, there has been a change in where these cities are found. No longer do the megacities of Europe and North America dominate – instead, the megacities of Asia, South America and Africa are becoming the world's largest.

Four of the world's megacities are explored briefly below. Although they are located in different parts of the world and have many unique characteristics, they also face many of the same challenges and have more in common than you might first think.

WORLD: MEGACITIES



Source 4.16



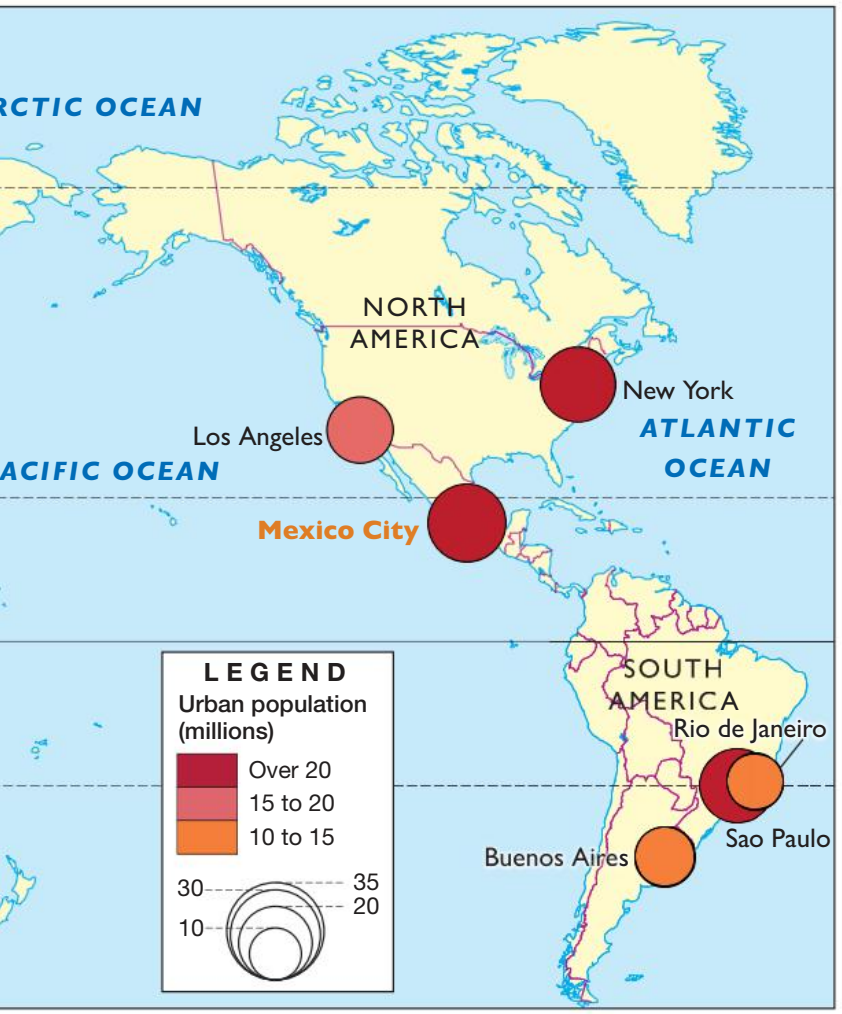
Cairo: Africa's first megacity

Cairo is the largest city in Africa and the Middle East. Its location on the Nile River has provided the city's residents with fresh water, fertile soil to grow food and a method of transportation for thousands of years. Modern Cairo is a bustling city of more than 15 million people. This rapid rate of expansion has led to a number of social and environmental challenges. For example, Cairo has some of the world's worst traffic congestion and air pollution.



Moscow: the biggest city in the biggest country

Russia is the world's largest country and its capital, Moscow, one of the world's megacities. Moscow was established on the banks of the Moscow River almost 1000 years ago. Today, Moscow often tops the list of the world's most expensive cities because of the high cost of housing there. Traffic congestion and air pollution from cars are significant problems in Moscow, as they are in many large cities.



Source: Oxford University Press

Check your learning 4.5

Remember and understand

1. How many megacities are there in the world? How many of these megacities could you have named before reading the information given here?
2. Which continent is home to the most megacities?
3. Do you think the number of megacities will increase or decrease over the next 20 years? Give some possible reasons for your answer.
4. What are some of the problems faced by people living in megacities? Which of these problems will become worse as each of these cities grows in size?

Apply and analyse

5. Examine the location and distribution of the world's megacities. In what ways are many of their locations similar? What cities do not share all of these similar location features?
6. The images of these megacities show that tall buildings are common in many city centres. Why do you think this is the case? Why are there usually very few tall buildings on the edges of cities?

Evaluate and create

7. Select one of the megacities shown on the map (Source 4.16) that is not described in detail. Conduct some Internet research on this city. Find out about its location, history and any issues faced by the people who live there. Write a short paragraph about this city, similar to those shown here.

Jakarta: Australia's neighbour goes mega



Current estimates put the population of Jakarta at about 25.3 million people. Up to half the population lives in slums, called kampongs, where temporary homes are built on land considered unsuitable for housing. One of the city's biggest problems is the fresh water supply. Most residents use bores (deep wells) to obtain their fresh water. In North Jakarta so much water has been drawn from the ground that the land has begun to subside (sink) in places, leading to a greater risk of flooding.

Mexico City: the biggest megacity in the Americas



Mexico City's location is unusual when compared to most other megacities around the world. It is situated on a dry lake bed high in the mountains, rather than close to the coast and rivers. Like Cairo, Mexico City suffers from severe air pollution. This is made worse by the surrounding mountains, which help to trap polluted air. There is also great pressure on the groundwater resources in the region. In some cases, bores (deep wells) have caused land to collapse under buildings and roads.

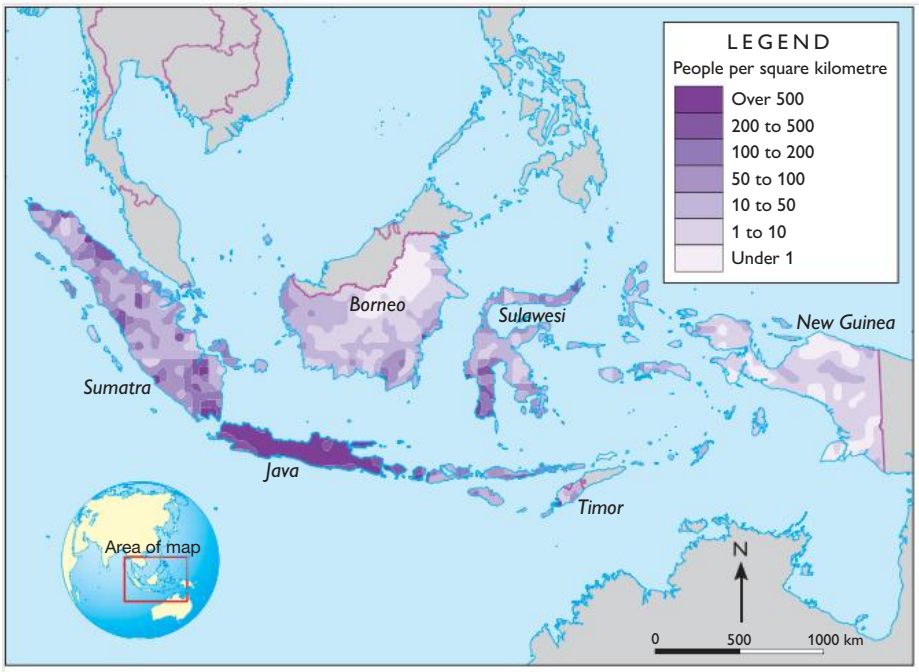
Urbanisation in Indonesia

Asia is home to some of the world's largest and fastest-growing cities. Of the 50 cities around the world with a population of over 5 million, half of them are located in Asia. Many of these cities are growing so quickly that they are unable to meet the demands of new residents, large numbers of whom are escaping rural poverty and looking for opportunities to improve their lives.

Urban growth in Indonesia

In 1950, Jakarta was the only Indonesian city with a population in excess of one million and only 15 per cent of Indonesia's population lived in urban areas. By 2010, a total of 10 cities had grown to have one million people.

INDONESIA: POPULATION DENSITY



Source 4.17 Source: Oxford University Press

Between 2000 and 2010 Indonesia's population increased from 204 to 238 million. The proportion of the population living in urban centres also increased significantly during this period, from 42 per cent to 50 per cent. About 68 per cent of Indonesia's urban population live in cities on the island of Java which has 20 cities with a population of 100 000 plus and seven cities with populations of over one million.

The migration of people from rural areas to large cities is a major factor in Indonesia's urban growth. Often, people living in rural areas lack employment and education opportunities so the younger people move to cities for work, entertainment, education and health services. They leave behind an ageing rural workforce. Of the 140 million farmers in Indonesia, 80 per cent are aged 45 and above.

Jakarta: Indonesia's megacity

Jakarta, the capital city of Indonesia, is located on the island of Java. In late 2011, the population of the official metropolitan area of Jakarta was recorded at 10.1 million, qualifying it as a megacity. In reality, however, the population of greater Jakarta (that is, the suburbs surrounding the metropolitan area) brings the total population closer to 19 million. Jakarta is a very old city, having been settled as a trading settlement over 1500 years ago. Jakarta is located on the north-western coast of Java. A range of volcanoes and hilly slopes south of the city feed a series of rivers that have built up a fertile floodplain leading to the Java Sea. The combination of the flat, low-lying plain and the tropical climate means that flooding is a frequent problem for the residents of Jakarta.

Like many other cities across Asia, Jakarta is a place of contrasts. Slums sit alongside skyscrapers, modern homes and luxury hotels. Half of the population of Jakarta live in these slums. The homes there are often built from temporary materials on land considered unsuitable for regular housing. In the slums, running water, electricity and sanitation are difficult to obtain.

One of the biggest problems in Jakarta is the fresh water supply. The current piped system is largely ineffective, so most residents use **bores** to obtain their fresh



Source 4.19 Satellite images of Jakarta taken in 1976, 1989 and 2004. Urban areas appear as blue-green and vegetation appears as orange-red.

water. In North Jakarta so much water has been drawn from the ground that the land has begun to sink in places, leading to a greater risk of flooding. A limited sewerage system due to the lack of running water makes the threat of disease a constant concern.



Source 4.18 A slum located in the metroplitan area of Jakarta, Indonesia

Check your learning 4.6

Remember and understand

1 What percentage of Indonesians live in urban areas? How did this change between 2000 and 2010?

2 In Indonesia, why are young people moving from rural areas to the cities?

Apply and analyse

3 How does Source 4.18 show the contrasting living conditions in Indonesia?

4 What health issues do you think the children in Source 4.18 might face?

5 How have residents in Java helped solve their fresh water problem? What additional problem has this caused?

Evaluate and create

6 Trace an outline of the city boundary of Jakarta in 1976 shown in Source 4.19. Mark the coastline and shade in areas of vegetation. Mark in any rivers or lakes that you can see. Now add an overlay sheet showing the city boundary in 2004. Describe the spatial change over time as shown on your overlay map.

Sydney – our biggest city

In 1901, both Sydney and Melbourne were home to about half a million people. Within a few years, though, Sydney had outgrown Melbourne, and by the year 2000 Sydney was the only Australian city with a population over 4 million people. One in five Australians now live in Sydney and it continues to grow by over 35 000 people a year.

By studying the rate at which Sydney grows and by analysing the ways in which the population there is changing, geographers can learn a lot about the causes and effects of urbanisation in Australia.

skill**drill**

Interpreting choropleth maps

Sources 4.20, 4.21 and 4.23 are known as choropleth maps. These maps give a quick impression of spatial patterns by using dark and light shades of the same or similar colours. Darker shades usually show 'the most' and lighter shades show 'the least'. To interpret a choropleth map, follow these steps:

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

Step 2 Look carefully at the legend so that you understand what the various shades and colours represent.

Step 3 Look for large areas of similar shades and for other patterns (such as lighter colours near the edges of the city and darker colours near the centre of the city in Sources 4.20, 4.21 and 4.23).

Step 4 Look for any exceptions to the general pattern.

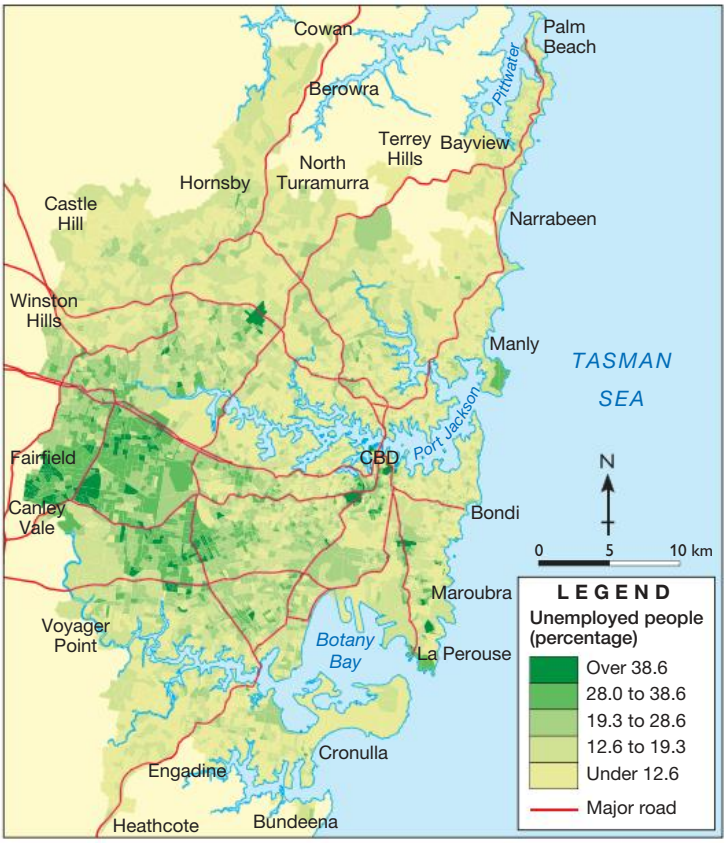
Apply the skill

1 Study Source 4.23. Why do you think the areas with the highest percentage public transport users make linear patterns (i.e. form lines)?

2 Study Source 4.20.
- a Use direction (north, south, east or west) to describe the area of Sydney where the highest percentage of unemployed people live.
- b What might be some of the advantages of living in this region for people who are unemployed?
- c What might be some of the disadvantages of living in this region for people who are unemployed?

3 Study Source 4.21.
- a Which regions have the lowest percentage of people born overseas?
- b Which regions have the highest percentage of people born overseas?
- c What special services might the government offer in areas with larger numbers of immigrants?
- d In what ways can ethnicity change an area?

SYDNEY: UNEMPLOYED PEOPLE, 2006



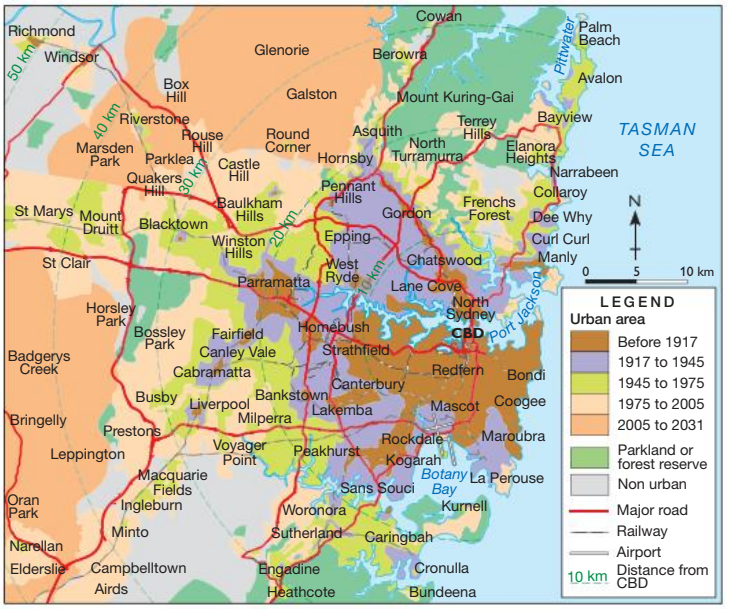
Source 4.20 Source: Oxford University Press

Extend your understanding

1 What resources do you think early settlers looked for when selecting a place to live in Australia?
   a How do you think this compared to the resources required by the Aboriginal people of Australia?

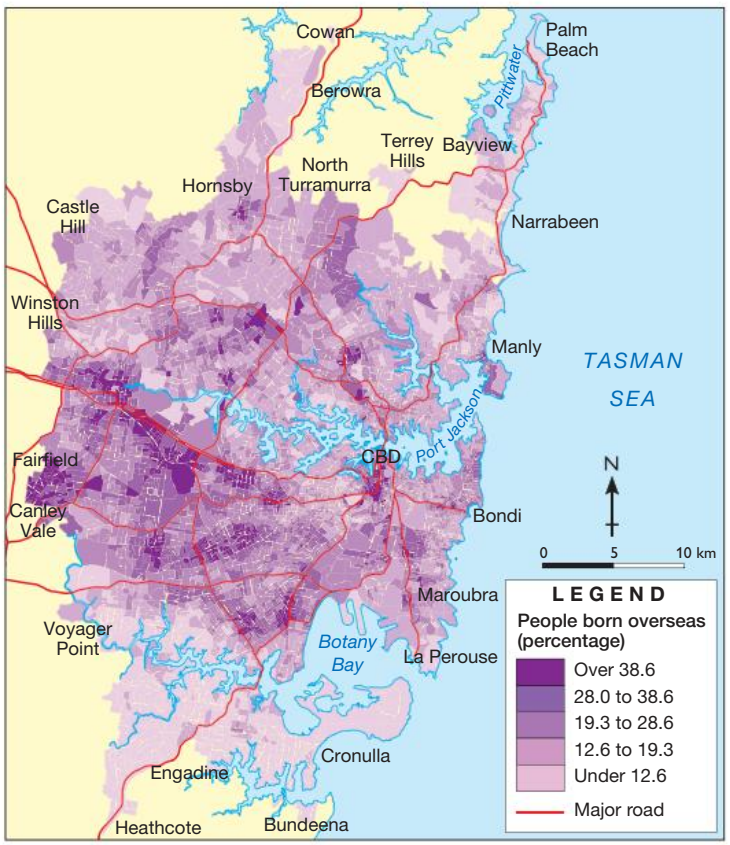
2 Study Source 4.22.
   a The city of Sydney was established on the southern shore of Port Jackson. How far south did Sydney grow by 1917?
   b In 1932 the Sydney Harbour Bridge was opened, linking the south to the north of Sydney over Port Jackson. How did this help the population to spread to Sydney's north shore?
   c Use direction and distance to explain the most recent pattern of growth in Sydney.

SYDNEY: URBAN GROWTH



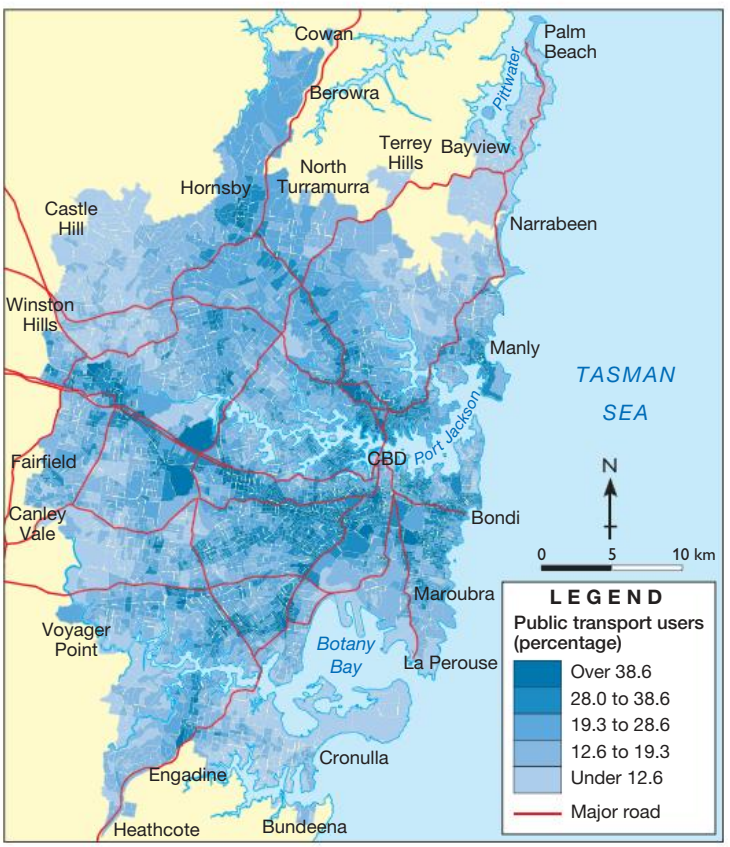
Source 4.22 Source: Oxford University Press

SYDNEY: PEOPLE BORN OVERSEAS, 2006



Source 4.21 Source: Oxford University Press

SYDNEY: PUBLIC TRANSPORT USERS, 2006



Source 4.23 Source: Oxford University Press

4.2 Where do people in different countries live?

Where Australians live

Australia's population is more unevenly spread than virtually any other country on Earth. Of the 23 million people who live in Australia, more than 12 million live in just five cities. All these cities are state capitals and all are located on the coast. Nearly 90 per cent of all Australians live in a town or city, and 85 per cent of us live within 50 kilometres of the coast.

Where do Australians live?

The best way to show the places where Australians live is to map the distribution of the population and study the **population density**. This not only shows the locations where people live but also the number of people who live in each square kilometre. Regions where there are lots of people per square kilometre are said to have a high population density. For example, Sydney's 10 most populated suburbs all have more than 10000 people living in each square kilometre. Regions where there are very few people per square kilometre are said to have a low population density.

Australian cities

Cities in Australia are located close to the natural and/or built features that humans need most. These features include fresh water and fertile soil as well as transport links, such as harbours, railways and roads.

Most of Australia's earliest towns were settled on bays, harbours and at river mouths on the coast. These towns were able to trade and communicate with each other. Rivers not only provided clean drinking water but also water for growing food, cleaning, manufacturing and transport. Many of these early towns have grown into our largest cities – Sydney, Melbourne, Brisbane, Adelaide and Perth.

As farming spread and important minerals such as gold were discovered, inland cities such as Bendigo, Bathurst, Castlemaine, Ararat, Kalgoorlie and Rockhampton began to develop. Industrial towns such as Newcastle grew near transport hubs where goods could be sent to markets in Australia and overseas.



Source 4.24 Australia has one of the lowest population densities of any country on Earth. Ninety-seven per cent of Western Australia has a population density of less than 0.1 people per square kilometre.

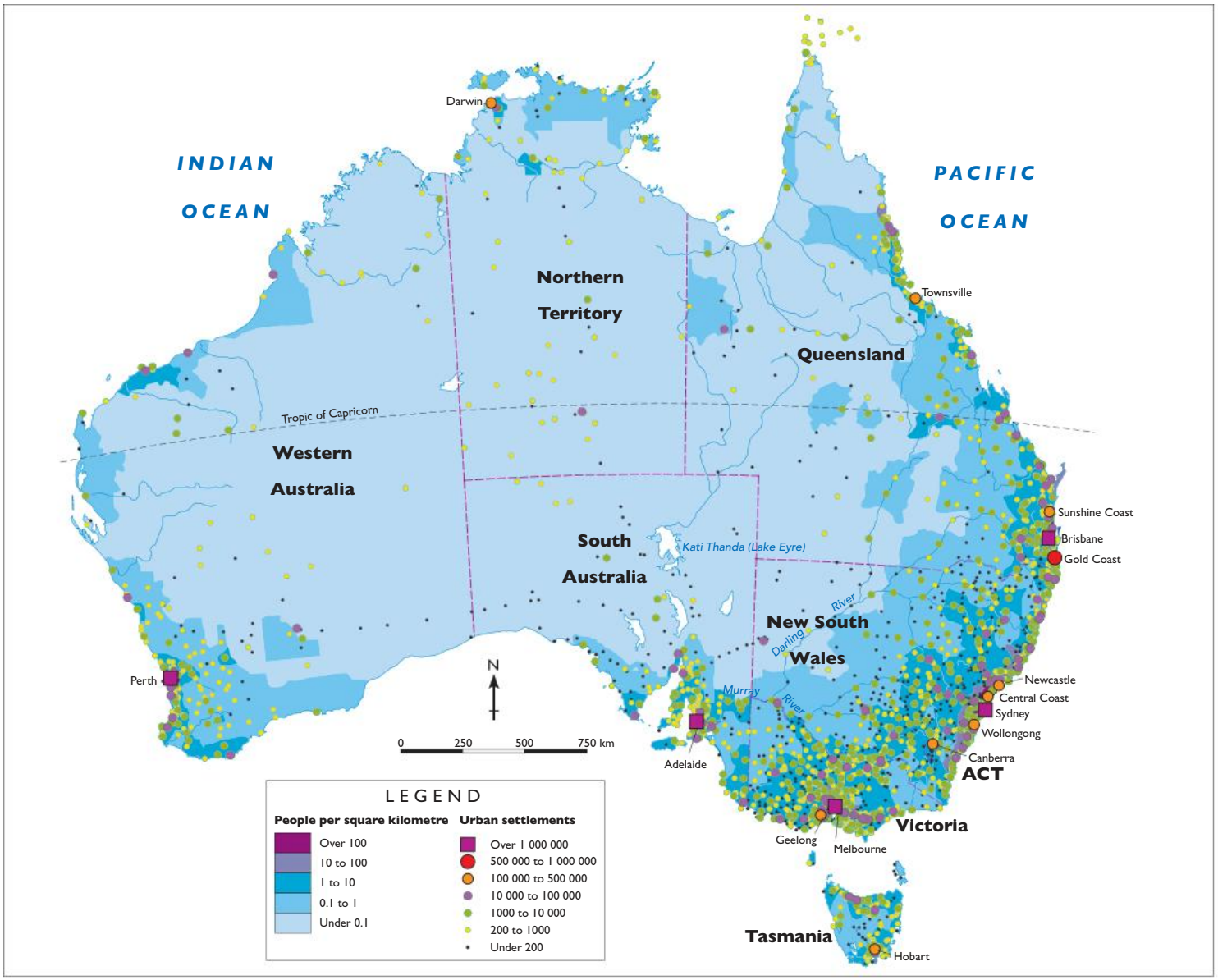


Source 4.25 South Australia's Barossa Valley has a medium population density as it includes a mix of towns and farming regions.



Source 4.26 The Sydney suburb of Elizabeth Bay is the most densely populated place in Australia with just over 20000 people per square kilometre.

AUSTRALIA: POPULATION DENSITY AND DISTRIBUTION, 2011



Source 4.27

Source: *Oxford Atlas*

Check your learning 4.7

Remember and understand

1 Why are most cities located near a source of fresh water?
2 Which parts of Australia are densely populated?
3 Which parts of Australia are sparsely populated?
4 How many Australian cities have more than 1 million people? In what ways are their locations all the same? Why do you think this is the case?

Apply and analyse

5 Study Source 4.24. Why do you think so few people live in parts of Western Australia?
6 Compare Elizabeth Bay (Source 4.26) with the Barossa Valley (Source 4.25).
   a In what ways are they similar and in what ways are they different?
   b In which of these two places would you prefer to live and why?
7 Study Source 4.27 and describe the distribution of Australia's population using the PQE method. (See section GT.2 of 'The geographer's toolkit'.)

Why Australians live where they do

There are many reasons why people live where they do. In Australia, some of the most important factors relate to the natural environment. Much of the continent has low rainfall and poor soil fertility, making it very difficult for people to live and grow crops there. As a result, Australians tend to live in the parts of the country that receive the most rainfall.

The role of landscapes and climate

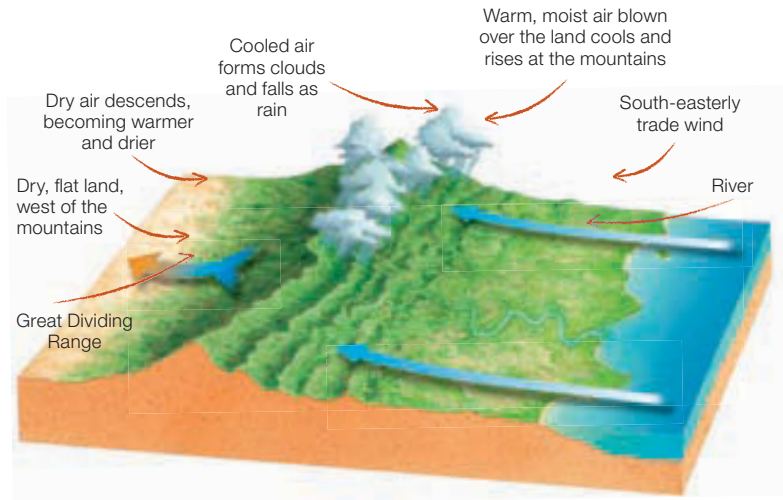
Australia's physical environments and different climate zones play a major role in where Australians choose to live. Places that receive the highest and most reliable rainfall are often the most populated. These regions are found in the south-east of the country, to the east of a mountain range known as the Great Dividing Range. This mountain range stretches from Cape York Peninsula in the north of Queensland to the Grampians in western Victoria. The Great Dividing Range has a great impact on the climate along the east coast of Australia, which in turn influences where people choose to settle (see Source 4.29). It also influences the kinds of vegetation that grows there and the kinds of animals that live there.

Winds from the south-east push warm, moist air over the land. This air is forced to rise over the Great Dividing Range. As the air rises, it cools. Cool air cannot hold as much moisture as warm air, so the moisture condenses into water droplets that fall as rain on the eastern side of the Great Dividing Range (see Source 4.28). The rain fills hundreds of rivers that run eastward to the coast. These rivers supply fresh water for drinking, food production, hydroelectricity, industry and transport. Most Australians live in coastal towns and cities near the mouths of these rivers. On the western side of the range, most of the land is dry and flat. The once moist air that passes over the range is now dry. As the air descends to the west of the Great Dividing Range it becomes warmer but remains dry, so little rain falls there. As a result, very few people live there.

The pull of the city

As in other countries around the world, in Australia the economic pull of the large cities is attracting more people to them. Between 2001 and 2011, the population of Australia increased by 2.9 million. The cities of Sydney and Melbourne became home to 40 per cent of these people (around 1.16 million).

The key attractions of living in a large Australian city are the opportunities for jobs and education. Australia's major cities generate 80 per cent of the country's wealth and employ 75 per cent of our workforce. By 2010, 75 per cent of all Australians lived in cities with populations greater than 100 000.



Source 4.28 The influence of the Great Dividing Range on Australia's climate

Check your learning 4.8

Remember and understand

1. Why do so few people live in inland Australia?
2. What is an important economic factor that helps to explain why people live where they do?
3. How does the Great Dividing Range influence where people in Australia live?
4. List three ways in which water has influenced where people in Australia live.

Apply and analyse

5. Study Source 4.29. Which features of the natural environment do you think were important when deciding on the locations of Hobart, Gympie and Kalgoorlie?
6. Which factors discussed here apply to where you live?

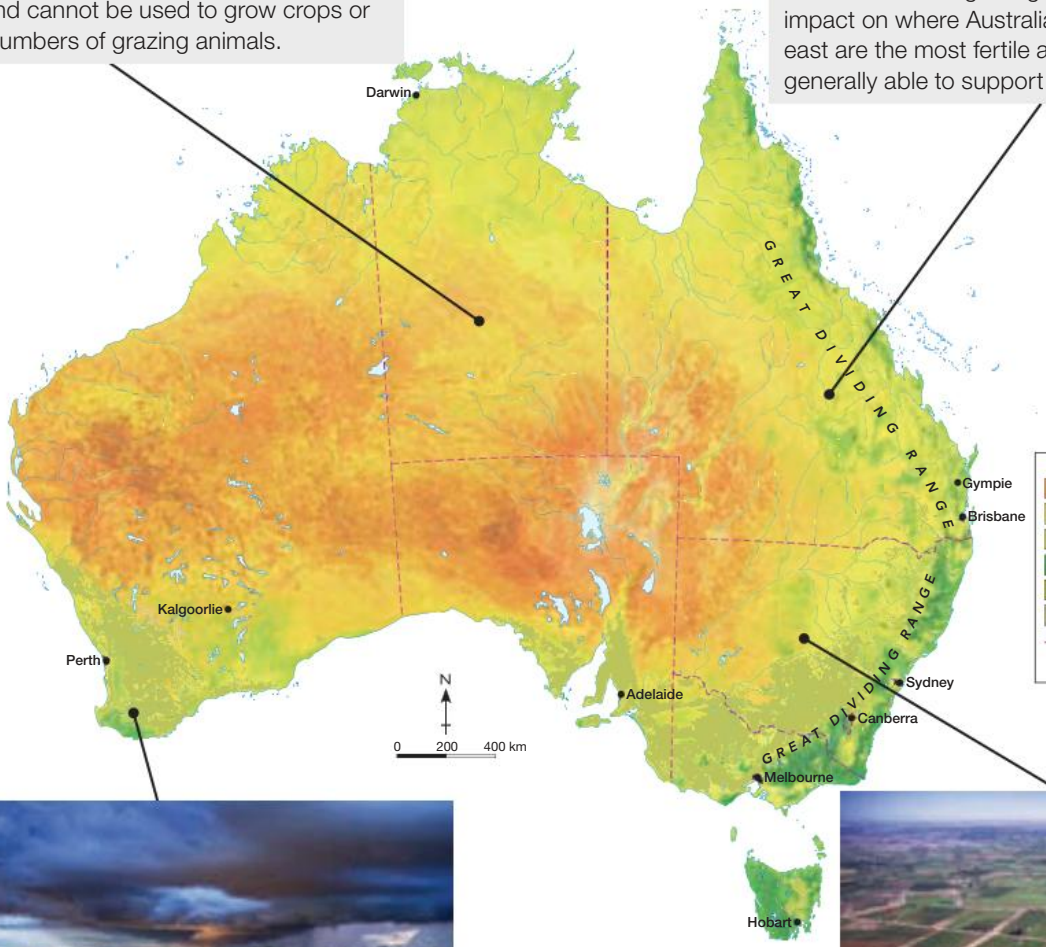
AUSTRALIA: ENVIRONMENTS



Much of inland Australia is desert and too dry to support large populations. The soil is generally very poor and cannot be used to grow crops or farm large numbers of grazing animals.



The Great Dividing Range has a significant impact on where Australians live. Areas to its east are the most fertile and the weather is generally able to support large populations.





The south-west of Western Australia receives regular rainfall from passing storms and cold fronts. The region also has a temperate climate and fertile soil, making it an excellent food and wine producing area.



Two major rivers along with fertile soil attracted farmers to the region now known as the Murray–Darling Basin. It has since become Australia's most important agricultural region. One-third of Australia's food supply comes from here.

Source 4.29

Source: Oxford University Press

Where Americans live

America is similar to Australia in that the majority of people there live in **urban** areas. In fact, in the north-east of the United States a number of major cities (including New York, Washington and Boston), along with a number of smaller cities, have grown so large in recent years that they have begun to merge into one continuous urban area. The area is now often referred to by the name BosNYWash. Home to about 55 million people, it is classed as a **megalopolis**.



Source 4.30 The area known as BosNYWash is often referred to as a megalopolis. It can be seen clearly on the north-east coast of the United States in this satellite image taken at night.

American cities

There are usually three distinct parts to every US city:

- the city centre (often referred to as 'downtown')
- the **suburbs**
- the **exurbs.**

At the centre of most cities in the United States is an area of tall skyscrapers and high-density residential apartment buildings. Downtown is often the place where the city was first settled and now contains the head offices of large companies and large residential apartment buildings. Land in the city centre is often very expensive, so buildings are tall rather than wide.

Beyond the city centre lies a large area of medium-density residential housing known as the suburbs. In many US cities, the suburbs grew rapidly from the 1950s onwards as people moved out of apartment buildings downtown and built free-standing houses on the city's edges. The suburbs are home to well over half of those who live in US cities.

Separated from the suburbs, but connected to them by a network of roads and rail lines, lies an area known as the exurbs. They are separated from the city by farmland and open spaces, and the people who live there usually commute into the city for work. For this reason, the exurbs are sometimes also called 'dormitory suburbs'. Over time, as the suburbs and exurbs grow in size they may join together, increasing the size of the city. Geographers refer to this expansion as **urban sprawl**. The United States is home to some of the world's most sprawling cities. A key driver of urban sprawl is car ownership. Cars allow those people who live in the suburbs or exurbs to commute to work in the city centre much more safely and easily than they could in the past.



Source 4.31 This exurb being developed on the outskirts of Salt Lake City in Utah is an example of urban sprawl.

UNITED STATES: POPULATION DENSITY, 2010



Source 4.32

Source: Oxford University Press

By Australian standards, the sheer number of people living in cities in the United States is staggering. In fact, the total number of residents living in only 10 of the largest US cities is around 75 million (see Source 4.33). This number is more than three times the total population of Australia.

Source 4.33 Ten largest US cities

Rank	City	Population
1	New York	19 015 900
2	Los Angeles	12 944 801
3	Chicago	9 504 753
4	Dallas	6 526 548
5	Houston	6 086 538
6	Philadelphia	5 992 414
7	Miami	5 670 125
8	Atlanta	5 359 205
9	Boston	4 591 112
10	San Francisco	4 391 037

Check your learning 4.9

Remember and understand

1 What is the difference between a suburb and an exurb?

2 Why do you think the continuous urban area in the north-east of the United States is sometimes referred to as BosNYWash?

3 What do geographers call areas such as BosNYWash?

Apply and analyse

4 Look closely at the map showing population density in the United States (Source 4.32). Make a list of three patterns that you notice on the map. Share your observations with a classmate and then with your class.

5 Compare Source 4.32 with a map showing population density in Australia (Source 4.27). Make a list of the similarities and the differences between the population densities of these two countries.

6 US cities often have three main parts. What are these parts? Do large Australian cities also have these parts?

Evaluate and create

7 Do you think cities in the United States and Australia share similar characteristics? Provide reasons for your answer.

8 Which geographical key concepts would you use to help explain the development of the exurb in Source 4.31?

Why Americans live where they do

As you have learned, the American population of 314 million people is not distributed evenly. Some parts of the country are dominated by enormous, crowded cities and large towns that are home to tens of millions of people, while other parts of the country are vast areas of wilderness where virtually no-one lives. This is because people tend to live in places that supply their basic needs – food, water and shelter. In the United States, the most densely populated places tend to share the same features:

- a temperate climate (one that is not too cold or too hot)
- reliable rainfall and rivers to supply fresh water
- fertile soils for growing crops
- relatively flat, as opposed to mountainous, landscapes
- closeness to the coast.

The role of landscapes and climate

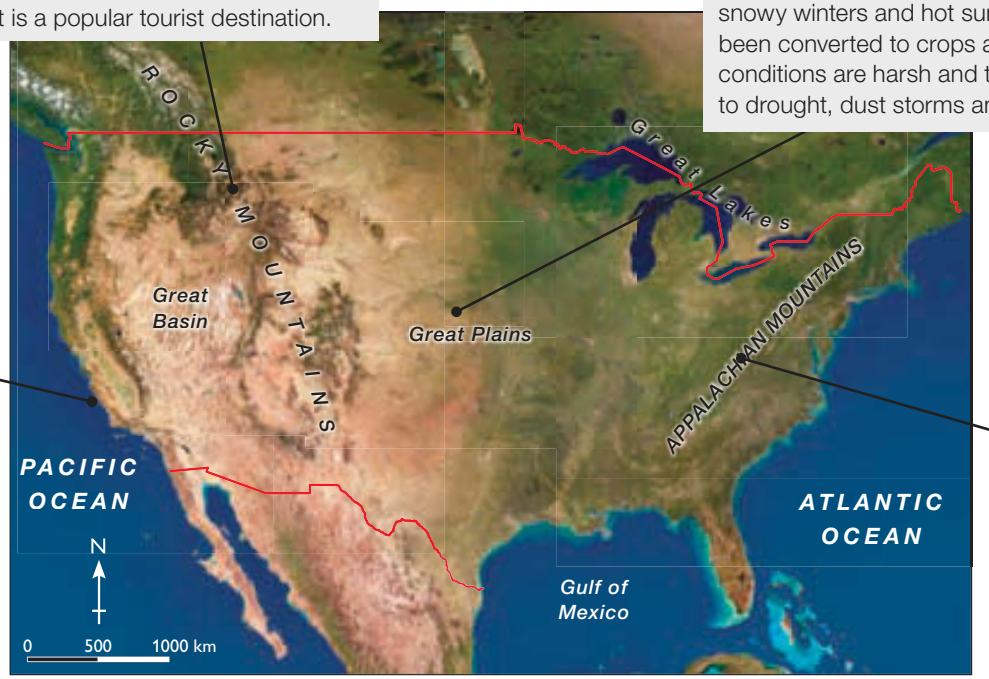
As Source 4.34 shows, much of the western United States is mountainous. A vast plain with a few low mountain ranges stretches from the foothills of the Rocky Mountains almost all the way to the east coast. For this reason the east of the country, especially the areas along the coast, is the most densely populated.

The United States is a vast country – the world's fourth largest. It extends almost from the tropics in the south to the Arctic Circle in the north. This gives the United States a wide range of climates. The climate in the south of the country tends to be much warmer than in the north. In winter, snow can blanket northern cities such as New York and Chicago. In summer, it can be extremely hot and humid in southern cities such as Atlanta and Austin.

Much of the western half of North America is mountainous. Mountain ranges such as the Rocky Mountains were formed over millions of years by the collision of the Earth's tectonic plates. Much of the mountain range is protected by public parks and forest lands, and it is a popular tourist destination.

The interior of the country is a huge, flat plain broken up by a few low mountain ranges and mighty rivers, such as the Mississippi River and the Missouri River. The central region of the US is subject to extremes in temperature with cold, snowy winters and hot summers. The plains have been converted to crops and pastureland but conditions are harsh and the plains are susceptible to drought, dust storms and tornadoes.

A narrow strip of flat, fertile land on the west coast supports several large cities, such as Los Angeles, San Francisco and Seattle.



The north-east region has fewer extremes in temperature and more rainfall than the central plains. This made the region suitable for farming and attractive to early settlers. Large urban centres were also established on this east coast, including New York, Washington and Boston.

Source 4.34 A satellite image of the USA highlighting the key topographical features

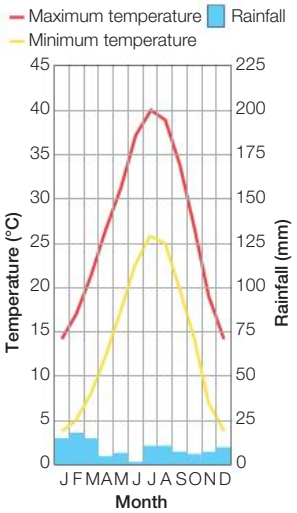
UNITED STATES: RAINFALL



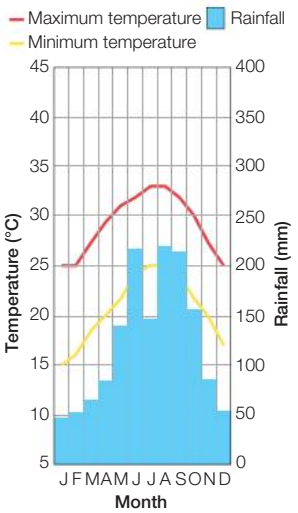
Source 4.35

Source: Oxford University Press

Temperatures tend to vary as you travel from the south up to the north, while the amounts of rainfall tend to vary from the east to the west. Mountainous areas, such as the Rocky Mountains in the west and the Appalachian Mountains in the east, have a big effect on rainfall across the country. They bring large amounts of rain to some places and create **rain shadows** (dry areas) in other places.



Source 4.36 A climate graph for Las Vegas in the state of Nevada, United States



Source 4.37 A climate graph for Miami in the state of Florida, United States

Check your learning 4.10

Remember and understand

1 Why are the populations of most countries clustered together rather than spread out evenly?

2 Why are most large cities located on or near rivers?

Apply and analyse

3 Compare the climate data for Las Vegas and Miami (Sources 4.36 and 4.37). Identify and describe the similarities and differences between them.

4 Why do you think the climates of Miami and Las Vegas are so different?

Evaluate and create

5 Imagine that you are travelling by road from New York on the east coast to San Francisco on the west coast.

a Use Source 4.34 to describe the landforms and landscapes that you might see on your journey.

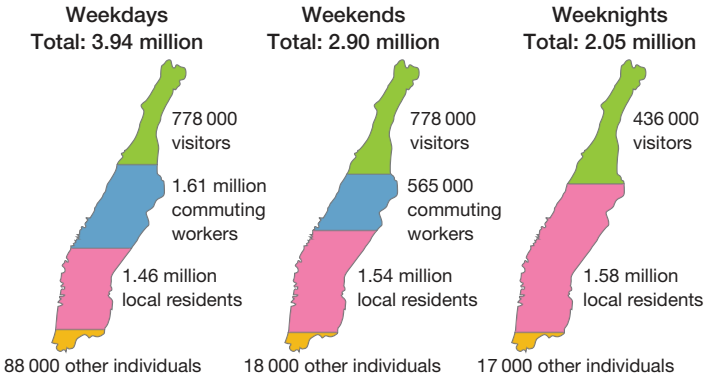
b Use Source 4.35 to describe how the rainfall might vary as you travel west.

Life in New York – a US megacity

New York is the largest city in the United States and is also among the largest cities in the world. New York was the world's first **megacity** (a city of more than 10 million people). For much of the 20th century it was also the largest city in the world.

New York is made up of five areas known as boroughs. These boroughs are Manhattan, the Bronx, Queens, Brooklyn and Staten Island. In the outer neighbourhoods of Staten Island and Queens many people live in single-storey homes similar to those found in the suburbs of most Australian cities. In the inner neighbourhoods of the other three boroughs almost everyone lives in apartments. Manhattan, in particular, is one of the most densely populated places on Earth. It has a population of more than 1.5 million people in an area of less than 60 square kilometres. This is a **population density** of about 27 000 people per square kilometre. The overall population density of all five boroughs of New York, however, is around 10 500 people per square kilometre. When you compare this with Sydney – which has a population density of 2000 people per square kilometre – you get an idea of just how many people there are in New York. They literally live on top of one another!

Apartment buildings dominate the skyline in New York. Each floor of an apartment building is commonly divided into four to six apartments. A typical New York apartment is about 21 square metres in area, but this



Source 4.39 A comparison of the population density of the island of Manhattan in New York by day (left), by night (right), and weekends (centre)



Source 4.38 This oblique aerial photograph shows part of Manhattan Island in New York. In the foreground are apartment buildings in an area known as Central Park West, in the middle ground is Central Park and in the background is the Upper East Side.





Source 4.40 Is this the smallest apartment in New York? Felice Cohan pays US$800 per month to live in this tiny 8 square metre apartment on the Upper West Side of Manhattan. The living space is so small that she can open the front door while sitting on the toilet!

varies widely depending on the apartment blocks and location. About half of New Yorkers own their own apartment and the other half rent. There is often a convenience store at ground level in the building and a subway station nearby. For many New Yorkers, the corner coffee shop is an important meeting place because their apartments are too small for entertaining (see Source 4.40).

A huge number of people flood the island of Manhattan from the surrounding boroughs each day for work and then return home to the outer suburbs each evening. This more than doubles the population of Manhattan each day (see Source 4.39) and is only possible because of a complex and efficient system of tunnels, bridges, rail lines, ferries, bicycle lanes and pedestrian walkways that link the island to the surrounding boroughs and cities. Of the 1.6 million people who travel into Manhattan every day, about half arrive by train. This makes the New York subway the busiest underground train system in North America and the seventh busiest in the world.

Rank	City	Passenger rides per year
1	Tokyo, Japan	3.16 billion
2	Seoul, Korea	2.43 billion
3	Moscow, Russia	2.39 billion
4	Beijing, China	2.18 billion
5	Shanghai, China	2.01 billion
6	Guangzhou, China	1.65 billion
7	New York, US	1.64 billion
8	Paris, France	1.51 billion
9	Hong Kong, China	1.48 billion
10	Mexico City, Mexico	1.41 billion

Source 4.41 The top 10 busiest metropolitan train systems in the world measured by passenger rides per year. Australia's busiest train system (in Melbourne) has a total of 200 million passenger rides per year (Note: 1 billion = 1000 million).

Check your learning 4.11

Remember and understand

1 Describe a typical New York apartment building and apartment.

2 Where are the world's busiest train systems? Why are they in these places?

Apply and analyse

3 Compare the population density of New York by day and night (Source 4.39). Why do these two figures vary?

4 Compare the population density of New York with Australia's largest city, Sydney. How different are these figures and what impact do you think this difference has on the lives of people living there?

Evaluate and create

5 Use the information provided to describe a day in the life of a typical New York resident.

6 Compare the way of life of a typical New Yorker with the life of a typical person where you live. Use a Venn diagram to show features that are unique to each community and features that are shared.

The growth of Las Vegas

Cities grow for many different reasons. Some cities grow because they are located on major roads, railway lines or coastal ports. Some cities grow because large numbers of people come in search of work and new opportunities. Other cities grow because they are near reserves of important minerals, metals and natural resources.

Las Vegas in the US state of Nevada is an unusual city for a number of reasons. It is located in a desert region with little rainfall, yet despite this it is one of the fastest-growing cities in the United States. This is due almost entirely to its role as a centre for gambling and entertainment. The state of Nevada has more casinos than any other state in the USA; around 361 in total. The city of Las Vegas alone is currently home to more than 120 casinos and about 200 000 slot machines.

Las Vegas attracts millions of visitors a year. This tourism creates jobs for skilled and unskilled workers who flood into the city. This, in turn, creates jobs for builders, road engineers and many other residents.

Source 4.42 Population of Las Vegas, 1910–2010

Year	Population
1910	3 321
1920	4 859
1930	8 532
1940	16 414
1950	48 289
1960	127 016
1970	273 288
1980	463 087
1990	741 459
2000	1 375 765
2010	1 951 269

Source 4.43 The US states with the most casinos and the number of casinos in each of these states

State	Number of casinos
Nevada	361
California	184
Florida	150
Montana	146
Washington	125
Oklahoma	115

skilldrill

Creating column and line graphs

Graphs are used in geography to display data and make it easier to understand. Raw data often appears as a confusing table of numbers, so turning data into graphs makes it easier to recognise and analyse trends and patterns. Some commonly used graphs in geography are:

- column graphs – used to compare data (for example, to compare the sizes of several cities)
- line graphs – used to show trends over time (for example, the growth of a city's population).

To draw a graph you should follow these steps:

Step 1 Decide whether a column graph or line graph will best suit your purpose.

Step 2 Examine the data carefully to decide on the axes and the scale you should use so that all the data fits. It is important that the scale on each axis is an even scale; for example, 1 centimetre equals 1 million people.

Step 3 Construct your axes and your scale using a ruler.

Step 4 Plot the data carefully. Use a straight, horizontal line for a column graph. Use a small, neat dot for a line graph.

Step 5 On a column graph, draw a series of columns that extend to the horizontal axis. Lightly shade each column with a coloured pencil. On a line graph join the dots with a smooth, freehand line.

Step 6 Label each axis with a description of the data and give your completed graph a title.

Apply the skill

1 Using the data provided in Sources 4.42 and 4.43, create two different types of graphs:
   a a line graph showing the growth of the population of Las Vegas from 1910 to 2010 (see Source 4.42)
   b a column graph showing the numbers of casinos in selected states (see Source 4.43).

Extend your understanding

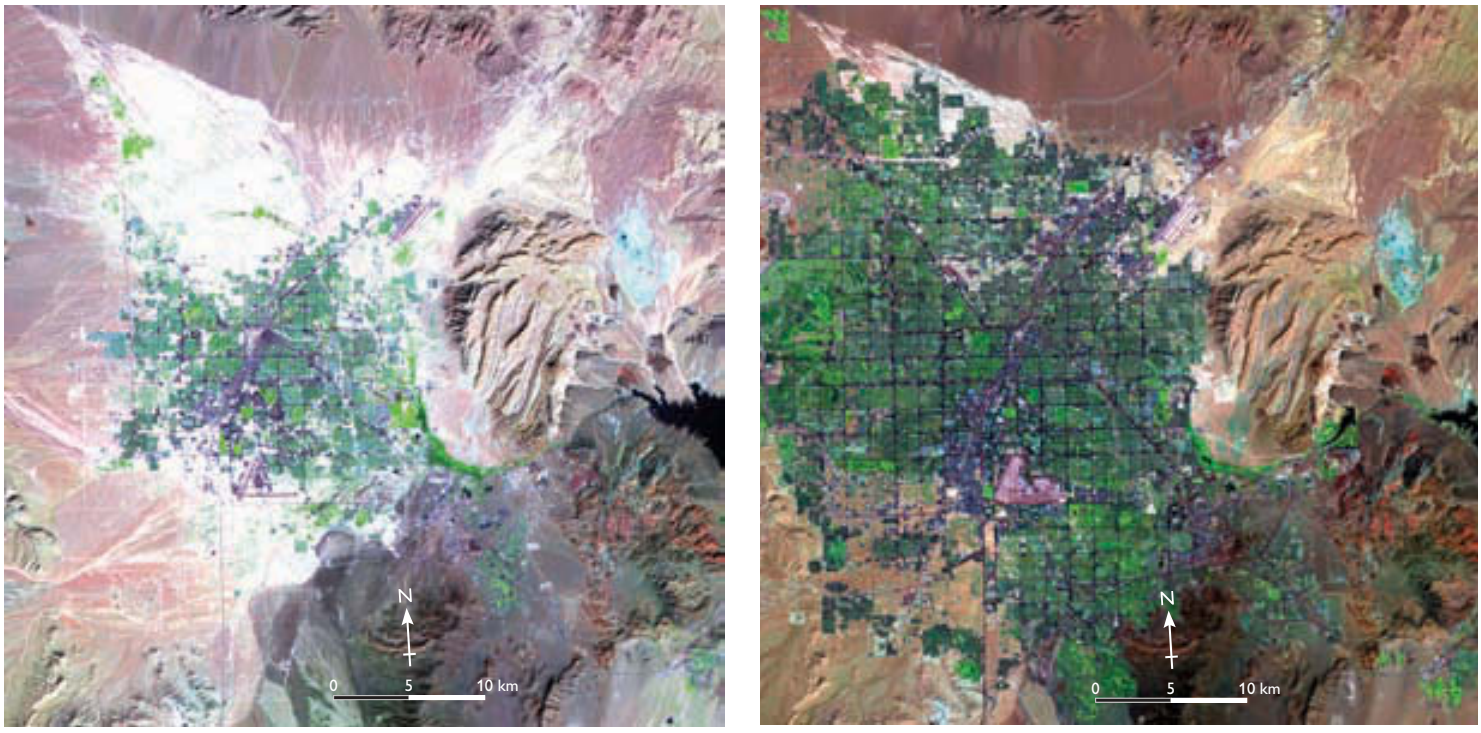
1 Study Source 4.42.
   a Describe the changes in the population of Las Vegas between 1910 and 2010.
   b Why did the population change over this time?

2 Examine the satellite images of Las Vegas taken in 1984 and 2011 (Source 4.44). In these images, urban areas appear green and the surrounding desert is brown. How has the centre of the city changed over time? How have the edges of the city changed?

3 Examine Source 4.45. Use the steps described in Broadsheet 3.3 to construct a field sketch of this scene. On your sketch label five ways in which this suburb has changed the natural environment.



Source 4.45 A new suburb pushes out into the desert on the edge of Las Vegas

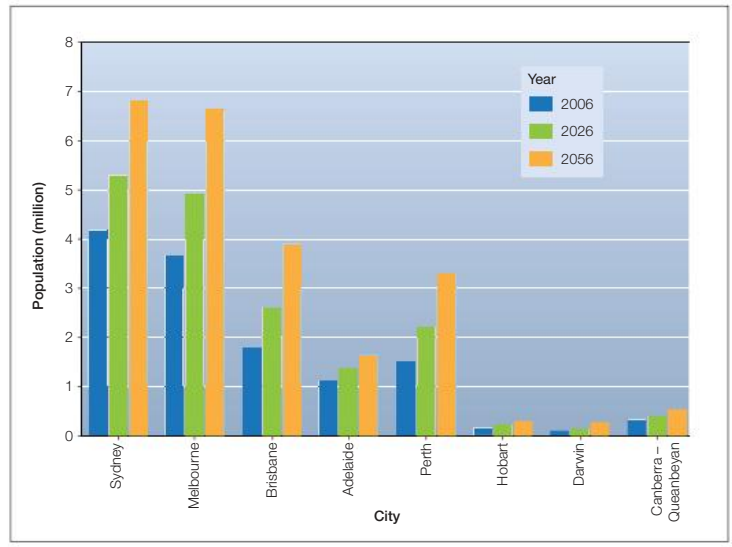


Source 4.44 Satellite images of Las Vegas, 1984 (left) and 2011 (right)

4.3 How can we plan for Australia's urban future?

Managing the growth of our cities

Around Australia today, about 75 per cent of the total population live in just 18 cities (see Source 4.47). Because this number is so large, it is vital that the growth of these cities be carefully planned and managed – both now and into the future. In 2013, the population of Australia reached 23 million, but by 2050 it is estimated that the population will reach 36 million. It is also estimated that around 72 per cent of this growth will take place in our major cities (see Source 4.46).



Source 4.46 Population projections for Australia's capital cities to the year 2056

Planning for future cities

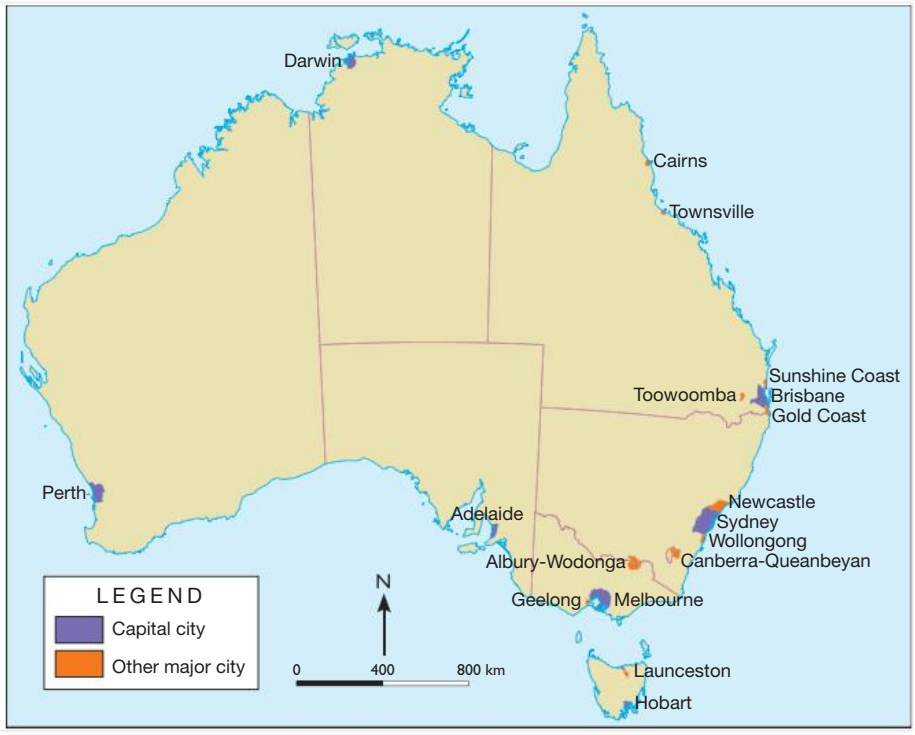
Growing urban populations place many pressures on governments and councils who need to plan and build new houses and **infrastructure**, such as schools, hospitals, roads, sewerage systems, power and gas lines, phone and Internet cables, public transport links and shopping centres. By 2050, it has been estimated that Australia will need a further:

- 6.9 million homes (an 82 per cent increase)
- 173 348 kilometres of new roads (a 51 per cent increase)
- 3254 new schools, 1370 new supermarkets and 1370 new cinema screens.

These services take time to build and are extremely expensive, so they need to be budgeted for in advance. There are also serious environmental issues to consider. The construction of new homes and suburbs can damage or pollute the natural environment and have a negative effect on plant and animal populations.

When planning and managing the future growth of Australia's cities, governments and local councils often rely on the following three strategies:

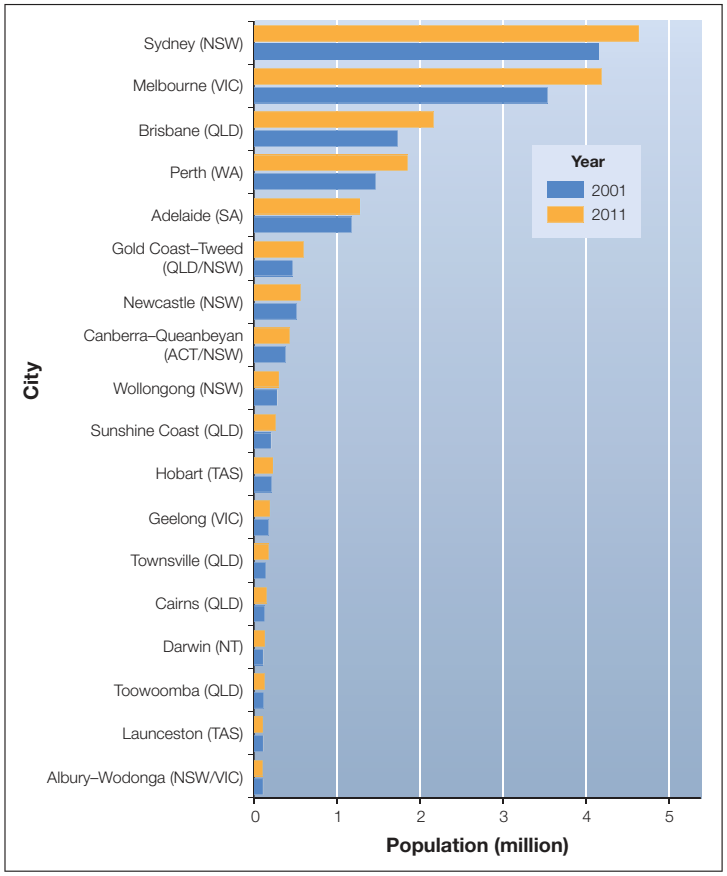
AUSTRALIA: MAJOR CITIES WITH POPULATIONS OVER 100 000



Source 4.47 Source: Oxford University Press

1 Suburbanisation

Making more land on the outskirts (fringes) of cities available for new suburbs to be built.



Source 4.48 Population growth in Australia's largest cities 2001–2011

Source 4.49 One of Melbourne's newest suburbs, Docklands is an example of urban renewal. The old docks have been redeveloped with apartments, business and restaurants.

2 Urban renewal

Redeveloping existing areas of unused land or buildings within cities to provide housing for new communities.

3 Decentralisation

Encouraging the growth of regional and suburban areas by moving jobs and businesses there, rather than keeping these things concentrated in the central business districts of major cities.

These strategies will be explored in more detail in the remainder of this section.

Check your learning 4.12

Remember and understand

1 How many more people are estimated to be living in Australia by 2050?

Apply and analyse

2 Look carefully at Source 4.48.
   - a Which city added the most people between 2001 and 2011?
   - b As a percentage, Perth had the greatest population growth between 2001 and 2011. Approximately how many new residents were added to Perth's population?

3 Look carefully at Source 4.46.
   - a Which city is estimated to add the most people between 2006 and 2056?
   - b What services and infrastructure will this city need to meet the needs of its growing population?

4 Name the three management strategies used by governments to plan for future growth in cities. Can you give an example of each of these strategies in a major city near you?



Suburbanisation

Suburbanisation is the process of growing cities outwards by building new housing estates away from the central business district. New suburbs are often built on what was once farmland or bushland on the rural–urban fringe. Services are then attracted to these new suburbs to meet the needs of the growing population. Schools, shopping centres, medical centres and sporting facilities are built and the area becomes **urbanised**. Industries can also be attracted by the cheaper land and rents of the outer suburbs.

Case study: Suburbanisation in Melbourne

Melbourne added more new residents than any other Australian city in the decade between 2001 and 2011. Many of the 650 000 new residents moved to new housing estates on the fringes, contributing to the expansion of Melbourne's urban boundaries. Melbourne is one of the world's largest cities by area – stretching 100 kilometres from east to west – and it is still getting larger.

More land on the city's western, northern and south-eastern fringes is now set to undergo suburbanisation. These growth corridors will provide homes for up to 100 000 new residents. The largest development of 10 500 new homes for 29 500 new residents is in Lockerbie which is part of the north growth corridor (see Source 4.51). This area will include a train station, a main road, three primary schools, a secondary school, four new sports reserves and a town centre.

Advantages

A major advantage of suburbanisation is that housing estates are relatively quick and inexpensive to establish on already cleared farmland on the fringes of many Australian cities. The housing estates built there also provide an affordable option for new residents and can be designed to meet the needs of modern populations. New housing can also be built to be more energy efficient and sustainable than older housing in established suburbs.

Disadvantages

Disadvantages of suburbanisation are that new infrastructure to service housing developments can be very expensive to supply and local services can be slow to arrive, leaving new residents isolated. Residents in new outer suburbs end up relying on the use of motor vehicles because of infrequent or unreliable public transport. This leads to further congestion of major roads to the CBD. For example, by 2031 it is expected that Melbourne roads will have to cope with an additional 3 million car trips every day.



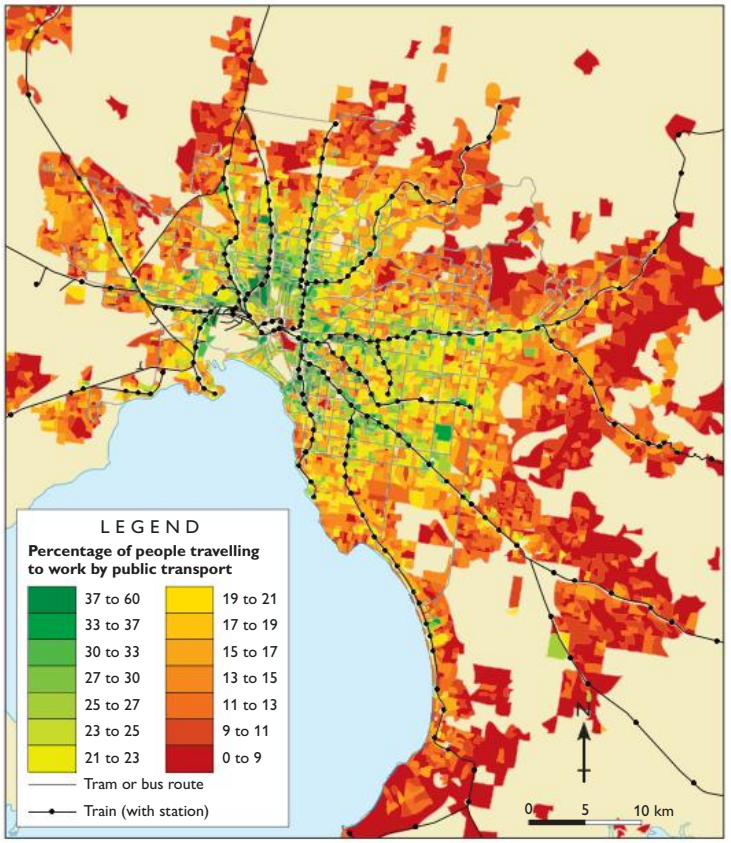
Source 4.50 Melbourne added 650 000 new residents between 2001 and 2011, many ending up in new suburbs on the city's fringes.

MELBOURNE: GROWTH CORRIDORS 2013



Source 4.51 Source: Growth Areas Authority

MELBOURNE: PUBLIC TRANSPORT USE, 2006



Source 4.52 Source: Australian Bureau of Statistics

Case study: The Southern Brown Bandicoot

Urban sprawl also eats into productive farmland and nature areas on the edges of cities, impacting on native wildlife. The Southern Brown Bandicoot is an endangered native animal which lives in the area of Melbourne's south-east growth corridor. They are under increasing pressure from the clearance of their native habitat and attacks by foxes, dogs and cats.



Source 4.53 The Southern Brown Bandicoot is under threat from Melbourne's suburbanisation.

To help the Southern Brown Bandicoot survive, habitat corridors linking their fragmented habitats together are a feature of the new development plans in the region. These open spaces will also provide recreation spaces for the new residents.

Check your learning 4.13

Remember and understand

1 What is suburbanisation?
2 What infrastructure and services are being built in the new suburb of Lockerbie, north of Melbourne?
3 What problems has Melbourne's suburbanisation caused for the Southern Brown Bandicoot?
4 What plans are in place to help protect this endangered species?

Apply and analyse

5 Look carefully at Source 4.51.
   a Which two growth corridors link existing urban areas with Melbourne's metropolitan area?
   b What disadvantages of suburbanisation does Source 4.50 clearly illustrate? Name two examples.
6 Examine Source 4.52.
   a What pattern of public transport use in outer suburbs is created?
   b What problems might this cause for people in Melbourne?

Urban renewal

Urban renewal is the process of taking existing areas no longer in use within a city's boundaries and redeveloping them. Often the areas selected are places that have become rundown or disused over time (referred to as urban decay). For example, old warehouses and docks that are no longer used because the city's port has closed down or been moved are often redeveloped to provide new houses for residents and offices for businesses. Green spaces can also be created for entertainment and leisure.

Urban renewal allows townhouses and apartment blocks to be built in existing urban areas so that more people can be housed within established suburbs rather than needing to build new ones.



Source 4.54 Pyrmont-Ultimo in 1980



Source 4.55 Pyrmont-Ultimo in 2012

Advantages

Urban renewal can help a city cope with population growth without the need for urban sprawl. By building in established suburbs, developers can make use of the existing infrastructure such as transport routes, energy supply and telecommunications. New residents are able to share in the advantages of inner-city living.

Disadvantages

Historic areas can have special significance for a city but the preservation and refurbishment of old buildings can be expensive. Developers also need to ensure that any new building blends in with existing buildings which can also put limits on the use of the site. A sharp increase in population numbers in a small area can put pressure on established services, and even decrease the liveability of the area for existing residents.

For example, public transport may not be able to meet the increased demand, leading to overcrowding on the routes servicing the areas being redeveloped.

Case study: Pyrmont-Ultimo, Sydney

Since 1992, the peninsula of Pyrmont in Sydney has been part of a large urban renewal project that is expected to see the residential population grow to 20 000 and the number of jobs in the area grow to 26 000 by 2021 (see Source 4.55).

Pyrmont was once the location of shipyards, wool stores, mills, iron foundries and a coal power station. By the 1950s, the heavy industries had shut down and moved away from the area. In the 1970s, shipyards moved to Port Botany and the facilities at Pyrmont became obsolete. The area fell into a state of urban decay. Warehouses were empty, wharves were demolished and the train service ceased. By 1981, the local population had fallen to just 1590 people.

Today, the Pyrmont-Ultimo area has undergone a process of urban renewal. It is now home to a young, wealthy, professional community. More than 13 000 residents now live in medium-density housing there. Train services have restarted and over 30 per cent of households do not own cars. Retail shops, cafés and restaurants have opened and the peninsula now has more than eight hectares of new parks.

Once known for its old industrial buildings and smokestacks, the peninsula is now home to e-commerce and electronic media companies such as Network 10, ABC and Foxtel, and radio stations Nova and 2SM.

Check your learning 4.14

Remember and understand

1 Give an example of urban decay from your own local area or somewhere you know.
2 What is urban renewal?

Apply and analyse

3 Look carefully at the oblique aerial views of Pyrmont-Ultimo in Sources 4.54 and 4.55.
   a Which parts of the area have remained the same?
   b List three changes that have taken place from 1992 to 2012.
4 What do you think are the advantages and disadvantages of the medium-density housing shown in Source 4.56?
5 People aged 20–29 make up 55 per cent of the population in Pyrmont-Ultimo. Why do you think people in this age group are attracted to the area?
6 What percentage of residents in Pyrmont-Ultimo don't own cars? Why do you think this is the case? How does this help urban planners in inner Sydney?

Source 4.56 Pyrmont wharf area with its medium-density housing



Decentralisation

Decentralisation is the process of encouraging population growth and job creation in areas outside the central business districts of major cities. Decentralisation is a strategy that governments use to take the pressure off larger capital cities by providing job opportunities in other areas such as:

- smaller towns and cities in regional areas
- newer suburbs on the outskirts of cities.

Decentralisation to regional cities

One way to decentralise growing capital cities is to encourage people to move to smaller regional cities and towns nearby. Industries and companies are given financial benefits to encourage them to move their operations from capital cities to regional centres. Government departments are also established in regional centres. For example, in 2013, the regional city of Geelong in Victoria was chosen as the headquarters for DisabilityCare Australia – the organisation that will administer the disability insurance scheme. Geelong was chosen over larger cities such as Sydney or Melbourne to encourage the creation of jobs and other opportunities there.



Source 4.57 Geelong has benefited from regional decentralisation plans.

Decentralisation to suburbs

Another way to decentralise capital cities is to spread the location of multiple business activity centres across the city so that business is not all centralised in the CBD. These smaller business activity centres become hubs for employment and are established in a range of suburbs with good public transport. This form of decentralisation is designed to spread the load so that all workers do not have to travel to the CBD every day but instead can find employment in more accessible locations in the suburbs. In Melbourne, the centres of Box Hill, Dandenong, Footscray, Frankston, Werribee and Ringwood have all been identified as suitable to become major business centres in addition to the CBD.

MELBOURNE: POTENTIAL BUSINESS ACTIVITY CENTRES



Source 4.58 Source: Oxford University Press

Natural decentralisation

Sometimes population movement trends can operate as a form of decentralisation naturally, without government involvement. From 1970 to 2000, for example, many older people moved from Sydney and Melbourne to coastal areas on Queensland's Gold and Sunshine coasts. This was a form of decentralisation driven by retirees attracted by a warm climate and cheaper housing. As housing prices in these regions have increased, however, the numbers of people migrating north has declined.

Advantages

Decentralisation of the population can help relieve some of the problems of large cities such as the cost of housing, traffic congestion and damage to the natural environment.

Disadvantages

It can often be difficult and expensive to get companies and workers to move to regional centres in the numbers necessary to make incentive and development programs a success.

Case study: Canberra, a decentralised city

Canberra is Australia's largest decentralised city and today has a population of 367 000 people. The inner-city area was originally designed by the American architect Walter Burley Griffin. Within the central area of the city near Lake Burley Griffin, major roads follow a geometric hub-and-spoke pattern rather than a grid. The outer areas of the city, built later, are laid out in a Y shape.

Canberra is organised into a series of seven residential districts:

- Canberra Central – settled from the 1920s onwards has 25 suburbs
- Woden Valley – first settled in 1964 has 12 suburbs
- Belconnen – first settled in 1966 has 25 suburbs (and 1 not yet developed)
- Weston Creek – settled in 1969 has 8 suburbs
- Tuggeranong – settled in 1974 has 18 suburbs
- Gungahlin – settled in the early 1990s has 18 suburbs (and 6 not yet developed)
- Molonglo Valley – developed in 2010 has 13 suburbs planned.

Each district contains a mixture of a town centre, group centres, local suburbs and industrial areas. The town centre is the focus for business and social activities. The layout of these districts around a series of central shopping and town centres linked by freeways is designed to make them self-sufficient and prevent the mass-commuting of workers into the CBD every day, as is the case in all of Australia's other major cities.

Check your learning 4.15

Remember and understand

1 What is decentralisation?
2 How do governments try to encourage people to move to regional towns?
3 What were the reasons for retirees moving to the Gold and Sunshine coasts between 1970 and 2000?

Apply and analyse

4 Look at Source 4.58.
   a What are the advantages of having several business activity centres rather than just one CBD?
   b Do you think a vibrant and bustling CBD is important for a city to have? Why/why not?



Source 4.59 The district of Canberra Central is one of the oldest parts of the city and is divided into divisions (suburbs) such as Barton, City and Dickson.

Canberra – a planned city

Urban planning happens on many different scales. An example of urban planning on a massive scale is Australia's capital, Canberra. In 1911, the Australian Government announced a competition to design the city. Entries were submitted by architects from around the world. The winning design came from a Chicago architect, Walter Burley Griffin. His design involved a series of shapes that would line up with important features of the natural environment, such as the surrounding hilltops. Griffin's plan also included a central lake. This lake now bears his name – Lake Burley Griffin.



Source 4.60 Walter Burley Griffin's original plan for Canberra, drawn in 1911

skill**drill**

Comparing vertical aerial images

A range of sources used by geographers – such as maps, plans and photographs – are drawn or captured from directly above. In a **vertical aerial photograph**, the camera is positioned directly above the landscape (often from a satellite or aeroplane). Vertical aerial images can be a useful tool for examining a small area of the Earth's surface in detail. This vertical view (often called **plan view**) allows geographers to see the extent of any features and patterns they make on the Earth's surface. Most importantly, comparing these sources helps geographers identify any changes that have taken place over time. This type of analysis allows us to compare the original plans for cities and suburbs against photographs taken after they have been established. These types of comparisons are useful for geographers in a number of ways. When comparing vertical aerial images, follow these steps:

Step 1 Examine the scale and the legend of both sources. Ideally, these will be the same. If they are not, you will need to be careful when making comparisons that the area on one image corresponds exactly to the same area on the other image.

Step 2 Look for geographical features such as the outline of lakes, the location of streets and landmarks such as railway stations. This allows you to compare other features in this landscape.

Step 3 Locate features that appear on both images that are similar. Take note of these.

Step 4 Locate features that appear on both images that are different. Take note of these.

Step 5 Prepare a list or table of these similarities and differences and try to explain the different reasons for them. You may need to conduct more research at this point in order to do this.

Apply the skill

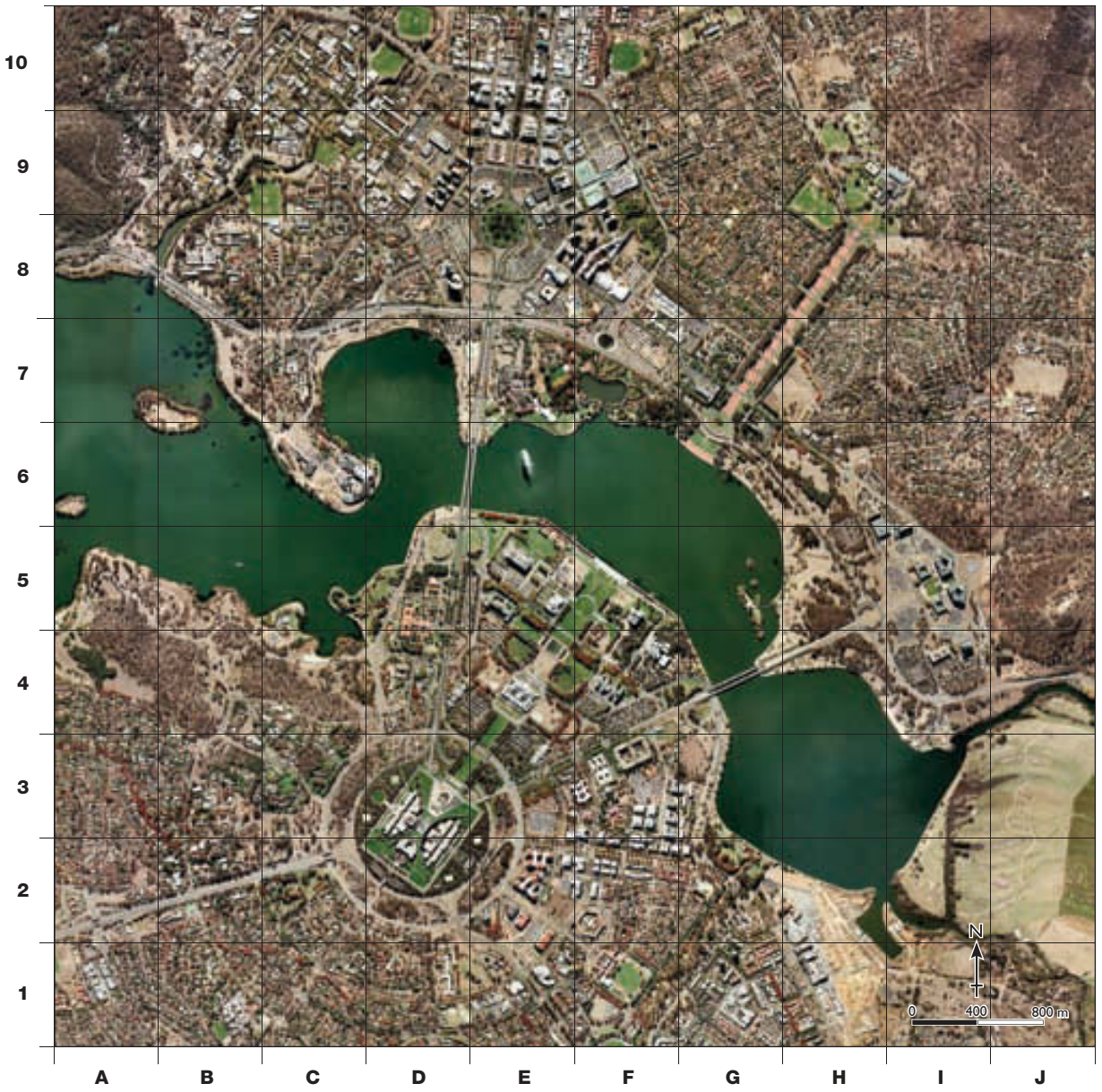
1 Look closely at Griffin's plan for Canberra (Source 4.60).
   a What are some of the distinctive features of his plan?
   b The judges particularly liked the way in which this plan took into account natural features, such as the surrounding hills and the native bush. What evidence can you find of this on the original plan?

2 Look closely at the vertical aerial photograph of modern Canberra (Source 4.61).
   a What features indicate that this is a planned city?
   b What is located at I5? Is this the land use that Griffin called for at this place?
   c Can you find three examples of where Griffin's plan has not been followed? For example, there is a missing bridge north-west of Capital Hill.
3 How well have modern-day town planners in Canberra followed Griffin's original town plan? Give some evidence from the plan and photograph in your response.
4 What evidence is there in the aerial photograph that Canberra's population is increasing?

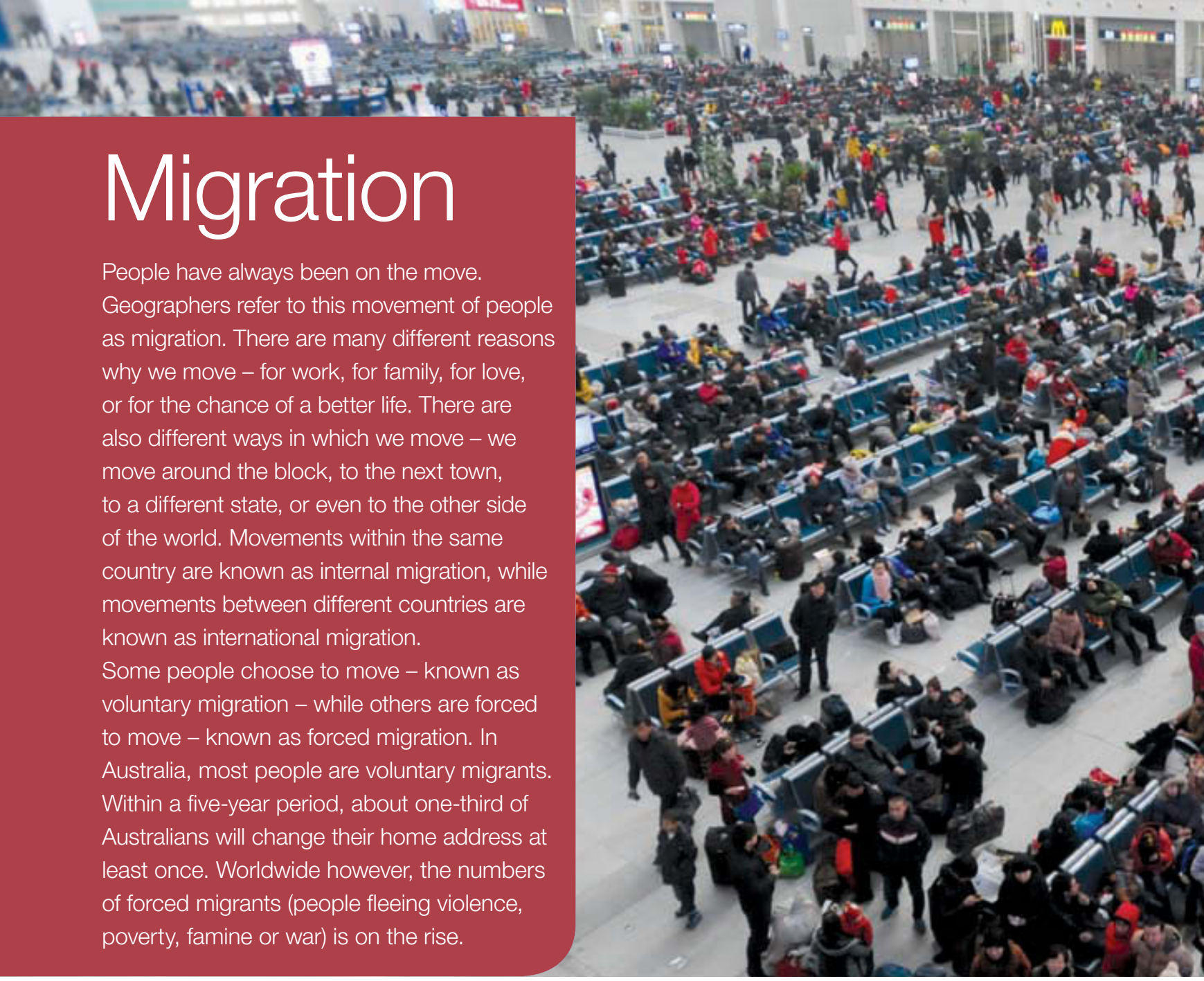
Extend your understanding

1 What types of issues can changing land use and development create for people living in cities?
2 What evidence of changing land use can you identify in H1 and H2?
3 Use an atlas or Google Maps to locate the following features shown in Source 4.61:
   - National Gallery of Australia
   - Captain Cook Memorial Jet
   - Parliament House.

Provide a grid reference for each of these features.



Source 4.61 Vertical aerial photograph of modern Canberra



Migration

People have always been on the move. Geographers refer to this movement of people as migration. There are many different reasons why we move – for work, for family, for love, or for the chance of a better life. There are also different ways in which we move – we move around the block, to the next town, to a different state, or even to the other side of the world. Movements within the same country are known as internal migration, while movements between different countries are known as international migration.

Some people choose to move – known as voluntary migration – while others are forced to move – known as forced migration. In Australia, most people are voluntary migrants. Within a five-year period, about one-third of Australians will change their home address at least once. Worldwide however, the numbers of forced migrants (people fleeing violence, poverty, famine or war) is on the rise.

5.1

Why do people move?

1 Where are the people shown in Source 5.1 moving to and why?

2 What do you think it means to be a migrant worker?

3 What is Chunyun?

5.2

What are the impacts of migration?

1 What effect do you think the migration of people from rural China to the cities has had on the communities they have left behind?

2 Are there any similarities between what is happening in rural communities in China and Australia?



Source 5.1 Every year around 700 million people across China travel home to take part in the Chinese New Year celebrations. The period of time in which they travel (known as Chunyun) has been described as the largest annual human migration in the world. Many of the people shown here are migrant workers from rural China who are returning home for the holidays.

5.3

How has international migration changed Australia?

1 In what ways is Australia a multicultural country?

2 As a class, make a list of features of different communities in Australia that demonstrate we live in a multicultural society. Highlight examples from your community.

5.1 Why do people move?

Voluntary migration in Australia

People who are free to choose when and where they move are referred to as **voluntary migrants**. Most people who move to and within Australia are voluntary migrants.

Australia has a very mobile population. Statistics show that more than 40 per cent of us move home once every five years. Around 15 per cent of us move at least three times in that same period. Source 5.3 shows the main reasons why people move home in Australia, while Source 5.2 demonstrates these trends using an example of an individual and the types of decisions they might make during their lifetime.

As you can see, migration in Australia is usually a very personal decision and is based on a number of important factors. These may be linked to a person's personal tastes, family life, income or health. In Australia, for example, there has been a movement of people towards the edges of large cities and towards smaller towns on the coast. The first of these moves is largely due to the cheaper land available on the city fringe and the second due to people looking for a change in lifestyle. This movement of people to regional coastal towns is referred to as a 'sea change'.



When my sister was born, my parents bought a big house for us in the Melbourne suburb of Glen Waverley. I was three years old when we moved in.



I lived at home with my mother, father and sister until I was in my early 20s because I was studying at university and couldn't afford to move out. Our house didn't feel so big anymore!



When I was 29, I got married. My wife and I bought our first house in the suburb of Brunswick and moved in together. It had two bedrooms.



By the time I was 38, we had three children. Our family moved interstate to Brisbane because I was offered a job promotion. We bought a large house with five bedrooms in the suburb of Oxley.



By the time my wife and I were in our 50s, all our children had moved out and were starting families of their own. The house seemed too big for just the two of us, so we sold it and bought a two-bedroom apartment in a suburb closer to my office in the city.



When my wife and I retired in our mid-60s, we bought a small apartment in a development on the Sunshine Coast so we could be closer to our grandchildren and enjoy a more relaxed lifestyle.

Source 5.2 People move for different reasons at different stages of their life.



Source 5.3 The main reasons people move home within Australia. (Proportions may add up to more than 100 per cent as respondents could provide more than one reason for their last move.)



Source 5.4 New homes being built on the edge of Torquay in Victoria to accommodate more sea changers

The effect of sea changes on coastal communities

The popularity of sea changes in Australia, particularly along the south-eastern coast, is presenting many challenges for coastal councils. Population growth in coastal communities has meant an increasing demand for infrastructure and services. Careful planning is needed if these communities are to retain the lifestyle attractions that attracted the increasing numbers of people there in the first place. As well as this, climate change – the impact of extreme weather conditions and increasing coastal erosion – is also causing problems for councils.

Coastal councils are predicting that permanent populations will continue to expand. A large percentage of non-resident property owners are aged between 45 and 64 and many eventually plan to move permanently to their coastal property. Those planning to make the move in the next two to five years is around 67 per cent.

As populations in coastal areas grow, sleepy coastal towns are expanding into regional centres that require new hospitals, sewerage systems, water resources, roads and other services. In the past, it generally took between 50 and 100 years for a small coastal town to grow into a larger regional centre. Today, the same level of growth is often taking place over five to 10 years. Councils are still working out how to deal with this growth. As well as dealing with the increased needs for infrastructure and housing, coastal communities need to retain their character and historic value if they are to remain attractive to sea changers and tourists in the future.

Check your learning 5.1

Remember and understand

1 What is the main reason that people in Australia move home?
2 What is a sea change?
3 How does a person's stage in life influence whether or not they will move?
4 What are the main challenges facing coastal communities because of the popularity of sea changes?

Apply and analyse

5 When a town's population grows, it can have a major impact on the natural environment. Brainstorm this idea with a partner and make a list of the potential impacts. Share your brainstorm with your classmates.
6 Using Source 5.3, categorise the reason for each move made by the person in Source 5.2.

Evaluate and create

7 Conduct a survey on the reasons why people move. Each person in the class should find three (unrelated) people who have moved in the last five years. Ask each person 'what was the main reason you moved?' Compare your class findings with the types of reasons given in Source 5.3. What were the differences and the similarities?
8 Is your class typical of the Australian population? What percentage of your classmates has moved home in the last five years?

Moving to cities

The world's population is growing rapidly, with the fastest growth occuring in cities. All across the world, people from rural areas are moving to cities in search of work and better opportunities. Geographers refer to this trend as urban drift.

Rural people are drawn to cities by the promise of better jobs, more money, and greater access to hospitals, schools and child-care facilities. There is also likely to be better access to services (such as electricity, clean water and sanitation) in most larger cities. Access to a range of entertainment options, such as cinemas and nightclubs, also attracts people. For all these reasons and many others, people tend to be attracted to urban areas.

Cities across the developing world in places such as Africa, Asia and South America are the fastest growing in the world today. The city of Lagos in Nigeria, for example, is one of the world's fastest growing cities, increasing by about 1 million people every three years. Lagos is expected to become Africa's largest city by 2015. Much of this growth comes from the movement of people from the countryside to the city. New migrants hope for a job, a house and a future, but the reality is often much worse – life in an urban slum.

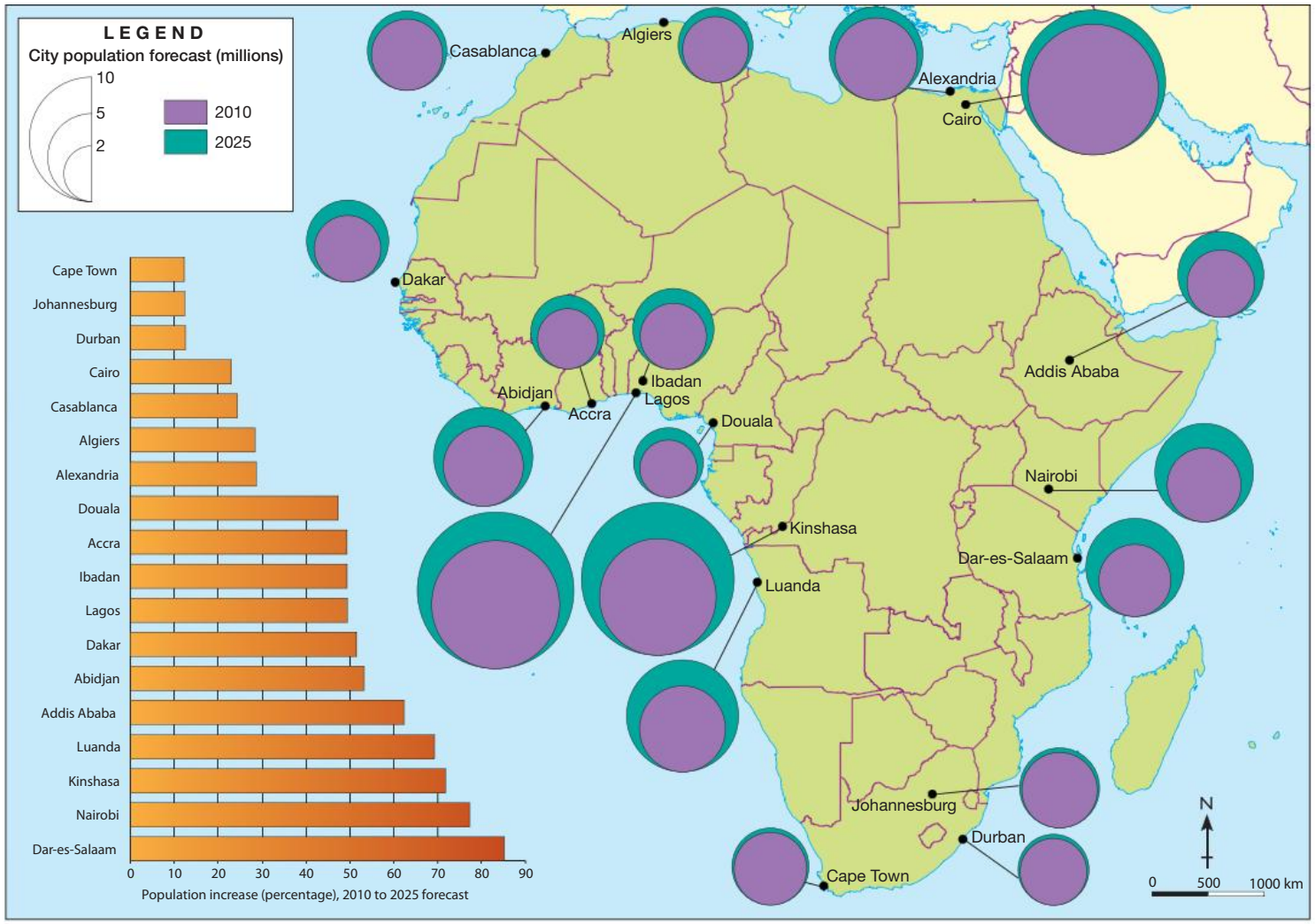


Source 5.5 The population of a place grows if births and arrivals outnumber deaths and departures. This is happening in many large cities.

Source 5.6 A row of yellow buses picks up passengers in Oshida market in Lagos, Nigeria



GROWTH OF AFRICAN CITIES



Source 5.7

Source: Oxford University Press

Check your learning 5.2

Remember and understand

1 What is urban drift?

2 There are four ways in which populations can change, as shown in Source 5.5. Which of these helps explain why the population of Lagos has grown so rapidly?

Apply and analyse

3 Look carefully at Source 5.7.

- a Estimate the size of the population of Lagos in 2010 and 2025.
- b How much might the population of Lagos grow between 2010 and 2025?
- c Which city on the west coast of Africa is expected to grow even faster?
- d The biggest percentage growth is expected to occur in two cities on the east coast of Africa. Name these cities.

Evaluate and create

4 Sketch the scene shown in Source 5.6. Use the guide to preparing fieldwork sketches at the end of section 3.3 to help you. On your sketch, label the following features: unpaved roads, open drains filled with rubbish, market stalls, evidence of electricity, public transport network and evidence of low rates of car ownership.

Urban slums

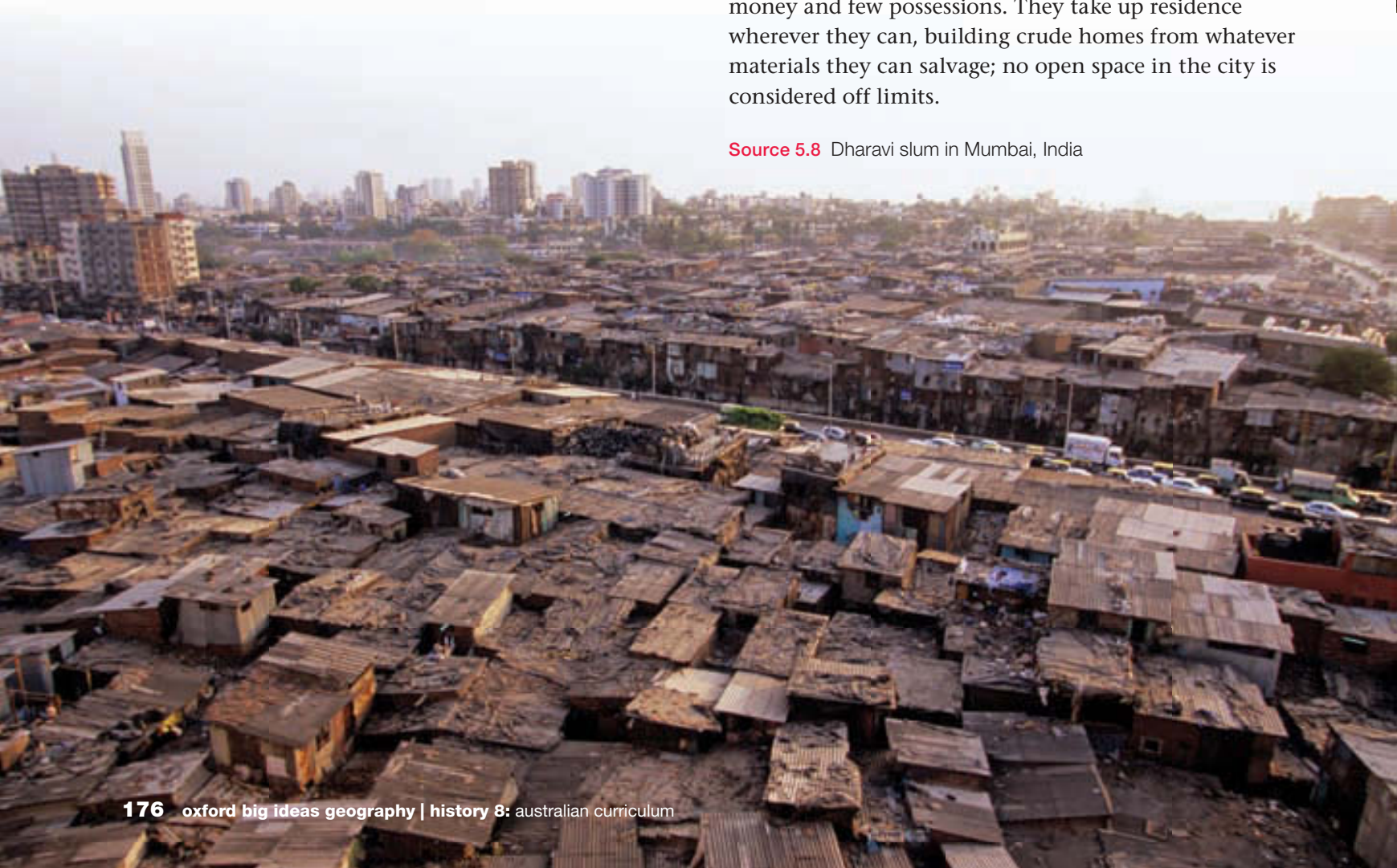
As people pour into the world's cities they bring about great change. Many cities around the world are struggling to cope with this urban explosion. Providing new arrivals with the basic services they need (such as water, food, housing and sanitation) is becoming difficult in many cities. As a result, many people moving to cities in the developing world find themselves living in **slums**. Every slum is different, but they share some basic features: poor housing standards and very little assistance from city authorities for the people who live there.

Virtually every city in the developing world has at least one slum. Some have grown to become cities in their own right as people continue to flood into the city. Most of the world's slum dwellers live in Africa and Asia but the world's largest, at about 4 million people, is in Mexico City. It is impossible to know exactly how many people live in slums but the United Nations estimates that the figure is more than 1 billion people; that is one-seventh of all humanity! Even more alarmingly, this number is expected to double to 2 billion over the next twenty years.

Case study: Life in Dharavi slum, Mumbai, India

One such slum is located in India's largest city, Mumbai. It is known as Dharavi and was the setting for the Oscar-winning 2008 film *Slumdog Millionaire*. For hundreds of years, Dharavi was home to fishermen who fished in the mangrove swamps and rivers surrounding the village. As the population of the nearby city of Mumbai grew, the city expanded outwards. By 1900 it had completely surrounded Dharavi. The swamps on which Dharavi had been built dried out and were filled in. With nowhere to fish, the traditional economy of the area collapsed, but a new economy was about to begin. The newly reclaimed swampland provided space for migrant communities arriving from the countryside. The former fishing village was soon transformed into a bustling suburb, which became home to people such as leather tanners, potters and garment workers.

Attracted by the bright lights of Mumbai with its Bollywood film industry, cinemas, trains, buses, schools and jobs, thousands of rural migrants continue to pour into the city every day. Most of them arrive with no money and few possessions. They take up residence wherever they can, building crude homes from whatever materials they can salvage; no open space in the city is considered off limits.



Source 5.8 Dharavi slum in Mumbai, India



Source 5.9 This boy is employed to sort through rubbish and separate materials for recycling.

While many new arrivals find space on the edges of Mumbai, some make their way to Dharavi, near the city centre. More people arrive daily. This tiny area of about 2 square kilometres has one of the world's highest population densities – 500 000 per square kilometre. This gives each person about 2 square metres of living space. The size of the total population is difficult to gauge but is thought to be more than 1 million. Most live in cramped, dirty conditions with only one toilet for every 1440 people. Canals and streams are heavily polluted with human waste. Water pipes are installed illegally by tapping into the city water mains that run past the slum. Electricity is connected in the same way.

Toxic black smoke spews from the oil drums that are used as furnaces all day. These furnaces power some of the heavy industries inside Dharavi, such as large-scale recycling, leather tanneries, metalwork and machinery manufacturing.

There is virtually no health care available inside Dharavi. Diseases from drinking contaminated water are particularly common.

Despite all these problems, there is a less gloomy side to Dharavi. Rather than a slum full of despair, many people consider it to be a slum of hope. While it is one of the world's largest slums, it is also one of the world's most prosperous. There are estimated to be about 15 000 single-room factories in the slum, most of them recycling items from the waste produced by Mumbai's 19 million people.

As Mumbai has increased in size and population, this tiny slum with 1 million residents has become some of the most valuable real estate in the city. Property developers, keen to take advantage of its good location close to the city, are pressuring the government to redevelop the area as housing for India's growing middle class. The current plan is to demolish Dharavi and build new high-rise apartments for the slum dwellers.

However, this plan is viewed with suspicion by many Dharavi residents. They prefer their do-it-yourself suburb to the proposed 'concrete jungle' of high-rise apartments. With India's population increasing by around 17 million a year, the pressures on India's planners and its people, including the slum dwellers of Dharavi, will intensify in the future.

Check your learning 5.3

Remember and understand

1. What is a slum?
2. Why has the number of people living in slums increased in recent years?
3. How has the suburb of Dharavi changed over time?
4. Why do some people refer to Dharavi as a 'slum of hope'?

Evaluate and create

5. Imagine that you were able to spend one day at Dharavi. Describe the sights, sounds, smells and tastes that you think you would experience.
6. Some people feel that slums such as Dharavi should be bulldozed and the residents forced to move into high-rise apartments. How do feel about this? What points would you use to try to convince a person with the opposite point of view? Join a class discussion about the future of slums, such as Dharavi.

Moving for work

Moving for work is an important reason why people migrate to another region. In poorer countries one family member may move to another town, city or country in order to find a better job. Much of the money the person earns is sent back home in order to help support his or her family. This money is known as **remittances**.

More than US$400 billion a year is moved between countries as remittances; the vast majority of it is from workers in **developed countries** to their families back home in poorer countries. The 7.7 million Filipinos living overseas, for example, send more than US$8.5 billion back home every year.

Source 5.10 Dubai, capital city of the United Arab Emirates, is in the middle of a construction boom. Overseas workers, particularly from India and Pakistan, are providing most of the labour. The world's tallest building, the Burj Khalifa, was opened in 2010. It is 818 metres tall and cost US$4.1 billion to construct. About 700 000 migrant workers worked on the project. The Burj Khalifa can be seen from nearly 100 kilometres away.



Case study: the Persian Gulf

Some of the oil-rich countries in the Persian Gulf (such as Oman, Bahrain and the United Arab Emirates) require large workforces in their industries and households. Millions of workers from countries such as India, Pakistan and Nepal make the journey to the Gulf to take advantage of wages many times higher than they would be able to earn in their home countries. The population of the United Arab Emirates, for example, is about 5.6 million people, 4.7 million of whom are migrant workers. The workers add to the prosperity of the Gulf countries by providing a source of labour. They also add to the prosperity of their home countries as they return wealthier and more skilled than when they left.

Some migrant workers are not treated well by their employers. In the United Arab Emirates, for example, many construction workers are not paid wages. They work extended hours without overtime compensation, and they work in unsafe environments, leading to death or illness. They also experience squalid living conditions in labour camps, and have their passports and travel documents withheld.

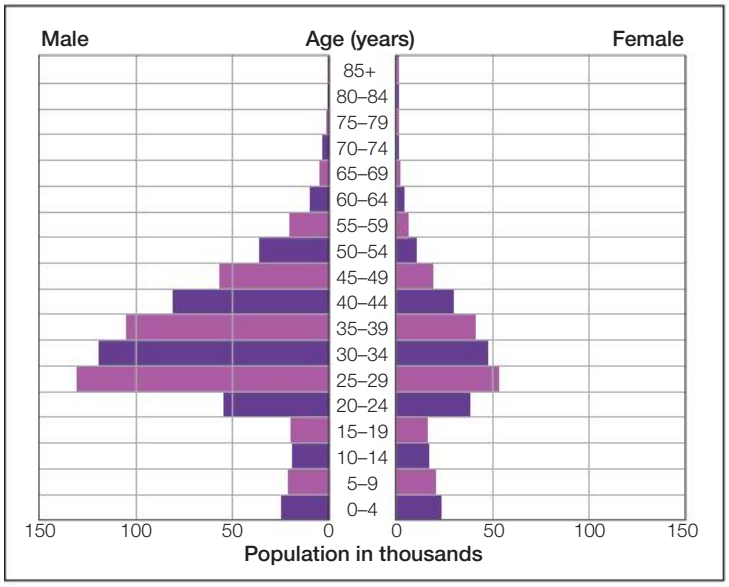


Source 5.11 Workers on the Burj Khalifa Tower were housed in work camps in the desert. Their pay of about US$1 per hour was mostly sent to their families back home.

PERSIAN GULF COUNTRIES: POPULATION BORN IN ANOTHER COUNTRY



Source 5.13 Source: Oxford University Press



Source 5.12 Population pyramid of foreign-born Kuwaitis, 2007

keyconcept: scale

Studying a region

Population movements can be studied at a range of scales from the local to the global. Here you have learnt about movements in the Persian Gulf. In geography, a region can mean both an area between the local and national scale (such as regional Queensland), or between the national and global scale, such as the Persian Gulf region. Because this includes more than one country but not the whole world it is referred to as a region. Other regions include the Middle East, Asia and the countries of the Sahara Desert. For more information on the key concept of scale, refer to section GT.1 of 'The geographer's toolkit'.

Check your learning 5.4

Remember and understand

1 What are remittances?

2 Explain how remittances benefit the individual who sends them, the family to which they are sent and the country to which they are sent.

3 Use Source 5.11 to help describe how workers on the Burj Khalifa project lived and worked.

Apply and analyse

4 Examine Source 5.13.
   a Which countries of the Persian Gulf have the highest percentage of foreign-born workers?
   b What percentage of Saudi Arabia's labour force was born overseas?

5 Carefully study the population pyramid (Source 5.12).
   a Are most foreign workers in Kuwait male or female?
   b What age are most foreign-born workers in Kuwait?

Evaluate and create

6 Imagine you are a foreign worker in the Persian Gulf. Write a short letter back to your family to accompany your remittance payment.

Moving for safety

While most people who move are free to do so there are also many forced migrants. The United Nations estimates that more than 40 million people around the world have been forced from their homes. Most of these people remain within their home country and are referred to as **internally displaced persons (IDPs)**. Millions of others are forced to cross international borders to escape persecution or to find another home after a natural disaster. These people are referred to as **refugees**. About half the world's refugees have fled from Iraq and Afghanistan and are seeking refuge in countries such as Pakistan, Iran and Syria. Pakistan alone hosts 1.7 million refugees.

Case study: Ahmad Akbar, an Afghan refugee

Fierce fighting for control of Afghanistan over decades has resulted in millions of refugees and IDPs. This is the story of one of them.

Ahmad Akbar, the eldest son of Ali, lives in Sarcasma, a small village in Afghanistan. Many people in Sarcasma fought against the Taliban and, in revenge, Taliban forces attacked the village. They rounded up 116 women and children and executed 60 of them in the local bazaar. 'I knew then', said Ahmad's father, 'I had to get my eldest son out of Afghanistan; it was my duty to save him.' In fear of Ahmad's life, Ali sold his truck to pay a people smuggler US$14 000 to get Ahmad and two other young men to safety in Australia. Ahmad's long journey had begun – see ① in Source 5.16.

The three men hid in the back of a truck and were driven over the mountains into Pakistan ②. From there they were flown to Jakarta in Indonesia ③ and then travelled to Kupang on the island of Timor ④. The town is well known as a staging post for refugee boats heading to Australia. Ahmad and 438 other refugees were crowded onto a 20-metre-long fishing boat by people smugglers for a 200-kilometre journey from Kupang to Australia.

The grossly overloaded boat broke down and began to leak. Fearing for their lives, the refugees were rescued by the Norwegian freighter the Tampa, whose captain was responding to a distress call ⑤. Australian authorities refused requests by the ship's captain to bring the refugees to Australia, maintaining that the rescued refugees were the responsibility of Indonesia. So instead of being taken to Australia, Ahmad and the other refugees were moved onto an Australian navy ship, the HMAS Manoora, at Christmas Island. They were then taken to the small Pacific island of Nauru ⑥ where Australian authorities had built two detention camps to house refugees while their applications to settle in Australia were processed.

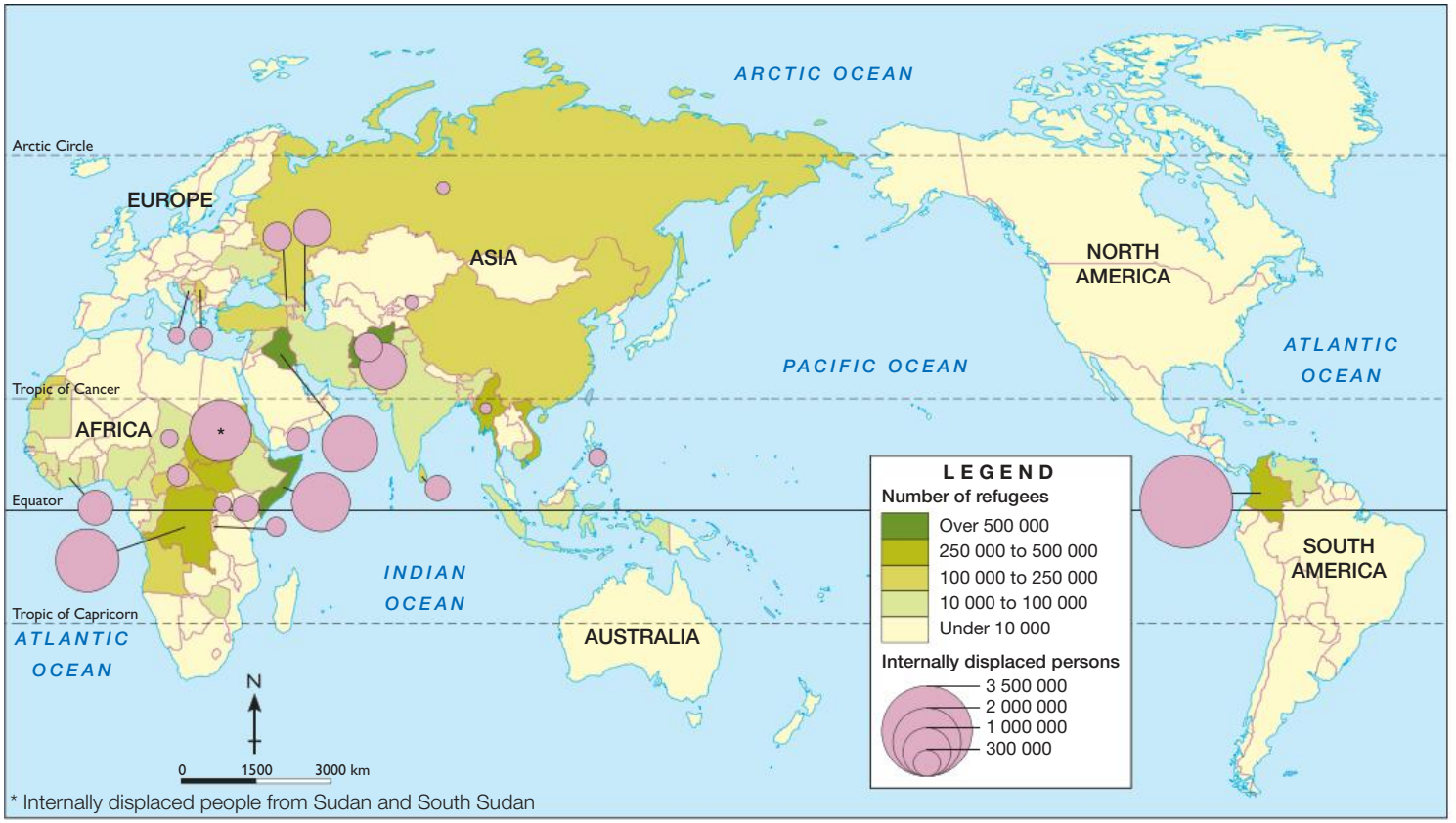
Ahmad was held on Nauru for two years while authorities assessed his claim that he was a genuine refugee. 'I told the interpreter how the Taliban had killed women and children and that my father had organised my escape to Pakistan and then to Indonesia', Ahmad said. 'I pointed out my village on a map. But I was not believed.' His application was turned down and he was returned to Afghanistan ⑦. Ahmad claims that his application was prejudiced as his interpreter was of a different ethnic group from his.

He believes that he was treated unfairly by the Australian authorities, who did not accept his claim that he was a genuine refugee. In an interview he stated, 'I thought Australians had a love of humanity, but they smashed my dreams.' Back in his village in Afghanistan, Ahmad Akbar sees little hope for the future.

Source 5.14 The Tampa alongside the distressed fishing boat

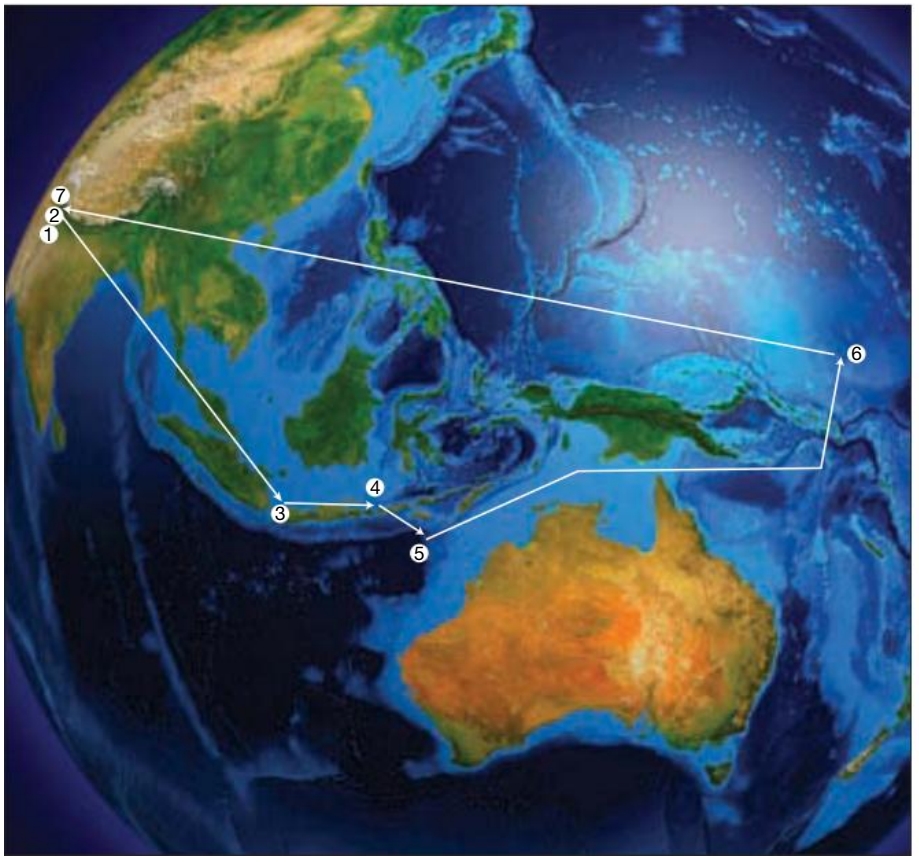


WORLD: REFUGEES IN 2011 AND INTERNALLY DISPLACED PERSONS IN 2010



Source 5.15

Source: Oxford University Press



Source 5.16 The route taken by Afghan refugee Ahmad Akbar

Check your learning 5.5

Remember and understand

1 What is a refugee?
2 What is the difference between a refugee and an internally displaced person?
3 Why did Ahmad leave Afghanistan?
4 How does he feel about the way he was treated?
5 Why do some countries produce many refugees?
6 Why do you think Ahmad tried to get to Australia rather than staying in Indonesia or Pakistan?

Apply and analyse

7 Using Source 5.15 and the world map inside the back cover of this book, list the countries with the greatest number of refugees and IDPs.

5.1 big**ideas:** broadsheet

Rapid change for the Aeta

The Aeta are a group of Indigenous people living in the Philippines. Traditionally hunter–gatherers, they survived on a diet of fruits, honey, animals and fish collected from their mountain forest home. Today, these forests are being cleared for farms, logging and mines. One important region of Aeta settlement was the island of Luzon, where they lived for thousands of years in small villages on the lush slopes of Mount Pinatubo. In June 1991, Mount Pinatubo, an active volcano, exploded in one of the worst eruptions in history, devastating the Aeta population there. More than 200 000 Aeta lost their homes. After the eruption, many were forced into resettlement camps or urban areas where they face an uphill battle to preserve their traditions. Most are illiterate and have no sense of money or land ownership. The average life expectancy of Aeta men and women is now just 16.5 years.

skill**drill**

Analysing geographical photographs

Photographs are one of the many tools that geographers use to study different environments and places. There are three main types of photographs used commonly by geographers in the field:

- ground-level photographs
- oblique photographs
- vertical photographs.

1 Ground-level photographs

Ground-level photographs are taken on ground level, as the name suggests. They record exactly what a person would see if they were standing in front of the scene. Ground level photographs enable the viewer to clearly see the detail in the environment and appreciate the scale of objects in it. Features in the foreground of ground-level photographs generally look bigger and features in the background generally look smaller. Ground-level photographs are useful for geographers because they show a lot of detail. They are also less expensive and easier to produce than other types of photographs.

2 Oblique photographs

Oblique photographs are taken on an angle from a high point. They can be taken looking down from a cliff or mountain, or from an aircraft or hot-air balloon (known as aerial oblique). Oblique photographs are useful for geographers because they show a larger area than ground-level photographs. Oblique photographs are not used for making maps because the scale in the foreground is different to the background, making accurate measurements difficult.

3 Vertical photographs

Vertical photographs are taken from directly above (this is also referred to as plan view). They can either be taken from an aircraft or a satellite orbiting the Earth. Vertical photographs are particularly useful to geographers and cartographers because they show the largest areas of any type of photography.



Source 5.17 A ground-level photograph showing the volcanic ash and mudslides (lahars) that destroyed settlements and forced the Aeta from their homes. They were unable to continue their lifestyle in the devastated environment.

They can be used to make maps because the scale is constant. When taken from low altitudes they can be used to analyse smaller areas; when taken from high altitudes they can be used to analyse extremely large areas.

When analysing a photograph, you need to infer (use factual knowledge to decide) what might be happening and the possible reasons for it. A good way to do this is to think of the photograph as the answer to a question like 'How has the lifestyle of the Aeta changed?' With this question in mind, look for important features that can help provide an answer. Additional questions you should ask when analysing geographical photographs include:

- What is happening in the photograph?
- What are the reasons for this?
- What do the features tell us about the people or landforms being shown?
- What is the most important or dominant feature shown in the photograph and why?
- Do you think this feature may have changed over time? Why or why not?
- How do the features shown relate to one another?

Apply the skill

1 Look carefully at the ground-level photograph shown in Source 5.17.
   a What does this photograph tell you about the effects that the eruption had on the Aeta?
   b What can you learn from the photograph about the conditions in which the Aeta live?
2 Look carefully at the oblique aerial photograph shown in Source 5.18.
   a What does the photograph tell you about the scale of the damage to the home of the Aeta?
   b Does this photograph help to explain the reasons why the Aeta were forced into resettlement camps?
3 Look carefully at the vertical satellite photograph shown in Source 5.19.
   a Why is it possible to draw a map from a satellite image but not from a ground-level photograph?
   b What does the photograph tell you about the extent of the damage to the natural environment in which the Aeta live?

Extend your understanding

1 What challenges to their way of life were the Aeta people facing before the eruption of Mount Pinatubo?
2 How did the eruption speed up the change for the Aeta living on the slopes of Mount Pinatubo?
3 What issues do you think the Aeta people faced when they were moved to resettlement camps?



Source 5.18 An oblique aerial photograph showing an Aeta village destroyed by pyroclastic flows from the Mount Pinatubo eruption



Source 5.19 A vertical satellite photograph showing the aftermath of the Mount Pinatubo eruption. Torrential rain mixed with ash from the eruption caused mudslides (lahars). The lahars appear as rivers of mud flowing down the slopes of Mount Pinatubo.

5.2 What are the impacts of migration?

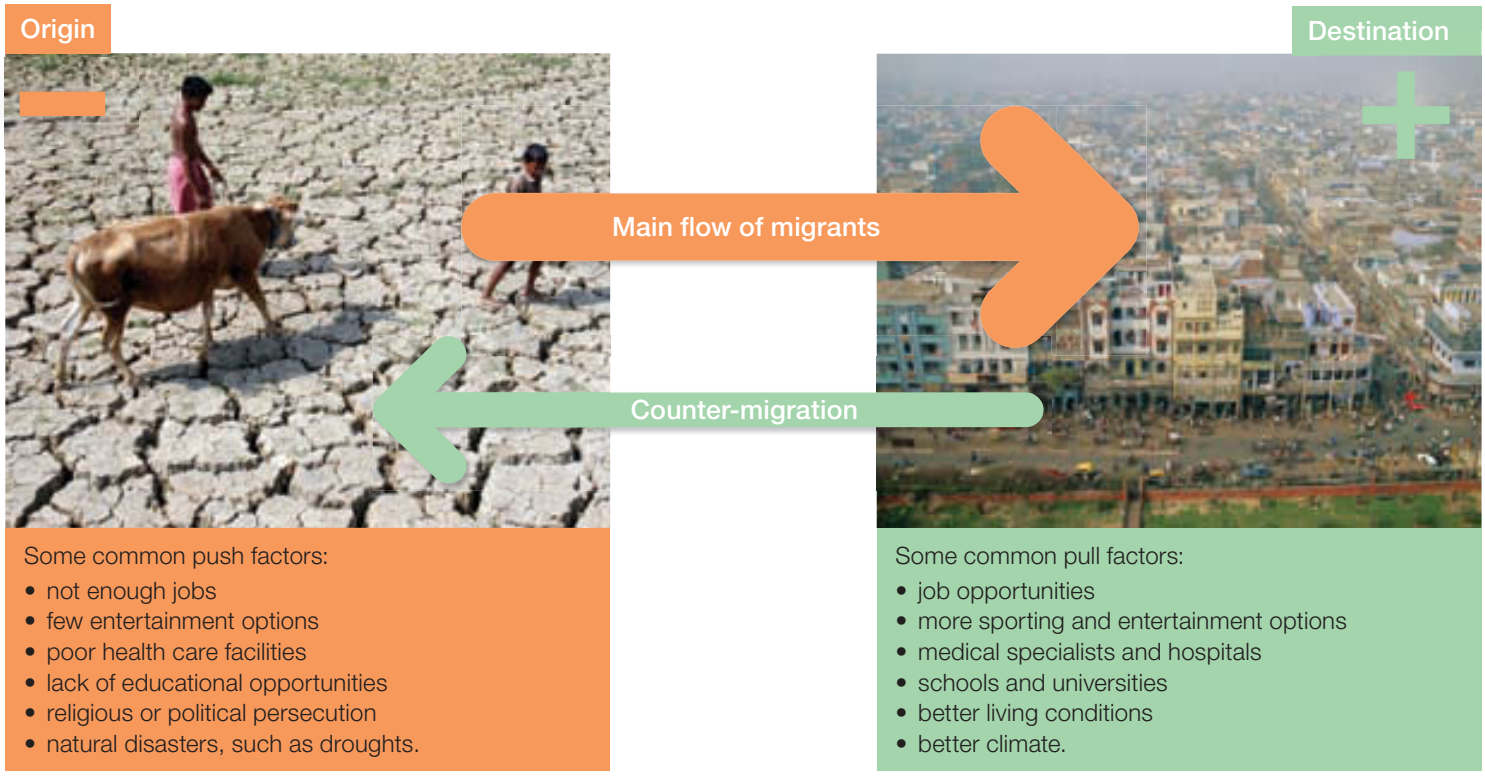
Explaining population movements

The world's population is on the move. We move around the block, to the next town, the next state or across the world. About one in every 33 people worldwide is an international migrant, living in a country other than the one in which they were born. In Australia, the figure is more like one in every four.

One of the largest movements currently underway around the world is the internal migration of people from rural areas to cities. When seeking to explain the reasons behind such population movements geographers often use models that simplify reality and show general trends.

One such model is known as Lee's migration model, developed by US geographer Everett Lee. Lee stated that there are both positive and negative factors of the place each migrant comes from (the origin) and the place each migrant is going to (the destination). The negative factors Lee called push factors as they tend to push people away from a certain place. The positive factors he called pull factors as they tend to pull people towards a certain place.

Every migrant believes that the place he or she is going to is better than the place he or she is leaving. However, not everyone who believes that better opportunities exist elsewhere will move; they may see certain obstacles to moving, such as family ties and moving costs. Furthermore, some migrants find that the new place does not give them everything they hoped for and so they return to where they came from. This is called counter-migration.



Source 5.20 Lee's migration model

key**concept:** interconnection

Population movements in Somalia

The concept of interconnection is used by geographers to show how everything on the Earth, living and non-living, is connected in some way. When population movements happen on a large scale, as they have in Somalia for example, they can impact on communities around the world.

In Australia, virtually all population movements are voluntary, but in other countries people are forced to move. If people are forced to move to another country they are referred to as **refugees** but if they are forced to move within their own country they are referred to as '**internally displaced persons**' or IDPs. There are more than 26 million IDPs in the world.

About 1.5 million of these are in Somalia, Africa. An ongoing drought has forced many poor farmers to leave their land and move to camps near the capital Mogadishu, where they hope to find food and water. They join the hundreds of thousands of Somalis who are fleeing violence and fighting in the city and in other areas of the country. Many of them live in temporary settlements on the sides of the road leading to Mogadishu. The largest IDP settlement, Afgooye, is home to at least half a million people.

As many living in the IDP settlement have little hope of returning to their homes in Somalia, their hopes turn to moving to a new country that holds the promise of a better life. Large numbers of Somalis have been accepted as refugees in countries around the world, including Australia. This has brought new communities to Australia, adding to Australia's cultural mix. In this way, the war and drought in Somalia has resulted in a change in Australia's cultural make-up.

For more information on the key concept of interconnection, refer to section GT.1 of 'The geographer's toolkit'.



Source 5.21 An internally displaced man in Somalia passes a group of military vehicles on his way to Afgooye

Check your learning 5.6

Remember and understand

1 What are the differences between push factors and pull factors?
2 Using Source 5.20, list some of the main reasons why people move to the city.
3 What advantages does the city have for people looking for work?
4 Why doesn't everyone move?
5 What is a refugee?
6 What is the main difference between a refugee and an internally displaced person?

Apply and analyse

7 Why is the population of the Afgooye camp in Somalia growing?
8 What are the push and pull factors responsible for the growth of Afgooye?

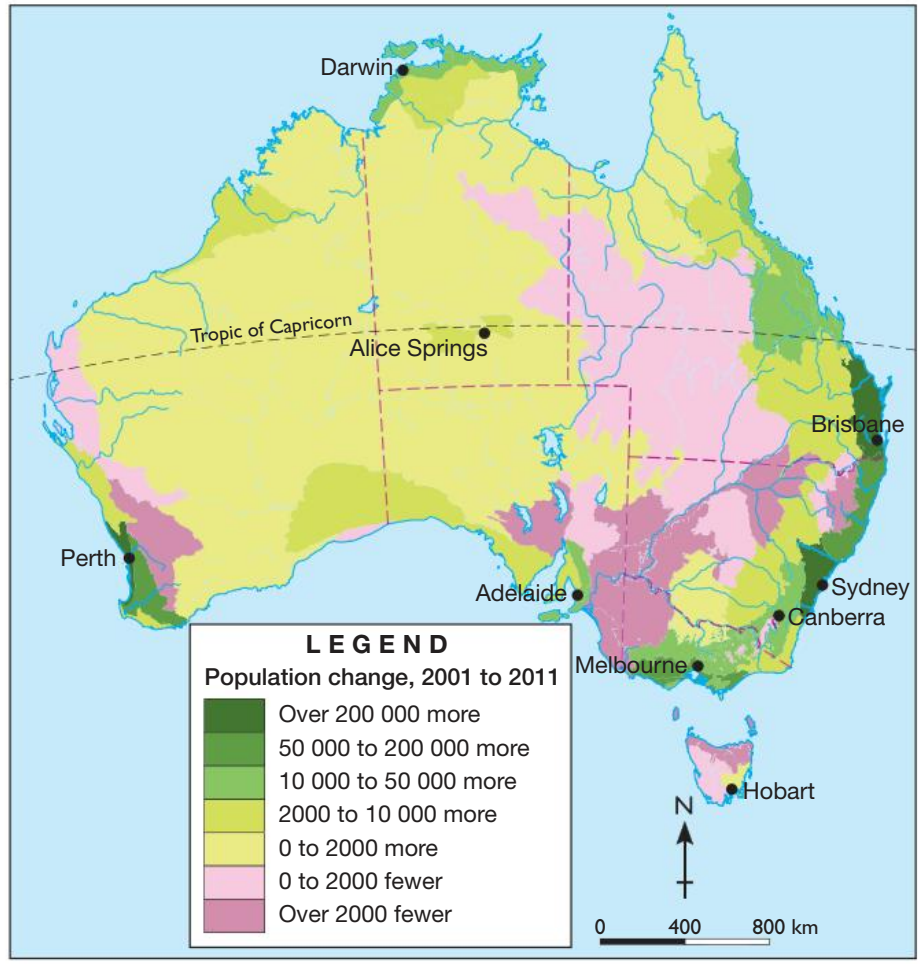
Population movements in Australia

Australians are some of the world's most mobile people. Forty per cent of us move house at least once every five years. People move for a wide variety of reasons, and if enough people move this leads to large-scale changes in the population at local, regional and national scales. For example, young people who live in country towns often must move to one of Australia's capital cities to attend university. This changes the population size and number of young people in both places. Similarly, older people may move from unpleasant climates to milder climates in order to better enjoy their retirement. This means the population of both places will change. Source 5.22 shows the ways in which Australia's population shifted in the 10 years between 2001 and 2011.

The map clearly shows that Australia's four largest cities and the areas surrounding them are growing more rapidly than the rest of Australia. Other significant trends include the following:

- Western Australia has overtaken Queensland as the fastest growing state. This is partially due to workers migrating because of job opportunities in the Western Australian mining industry.
- The inner-city areas of our largest cities are some of the fastest growing areas in the country. Inner-city Perth, for example, is growing at more than 12 per cent per year.
- The large cities are getting larger both in terms of their population and their size. Some of the fastest growing places in Australia are on the edges of the cities where more land is available for housing estates. The population of Wyndham in outer Melbourne, for example, is increasing by almost 30 people a day.

AUSTRALIA: POPULATION CHANGE, 2001–11



Source 5.22 Source: *Oxford Atlas*



Source 5.23 As with many rural towns in Australia, the population of Trundle in New South Wales is declining. To attract new residents, some empty farm houses are available for rent for only $1 a week.

Our fastest growing suburbs

One of the key population movements in Australia is the movement of people, particularly young families, to the outer suburbs of our major cities. Some of Perth's outer suburbs, for example, are growing at five times the national average. The fastest growing suburb in Perth is Wanneroo on the city's northern coastal fringe. More than 6200 people are moving to the suburb every year and new housing estates are being built to house them.



Source 5.24 The outer suburbs of Perth are some of the fastest growing urban areas in Australia.

Check your learning 5.7

Remember and understand

1. Why are the populations of some rural areas in Australia declining? How is Trundle (Source 5.23) trying to reverse this trend?
2. Using Source 5.22, list three places in Australia where the population is increasing. Next to these place names, explain why they are increasing.

Apply and analyse

3. Australia's population changes due to factors at a range of scales: global, national and personal. Give an example of a change at each of these scales.
4. Study Source 5.22. Describe the changes in the distribution of Australia's population between 2001 and 2011. Why did the population change in this way?

Evaluate and create

5. Look closely at Source 5.24 showing a new housing development in Wanneroo.
   a. How has the natural environment been changed?
   b. Why do you think young families often build houses on the edges of cities, rather than near the centre?
   c. Name some of the advantages of living in this place.
6. How do you think Australia's population will change in the next 30 years? Brainstorm these changes and then, with a partner, discuss the impacts of your predicted changes on people and places.

Case study: the growth of Australian mining towns

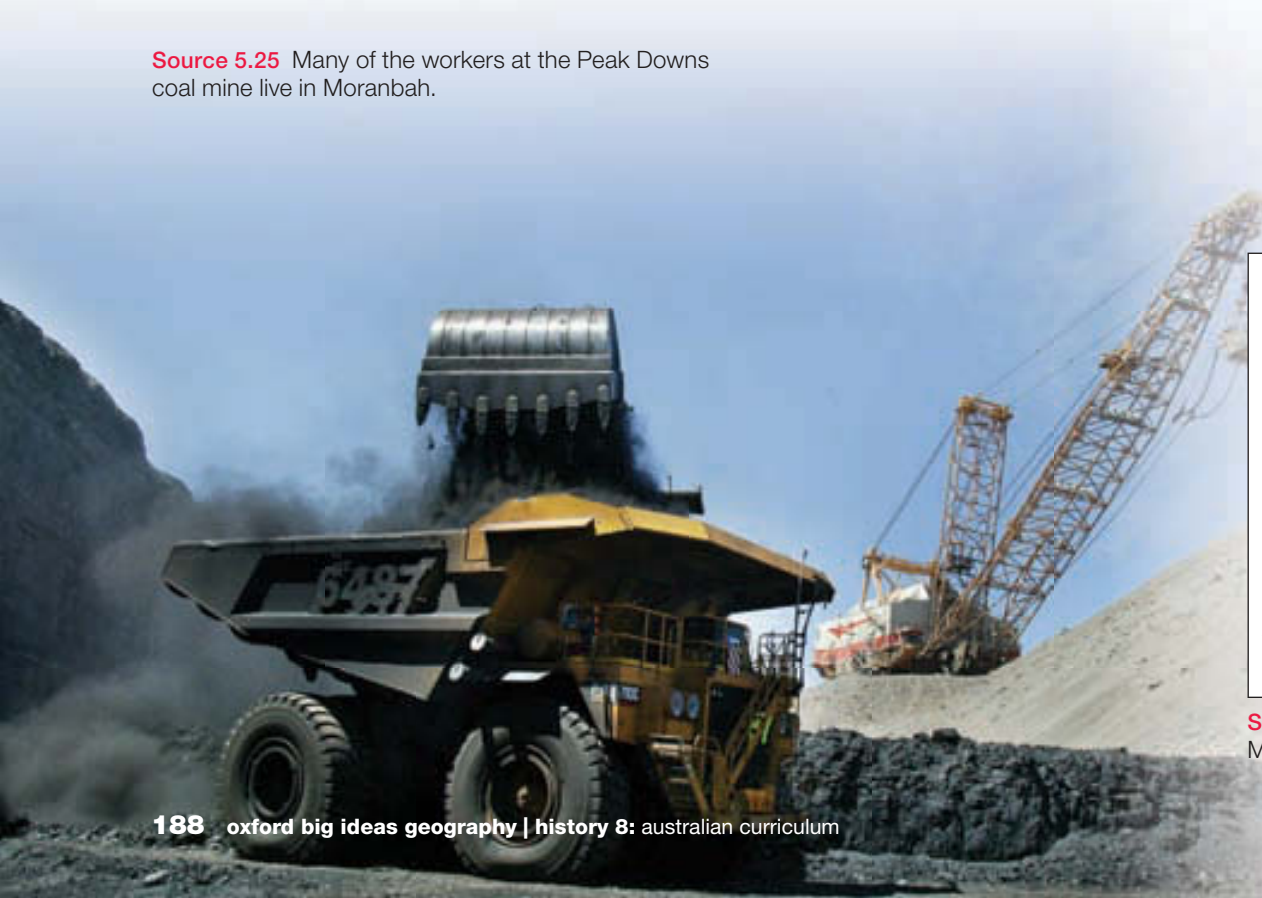
One of the most significant population movements in Australia today is the movement of people to areas rich in mineral deposits (such as iron ore and coal) to work in and around the mines. This movement is due to a resources boom – a massive increase in demand for Australian mineral resources, particularly from Asian countries such as China and India. Many small towns located near mineral deposits are growing rapidly in size, population and prosperity as a result. This is creating opportunities for some people in these towns and problems for others.

The town of Moranbah, Queensland

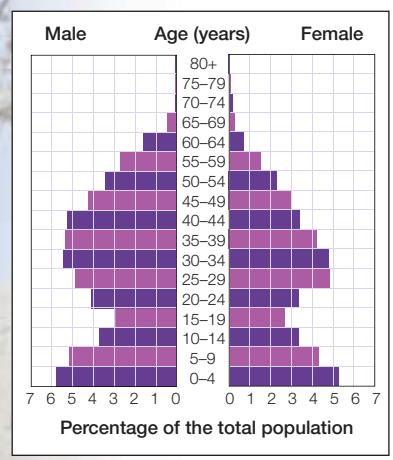
Lying beneath much of Queensland is one of the world's richest coal deposits – the Bowen Basin (see Source 5.27). Located in the Basin is the town of Moranbah. As people move to the Bowen Basin to take advantage of jobs in the mining industry, many buy or rent a house in Moranbah, making it their home. Others continue to live in more distant places, such as Brisbane and Sydney. They fly into Moranbah for work and then fly home when their shift is finished. Some may stay in the area for three weeks and then fly home for two weeks; others may work in the mines from Monday to Friday and then fly home for the weekend. This type of lifestyle is referred to as 'fly in, fly out' (FIFO), which allows miners to take advantage of available jobs in remote areas without disrupting their families' living arrangements.

The changes in Moranbah, such as FIFO workers and the overall growth in population, present several key issues for governments and the residents of the town. For example:

- The price of houses and the costs of rent have increased dramatically in response to the demand for places to live. When a new mine started near the town, the rental price of some houses jumped by $1000 per week. Some rentals are now as high as $3000 per week and a new house may cost up to $1 million.
- New infrastructure, such as schools and roads, needs to be developed for the incoming miners and their families without reducing the liveability of the town.
- Efforts need to be made to avoid a clash of industrial land uses, such as coal-handling facilities, with other land uses, such as schools, parks and houses.
- Plans must be made for the long term when demand for coal may fall and people leave the town.
- Steps need to be taken to reduce the environmental and health impacts of mining on the local environment.



Source 5.25 Many of the workers at the Peak Downs coal mine live in Moranbah.



Source 5.26 Population pyramid for Moranbah



Source 5.27 Residents of Moranbah protested in 2011, concerned that 'fly in, fly out' (FIFO) miners were increasing house prices but contributing little to their town.

CENTRAL WEST QUEENSLAND: BOWEN BASIN AND LOCATION OF OPERATING COAL MINES



Source 5.28 Source: Oxford University Press

Check your learning 5.8

Remember and understand

1 Why is the population of Moranbah growing and changing?

2 Why does this population growth result in higher house prices?

Apply and analyse

3 Examine Source 5.26.
   - a Which age groups make up the majority of the population?
   - b Are there more males or females in these groups?
   - c Given that Moranbah is a typical Australian mining town, what does this population pyramid tell you about the populations of mining towns generally?

4 Examine Source 5.28.
   - a Use the scale provided to estimate the distance from the Peak Downs coal mine to Moranbah.
   - b How many operating mines are there within 100 kilometres of Moranbah?
   - c What facilities for transporting coal to Asia have been built in this region?

Evaluate and create

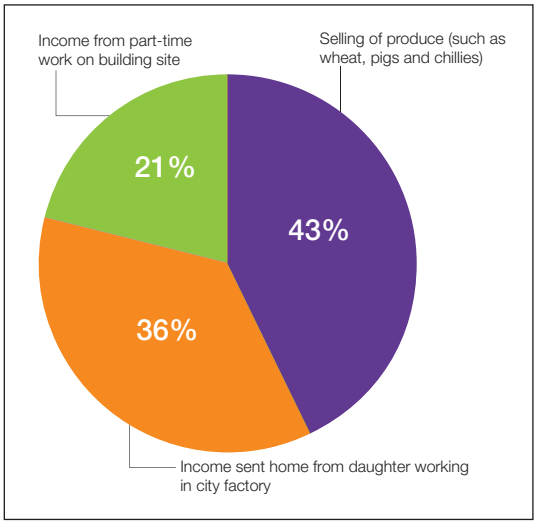
5 Work in a group to brainstorm the positive and negative impacts of the population growth in Moranbah. In your brainstorm you may like to use headings, such as 'changes to the environment', 'changes to housing' and 'changes to people's way of life'.

6 What would happen if the demand for Australia's coal suddenly fell and the mines near Moranbah closed? How would this impact on the town and its people?

Population movements in China

For thousands of years, most Chinese people have lived in small rural villages. Their life was dominated by the daily routine of farming – planting, weeding and harvesting crops, and caring for animals such as pigs and cows. Over the last few decades, however, this situation has begun to change as more and more people move to one of China's booming cities to find work and a better life.

Although China is still home to more than half a billion farmers, it is also home to some of the world's largest and fastest growing cities. The movement of people from rural areas to cities in China is one of the greatest migrations in human history. Lured by the remarkable boom in China's economy over the last decade, millions of Chinese peasants are leaving their farms and heading for cities along the east coast. This has led to many inequalities between rural and urban areas, with the average income in rural areas being about one-third of that in cities.



Source 5.30 Like many families in rural China, Xianglan's family relies on money sent home from a relative working in the city.

From rural life …

Xianglan Li lives in a small village in Guangxi Province in southern China. Her day begins at dawn, when she wakes to sweep the concrete floor of the small home she shares with her husband and son. After breakfast she feeds her chickens and pigs, and collects waste from the pig sty to carry to the fields for fertiliser. Using the water from the buckets she has placed beside the house to collect rainwater, she throws some on the road to keep down the dust. Like most rural villagers in China, the family has no car.

Source 5.29 Small villages dot the landscape of Guangxi Province in southern China.



Xianglan's husband works part time as a labourer on a building site in a nearby town. Xianglan joins other villagers walking to their fields a few kilometres from the village. The roads are slowly filling with small tractors and bikes, as well as farmers carrying their produce on long poles. There is a buzz of excitement as tomorrow is market day.

Xianglan spends her morning weeding the wheat and picking chillies for the market. In the afternoon she collects firewood from the nearby forest. Carrying the wood and chillies, she walks through the village to her home. Some farmers are spreading out their wheat crop in the village square to dry it, ready to separate the grain from the stalks. The stalks will become feed for the pigs and fuel for the cooking fire.

Although her home has no running water and no inside toilet, it does have a new colour television that her daughter, Xiu, has sent from Shenzhen. There is only electricity for a few hours in the evening, so after dinner Xianglan and her husband sit on their bed and watch a new soap opera. They go to sleep as the sun sets.

… to urban life

Xianglan's daughter, Xiu, lives in Shenzhen, a major city with a population of 10 million people near Hong Kong, hundreds of kilometres from her family's village. Shenzhen is a full day's train ride away. Three years ago, Xiu left her family home to move to the city to find work. She now works in a factory where she assembles mobile phones. Xiu lives in a dormitory owned by the company and shares a room with seven other workers, most of whom are also from Guangxi Province. There is a cafeteria in the dormitory building and the bathrooms have hot and cold running water. There is reliable electricity, which the workers use to watch television in their spare time, wash their clothes and charge their mobile phones. Virtually everyone has a mobile phone; some have two or three.

Xiu works 10 hours a day in the factory. She is pleased to have a job so she can help support her parents and brother, but she finds the work boring and repetitive. She knows that if she quits she will be quickly replaced, but she sometimes thinks about moving back to Guangxi. She catches the train home once a year to celebrate Chinese New Year with her family. Next year, she intends to take home a mobile phone for her father.



Source 5.31 Xiu works in an electronics factory in Shenzhen assembling mobile phones for export.

Check your learning 5.9

Remember and understand

1 Why are young Chinese men and women moving to large cities?
2 What does Xiu do for a job? Where do you think she was trained for this job?

Apply and analyse

3 How has the movement of young Chinese men and women from farms to cities changed both places?
4 Why can a worker in the city earn three times as much as a farm worker?

Evaluate and create

5 In what ways do you consider Xianglan's life to be better than her daughter's? In what ways do you consider it to be worse? Discuss your answers in a small group. Were there some areas that you all agreed on?
6 Imagine that Xiu quit her job and returned home. Explain the impact this would have on the following:
   a the family's income
   b the family's food expenditure
   c the factory in Shenzhen.
7 If Xiu's father visited her in Shenzhen, what do you think he would find most surprising about his daughter's way of life? Give some reasons for your answer.

Case study: the growth of China's megacities

In 2012, there were two megacities in China – Shanghai and Beijing. By 2025, six new Chinese megacities with populations of 10 million people are expected to emerge. By this time, 1 billion Chinese people will be living in cities. This is a remarkable change in a country where only 20 per cent of people lived in urban areas in 1990.

The beginning of this change can be traced back to the late 1970s and 1980s. At that time, the Chinese Government began to introduce policies and laws that encouraged economic growth. The goal was to turn China from a country of farmers into a country of business people and factory workers. Businesses and factories soon started to pop up in most Chinese cities, and people began to move from the countryside to take advantage of new job opportunities. Global demand for Chinese goods meant the numbers of factories and factory workers quickly increased. Overseas companies struggled to compete with Chinese manufacturers on price. Many started moving their factories to China to take advantage of China's expertise and lower labour costs. The drivers of this growth and change were China's big cities. In fact, cities in China are expected to produce 90 per cent of the country's total wealth by 2025.

CHINA: POPULATION OF LARGEST CITIES, 2005 AND 2025



Source 5.32 Source: Oxford University Press

keyconcept: place

Dreams of returning home

One of the fastest growing cities in China is Shenzhen in Guangdong Province. In 1980, Shenzhen was a small fishing village with a population of about 10 000. Today, it is home to almost 10 million people. A recent study estimated that about 80 per cent of Shenzhen's population are migrants to the city from rural areas across China.

One of these migrants is Zhao. He moved from his home in rural Hunan Province in 1998 after friends convinced him that he could make more money as a taxi driver in the city than as a farmer.

As a migrant, Zhao is not entitled to have a licence that allows him to own land in Shenzhen. This licence (known as *Hukou*) recognises people as official residents of the city, and without it Zhao feels unwelcome in Shenzhen. Zhao intends to move back to Hunan when his son finishes high school because it has become very difficult to earn enough money as a taxi driver. This is mainly due to traffic congestion and rising petrol prices. In Hunan he intends to return to farming his 0.5 hectare plot of land and to care for his parents, who are becoming too old to farm the land.

For more information on the key concept of place, refer to section GT.1 of 'The geographer's toolkit'.



Source 5.33 Competition among taxi drivers in Shenzhen is fierce



Source 5.34 A snapshot of China's cities by 2025 based on current trends

Check your learning 5.10

Remember and understand

1 Why are China's cities growing so rapidly?
2 Why are people moving to China's cities?

Apply and analyse

3 As a country, how does China benefit from people moving to cities?
4 How many megacities (over 10 million people) were there in China in 2000? How many are there expected to be in 2025? Why is this number expected to change?
5 In which regions of China are the cities expected to grow most rapidly? Discuss some of the reasons for this pattern with a partner. Can you find one aspect of the natural environment responsible for this pattern and one aspect of the human environment?

Evaluate and create

6 Read about the growth of Australia's cities under 'Population movements in Australia' earlier in this chapter. Compare the reasons for this growth with the reasons for the growth of China's megacities. What are the similarities and the differences?

Australia's mining boom

Australia is home to some of the world's largest and most productive mines. A major supplier of many metals and minerals used around the world, Australia has large reserves of lead, brown coal, nickel, silver, uranium, zinc and zircon. This mineral wealth tends to be located in remote areas of the country. Large mines are currently located in the north-west of Western Australia and central Queensland.

Case study: the mining boom's impact on the movement of Australia's Indigenous population

Until recently, few Indigenous Australians worked for the mining companies. Over the past decade or so this has changed dramatically. Not only are mining companies offering work opportunities for local Aboriginal communities, but they are also recruiting Indigenous workers from other parts of the country on 'fly in, fly out' (FIFO) and 'drive in, drive out' (DIDO) working arrangements.



Source 5.35 The mining sector is providing employment for Aboriginal people in many ways. These trainees, from Kempsey in New South Wales, are training to become 'fly in, fly out' (FIFO) workers in the Pilbara region of Western Australia. This work provides a valuable source of income for the town of Kempsey.

Employing local workers

Mining companies now recognise that recruiting local Indigenous Australian workers benefits both the local communities and the mining companies. Unlike 'fly in, fly out' (FIFO) workers, local Indigenous workers have a spiritual connection to the country in which the mines are located. This makes them much less likely to leave their jobs and move elsewhere. Employing local workers also means that there is little additional strain placed on the housing market as these workers already have homes in the area. Finally, the wages of these Indigenous workers stay in the local area rather than being taken to large cities by FIFO workers. Local children see the miners as role models and the mines as pathways for their own futures. School attendance rates in mining areas tend to be higher than in other remote places.

Employing FIFO workers

The mining boom has also offered employment opportunities for Indigenous Australians living long distances from mining areas. Many fly long distances from their homes (in towns such as Kempsey, New South Wales) to earn a good living as FIFO workers in mines across Western Australia and bring back money to their communities.

Well over 50 000 Indigenous Australians now work in mining. At some mines and mining facilities, such as ports, almost half the workforce is Indigenous. Rio Tinto, one of the world's largest mining companies, is the largest non-government employer of Indigenous people in Australia, with almost 2000 Aboriginal workers. Another mining giant, BHP Billiton, has recruited 720

Indigenous trainees at its Pilbara operations in the last few years. Around one in 10 employees of the Fortescue Metals Group is Aboriginal, and the company has set up special training courses in Port Hedland and Roeburne in the Pilbara region.

Sharing the wealth?

Despite the positives, many Indigenous Australians feel the mining boom has brought little economic benefit and has increased the gap between themselves and non-Indigenous Australians. A recent study showed that there is little difference between the well-being (such as health and life expectancy) of Indigenous people living near mines and those living in other regions of Australia. The mining boom has also driven up housing and food prices in numerous remote communities. Many Indigenous Australians also feel that mining companies show little respect for the special connection they have with the land.

> [They] all ripping our country up and we getting nothing back from it, just chicken feed ... Everything, all the mining company, what are they giving back to the people? We are missing out on the luxury that is coming from our land, and other people are enjoying it.
>
> Interview with Aboriginal man, Pilbara region



Source 5.36 Ancient rock carvings on the Burrup Peninsula in Western Australia are now under threat from mining in the area.

Threats to Country

There is also some concern that mining is threatening important sites, many of which are sacred to local Aboriginal communities. On the Burrup Peninsula, in the Dampier Archipelago of Western Australia, for example, there is one of the world's largest collections of rock carvings (see Source 5.36). Some of these rock carvings date back 9000 years. This is one of the world's most important archaeological sites, as the rock carvings contain the record of an ancient way of life.

The construction of a proposed chemical processing plant on the region's natural gas reserves may result in the destruction of some of the rock art to make way for roads and buildings. Some researchers also believe that air pollution from the plant may erode the art. The art is now listed as a 'Monument in Danger' by the World Monuments Fund.

Source 5.37 Comparison of Indigenous and non-Indigenous people in the Pilbara

Measure	Indigenous Australian	Non-Indigenous Australian
Average weekly income	$297	$1984
Adults who have completed Year 12	19%	47%
Without an Internet connection	55%	11%
Workforce employed in mining (2006)	19%	45%
Employed adults (2006)	47%	86%

Check your learning 5.11

Remember and understand

1. What are FIFO workers?
2. Why do many mining companies now employ Indigenous Australian workers?

Apply and analyse

3. Use an atlas to locate the towns of Kempsey in New South Wales and Port Hedland in Western Australia. Estimate the distance between these two places.
4. In what ways are the trainees in Source 5.35 similar to other FIFO workers and in what ways are they different?
5. Use the data in Source 5.37 to compare the well-being of Indigenous and non-Indigenous people in the Pilbara region.

Evaluate and create

6. Do you think that the rock carvings on the Burrup Peninsula should be protected? Give reasons for your answer.
7. Do the advantages of mining for Indigenous communities outweigh the disadvantages? Discuss this as a class before reaching a conclusion.

China's manufacturing boom

The manufacturing boom has resulted in a massive movement of Chinese people from rural areas to booming factory cities. It is estimated that 140 million people have left their rural homes, and that 45 million will leave within the next five years.

Case study: the manufacturing boom's impact on the movement of China's rural population

The growth in China's economy has brought many benefits to the Chinese people but this growth would not have been possible without the mobility of its population. The Chinese Government estimates that the country has a 'floating population' of 215 million people (16 per cent of the total population) who are registered as living in a rural area but who live and work in a city. These migrants receive no benefits and are usually not counted as part of the city's population, yet they are improving the economy of their country. In doing so, they are also improving their own standard of living and that of the communities they have left behind when they send money back to their families.

A comparison of living conditions in China between 1995 and 2012 shows some of the ways in which China has changed (Source 5.40). Statistics such as these are often used to show trends as they take into account the whole population and not just a few people.

Perhaps the most amazing statistic is the percentage of the population living below the poverty line or earning less than US$1.25 a day. In 1981, 85 per cent of the Chinese people were living in poverty. Most of these people were living in rural areas and were only able to grow enough food to feed themselves and their families. By 2005, this figure had fallen to 16 per cent of the population. This means that between 1981 and 2005 over 600 million Chinese moved out of poverty. No other place on Earth has made the same progress at this speed or scale. For many of these people, the way out of poverty involved a move to the booming cities and a job in a factory.

A downside of this economic growth is an increase in the gap between the rural poor and urban rich, with city dwellers earning three times as much as those in rural areas. There has also been a considerable cost to the environment, especially in areas where coal-fired power stations provide the electricity for factories and towns.



Source 5.38 Every year the railway station in the Chinese city of Guangzhou becomes one of the busiest places in the world as migrants from the countryside return home for the Chinese New Year holiday.

CHINA: MOVEMENT OF PEOPLE



Source 5.39 Source: Oxford University Press

Source 5.40 Selected indicators of the standard of living in China, 1995 and 2012

Indicator	1995	2012
Male/female life expectancy	67/69 years	72/76 years
Infant mortality rate	52/1000 births	16/1000 births
Literacy rate	73%	92.2%
Total exports	US$ 58 919 million	US$ 1.89 trillion
Electricity consumption	680 400 million kilowatt hours	3.4 trillion kilowatt hours
Carbon dioxide emissions	2 388 613 thousand tonnes	7 706 490 thousand tonnes (2009)
Proportion of population living in cities	33%	47%

Check your learning 5.12

Remember and understand

1 How many Chinese people moved out of poverty between 1981 and 2005?

2 Which indicator in the table do you think best shows the improvement in Chinese living conditions? Give some reasons for your answer.

Apply and analyse

3 Why has the movement of people been an important part of the improvement in Chinese living conditions?

4 What are some of the negative outcomes of people moving from rural China to the cities?

5 Look closely at Source 5.39. Where are the wealthiest regions in China? Compare this map to Source 5.32, showing the location of China's largest cities. What similarities do you notice between the location of cities and the wealth of a region?

6 Which of these statements best describes the pattern of movement shown in Source 5.39? Justify your choice.

- Most people move from wealthy areas to poorer areas.
- Most people move from poorer areas to wealthy areas.
- There is no clear pattern.

Evaluate and create

7 Source 5.41 shows an environmental impact of rapid economic growth. With the class, brainstorm other negative impacts on people and places.

Source 5.41 One of the impacts of China's manufacturing boom is air pollution in many cities.

Population movements in India

In terms of area Australia is the sixth biggest country in the world, with a population of around 23 million. The seventh largest country in the world is India, with a population closer to 1.2 billion. This is more than 50 times greater than Australia's population.

Whichever way you look at it, India's population is immense. India is the second most populous country on Earth after China. By 2030, India is expected to overtake China as the most populous country.

While many people think of crowded megacities when they think of India, most Indians live in small rural villages. In fact, more than half the population lives in small communities of fewer than 5000 people.



Source 5.42 Most Indians live in small, rural villages.

skill**drill**

Interpreting graphs

Graphs provide geographers with the ability to more easily identify trends and patterns in data they have gathered. Graphs can be used to compare places and events, to show change over time, to show the relative importance of different things, and to show important aspects of a place. When interpreting graphs follow these steps:

Step 1 Always read the title carefully so that you know exactly what the graph is showing.

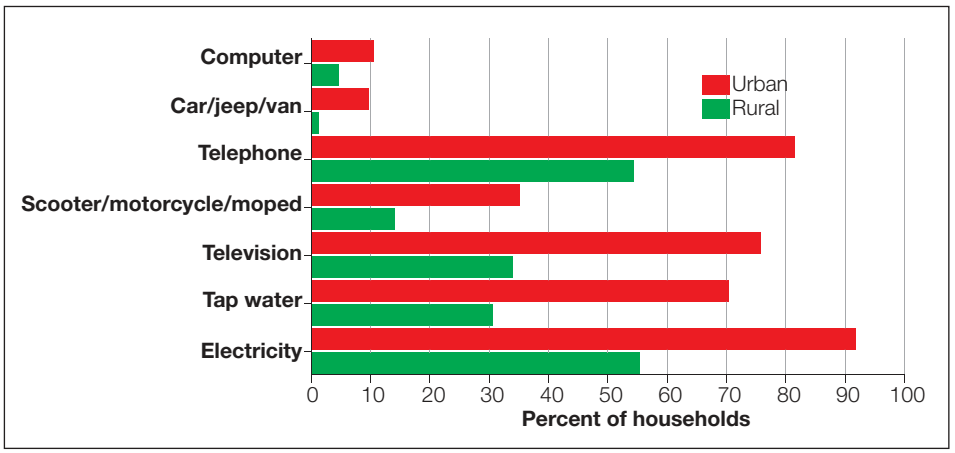
Step 2 Look carefully at each axis on bar and column graphs so that you understand the scale that has been used.

Step 3 Look for general trends, such as the overall growth of a city, rather than exceptions to trends.

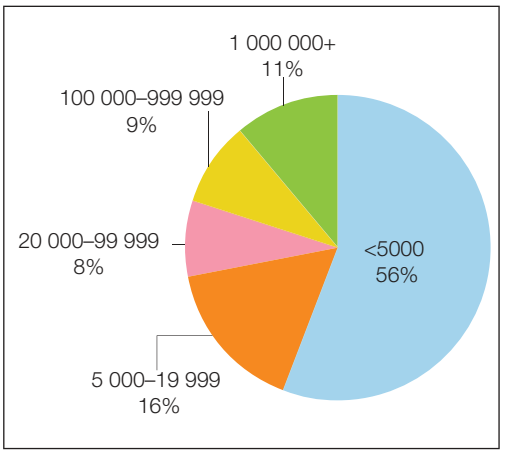
For more information on a range of different graphs, refer to section GT.2 of 'The geographer's toolkit'.

Apply the skill

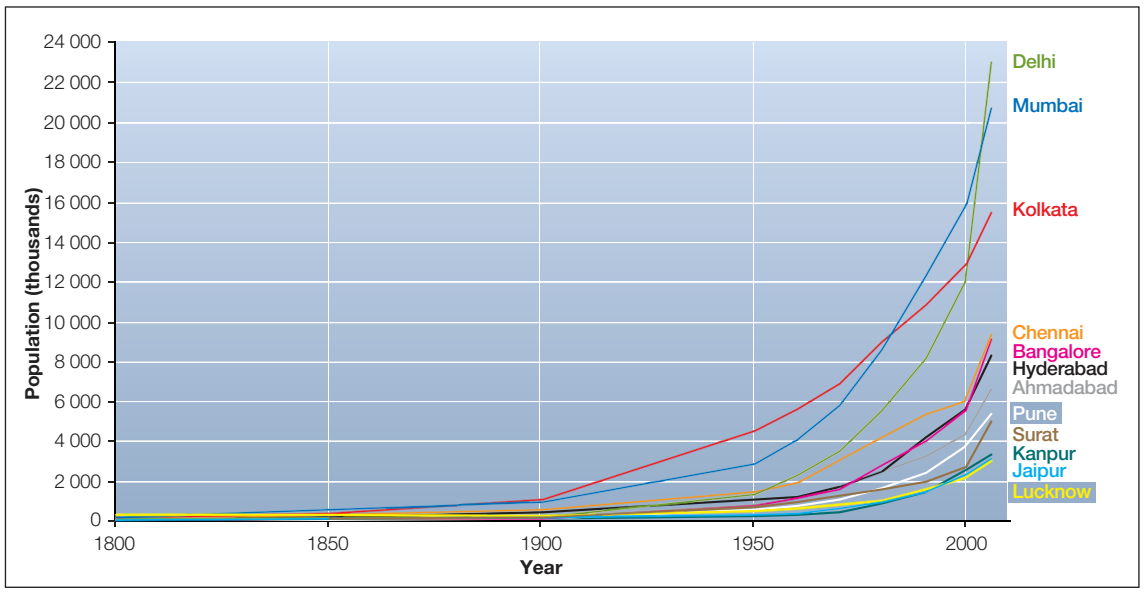
1 Study Sources 5.43 to 5.46 and complete the following tasks, giving reasons for your answers.
   - **a** Which of these graphs best shows why many Indians choose to move to urban areas?
   - **b** Are conditions better in rural areas or urban areas?
   - **c** Which of these graphs best shows the impact of movement to the cities?
   - **d** Which of these graphs best shows how India's population is changing over time?
   - **e** Which of these graphs best shows where most people in India live?
   - **f** The definition of a city varies between countries. One common measure is a place with more than 20 000 inhabitants. By this definition, what percentage of Indians live in cities?



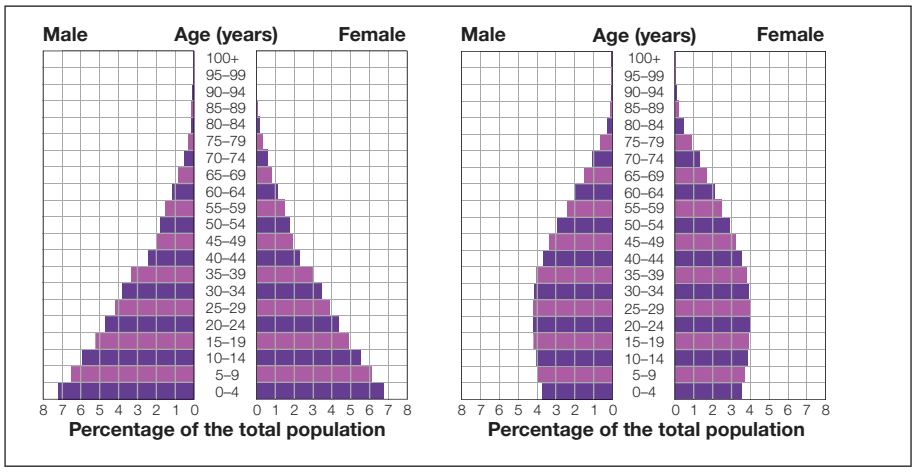
Source 5.43 Household services and amenities of urban and rural Indians



Source 5.44 India's population ranked by the size of the community in which they live



Source 5.45 Growth of India's cities, 1800–2012



Source 5.46 Population pyramids for India, 1990 (left) and 2030 (right)

Extend your understanding

1 On an A3 piece of paper, construct a sketch of Lee's migration model as it applies to the cities of India. Use Source 5.20 as a guide to setting this out. Use the information from Source 5.43 to decide on the push and pull factors that attract migrants to India's cities.

5.3 How has international migration changed Australia?

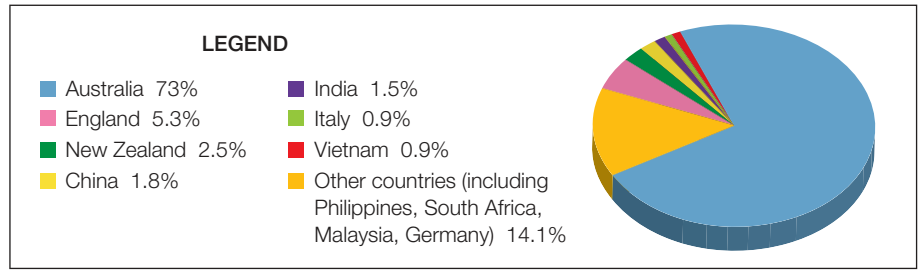
International migration to Australia

Modern Australia has been created and shaped by national and international population movements. From the arrival of the First Fleet in 1788 – loaded with almost 1500 convicts, sailors and soldiers – Australia has been populated by waves of immigrants. First, penal colonies at Sydney, Port Arthur and Fremantle were established. Then large numbers of migrants from Great Britain and Ireland came to establish towns and farms. By the 1860s more than three-quarters of the population were of Anglo-Celtic origin and this figure remains at about 70 per cent to this day. From the middle of the 19th century, immigrants arrived from across Asia and the Pacific Islands, and continued to flow from Europe. They were attracted by various factors, such as gold, work and the promise of a new life.

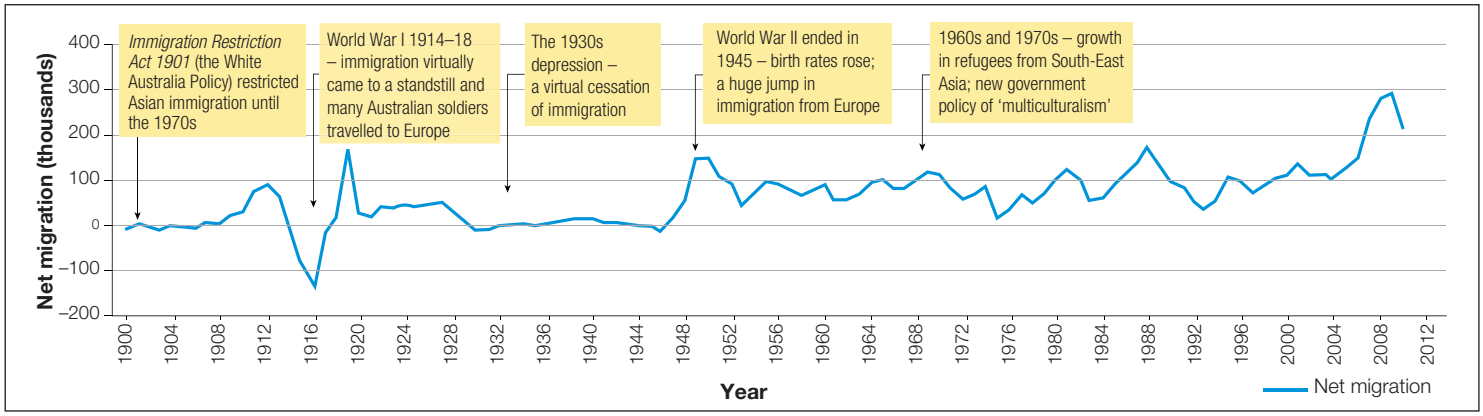
During the 1900s, immigrants from Britain continued to dominate. An immigration policy that discriminated against all non-white migrants (known as the White Australia Policy) was enacted in the first days of the new nation in 1901 and remained until the 1970s.



Source 5.48 The discovery of gold in the 1850s brought many immigrants to Australia.



Source 5.49 Australian citizens by country of birth, 2011. In 2011, more than one-quarter of Australians (around 27 per cent) were born overseas.



Source 5.47 Net migration (total arrivals less total departures) to Australia during the period 1900–2010

The end of World War II in 1945 saw waves of migrants come to Australia from southern European countries, such as Italy and Greece. As immigration policies were freed up, these waves were followed by others from the Middle East, Asia and South America. Australian society is therefore very different from that in long-established countries in Europe and Asia. Just like the United States, Canada, New Zealand and Argentina, this country is largely a nation of immigrants.

Multicultural Australia

Today, Australia is considered by many to be a multicultural country. This description acknowledges that the people of Australia come from a wide range of ethnic and cultural backgrounds. In 'The People of Australia: Australia's Multicultural Policy', released in 2011, the Australian Government states that 'multiculturalism is in Australia's national interest and speaks to fairness and inclusion. It enhances respect and support for cultural, religious and linguistic diversity.' On 21 March each year, many Australian schools and communities celebrate Australia's cultural diversity by holding Harmony Day events.

Check your learning 5.13

Remember and understand

1 What is multiculturalism?
2 Examine Source 5.48 showing miners on the gold fields during the gold rush. How did this event change the environment and the population of Australia?
3 The Snowy Mountains Hydroelectric Scheme is thought by many to be the birthplace of multiculturalism in Australia. What do you think this means?

Apply and analyse

4 On a blank outline map of the world, locate and label the countries from which migrants came to Australia to work on the Snowy Mountains Scheme. Describe the pattern on your map using the PQE method. (Refer to the section on the PQE method in GT.2 of 'The geographer's toolkit' for instructions.)

Evaluate and create

5 Conduct some research into the impacts of international migration on the original Indigenous Australians. What effect did it have?

key**concept:** place

The birth of multicultural Australia

Some places in Australia have a special significance in the history of certain migrant populations. Such places give these populations a particular connection to the environment and a sense of belonging and identity. This is an important part of the key concept of place.

One such connection is the contribution made by many migrants to the Snowy Mountain Hydroelectric Scheme in New South Wales. Begun in 1949, the scheme diverted water from the Snowy River through 160 kilometres of tunnels to create a series of dams and hydroelectric power stations. This was the largest engineering project ever undertaken in Australia at the time.

Over 100 000 people worked on the scheme between 1949 and 1974. About two-thirds of these workers were immigrants from over 40 countries, including Austria, Finland, Jordan, Russia, the United States, Ireland, Scotland, Wales, England, Germany, Norway, Sweden, Cyprus, Czechoslovakia, Hungary, Poland, Switzerland, Turkey, Estonia, France, Portugal, Italy, Greece, Romania and the Ukraine.



Source 5.50 Migrants at work on the Snowy Mountains Scheme in 1954

Work was difficult to find in Europe after World War II, so many migrants were attracted by the work and higher wages on offer in Australia. Many of the migrant workers aimed to earn enough money to bring their wives and families to Australia. This is just one example of how Australia began to change from a country mainly populated by English migrants and their descendants to the multicultural society it is today.

For more information on the key concept of place, refer to section GT.1 of 'The geographer's toolkit'.

The changing face of Australia

Australia is a multicultural nation – that is, a nation of many cultures. Australia's cultural diversity is due mainly to our history. Our population is made up of our Indigenous peoples, the descendants of our British colonial past, and immigrants from the world's many countries and cultures. Modern Australia is largely a land of immigrants and their children. In 2011, 26 per cent of Australia's population was born overseas, and a further 20 per cent had at least one overseas-born parent. Today in Australia there are people from more than 200 countries.



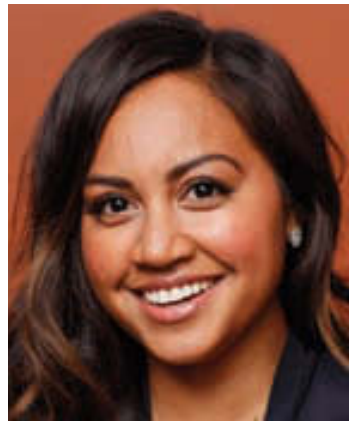
Australia's first female Prime Minister, Julia Gillard, was born in Wales and migrated to Australia as a child.



AFL footballer Nick Riewoldt is of German ancestry.



Comedian Anh Do arrived in Australia as a refugee from Vietnam.



Singer Jessica Mauboy is an Indigenous Australian.

Source 5.51 The faces of cultural diversity in Australia

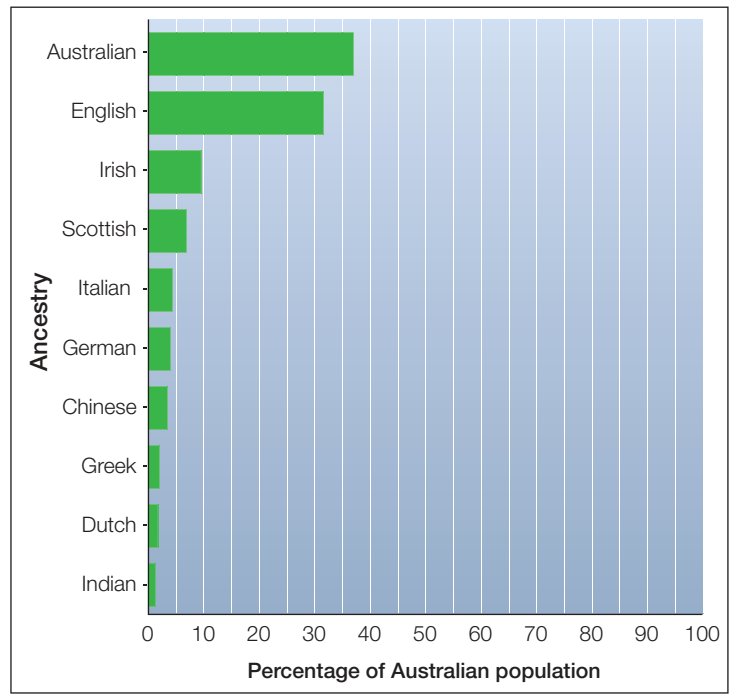
The ancestry of Australians

The Australian **census**, which is taken every five years, asks every Australian to identify their ancestry. They may identify up to two ancestries in their answer. Source 5.10 shows the top 10 ancestries recorded in the 2006 census.

Some geographers also use the term **ethnicity** to refer to a person's heritage. Ethnicity combines elements of language, place of origin and culture.

Language diversity

The number of languages spoken in a particular country is a good indicator of cultural diversity. English is the dominant language in Australia. Fewer than 1 in 100 Australians cannot speak English. Despite this, more than 200 other languages are spoken in Australian homes every day. The most common include Italian, Greek, Cantonese, Arabic and Mandarin. At the time of European settlement in 1788, it is estimated that more than 250 distinct Indigenous languages were spoken in Australia. Today, this number has fallen to fewer than 150. Of these, fewer than 20 are considered to be strong languages, spoken by all generations.

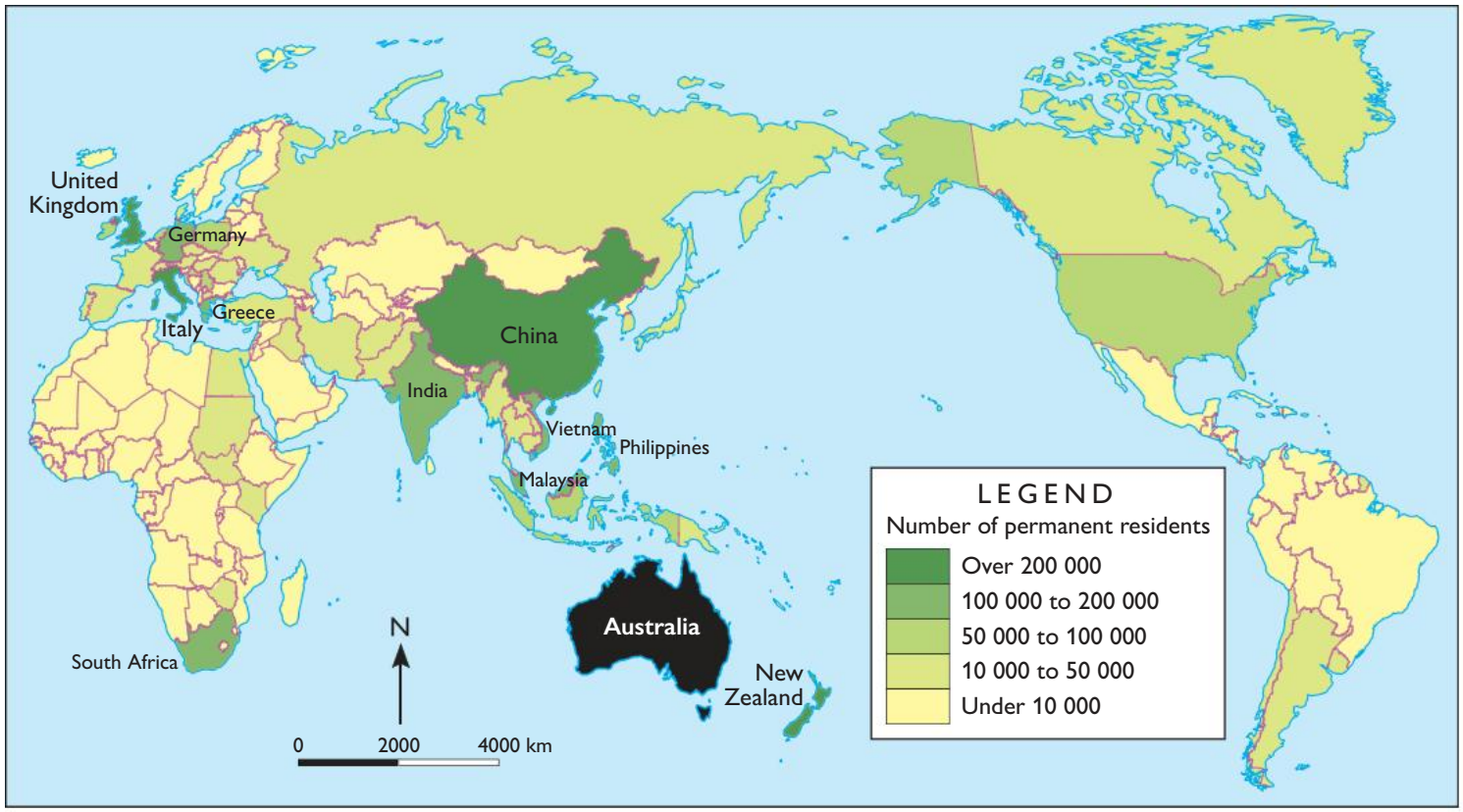


Source 5.52 Most common ancestries in Australia, 2006

Patterns of international migration

Patterns of migration to Australia have been shaped by events and policies in Australia and in other parts of the world. For example, at the end of World War II, Australia took in large numbers of migrants from Europe who had been forced from their homes by the war. The proportion of the overseas-born population from Europe was 52 per cent in 2001, but this reduced to 40 per cent in 2011 as the number of migrants from Asia and New Zealand increased.

AUSTRALIA: RESIDENTS IN 2006 BY COUNTRY OF BIRTH



Source 5.53

Source: Oxford University Press

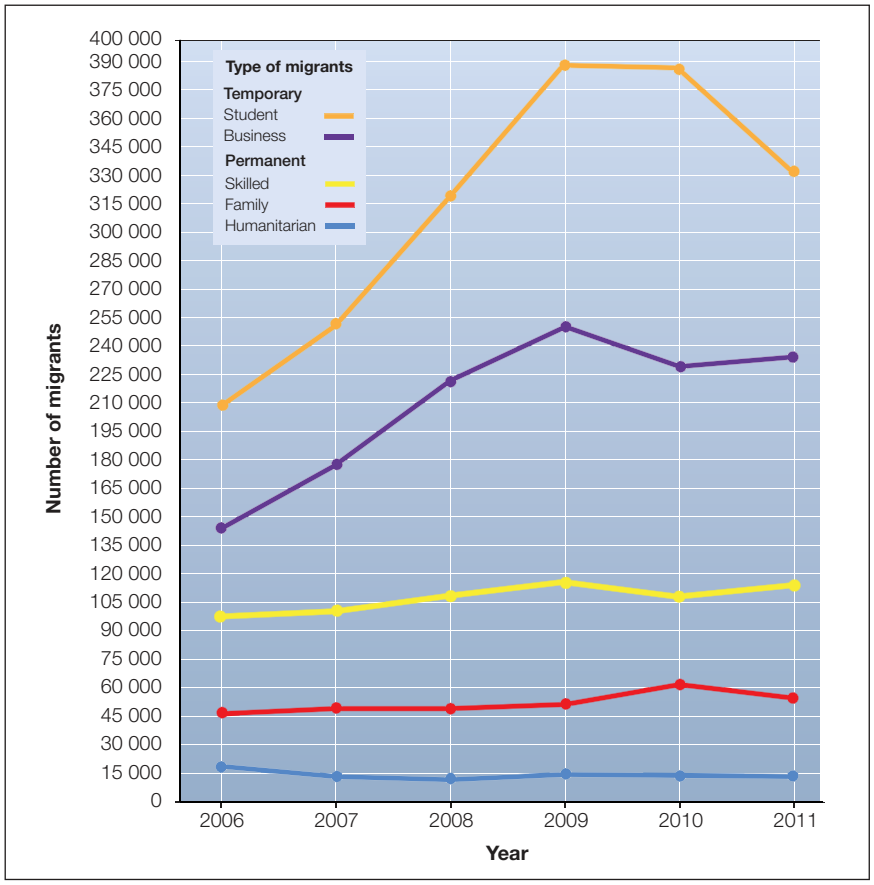
Australian Government migration policy

Australian governments rely on overseas immigrants to achieve economic goals. In times of strong economic growth there is a higher demand for migrants to work and live in Australia. This migration intake may fall when the economy is weak and unemployment climbs. The Federal Government is responsible for levels of migration. It sets out categories for migration and sets targets for each group to reflect the economic and political climate in Australia and the world. Australia also provides education services to large numbers of overseas students.

The categories of migrants are:

1 Permanent migrants
   - Skilled labour – to fill specific shortages in the workforce
   - Family migration – to help families to reunite
   - Humanitarian – to assist people in need, such as refugees

2 Temporary migrants
   - Student – individuals coming to Australia to study for a fixed period
   - Business – workers migrating for a short period or on a working holiday
   - Visitor – a short-term visitor for business, family visit or tourism.



Source 5.54 Migration patterns in Australia

Economic benefits of international migration

As well as social benefits, population movements have the potential to provide many economic benefits. This is most apparent in the contributions that migrants make to the economy of the places they move to. Migrants often fill gaps in the labour market by providing essential skills. The Department of Immigration publishes a list of skilled occupations with shortages of applicants in Australia. Potential immigrants with these skills can then apply for citizenship to the country. Jobs in medicine, construction and education are currently high on this list. Some other sectors of the economy, such as agriculture and hospitality, also rely heavily on migrant labour.

The seasonal nature of fruit and vegetable growing, for example, means that growers need a large workforce for a short period of time. Groups of pickers move between different regions of Australia depending on the crop and time of year. Some of these groups are made up of migrants from similar backgrounds, such as Pacific Islanders or Vietnamese, while overseas backpackers are also an important source of this labour. Whether its tomatoes in Bowen between May and October, mangoes in Cairns between November and December, or apples and pears in Shepparton between February and May, there are tens of thousands of workers following the harvest and contributing their skills and money to the local economy.

Family reunions

Many families can become disconnected through the migration process. This is particularly the case for refugees. Ten-year-old Neema Mukasa was finally reunited with her father at Melbourne airport in 2006 after being separated for six years. In 2000, at the age of four, she was separated from her family, including her twin sister, while fleeing a civil war in the Democratic Republic of Congo. Neema's mother was killed in the violence and her father applied to bring his five remaining children to Australia. They were accepted as refugees under the Australian Government's Humanitarian Program and settled in Shepparton in country Victoria. During an interview with the local school principal, Mr Mukasa told the story of his lost daughter.

The principal contacted the Red Cross and through their tracing service they were able to locate Neema who was living in Nairobi with her uncle. He had desperately tried to find the little girl's

Source 5.55 This worker from Mauritius is harvesting peaches near Swan Hill in Victoria



missing family and had walked through five countries trying to catch up with them. This remarkable journey took them through a series of refugee camps over four years until they eventually reached Nairobi. After contact had been made between Africa and Australia, the family applied to the Department of Immigration for Neema to be able to come to Shepparton and she was reunited with her family.

Although this is just one example of an immigration story, it gives an idea of the types of responses to population movements at various levels. The Shepparton community responds at the local level by providing education and a safe place to live and work for new immigrants. The Department of Immigration operates at the national scale by assessing the refugee claims of thousands of applicants, and the Red Cross operates at the international level in response to disasters and humanitarian crises.



Source 5.56 Neema with her family and the Shepparton principal who helped them become reunited



Check your learning 5.14

Remember and understand

1. What does the term 'multicultural' mean?
2. What percentage of Australians in 2011 were either born overseas or had a parent born overseas?
3. Study Source 5.53. What were the source countries of most Australians born overseas in 2011?
4. Why do the numbers of migrants coming to Australia change over time?
5. List the different categories of migrants and provide one example for each.

Apply and Analyse

6. See if your class is typical of the Australian population by asking each student to identify their ancestry. They may name one or two ancestries. Compare your results to those described in the 2006 census (Source 5.52).
7. Study the graph in Source 5.54.
   - a Which category provides most migrants to Australia?
   - b When did most skilled migrants enter Australia? Why might the numbers have increased at this time?
   - c How does the number of humanitarian migrants compare to the other groups? What factors do you think might increase or decrease this category of migrant?

Evaluate and create

8. What does the ancestry of modern Australians (Source 5.52) tell you about our past? How do you think this will change over the next 50 years?

Migrant communities in Australian cities

Many people immigrating to Australia choose to start their new lives in areas of a city where people with a similar cultural background have also settled. Over time, these suburbs can develop particular characteristics that reflect the cultures of the people who live there. For example, the Melbourne suburb of Sunshine is home to a large Maltese population, while the Sydney suburb of Marrickville is home to a large Greek population.

New arrivals tend to settle in the same areas for a variety of reasons. The houses there may be affordable, they may have family or friends close by, or there may be a number of community groups and support services nearby. These services might include emergency accommodation, translation services, adult language and education centres, employment agencies and accommodation services (such as Centrelink and Department of Housing). These areas may also provide important social institutions (such as places of worship), and meeting places and shops selling familiar items (such as food, utensils and clothing).

For people from non-English-speaking backgrounds, an important factor that pulls them to live in certain suburbs is the presence of professionals (such as doctors, lawyers and accountants), shopkeepers and other people who speak their language. This can be vital in order to carry out their day-to-day lives.

Case study: the Chinese community in Hurstville, Sydney

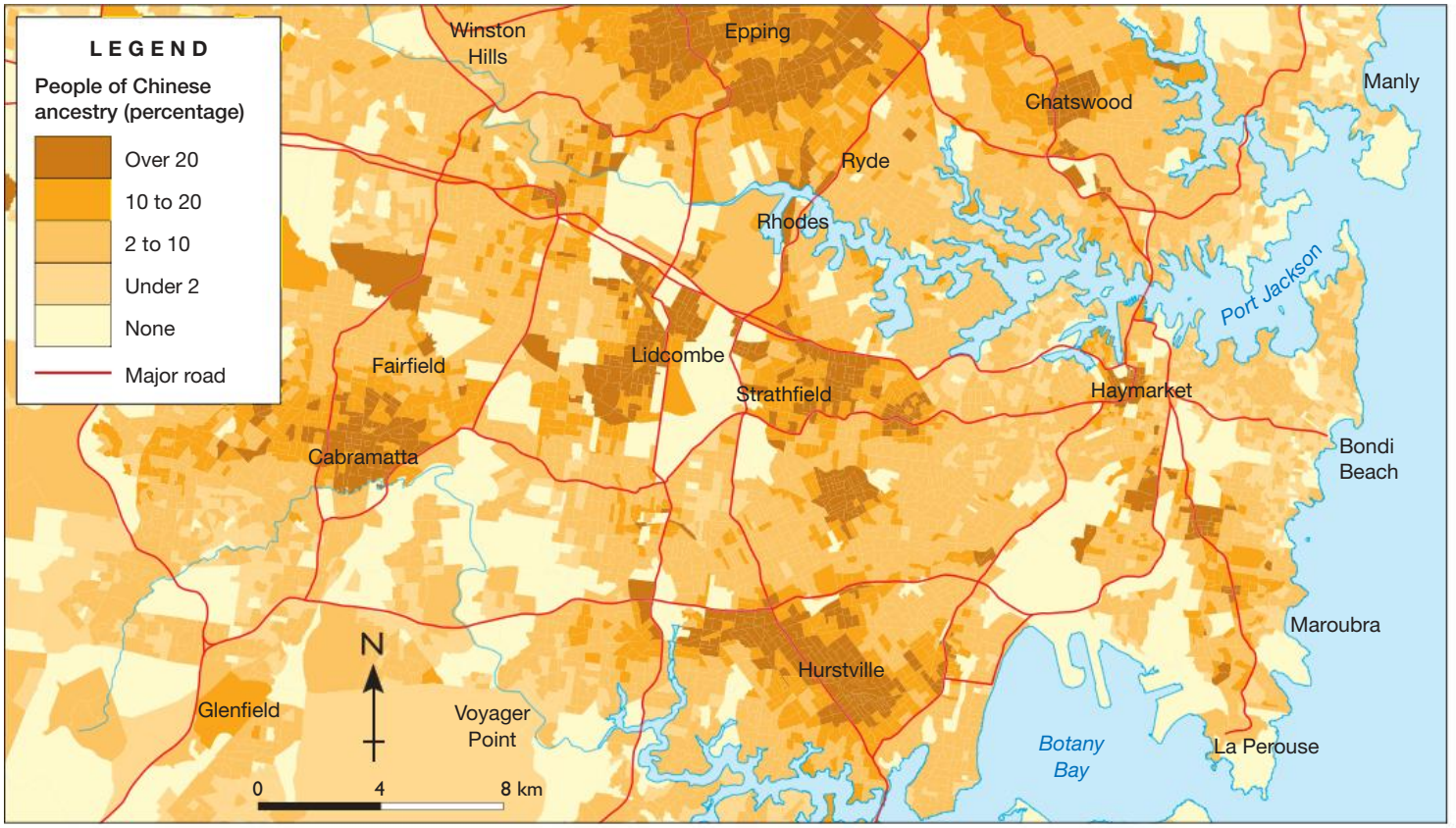
The suburb of Hurstville in Sydney's south is an example of an area with what geographers call a high ethnic concentration. From a total population of around 26 000 residents in 2011, 68 per cent were born overseas and eight out of 10 speak more than one language. Since European settlement of Australia, Hurstville has seen several waves of immigration. First, it was mainly home to people of British and Irish heritage; then came a wave of southern European migrants, largely from Greece and Italy; followed by people from Bosnia, Macedonia and the former Yugoslavia. Since the 1990s it has mainly become home to people arriving from Hong Kong and mainland China.

Chinese immigration to Australia dates back to the 1820s, but grew rapidly in response to the gold rushes of the 1850s and 1860s. During the 20th century a series of government policies (including the White Australia Policy) restricted the number of immigrants from Asian countries to Australia, but since these policies were abandoned in the 1970s there has been a steady increase in the numbers of Chinese people settling in Australia. Today, China is second only to New Zealand in terms of migrant numbers to Australia.



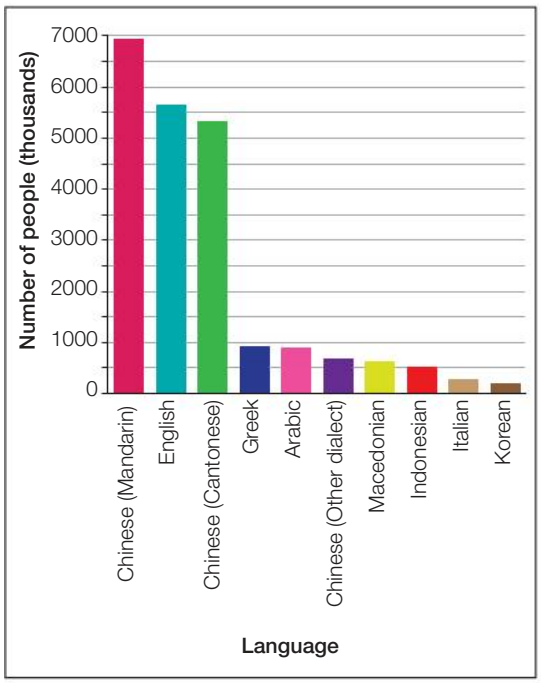
Source 5.57 Chinese businesses in the Sydney suburb of Hurstville

SYDNEY: CONCENTRATION OF RESIDENTS FROM CHINESE BACKGROUNDS, 2011



Source 5.58

Source: Oxford University Press



Source 5.59 Top 10 languages spoken at home by Hurstville residents

Check your learning 5.15

Remember and understand

1 Why do people from the same language and cultural backgrounds tend to settle in the same areas of a city?

2 Studies show that English-speaking migrants arriving in Australia tend not to settle in groups as much as non-English-speaking migrants. Why do you think this is the case?

Apply and analyse

3 Use the PQE method to describe the distribution of residents from Chinese backgrounds shown in Source 5.58. If necessary, refer to section GT.2 of 'The geographer's toolkit' for instructions on using the PQE method.

4 How can the arrival of large numbers of people from similar cultural and language backgrounds change the areas in which they settle?

Evaluate and create

5 Access the community profile for your community using the census data available on the Australian Bureau of Statistics website (www.abs.gov.au).

a Use the country of birth data to construct a bar graph of the top 10 languages spoken at home.

b Compare your completed bar graph with the graph for Hurstville shown in Source 5.59. What similarities and differences can you identify?

International migration and Indigenous Australians

By 1900, the number of Indigenous Australians was less than a quarter of what it had been when Europeans first arrived in 1788. As the new immigrants built their penal colonies, towns and farms, Australia's Indigenous peoples were badly affected. Food became scarce as land was cleared, and access to water and sacred sites became difficult or impossible. Western diseases wiped out entire tribes, as the Aborigines had no natural immunity to them.



Source 5.60 This plaque commemorates the 28 unarmed Aborigines massacred in retaliation for cattle theft at Myall Creek in NSW in 1838

The population of the Darung people around Botany Bay, for example, fell by 90 per cent in three years following the arrival of European settlers. In some places there was open conflict between the Indigenous tribes and the white settlers, but armed with rifles, the new arrivals nearly always won. As the Indigenous populations were forced from their traditional lands, many were placed in missions and reserves.

Today, Aboriginal and Torres Strait Islander people have one of the lowest life expectancies in the world. They are under-represented in government, education and employment and over-represented in prisons when compared with the wider Australian population.

skill**drill**

Reading complex maps

Complex maps contain more than one set of information to understand.

Step 1 Look carefully at the legend. Complex maps can have more than one part to a legend. These parts will be represented on the map in different ways. For example in Source 5.61 areas of colour are used to show the different types of Indigenous land across Australia. Different coloured symbols are used to show a range of significant sites.

Step 2 Train your eyes to look for one set of information at a time. For example, look at the solid blocks of colour on the map and work out what they tell you.

Step 3 Move to a different set of information and work out what that represents.

Step 4 Look for concentrations of the same symbol in areas to see if patterns exist.

Apply the skill

Study Source 5.61.

1 Describe where the largest areas of Indigenous-owned land (freehold) are located.

2 Which state has no Indigenous owned or leased land over 100 square kilometres?

3 The significant sites are harder to pick out on this crowded map, but the colours help them stand out. Describe the location of the Myall Creek massacre site. List the other massacre sites in Australia and state their locations.

4 Many art sites are only for Australia's Indigenous people. Where in South Australia is a significant Indigenous art site.

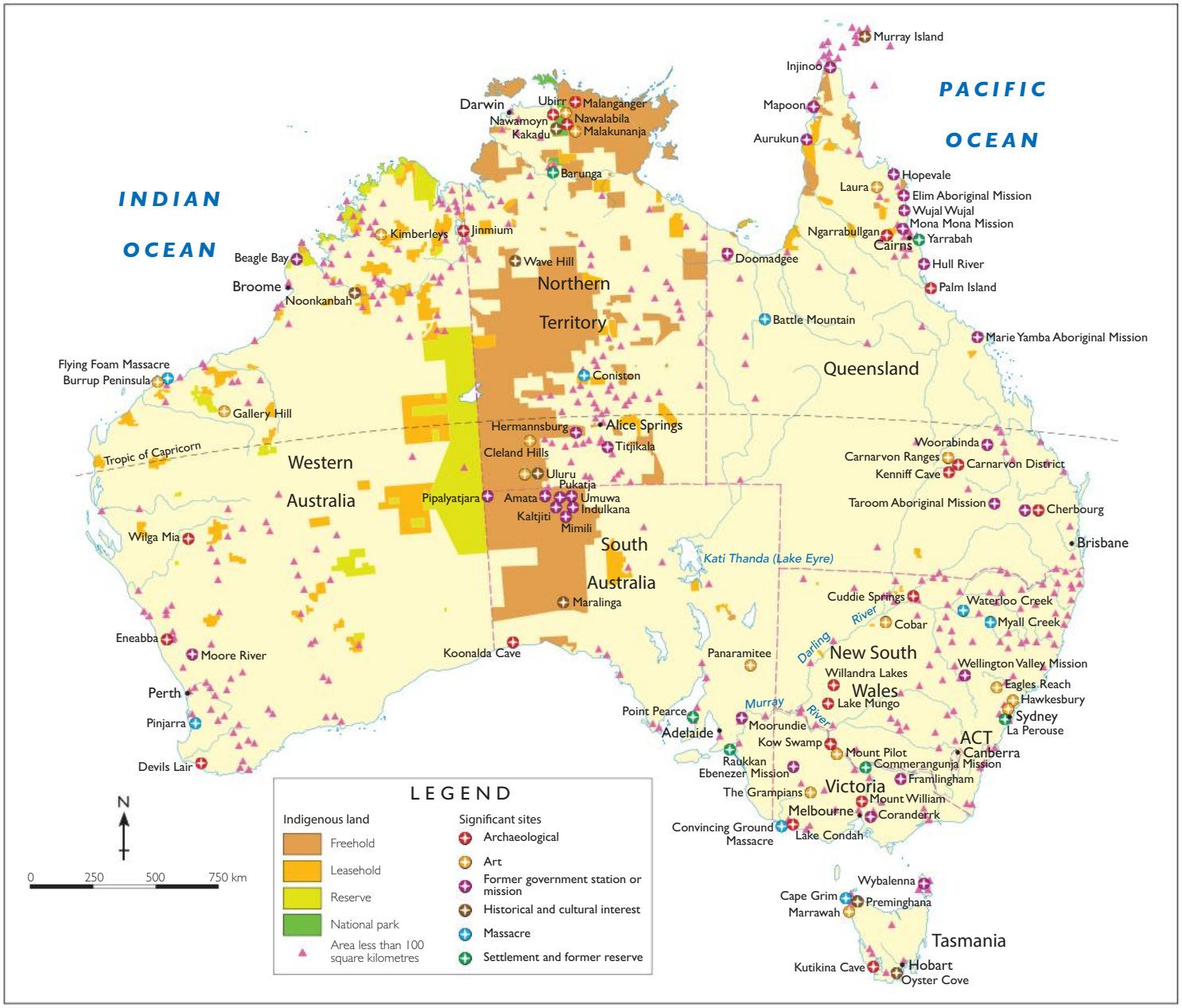
Extend your understanding

1 Give three examples of how international migration to Australia impacted on Australia's Indigenous population.

2 Do some research on another Indigenous group, such as the Maori in New Zealand or the First Nations people of North America.

- **a** How was this group affected by early international migration?
- **b** How did this group respond to early international migration?
- **c** Find out their life expectancy, employment and imprisonment rates compared with the rest of their country's population. How do these compare with those of Aboriginal and Torres Straits Islander people?

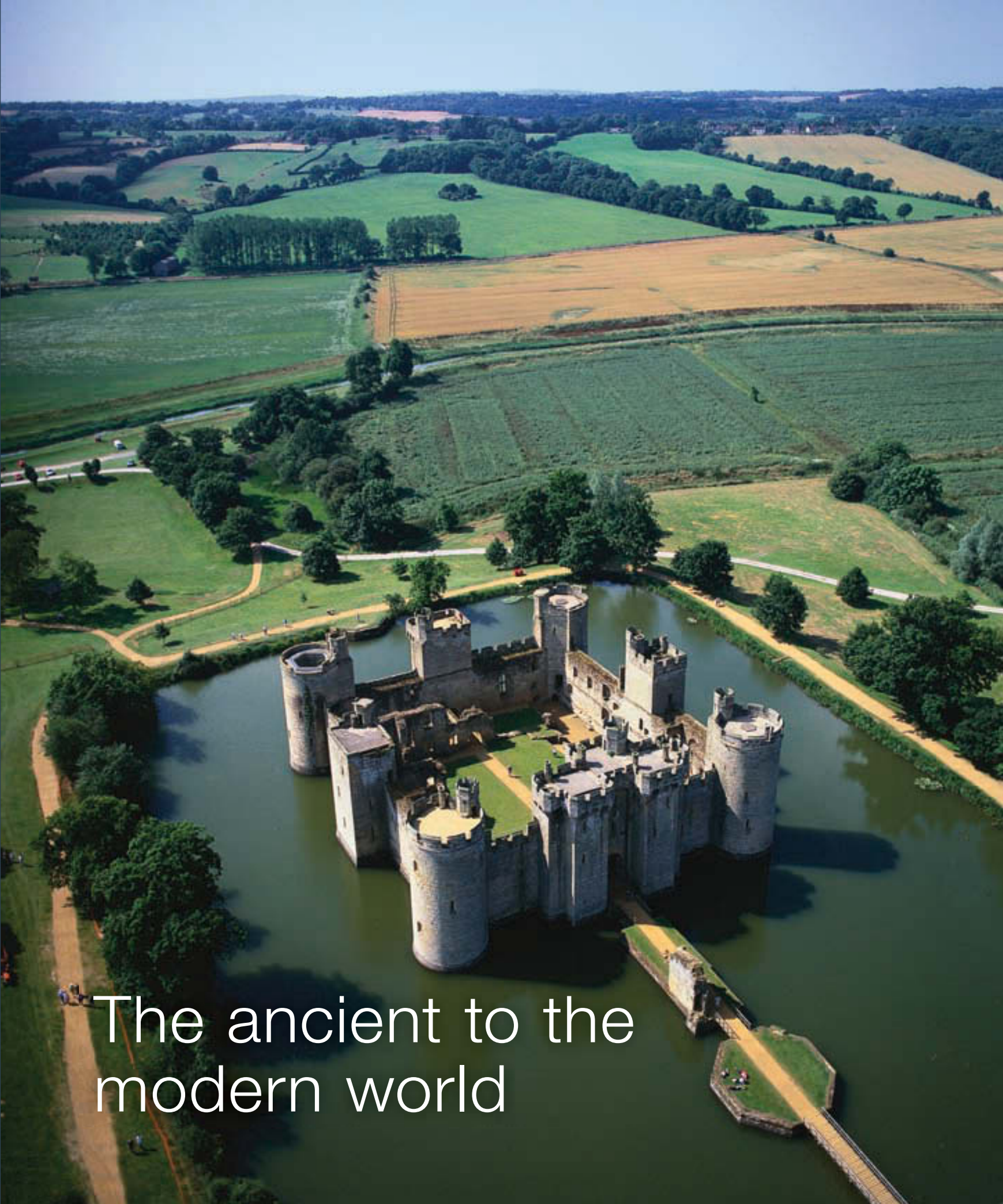
AUSTRALIA: INDIGENOUS LANDS AND SIGNIFICANT SITES



Source 5.61

Source: *Oxford Atlas*

oxford big ideas australian curriculum history 8



The ancient to the modern world

The historian's 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. They also look for patterns – what has remained the same, what has changed, and why.

Historians are time detectives; they follow a process of **historical inquiry** in order to better understand the past. They ask questions, form opinions and theories, locate and analyse **sources**, and use **evidence** from these sources to develop an informed explanation about the past. Oral accounts, documents, **artefacts** and **archaeological** finds form the basis of research and investigation in History.

Historians are curious. They investigate artefacts and want to know more about them. For example, by studying Angkor Wat in modern-day Cambodia, historians have been able to develop many theories and uncover many facts about it, including:

- its age
- the materials it is made from
- who built it and why
- how it was rediscovered and restored
- its social and religious importance.

Important historical artefacts, such as Angkor Wat, provide historians with the opportunity to actively investigate the way in which ancient ideas and beliefs have gone on to influence our modern world. Welcome to the wonderful world of History!



HT.1

Concepts for historical understanding



Source HT.1 Angkor Wat in modern-day Cambodia is the largest Hindu temple complex and the largest religious monument on Earth.

HT.2

Historical skills

HT.1 Concepts for historical understanding

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.



Source HT.2 This Spanish artist's impression shows the conquistador Hernán Cortés meeting the Aztec ruler Moctezuma II in the capital of Tenochtitlan in 1519.

The Spanish conquest of the Americas (1492–1572) provides an example of how a clash between very different cultures, societies and religions resulted in the near-destruction of the native civilisations in the Americas. Spanish conquistadors such as Hernán Cortés came to the Americas in 1519 driven by a desire to convert the native people to Christianity, to expand Spanish territory and to increase Spanish wealth. The Spanish believed it was their duty to convert to Christianity a race of people that they saw as barbarians. From a Spanish perspective at the time, their actions were lawful and blessed by their Christian god. They also believed they were entitled to enslave the population and send the wealth and treasures of the Americas back to Spain in the name of the king. Within 100 years, the Inca, Aztec and Maya civilisations and cultures had been largely destroyed.

From a modern perspective, the actions of the Spanish during this time are seen as brutal, cruel and unjustifiable. Many historians and descendants of these once-great empires mourn the loss of their cultures at the hands of Spanish invaders.

Regardless of what you may think personally about the way in which the Spanish acted, the concept of perspectives encourages us to view the actions of the Spanish as typical of the way Indigenous populations around the world were treated by European colonisers.

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 aspects of history influence how we act and live today. For example, barbers and barber shops are common today as they were during medieval times. This is an example of historical continuity. However, in the middle ages, hair was not the only thing that barbers cut. They also performed a number of different medical and dental procedures. The most common medical procedure was known as **blood letting** (see Source HT.3). Blood letting involved cutting a person's veins and collecting a set volume of blood in a dish. It was believed to cure illness and prevent diseases such as the bubonic plague. No barber today would be legally permitted to perform such a procedure, nor would you want him to. This is an example of a historical change.

Another interesting example of continuity and change relating to barber shops can be seen in Source HT.4. Barber poles are a reminder of blood-letting operations carried out by barbers in medieval Europe. Patients held on to a metal pole tightly during the operation so their veins popped out and were easier to cut. It also helped them stay standing. After each operation bandages were used to stop the bleeding. After use, they were often hung out to dry on poles and would twist together in the wind forming a red and white spiral pattern. This pattern can still be seen today.



Source HT.3 A 15th-century illustration of a barber performing a blood-letting procedure on a woman. Note that she is tightly gripping a pole in her left hand to allow her vein to be easily cut. The barber also holds a bandage to stop the bleeding after the procedure.



Source HT.4 A red-and-white-striped barber pole advertising a modern-day barber shop. The red and white spiral pattern on the pole dates back to the blood-letting procedures performed by barbers during the medieval period in Europe.

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.



Source HT.5 A medieval illustration of a couple with the plague. The Black Death had short-term effects, such as children being left without their parents, as well as long-term effects, such as the weakening of the feudal system across Europe.

During the 14th century, a terrible plague known as the Black Death swept across Europe, Asia and parts of Africa. Historians estimate that at least 75 million people across Asia, North Africa and Europe died as a result. In Europe, this represented between 30 and 40 per cent of the population.

There were a number of factors that led to the rise and spread of the Black Death. Bubonic plague (the most common form of plague) was spread by fleas infected with a bacterium known as *Yersinia pestis* (cause). These fleas lived on black rats that were commonly found in all medieval towns and cities because of poor hygiene and sanitation (cause). Bites from the infected fleas spread the disease to humans (cause). Pneumonic plague (another form of plague) was spread from person to person through the air, infecting bodily fluids such as mucus and blood (cause).

The Black Death resulted in a range of effects – some short term, others long term. Short-term effects included:

- a massive drop in population resulting in shortages of farm labourers and skilled tradesmen
- abandoned houses were left dirty and unattended, and rubbish and raw sewage in towns and cities was left to rot
- large numbers of deaths meant that mass burials of plague victims in large pits were necessary
- some priests refused to bury victims of the plague for fear of contracting the disease
- the persecution of some people in society (such as Jews) who were accused of causing the plague.

Long-term effects included:

- the breakdown of **feudalism** across Europe because labourers and tradespeople could now demand better conditions and higher wages instead of working in return for the protection of feudal lords
- a reduction in the power and influence of the Church on people's lives due to the belief that the Church (including priests and clergy) had not been able to prevent the plague
- workers demanding recognition of their rights through a number of uprisings
- improvements in hygiene and medical knowledge due to new regulations and laws introduced to prevent further infections.

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, 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, films, illustrations, reconstructions and websites.

Historians do not always agree on evidence, even when it is coming 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 HT.6 This Viking stone carving, known as the Tjängvide image stone, was discovered in 1844 on the Swedish island of Gotland. Carved during the 8th century CE, it shows gods from Norse mythology together with an image of a Viking longship. It is a primary source because it was made during the Viking Age. The remains of several Viking longships, such as the *Oseberg* ship, have been found that confirm this representation. However, no evidence remains relating to the size, shape or materials from which sails may have been made.



Source HT.7 This illustration from a children's book published in 1928 shows Olaf, a young Viking, returning to the Viking homeland with a rescued princess. It is a secondary source because it was created long after the Viking Age. Although a number of historically accurate features are shown (such as the basic shape and design of the longships), it would not be a reliable source of evidence for a historical inquiry because its purpose is to entertain young readers.

Empathy

The concept of **empathy** helps us to understand the impact of past events on particular individuals or groups. This includes an appreciation of the circumstances they faced and the motivations, values and attitudes behind their actions. Put another way, empathy is the ability to 'walk in someone else's shoes' – to be aware of, and sensitive to, their feelings, thoughts and experiences. Empathising brings history to life. It connects us as human beings regardless of how much time has passed. For example, in medieval Japan a type of feudal system was developed in which there were rigid social classes. The warrior class, which included samurai, lived under a strict code of behaviour known as **bushido** ('the way of the warrior'). This code was based on honour, loyalty and discipline. From the age of five, children destined to become samurai began their training in important texts, etiquette and military arts. Every samurai's first duty was to honour and obey his master. If a samurai was defeated in battle, captured by the enemy or dishonoured in any way, the code required him to commit ritual suicide – an act known as **seppuku**. A special knife or short sword was used to stab deep into the abdomen and cut across the body from left to right. Only by taking his own life in this way would the samurai and his family be spared shame and disgrace.

It is difficult to imagine the agony of committing *seppuku*, and for many people today this act might seem barbaric. However, by applying the concept of empathy, we are able to appreciate how young men trained in the warrior code would have believed that their honour and loyalty was worth more than their life, and that no other option was acceptable. An appreciation of the type of disgrace brought upon the families of samurai who did not commit *seppuku* also goes a long way towards explaining their actions.



Source HT.8 A Japanese woodblock print of a samurai warrior about to perform *seppuku* – ritual suicide.

Significance

The concept of **significance** relates to the importance assigned to aspects of the past. This includes people, events, developments, discoveries, movements 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 a person, event, development, discovery, movement or site is historically significant, historians may ask the following questions:

- How important was this to people who lived at that time?
- How many people were affected?
- To what degree were people's lives affected?
- How widespread and long-lasting were the effects?
- Can the effects still be felt today?

For example, the changes introduced by Genghis Khan during his time as ruler of the Mongol Empire are considered significant because they affected enormous numbers of people over a vast area of the world. Even though Genghis Khan ruled the Mongol Empire for a short period of time, many of his actions continue to influence the lives of people all over the world. Some of these legacies include:

- the unification of many nomadic tribes and the establishment of a vast empire and fierce army
- the establishment of a legal system that governed over 100 million people
- the development of a system that respected and accepted people of different religious beliefs
- the establishment of **dynasties** in several parts of the world, including Korea, China and southern Russia.

However, 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.



Source HT.9 This Mongolian banknote shows an image of Genghis Khan.



Source HT.10 This statue of Genghis Khan near the Mongolian capital of Ulan Bator is over 40 metres high. Genetic research now indicates that Genghis Khan's DNA is now found in around 0.5 per cent of the world's population, indicating that he and his sons fathered an enormous number of children. One out of every 12 Asians is now thought to be descended from Genghis Khan.

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 jewellery and weapons, may have been damaged, or stone carvings and artworks may be incomplete. Written records may contain errors, or might have been changed after they were written. Some artefacts may even have been completely destroyed. This can lead historians to draw different conclusions about what they are seeing. Even historians studying the same sources can sometimes come to very different conclusions about what the evidence is telling them. This is one of the exciting things about history – it is open to debate. There is often no right answer, and historians are always seeking a more complete understanding of the past.

For example, historians generally agree that early Polynesians migrated to various islands across the Pacific Ocean from one point of origin. However, since the 16th century (when European explorers were surprised to find people living on islands throughout Polynesia), historians have argued about how stone-age people could have crossed vast stretches of oceans to settle on these remote islands. Historians also disagreed about whether Polynesians originally travelled from South America or from South-East Asia to get there.

One theory suggests that Polynesians originated from modern-day Peru, floating across the ocean on rafts made of balsa wood, which is common in South America. This is known as 'the east–west theory'. The people who support this theory argue that the regular wind patterns and ocean currents would allow this type of travel, while travelling in the opposite direction would be much more difficult. They also sometimes suggest that there are similarities between Aztec, Incan and Mayan stone buildings and the stone statues of Polynesia such as the *moai* on Rapa Nui (Easter Island).

Another theory suggests that Polynesians originated in Asia and travelled eastwards across the Pacific Ocean. This is known as 'the west–east theory'. People who support this theory argue that Polynesian people speak languages with a common origin, and are similar to South-East Asian languages. There are also many similarities between the belief systems, social structures and tools used by Polynesians and the people of South-East Asia. Today the west–east theory has become more popular, with DNA evidence supporting it.

Although there is great support for the west–east theory today, this is an excellent example of contestability in history. Now a new debate has developed among historians who cannot agree on whether Polynesian expansion across the Pacific was deliberate or just the result of a group of fishermen whose canoes were blown off course.



Source HT.11 In 1947, a Norwegian adventurer named Thor Heyerdahl carried out a daring voyage in an attempt to prove 'the east–west theory' of Polynesian expansion. He constructed a raft (which he called *Kon-Tiki*) made of balsa wood and sailed it from South America into the Pacific.



Source HT.12 Recent DNA analysis carried out on Polynesian peoples across the Pacific – such as these Māori men in New Zealand – shows that they all share similar genetic characteristics with people in the South-East Asian countries of Taiwan and New Guinea. Many historians now believe this evidence proves 'the west–east theory' of Polynesian expansion.

Check your learning HT.1

Remember and understand

1 What is the difference between a primary and secondary source? Give an example of each type of source.

2 The red-and-white-striped pole commonly seen outside modern barber shops had its origins in medieval times. Which historical concept would this be an example of?

3 *Seppuku* (ritual suicide) was practised by samurai (members of the warrior class) in medieval Japan. Which historical concept would be most helpful to historians attempting to understand the factors that led samurai to do this?

4 Historians have developed two competing theories about where Polynesians originated from. Which historical concept is this an example of?

Apply and analyse

5 The importance of DNA analysis has been discussed a number of times in this section. Give at least one example of how and when it has been used to expand historians' knowledge and understanding of the past. Would this DNA evidence be classified as a primary or secondary source? Give reasons to support your answer.

6 Look again at the types of questions historians ask to decide if events, discoveries, people or sites are historically significant. Use each of these questions to determine the historical significance of Genghis Khan. Discuss your findings with the class.

7 Examine Source HT.2 showing the Spanish conquistador Hernán Cortés meeting the Aztec ruler Moctezuma II in the city of Tenochitan in 1519.

- a Use evidence from the illustration to determine the main differences between the two cultures.
- b Cortés and the Spanish viewed the Aztecs as 'barbarians'. From the evidence presented in the illustration would you agree or disagree with this point of view? Give reasons to support your answer.

Evaluate and create

8 Museums display many different artefacts such as bones, swords, jewellery and coins. Conduct your own Internet research to find examples of Viking coins held in museums around the world. Explain two different pieces of evidence these coins provide about the way Vikings lived.

9 Create a flow chart to show the causes and effects (both short-term and long-term) of the Black Death.

10 Using images and text, create a poster which illustrates and briefly explains all seven of the historical concepts discussed in this section.

HT.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 – they pose questions, locate and analyse sources, use evidence from these sources to develop an informed explanation about the past, and then communicate their 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 broad categories (see Source HT.13). Each category has a number of more 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 HT.13 Think of each of these skills as a tool in your historian's toolkit.

Chronology, 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 HT.14 and HT.15. Each table shows how 2100 years have been divided into smaller periods of 100 years. These periods are known as centuries. Source HT.14 shows the time Before the Common Era (BCE) and Source HT.15 shows the time in the Common Era (CE). Because there is no zero used in the Common Era 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 8 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 HT.14 More than 2000 years of history Before the Common Era (BCE) divided into centuries. When ordering time BCE, remember to count backwards to 1.

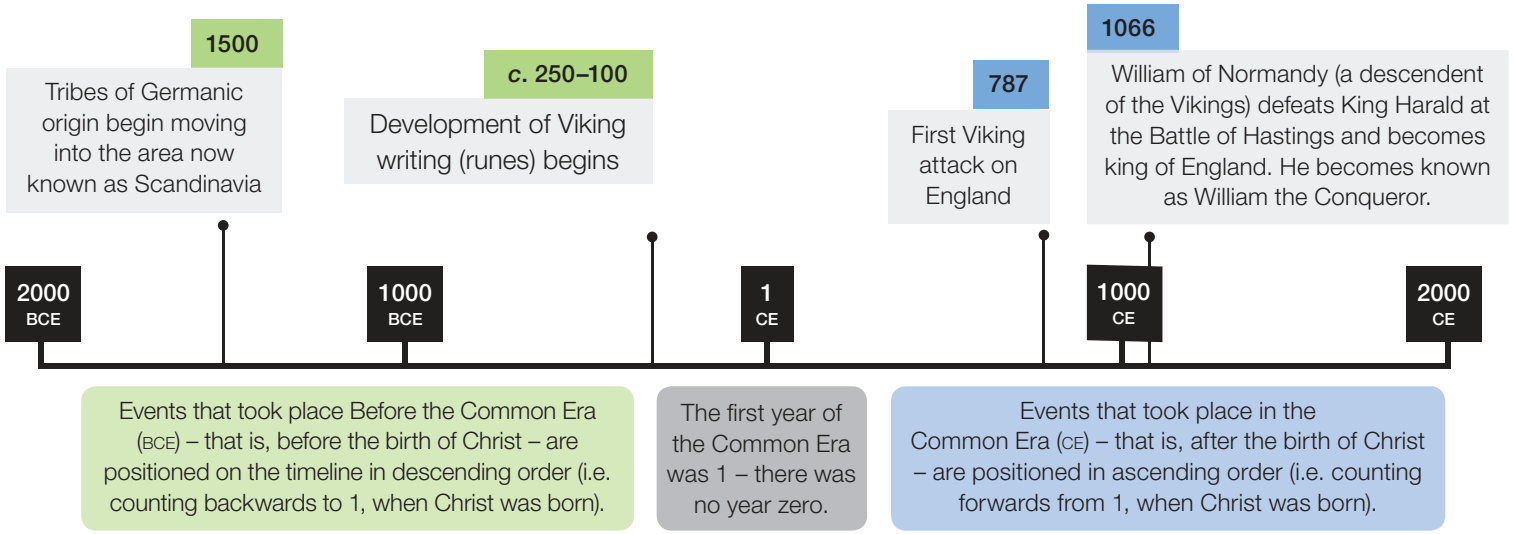
Century CE	Time period	Century CE	Time period	Century CE	Time period
1st century CE	1 to 100	8th century CE	701 to 800	15th century CE	1401 to 1500
2nd century CE	101 to 200	9th century CE	801 to 900	16th century CE	1501 to 1600
3rd century CE	201 to 300	10th century CE	901 to 1000	17th century CE	1601 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 HT.15 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 timelines

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 (like the births and deaths of important people, wars and discoveries) can be arranged in the correct order.

Timelines can look quite different, but essentially they all work in the same way. There are some basic steps you need to follow when constructing timelines. You should already be familiar with these steps from Year 7 History, but Source HT.16 provides a simple example and some basic reminders.



Source HT.16 A simple timeline

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 HT.17 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 HT.17 Some useful historical terms

Check your learning HT.2

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 400 BCE 399 BCE 2013 CE 2012 BCE
5 Which centuries were the following years in?
   a 2012 BCE
   b 1 CE
   c 1921 CE
   d 2000 CE
   e 902 BCE
   f 81 BCE

Evaluate and create

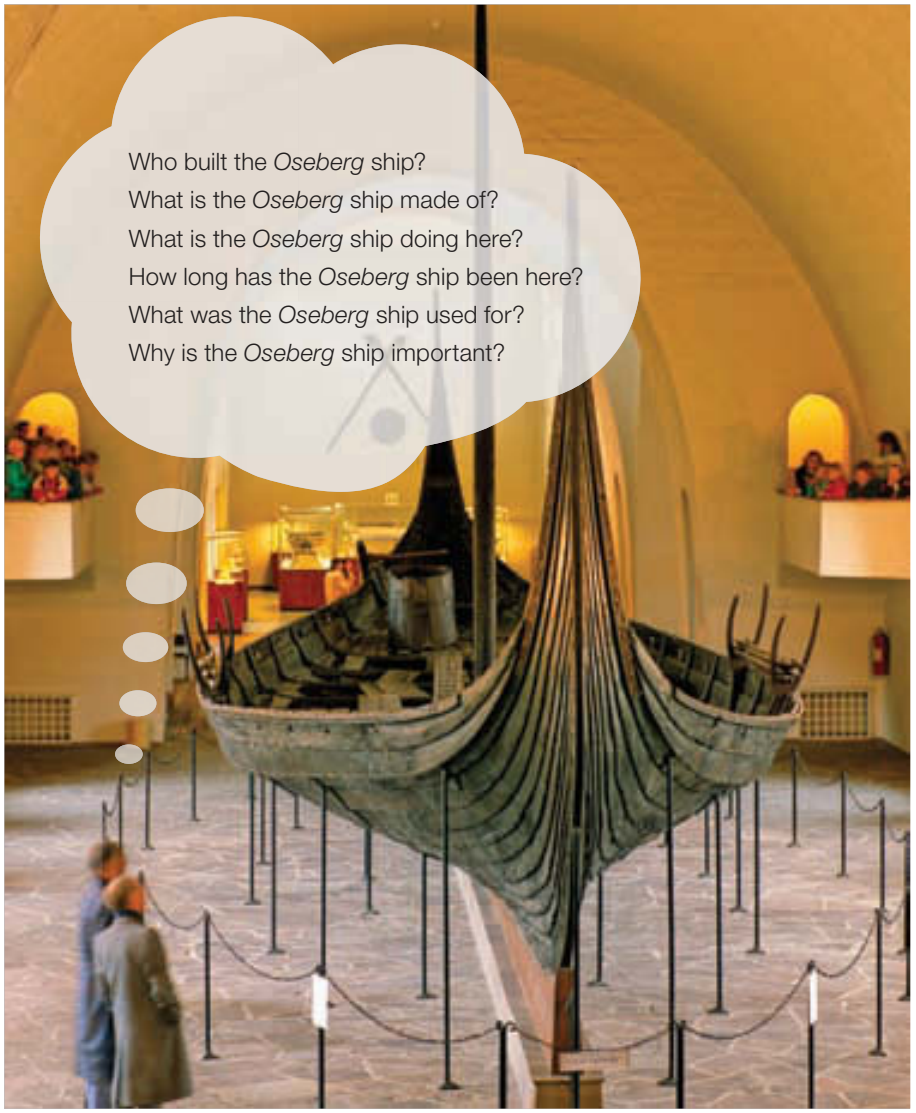
6 Choose a person of interest to you and create a timeline of their life. The person can be an important historical figure (such as Genghis Khan or Leif Ericson), a person who has made an important discovery or invention that changed history (such as Christopher Columbus or Johannes Gutenberg), or even your favourite actor or singer.
   a Your timeline should include at least six significant events. Each entry must include a date and brief description of that event.
   b You should also include images related to at least two of the entries on your timeline.
   c Present your timeline electronically or as a poster.
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.

Historical questions and 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.

The *Oseberg* ship (shown in Source HT.18) is a well-preserved Viking ship discovered in a large burial mound at the Oseberg farm in Norway (just south of the capital Oslo). It was excavated by a team of Norwegian and Swedish archaeologists in 1904–1905. Today it is displayed at the Viking Ship Museum in Oslo.



Source HT.18 Developing historical questions is an important part of a historical inquiry.

skill**drill**

Generating questions to inform a historical inquiry

Look closely at Source HT.18. This visitor to the *Oseberg* ship in Norway 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 *Oseberg* ship?
- 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 *Oseberg* ship look like?' This is a question with a relatively simple answer.
A better historical question for the visitor to ask might be 'What does the design and construction of the *Oseberg* ship tell us about the skills of Viking craftsmen?' 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 *Oseberg* ship.

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 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.
- 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 HT.19 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.

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 HT.19 Some domain names and their characteristics

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:

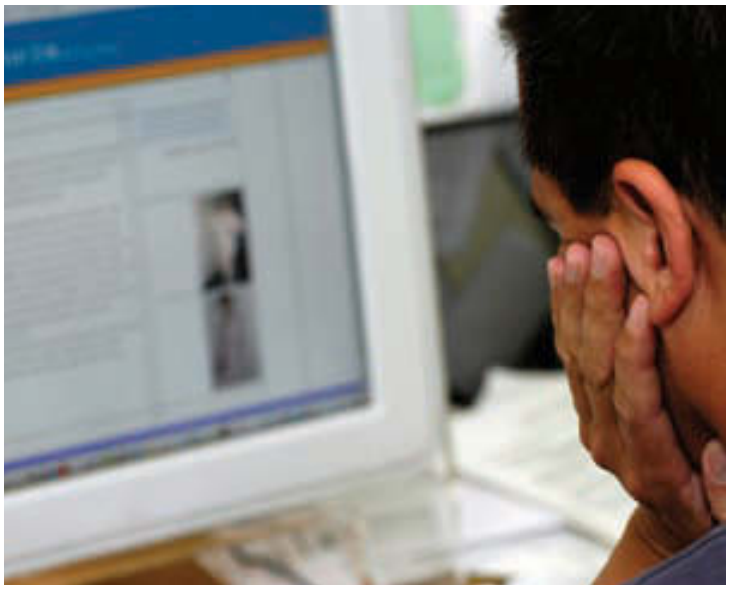
1 author surname(s) and initial(s)
2 year of publication
3 title of book (in italics)
4 edition (if relevant)
5 publisher
6 place of publication
7 page number(s).

Example:

Easton, M & Saldais, M, 2011, *Oxford Big Ideas Geography | History 8 Australian 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 <…>.



Source HT.20 Most research today is conducted online.

Examples:

British Museum, 'Silver penny of Eric Bloodaxe', accessed 24 March 2013, <www.britishmuseum.org/explore/highlights/highlight_objects/cm/s/silver_penny_of_eric_bloodaxe.aspx>.

Keys, D, 2010, 'A Viking mystery', October, Smithsonian.com, accessed 2 April 2013, <www.smithsonianmag.com/history-archaeology/A-Viking-Mystery.html>.

Check your learning HT.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 Australian National Museum
   www.nma.gov.au
   b Apple
   www.apple.com.au
   c La Trobe University
   www.latrobe.edu.au
   d Answers.com
   http://wiki.answers.com/Q/Why_were_the_vikings_feared

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.

Analysis and use of sources

Identify the origin and purpose of primary and secondary sources

As explained earlier (see 'Evidence' in section HT.1), historians use two types of sources to gather evidence about the past:

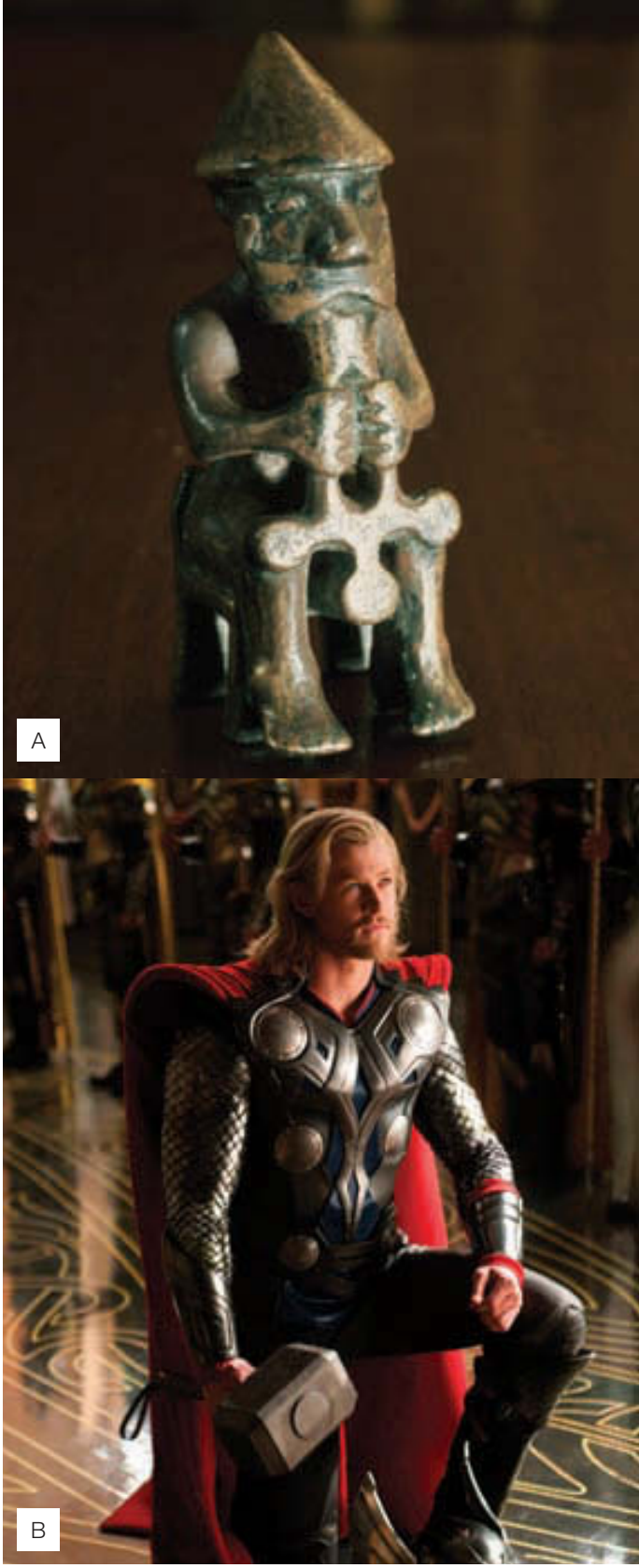
- **primary sources** – objects created or written at the time being investigated; for example, during an event or very soon after
- **secondary sources** – accounts about the past that were created after the time being investigated and which often use or refer to primary sources and present a particular 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 HT.21 The origin and purpose of these primary (A) and secondary (B) sources are very different, even though they are both related to Viking mythology:
(A) A northern Icelandic bronze statue of the Viking god Thor holding his hammer (known as Mjolnir) dating back to around 1000 CE
(B) Actor Chris Hemsworth as Thor holding his hammer (known as Mjolnir) in the 2011 Marvel Studios production of *Thor*.

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

Graphic organisers are very useful tools for collecting, comparing and selecting suitable resources that you have located. A decision-making chart like Source HT.22 can help you do this.

RESEARCH TOPIC: The Viking god Thor — how important was he?
HYPOTHESIS: That Thor played a central role in Viking society and warrior culture.

Source 1: 'Thor' Encyclopaedia Britannica	**Pros:** • The entry is current and based on reliable evidence • The entry is written by a reputable organisation – Encyclopaedia Britannica • Detailed information about Thor's importance to Viking society in general **Cons:** • No specific information about Thor's importance for Viking warriors	**Category of source:** Secondary source – Encyclopaedia entry	**Reference information:** http://kids.britannica.com/comptons/article-9313835/Thor (Accessed 24 February 2013)
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 HT.22 A decision-making 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 such as 'might', 'could', 'believe', 'think' and 'suggests' all indicate that an opinion is being expressed. For example:

- Fact: Thor was an important god in Viking mythology.
- Opinion: The 2011 film *Thor* is an accurate representation of Viking mythology.

Check your learning HT.4

Remember and understand

1 Which of the following is an example of a primary source?
   a a bronze statue of the Viking god Thor created in 1000 CE
   b the film *Thor* released in 2011
   Give a reason for your answer.

2 Provide two reasons why graphic organisers are useful tools when analysing and comparing sources.

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.

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, an extract translated from the *Historica Regum*, written by an English monk, Simeon of Durham in the 12th century, provides the following description of the Vikings:

Source HT.23

> [The Vikings] … came to the church of Lindisfarne [in north-eastern England], laid everything to waste with grievous plundering, trampled the holy places with polluted steps, dug up the altars and seized all the treasures of the holy church. They killed some of the brothers [monks], took some away with them in chains, many they drove out naked and loaded with insults, some they drowned in the sea …

This account is one of many that form an image of the Vikings as fierce and merciless warriors who attacked vulnerable villages and monasteries. Other primary accounts describe barbaric behaviour and unhygienic living habits.

Although many of these accounts are accurate, they do not always present a complete picture of events. It is also important to take into account the fact that many written sources from the time were recorded only by the people who could write – Christian monks. These monks were often the direct victims of Viking attacks that targeted monasteries for their gold.

Other key primary and secondary sources have shown that the Vikings were also skilled silversmiths, carpenters, poets, wood and ivory carvers, jewellery makers, weavers and musicians – not usually characteristics you would associate with brutal savages (see Source HT.24).

It is only when we consider a range of different perspectives revealed through all of the available sources that we can begin to form a realistic picture of who the Vikings were as a people.

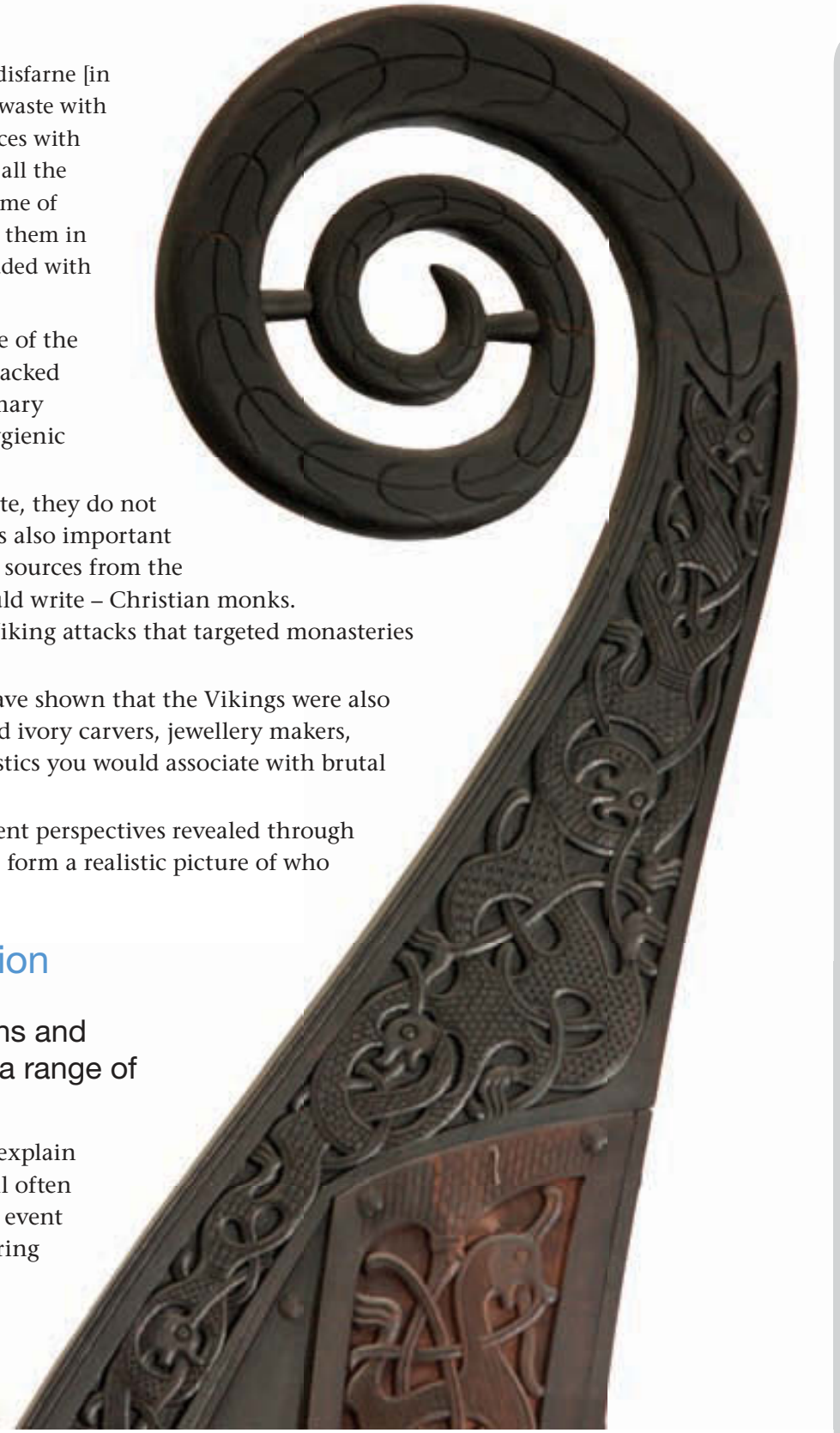
Explanation and communication

Develop texts, particularly descriptions and explanations that use evidence from a range of sources that are acknowledged

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.

The two most common and useful text types you will be expected to use this year are descriptions and explanations.



Source HT.24 The detailed wood carvings on the prow (front end) of the *Oseberg* ship provide evidence of the skill and craftsmanship of Viking ship builders.

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 or features of particular people or things. They 'paint a picture' in words for readers to increase their understanding.

Descriptions must be well planned. Use the structure in Source HT.25 or ask your teacher to provide you with a template. 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 HT.25

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. There should also be some analysis of the evidence 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 (e.g. 'I' or 'my') 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 HT.26

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. Use the structure in Source HT.26 or ask your teacher to provide you with a template. Explanations must be clear and factual. They should not contain opinions or emotional language. There must be supporting evidence from a variety of sources for each point made. These sources must be acknowledged in a bibliography using the correct referencing format.

All historical writing needs to be acknowledged. At the end of your writing you must always include a full reference list or bibliography. This list shows your readers the range of different sources of evidence you used and where they can be found. For detailed information on this refer to the skill 'Identify and locate relevant sources, using ICT and other methods', which was covered earlier.

Use a range of communication forms (oral, graphic, written) and digital technologies

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.

These communication forms can add colour and life to the presentation of historical information.

skill**drill**

Creating an audiovisual presentation

One of the most popular ways to present the findings of a historical inquiry is to create an audiovisual presentation. To prepare and present a successful audiovisual presentation there are several steps to follow.

Step 1: Gather your research

Make sure that you have collected everything that you have found out in your historical inquiry. This will include any written research or findings, a list of sources you have used, and a range of relevant images and/or photographs. If you have been working in a group, this may involve collating your research with other members of your class.

Step 2: Plan and create your presentation

Once you have gathered your research, you will need to decide on the best way to deliver your findings. You may choose to use Microsoft PowerPoint or Prezi. Alternatively, you may like to create a website or short film to show to the class. How you will present your findings may depend on the criteria set by your teacher. It is important to check these before your presentation so that you can ensure you are meeting all criteria.

Step 3: Deliver your presentation

Regardless of the format you have chosen, there are some things to keep in mind:

- Practice makes perfect – rehearse your presentation before coming to class, especially if you are working in a group. Make sure each member of the group knows exactly what they have to do.
- Prepare for the worst – make a backup copy of your presentation in case anything unexpected occurs, such as data loss.
- Engage the audience – make eye contact, do not read from your notes, and prepare cue cards to help you remember your lines. Speak clearly and make sure your text and layout is as visually appealing as possible.
- Check for errors – make sure any audio and visual material is correct and contains no factual or spelling errors.
- Speak slowly – focus on the purpose of your presentation and do not allow yourself to be distracted.
- Finish strongly – your presentation should end on a high note!

Check your learning HT.5

Remember and understand

1 Historical sources always reflect the perspective of their writer. Give two examples of factors that may influence a writer's point of view or perspective.

2 What is the purpose of a description? How is this different from the purpose of an explanation?

Apply and analyse

4 Your teacher has asked you to provide a written piece about the significance of the *Oseberg* ship in Viking society. Would it be more appropriate to write a description or an explanation? Explain your choice.

5 Source HT.23 is a primary written source taken from the *Historica Regum.* It was written in the 12th century by a Christian monk.

a Do you think this piece of writing presents a balanced and reliable description of the Viking people?

b What factors may have led the writer to describe the Vikings in this way?

Create and evaluate

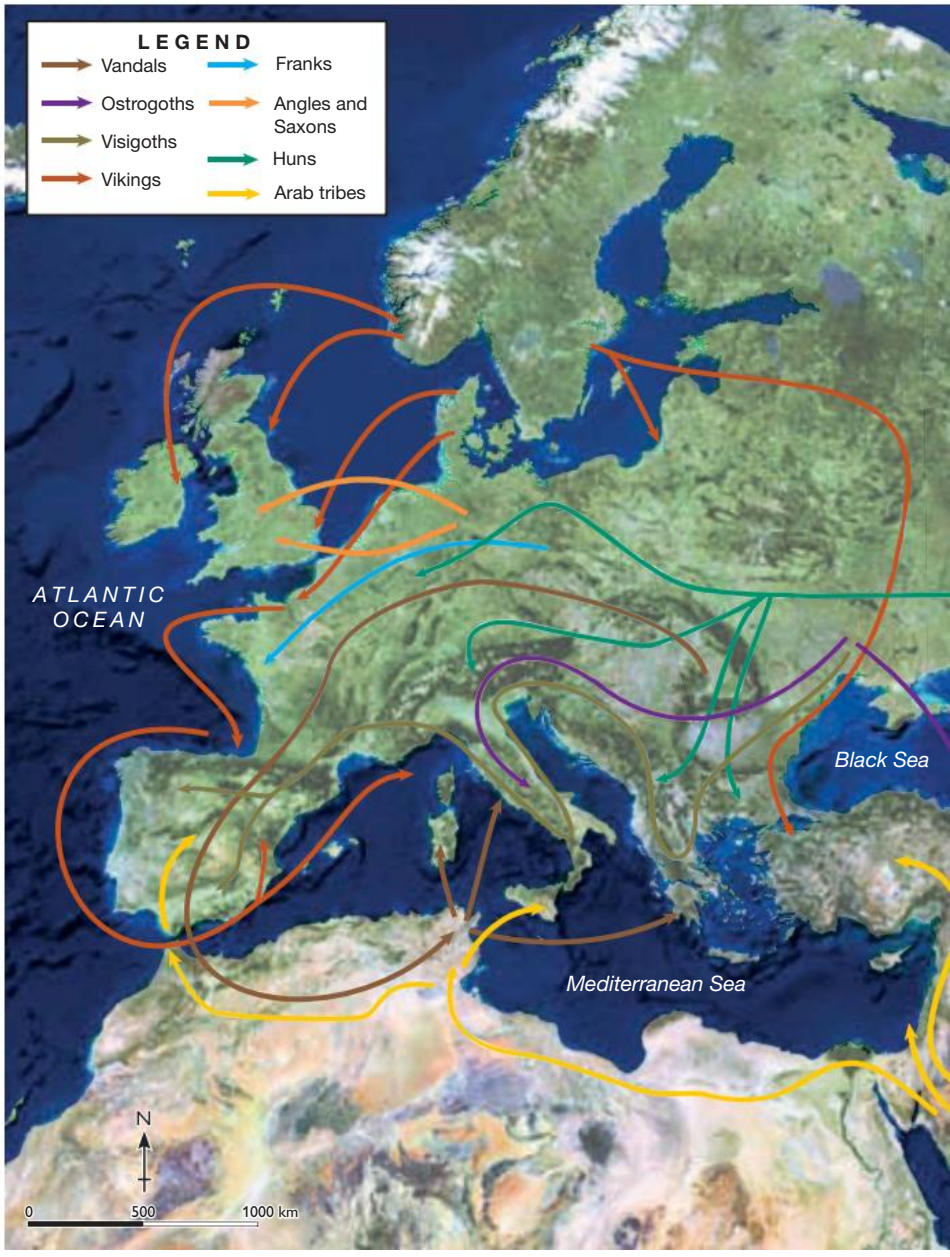
6 Your fellow class members have presented an audiovisual presentation on Viking gods. Your teacher has asked each member of the audience to complete a peer evaluation by creating five assessment criteria. Present your five assessment criteria in order of importance.

How did societies change from the end of the ancient period to the beginning of the modern age?

The civilisations and events you will be learning about this year took place over a period of time starting around 650 CE and ending in 1750 CE. This period marks the end of the ancient world and the beginning of our modern world – it was a time of enormous change around the globe.

During ancient times, much of Europe and Asia was under the control of powerful empires. Over time, many of these ancient empires collapsed; some due to the pressures and costs of wars, others due to corrupt governments or migration. The fall of these powerful empires left room for different groups of people to move into their territories looking for new regions to settle and riches to plunder. In order to gain new territories, these tribal groups often competed with one another, causing conflict and huge changes. Some new societies and civilisations were founded peacefully by local tribes, while others were founded through bloody battles by foreign tribes expanding their territory and power through fierce combat.

All over the world, different groups of people were on the move. At the start of the period, much of this movement was centred across Europe. This was a direct result of the collapse of the Roman Empire. Barbarian tribes that had helped to end Roman control moved and settled across territories the Romans had once controlled. Some of these tribes were the

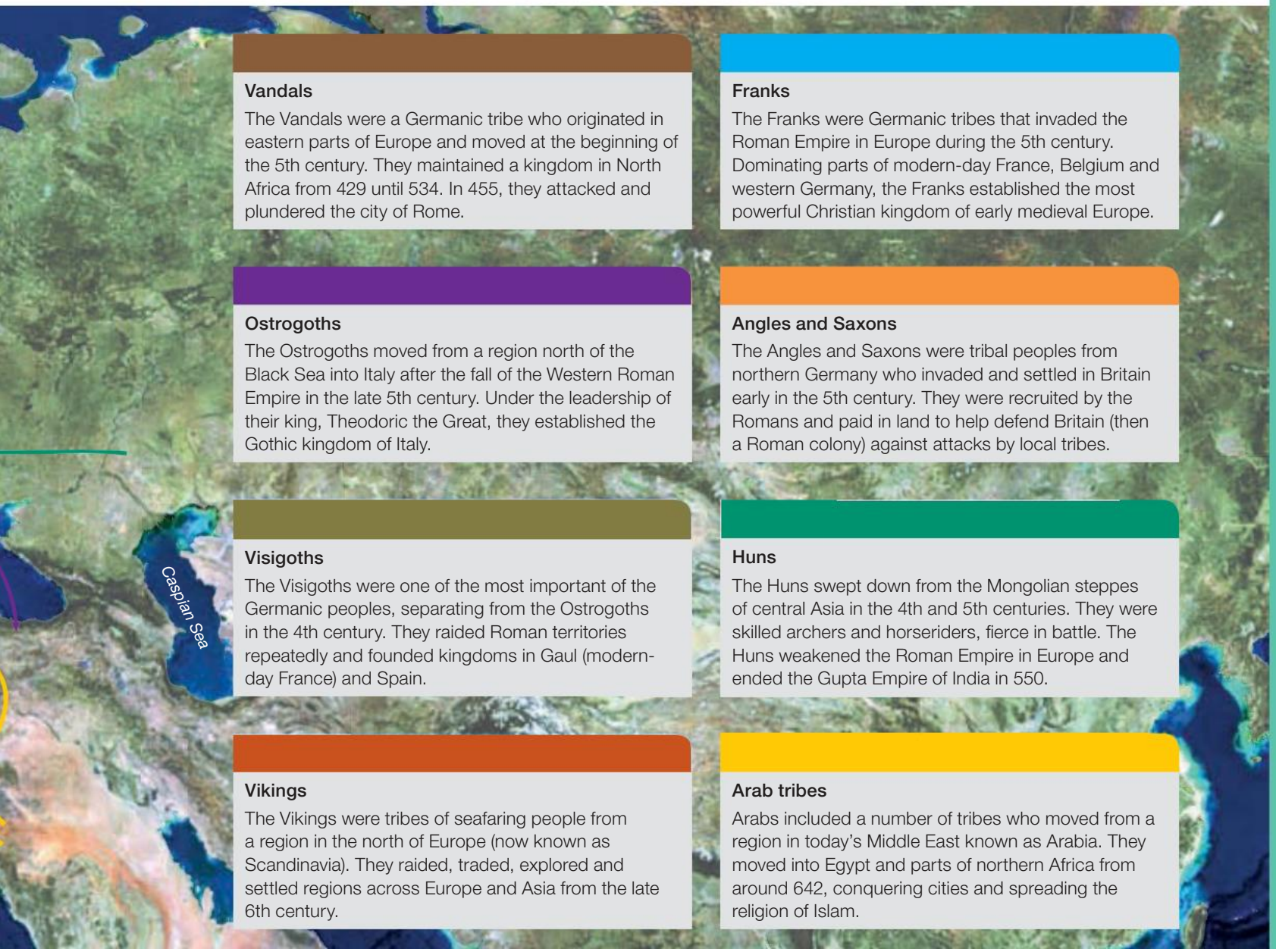


Source O.1 This satellite image shows the approximate movements of tribal groups across Europe (and parts of Africa and Asia) during the 4th and 5th centuries CE.

Vandals, the Ostrogoths, the Visigoths, the Vikings, the Franks, and the Angles and Saxons. Other groups, such as the Huns, migrated from further east in Asia, and Arab tribes migrated from the Middle East. Source O.1 shows the movement of many different tribal groups across Europe (and parts of Africa and Asia) during the 4th and 5th centuries. This movement had a huge impact on the ways in which new societies formed and developed there.

Centuries later, other tribal groups around the world also began expanding their territories – Polynesian tribes moved across the Pacific, the Khmer people in South-East Asia founded a mighty empire, the Mongols conquered much of Asia, the Ottomans established one of the most powerful empires the world has known, and the Aztecs and Incas in the Americas were colonised by the Spanish. Each of these groups is described in more detail in Source O.3.

overview 1



Vandals

The Vandals were a Germanic tribe who originated in eastern parts of Europe and moved at the beginning of the 5th century. They maintained a kingdom in North Africa from 429 until 534. In 455, they attacked and plundered the city of Rome.

Franks

The Franks were Germanic tribes that invaded the Roman Empire in Europe during the 5th century. Dominating parts of modern-day France, Belgium and western Germany, the Franks established the most powerful Christian kingdom of early medieval Europe.

Ostrogoths

The Ostrogoths moved from a region north of the Black Sea into Italy after the fall of the Western Roman Empire in the late 5th century. Under the leadership of their king, Theodoric the Great, they established the Gothic kingdom of Italy.

Angles and Saxons

The Angles and Saxons were tribal peoples from northern Germany who invaded and settled in Britain early in the 5th century. They were recruited by the Romans and paid in land to help defend Britain (then a Roman colony) against attacks by local tribes.

Visigoths

The Visigoths were one of the most important of the Germanic peoples, separating from the Ostrogoths in the 4th century. They raided Roman territories repeatedly and founded kingdoms in Gaul (modern-day France) and Spain.

Huns

The Huns swept down from the Mongolian steppes of central Asia in the 4th and 5th centuries. They were skilled archers and horseriders, fierce in battle. The Huns weakened the Roman Empire in Europe and ended the Gupta Empire of India in 550.

Vikings

The Vikings were tribes of seafaring people from a region in the north of Europe (now known as Scandinavia). They raided, traded, explored and settled regions across Europe and Asia from the late 6th century.

Arab tribes

Arabs included a number of tribes who moved from a region in today's Middle East known as Arabia. They moved into Egypt and parts of northern Africa from around 642, conquering cities and spreading the religion of Islam.

Where did civilisations rise and fall?

The period of time between about 650 CE and 1750 CE marked the end of the ancient world and the beginning of the modern world. It was a time of great change. New societies and civilisations were founded and new religions spread. Different ideas developed and ways of thinking about the world were challenged. A range of new inventions developed along with new ideas about art, politics, literature, religion and science.

New societies took shape in Europe, while long-established societies, such as those in China and India, changed enormously. Some changes were driven by the spread of religions and by shifting economic and social values. Others were the direct result of migration, battles for power, and the spread of a disease known as the Black Death.

The more powerful societies of this period competed to increase their wealth, power and territory, causing many violent conflicts. Some also chose to explore the seas in search of new lands and riches.

This year you will be studying a number of these civilisations and events in detail. To fully appreciate and understand each of these civilisations, it helps to first look at some of the factors that were common to all of them and how their development was linked.

Source O.2 shows the location and size of the civilisations you will be learning about this year. It also shows areas that were affected by the spread of a deadly plague known as the Black Death. Note the dates for each civilisation as you are looking at the map – not all of them existed simultaneously. The timeline in this overview (Source O.3) also shows the dates for each of the civilisations and provides some key information about each of them.



Source O.2 This satellite image of Earth shows the location and size of key civilisations between 650 CE and 1750 CE when they were at their peak.

The Ottoman Empire (*c.* 1299–1683)

Renaissance Italy (*c.* 1400–1600)

The Vikings (*c.* 790–1066)

Medieval Europe (*c.* 590–1500)

The Khmer Empire (*c.* 802–1431)

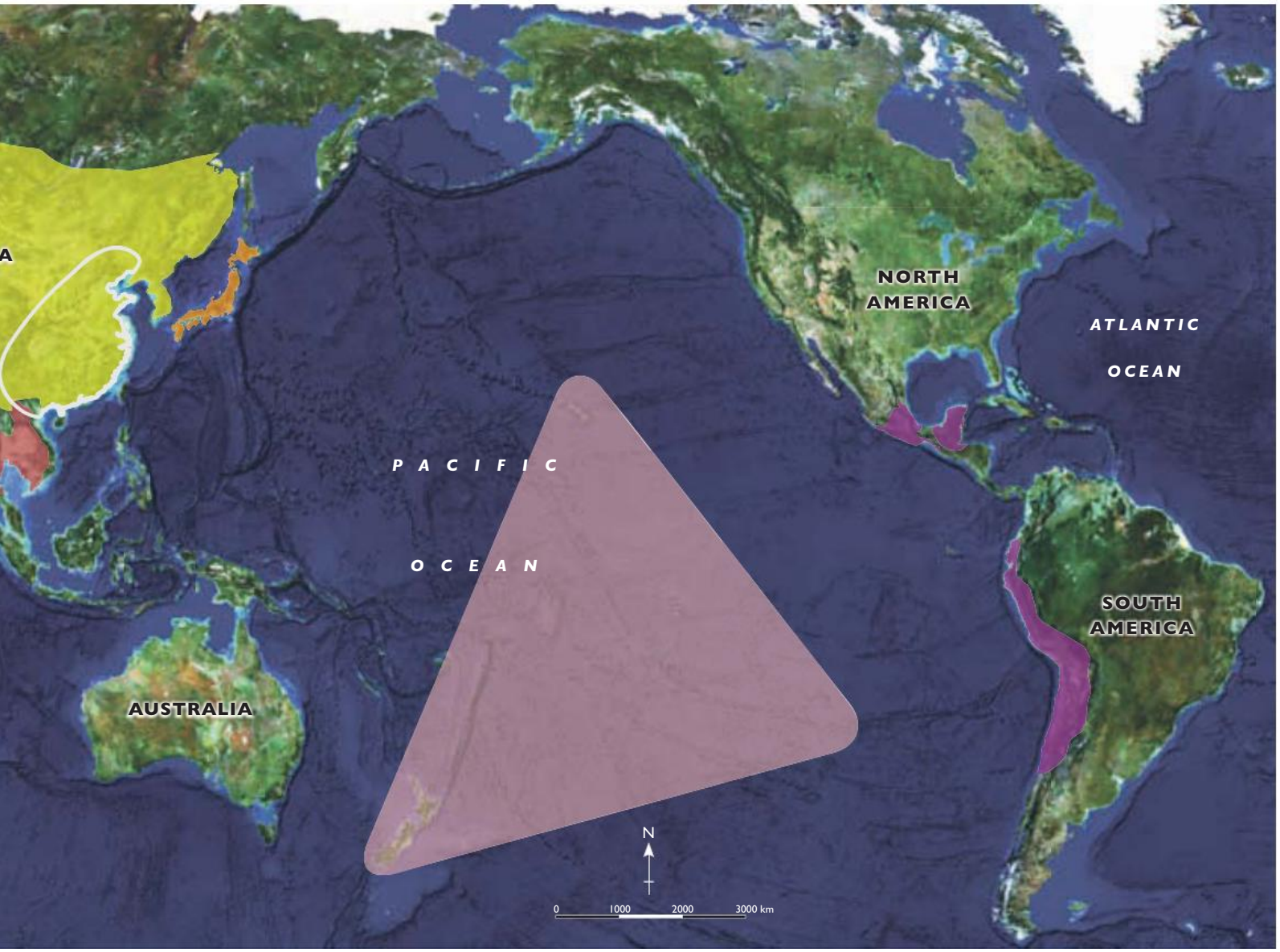
Japan under the shoguns (*c.* 794–1867)

The Polynesian expansion across the Pacific (*c.* 700–1756)

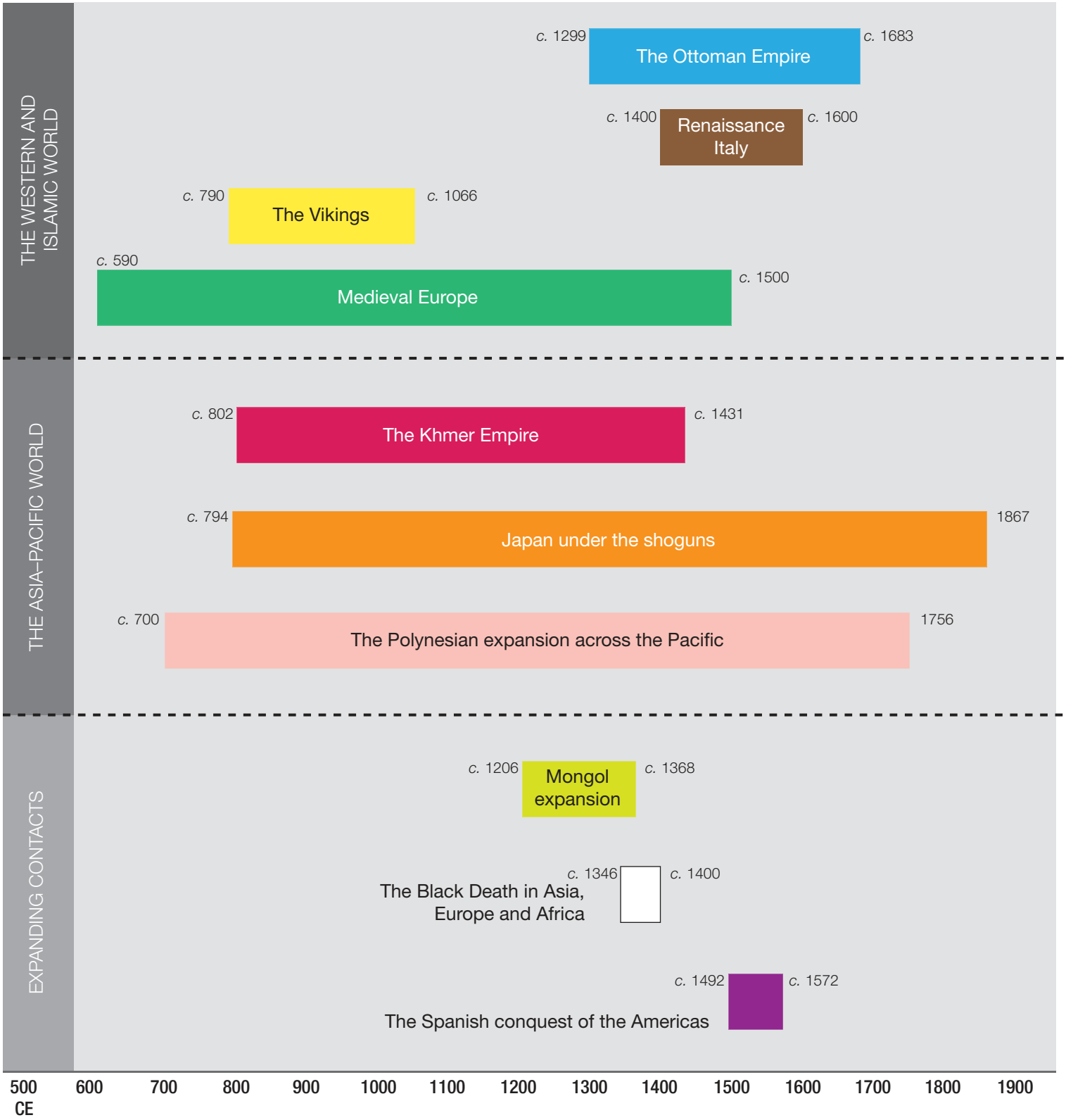
Mongol expansion (*c.* 1206–1368)

The Black Death in Asia, Europe and Africa (14th century plague)

The Spanish conquest of the Americas (*c.* 1492–1572)



When did civilisations rise and fall?



Source O.3 A timeline showing the rise and fall of civilisations and societies *c.* 650–1750 CE and key information about each

The Ottoman Empire

The Ottoman Empire was formed by Arab societies and grew out of the traditions of ancient Greece and the Middle East. The empire possessed great wealth and expanded into Europe, Africa and Asia.

Renaissance Italy

The stability in Italy from 1400 to 1600 provided the right environment for a rebirth of the ideas and values from classical Rome and Greece. Renaissance is a French word meaning 'rebirth'. The arts and sciences flourished in Renaissance Italy.

The Vikings

The Vikings were a people from Scandinavia who expanded their wealth by raiding neighbouring societies. They were skilled sailors and fearsome warriors. They settled or conquered territories stretching from modern-day Britain to the Ukraine.

Medieval Europe

The medieval period in Europe lasted about 1000 years. An important feature of medieval Europe was a system for organising society known as feudalism. Along with the spread of Christianity, feudalism maintained stability across Europe for many centuries.

The Khmer Empire

The Khmer Empire was settled in a region called Angkor in what is now Cambodia. The society was built around rice cultivation. It followed the Indian religions of Hinduism and Buddhism, and the Khmer people built many elaborate temples to honour their gods.

Japan under the shoguns

In medieval Japan, the most powerful military leaders became known as shoguns. These shoguns ruled Japan for over 700 years. Although people worshipped their emperor as a god, the shogun held all the power.

The Polynesian expansion across the Pacific

The Polynesians originated in modern-day Taiwan and navigated in canoes to settle thousands of islands scattered across the Pacific Ocean. They created many different societies on different islands.

Mongol expansion

The Mongols were originally nomadic herders who followed seasonal food sources. They were skilled horsemen living in tribal groups who, around 1206, united to form a great army that conquered vast territories across much of Asia and eastern Europe.

The Black Death in Asia, Europe and Africa

The Black Death was a devastating plague that killed large sections of the populations of Asia, Europe and Africa – up to 40 per cent of the population in some areas. The loss of life caused significant changes in devastated areas and went on to alter the course of history.

The Spanish conquest of the Americas

As the medieval period was drawing to an end in Europe, the Spanish, spurred on by the prospect of gold and other riches, began a mission to conquer and plunder the civilisations of the Aztec and Inca in the Americas, with devastating effects.

Check your learning O.1

Remember and understand

1 Choose three of the tribal groups discussed in Source O.1. Describe who they were, where they migrated to and when.

2 Rank each of the civilisations shown in Source O.2 in order of their geographic size.

Apply and analyse

3 Predict how the three largest civilisations shown in Source O.2 may have grown to become so powerful. What factors do you think might have allowed them to expand their territories?

4 Explain how the migration of different tribal groups (in Europe or Asia) contributed to the spread of ideas and religions around the world.

Evaluate and create

5 Why do you think it might be important to learn about each of the civilisations or events shown in the timeline? Provide one reason for each topic.

What were the causes and effects of contact between societies in this period?



Between 650 CE and 1750 CE, people from different societies around the world came into contact with each other for many different reasons. Some groups were forced to move because of natural disasters, changes in the weather, famine, war or for political reasons. This often pushed them into regions already claimed by other groups. Others chose to move in order to expand their territory or to seize land and resources controlled by rival groups. Regardless of the reasons, contact between different societies had both positive and negative effects. Two of the main causes for contact between societies during this period were conflicts (such as battles and wars) and increases in trade.

Conflicts between societies

The transition from the ancient to the modern world was not peaceful – it was marked by frequent conflict, battles and wars. There were many different causes of these conflicts, including:

- a desire for power and control (either by an individual leader or entire group)
- a desire for land or territories occupied by rival groups
- a desire or need for resources owned or controlled by rival groups (such as water, farming land, gold, weapons and castles)
- a desire to convert (or kill) people with different religious or spiritual beliefs.

In some cases conflicts were the result of a single cause, but more often a combination of these causes sparked them. Just as there were often many causes for these conflicts, there were also many effects, including:

- the death of large numbers of soldiers and ordinary people – often making up large sections of a group or society's population
- the destruction or erosion of entire cultures and civilisations
- large changes in the way societies were structured or functioned
- changes to the rulers (such as the king and royal family) or governments or groups or societies
- the introduction of new ideas, cultures and ways of doing things
- the spread of new ideas, technologies, belief systems and goods
- the spread of disease
- the development of new weapons, fighting techniques and defensive structures (such as castles and moats)
- destruction of the environment.

We will now look briefly at the causes and effects of four significant conflicts that took place in Europe, Asia and the Americas between 650 CE and 1750 CE. Although they took place in very different parts of the world, many of the causes for them, and the effects they had on people and places, are similar. As you read, think about the reasons why contact between different societies may have resulted in conflict and wars. Also think about the ways in which these conflicts changed the societies involved.



Source O.4 A scene from the Bayeux Tapestry depicting the Battle of Hastings in 1066

The Battle of Hastings

The Battle of Hastings was fought in 1066 in England after the death of the English king, Edward the Confessor. Edward died without an heir to the throne, so a number of men believed they had the right to rule England. One contender, Harold Godwinson (the powerful Earl of Wessex), had himself crowned king almost immediately, but Edward's cousin William (Duke of Normandy – an area settled by Vikings in France) believed that he was the rightful king. Later that year, the Saxon army of Harold Godwinson and the Norman (Viking) army of William met in battle near the town of Hastings. After winning this battle, William was crowned king of England and became known as William the Conqueror. He introduced a number of Norman beliefs and traditions to England – the most important among these was the system of **feudalism**. Feudalism changed the way society and laws in England and other societies across Europe were organised.



The Crusades

The **Crusades** were a series of religious wars fought between Christians and Muslims at various times between 1096 and 1290 in a region of the world known as the **Holy Land** – now made up of countries such as Israel, Lebanon and Syria. The main aim of the First Crusade was to gain control over important religious sites in and around the city of Jerusalem. Jerusalem was an important religious city for Christians, Muslims and Jews at the time and continues to be to this day.

Before the First Crusade, European merchants and travellers to the Holy Land (including Jerusalem) were on good terms with the local Arabs. However, things changed when the Seljuk Turks, a militant Muslim group, took control of the city. They closed Jerusalem to Jewish and Christian pilgrims. This caused the Pope to call for Christian volunteers to form an army and recapture the city. The resulting conflicts caused a tremendous loss of life on both sides and sowed the seeds of religious tensions that continue to the present day in that part of the world. It also saw Christian Crusaders return to Europe with many new goods and ideas from the Holy Land that went on to change European society in many positive ways.

Source O.5 An artist's impression of a battle from the First Crusade

Mongol invasions of Japan

From the beginning of the 13th century, the size and power of the Mongol Empire grew dramatically. Having already conquered China and Korea, the Mongol leader Kublai Khan (grandson of Genghis Khan) planned an invasion of nearby Japan. Kublai Khan wanted to bring Japan under his control in order to expand his empire and increase his power. He was also eager to collect taxes from the Japanese people and plunder their treasures.

In 1274, a Mongol army totalling 40 000 men set sail from Korea in nearly 900 ships bound for Japan. Up until this time, battles between rival **clans** (groups) in Japan were common, but this was the first time the clans were forced to come together to fight a common enemy. The Mongol army far outnumbered the Japanese samurai, and used more superior fighting techniques and weapons. After only one day of fighting, the Japanese forces were no match for the Mongols. They had no choice but to take cover in a nearby fortress. That night, as the Mongol soldiers rested on their ships, a storm hit sinking around 200 ships and drowning about 13 000 men. The remaining ships had no other choice but to return home defeated.

Seven years later in 1281, a second Mongol fleet returned. This fleet was much larger – about 4400 ships carrying approximately 140 000 soldiers – and was determined to finally conquer Japan. Once again though, as Mongol soldiers prepared to attack the Japanese, another massive typhoon hit. It wrecked the Mongol ships and stopped the Mongol invasion. Most of the Mongol soldiers drowned and any others that made it to land were hunted down and killed by the samurai.

As a result of the failed invasions there were many changes in Japan. The Japanese believed that their gods had sent the storms to preserve Japan from the Mongols, so Zen Buddhism became very popular. The Japanese called the two storms **kamikaze** (meaning 'divine wind'). Kublai Khan seemed to agree that Japan was protected by supernatural forces; he abandoned the idea of conquering the island nation. In addition to this, the samurai adopted different fighting styles and developed new weapons based on those they had seen the Mongols use.

Source O.6 An artist's impression of Japanese troops repelling Mongol invaders in 1281. The storms responsible for Mongol losses became known as kamikaze in Japan, meaning 'divine wind'.



Spanish conquest of Tenochtitlán

Spanish exploration started early in the 15th century motivated by a desire for new territories, goods, wealth and trading partners. The Spanish were also motivated by the belief that it was their duty to convert the native peoples of these new lands to Christianity; they largely viewed these people as 'godless savages'.

Between 1492 and 1572, the Spanish focused their efforts on conquering and colonising new territories in the Americas. In 1519, after establishing a small settlement on the coast of what is now Mexico, a Spanish conquistador by the name of Hernán Cortés set out in search of the Aztec capital of Tenochtitlán. When he arrived there, he was welcomed by the leader of the Aztecs, Moctezuma II. Shortly thereafter, Cortés took Moctezuma II and other Aztec officials hostage. From this point onwards, the stability of the Aztec Empire came to an end.

Over the following years, there were a number of bloody battles and massacres. In 1521, Cortés returned for his final attack on the Aztec capital. By this time, a deadly disease known as smallpox (which the Spanish had brought with them to the Americas) had devastated the Aztec Empire, severely weakening its army. Cortés' troops barricaded the city for months to prevent supplies coming in and then attacked. The Aztecs were defeated and Spanish canons flattened their once great city.

As a result of the defeat, the Aztecs lost their land, independence and culture. The Spanish meanwhile gained access to vast supplies of gold and riches as well as new crops (such as tobacco and chillies) never before seen in the Western World.

Source O.7 A late 17th-century painting by an unknown artist showing the Spanish troops led by Hernán Cortés invading and destroying the Aztec capital of Tenochtitlán



Trade between societies

In addition to conflicts, trade was one of the main reasons why early societies came into contact with one another. Trade was not only a way of exchanging different goods; it also enabled different ideas, beliefs and aspects of culture to be shared and spread. As the territories controlled by civilisations grew, and empires were formed, trade became easier and more goods moved over larger distances. Access to minerals (such as gold) and other resources (such as water and fertile land) were some of the main reasons why empires expanded. Once an empire controlled large reserves of these resources, trade once again increased.

After the fall of the Roman Empire in Western Europe, trade decreased dramatically. Roman forces that had been responsible for enforcing the law were no longer around, so large parts of Western Europe became very dangerous. **Barbarian** raids meant travel and trade were difficult and risky – traders were often robbed or murdered for their goods.

In contrast, the Byzantine Empire in Eastern Europe and a number of Islamic empires across Arabia were flourishing. Muslim sea traders were pushing into the Indian Ocean and beyond. During the 6th century, they had trade contacts in the Indies (Indonesia and Malaysia). Some 100 years later, they were trading in China.

Trading routes over land

From around 1000 CE barbarian raids across Western Europe had largely stopped and people began to feel safer. The population began to increase and towns began popping up across the continent. People were drawn to these towns because they provided job opportunities and services. Around this time, many roads were built and money also started



Source O.8 An artist's impression showing the father and uncle of Italian explorer Marco Polo travelling across Asia on the Silk Road

to be used. As a result, trade increased dramatically. The **Silk Road**, a 6500-kilometre-long network of trade routes connecting Asia with Europe, became a vital trade route between East and West. During the 14th century, Mongol rulers protected the route and ensured safe passage for merchants, which greatly helped trade.

Trading routes over sea

The use of boats had been a part of trade since the ancient civilisations of Egypt, Greece and Rome; however, the scale of sea trade increased dramatically at the beginning of the second millennium. By the 1200s, trading ports in modern-day Italy, such as Venice, Genoa and Florence, were becoming busy commercial centres. During the 15th and 16th centuries, emerging nations around the world also opened sea routes. All were eager to increase their trade and expand their territories. This meant finding new markets and faster ways to reach them. By this time, trade along the Silk Road was starting to prove slow and expensive, mainly because the power of the Mongol Empire had weakened and it could no longer protect travellers on the route.

Many European monarchs began to invest money in discovering unknown parts of the world, or in finding new trade routes across the oceans. Europeans were not the only sailors exploring distant parts of the world. The Arab traveller Ibn Batuta (1307–1377) travelled as widely



Source O.9 An artist's impression of the types of European ships commonly used for trade throughout the 15th and 16th centuries. This image is based on a description by Marco Polo.



Source O.10 An artist's impression of a European marketplace during late medieval times. Marketplaces were the result of new wealth, goods and prosperity brought about by trade.

as Marco Polo, and the Chinese sailor Zheng He (1371–1435) sailed west from China seven times, as far west as Africa and the Persian Gulf.

The effects of trade and new markets

Such a dramatic increase in trade had many effects on societies all over the world. European journeys of discovery changed their societies in countless ways. For example:

- Europeans began eating potatoes and tomatoes and chewing tobacco from the Americas. People in the Americas were introduced to lemons, sugar and wheat from Europe.
- Cities and towns in Europe expanded in size and wealth as metals, furs, silk, tea, timber and spices poured in from around the world.
- Some merchants became extremely wealthy. The Medici family, traders in Italy, became so powerful through trade that they dominated the way Florence was ruled. Many super-wealthy families became **patrons** of the arts, constructing public buildings and monuments, and funding artists, sculptors and writers.
- Traders brought back new goods, but also disease. During the 14th century, a devastating and deadly plague known as the Black Death spread across Europe, Asia and Africa. This plague was spread from Asia across to the West by traders moving along the Silk Road and related sea routes. Spanish explorers and traders also introduced devastating diseases such as smallpox and measles to the native populations of the Americas, killing many and weakening their armies.

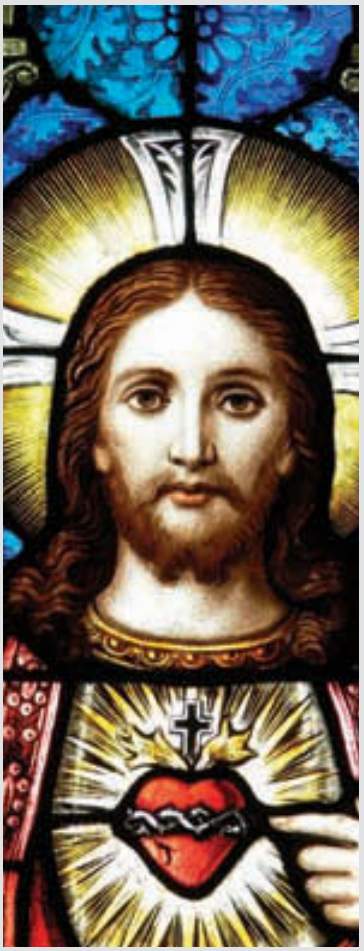
What key beliefs and values emerged and how did they influence societies?

People's beliefs and values affect how they live and interact with others. Over the course of history, tensions have generally arisen when one group regards their own beliefs and values to be more 'correct' than those of others. Beliefs and values can be a strong force for change in society, for better or worse.

During the period from 650 CE to 1750 CE, many new ideas and attitudes emerged and belief systems took hold that changed societies dramatically. For example, there were changes in the law, in the ways people dressed and behaved, and architecture. In this section we will look generally at a few belief systems and values that went on to influence the development of societies you will be learning about this year. More detail on how these beliefs and values affected each society is provided in Overviews 1, 2 and 3.

Christianity

- Christianity is a religion based on the life and teachings of Jesus of Nazareth, who his followers later called Jesus Christ. Christianity began at the start of the first millennium CE.
- The Bible is the most sacred of Christian texts.
- Christians attend church, baptise their children and hold religious festivals, including Christmas and Easter.
- As Christianity spread throughout the world, it influenced the history, culture and thinking of many Western civilisations. It was the primary religion across all of medieval Europe (including Spain and Italy). Over time, it also became the main religion of the Vikings and the Polynesian societies across the Pacific.
- There are approximately 2.1 billion followers of Christianity around the world today.



Source O.11 Christianity is based on the teachings of Jesus Christ.

Hinduism

- Hinduism grew out of the belief system of the earliest people of India. It traces its beginnings back 3500 years and is a complex combination of traditional practices, customs and values.
- Unlike Christianity and Islam, Hinduism has no official founder and no single holy text. It also has many gods. The three most important are Brahma (the creator), Vishnu (the preserver) and Shiva (the destroyer).
- People living in Hindu societies are organised according to a strict hierarchy known as a **caste system**, based on their importance and occupation.
- As Hinduism spread throughout the world, it influenced the history, culture and thinking of many civilisations across Asia and beyond. It was the primary religion of the Khmer Empire.
- There are approximately 900 million followers of Hinduism around the world today.



Source O.12 A three-faced statue representing the Hindu god Brahma, creator of the universe

Islam

- Islam is a religion based on a belief in one God known to followers as Allah. Believers of Islam are known as Muslims. They believe that Allah created the universe and that humans must submit to his will.
- Islam was founded in the early 600s in the Middle East by the prophet Muhammad (who was Allah's messenger on Earth). Muhammad was a religious leader who was visited by Allah.
- The Qur'an is the most sacred holy text in Islam. Muslims believe that the content of the Qur'an is the word of Allah as told to Muhammad.
- Muslims attend a mosque and follow the Five Pillars of Islam (central beliefs and duties), including praying five times a day and fasting during the holy month of Ramadan.
- As Islam spread throughout the world, it influenced the history, culture and thinking of many civilisations across the Arabian Peninsula and beyond – from the western Mediterranean region to central Asia. It was the primary religion of the Ottoman Empire.
- There are approximately 1.3 billion followers of Islam around the world today.



Source O.13 The Qur'an is the most sacred text in Islam. It is regarded as the word of Allah as told to the Prophet Muhammad. Its teachings have influenced many key aspects of Muslim societies, including the Ottoman Empire.

Buddhism

- Buddhism is a religion based on the teachings of an Indian prince by the name of Siddharta Gautama who was born around 563 BCE. He later became known to his followers as Buddha.
- Buddhists believe that to end pain and suffering, a person must work towards spiritual enlightenment through cycles of reincarnation (rebirth). On reaching this state of enlightenment (known as Nirvana), a person is freed from all the bad things about being human.
- There are two main schools of Buddhism – Theravada Buddhism (the oldest and strictest school) and Mahayana Buddhism (the later school).
- As Buddhism spread throughout Asia, it influenced the history, culture and thinking of many civilisations, including Japan and the Khmer Empire.
- There are approximately 380 million followers of Buddhism around the world today.



Source O.14 A bronze statue honouring Buddha near the city of Kamakura in Japan. Buddhism influenced many civilisations across Asia, including Japan and the Khmer Empire.

Shinto

- Shinto is the belief system of the early Japanese people and is widely believed to be at least 2500 years old. It is centred on a belief in gods and sacred ancestor spirits known as *kami*. The name Shinto means 'way of the gods'.
- Like many ancient tribal belief systems, Shinto has no known founder and no sacred text similar to the Bible or the Qur'an. Instead, people make offerings to the gods whenever they want to at shrines built all over Japan.
- Shinto had an enormous impact on the people of Japan. It became a national value system and influenced people's behaviour in many ways.
- There are approximately 4 million followers of Shinto in Japan today; however, the number of people there following a combination of Shinto and Buddhism is around 100 million.



Source O.15 The floating Otorii Gate in Miajima, Japan, marks the entrance to an important Shinto shrine. Shinto has played a central role in Japanese society since humans first settled there.



Mongolian shamanism

- Mongolian shamanism is a loose set of religious beliefs practised in many tribal societies across ancient Mongolian lands in central Asia. A shaman is a messenger between the spirit world and the human world. Shamans could be men or women of any age – even young children. In many tribes they held a prominent place in society.
- Shamans were believed to be able to communicate with the spirit world, interpreting messages from dead ancestors, performing healing rituals and predicting the future. The practice usually involves entering a trance-like state. Black, white and yellow shamans represent different spirits – such as war and peace – and are thought to gain their power from different places.
- Mongolian shamanism is still practised to this day in some nomadic tribal groups in Mongolia.

Source O.16 A white shaman, the shaman of peace, performing a healing ritual

Aztec beliefs

- The Aztecs believed that nature and human activities on Earth were controlled by many different gods and spirits. Many of these gods were greatly feared by the Aztecs, so they made offerings to please them.
- In order to keep the sun shining and the earth fertile, most Aztec people performed blood-letting ceremonies in their homes. In addition to this, the Aztecs believed that it was necessary to perform public human sacrifices to the gods. Large tiered temples were built specifically for this purpose. The beating hearts of victims were cut out of their chests and their bodies were thrown down the steep stairs of the temple.
- Before the arrival of the Spanish, and the destruction of their civilisation, Aztec beliefs dominated every level of their society.



Source O.17 An Aztec priest offering the beating heart of a human sacrifice to the sun god. Offerings to the gods were a central aspect of Aztec culture before the arrival of the Spanish.

Inca beliefs

- Like the Aztecs, Inca beliefs were closely tied to nature. The *Sapa Inca* (great ruler) was believed to be a direct link to the Inca sun god known as Inti. The first Inca ruler was believed to be a god who was sent to Earth to teach humans how to farm, use weapons and worship.
- The Inca also made offerings to the gods; however, human sacrifices were extremely rare. They sacrificed animals instead. The *Sapa Inca* would also offer golden cups of maize (corn) beer, cocoa leaves and holy bread to the sun god.
- Before the arrival of the Spanish, and the destruction of their civilisation, Inca beliefs dominated every level of their society, from their daily life to architecture.

Source O.18 A modern artist's impression of *Sapa Inca* (great ruler) making an offering of maize (corn) beer to the Inca sun god, Inti



Check your learning O.2

Remember and understand

1 Describe some of the major effects that conflicts and wars had on societies between 650 CE and 1750 CE.

2 Identify some of the causes and effects of trade between societies during this period.

Apply and analyse

3 Explain what caused societies in this period to seek contact with one another.

4 Think about how war, trade and religion affect societies today. Compare the causes and effects of contact today with the causes and effects of contact between 650 CE and 1750 CE. Are there any similarities or differences?

Evaluate and create

5 Draw a three-circle Venn diagram to compare and contrast the ways in which war, trade and religion affected societies.

6 Study the spread of religions across the world. Imagine you are a missionary for one of the religions or belief systems described. Write a short paragraph explaining why you want to spread your religion and justifying why your work will be effective. Think carefully about how it will affect the society you are proposing to convert.

What key beliefs and values emerged and how did they influence societies?

Depth study 1

The Western and Islamic world

This depth study offers a choice of four options:

- The Ottoman Empire
- Renaissance Italy
- The Vikings
- Medieval Europe.

You are required to choose ONE of these civilisations and learn in detail about particular aspects of its development.

Before beginning a detailed historical investigation of your chosen civilisation, it helps to look briefly at some of the key beliefs and values that influenced societies across the Western and Islamic world. In particular, it is useful to look at the types of belief systems and religions that were important to each one, as well as the systems of government, laws and social structures that influenced their development.

In Overview 1, you will be exploring the similarities and differences between civilisations across the Western and Islamic world, and making links between them. This will help you develop a more detailed understanding and appreciation of your chosen society.

Belief systems and religions

Belief systems and religions were the foundations on which all societies across the Western and Islamic world were built. The principles underpinning these belief systems, and the religious teachings central to them, influenced almost every aspect of life.

Societies across medieval Europe provide some of the strongest examples of how key beliefs and religions influenced the development of societies. The clothes people wore, the foods they ate, the songs they sang and their understanding of the world were all influenced by their Christian beliefs. Christianity was based on the teachings of Jesus Christ as recorded in the Old and New Testaments of the Bible. Living according to the word of God ensured that a person's soul would go to heaven, whereas a life of sin would lead to an eternity in hell.



Source O.19 Religion was central to the lives of people all across Europe during medieval times. It influenced what they wore, what they ate and their understanding of the world. Because very few people at the time could read, important stories and lessons from the Bible were told through stained glass windows in churches and cathedrals.

During the medieval period in western Europe, a branch of Christianity known as Catholicism was the only recognised religion. The Catholic Church, led by the Pope in Rome, played a dominant role in the lives of all people – from the richest to the poorest. It was not uncommon for people to pray up to five times a day, and everyone attended mass on Sunday to praise God. Churches, cathedrals, monasteries and nunneries were built across the landscape and played an important role in the community. They provided education, health care and spiritual guidance and support. Since most people could not read, their understanding of the world was shaped by the teachings of the Church.

Support for the Church was so strong that in 1096, at the request of the Pope, tens of thousands of people from across Europe volunteered to fight a series of religious wars known as the **Crusades**. The Crusades were fought between Christians and Muslims to gain control of key religious sites in a region known as the **Holy Land**. These wars went on to influence many aspects of European societies.

The traditional belief system of the Vikings was very different from the Christian beliefs dominant across medieval Europe. Instead of worshipping one god, the Vikings worshipped many different gods and goddesses. Many of the Viking gods were responsible for different areas of daily life. There were gods that watched over the successful harvest of crops and others that looked after love, health, family and fertility. Others still were relied on for success in battle and wars. For example, the king of the Viking gods, Odin, was the god of magic, poetry and war. The traditional stories Vikings told about gods, giants and monsters are known as Viking (or Norse) mythology. Many of these stories tell of the creation of the world and were recorded in a collection of stories known as the Viking sagas. Viking mythology influenced many aspects of their society. For example, when a warrior was killed in battle he was believed to go to Valhalla – a grand hall in the Viking equivalent of heaven – where dead heroes feasted at long tables. Unlike Christians across medieval Europe, the Vikings did not really have a positive or negative view of the afterlife. Many believed that the dead travelled to a place called *Helheim*, which lay underground. Here their spirits continued to live in a kind of eternal sleep. Important and wealthy Vikings were often cremated (burned) and then buried in longships with items to accompany them into the afterlife, such as horses, clothing, weapons



Source O.20 An artist's impression of the chief Viking god, Odin (left), feasting with the spirits of Viking war heroes in Valhalla

and even servants. Towards the end of the Viking age, most people across the Viking homeland gave up their traditional beliefs and converted to Christianity. This was due to a number of factors, including the work of Christian missionaries and increased contact with Christian societies across Europe. Churches were built and Vikings abandoned more traditional customs (like cremation) in favour of Christian burials.

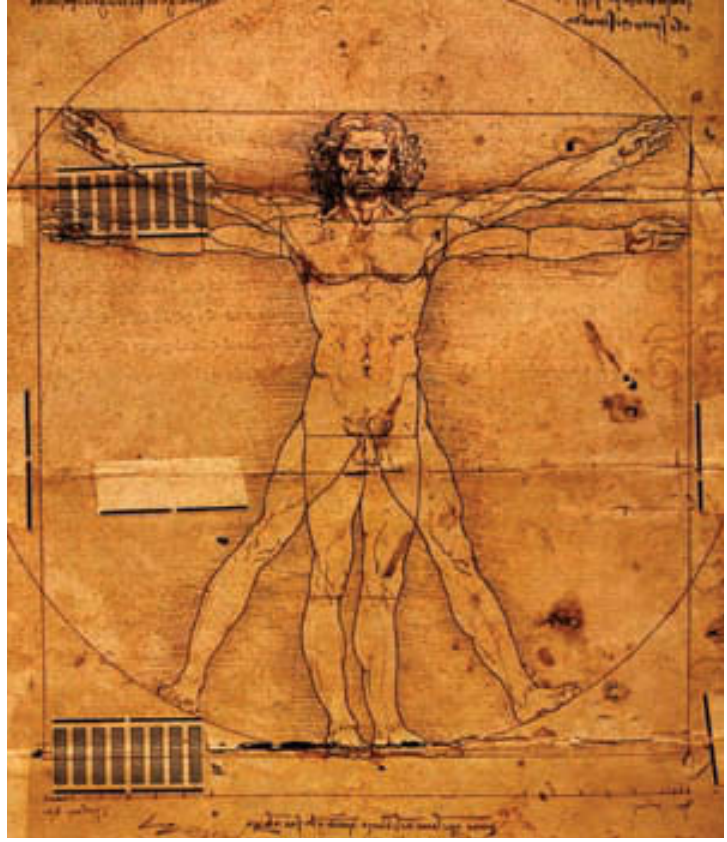
Almost 300 years after the end of the Viking age, another group of independent tribal communities – this time Turkish – were to join forces and create an empire. The Ottoman Empire, as it became known, was to last for a period of 400 years from 1300 to 1700. The empire began in Anatolia, now part of modern-day Turkey. Across the Ottoman Empire, the religion of Islam had significant influence on the lives of its followers. Muslims believe in one god, Allah, and his prophet Muhammad who brought Allah's message to the people. Muhammad's teachings were collected after his death and published in a book called the Qur'an. According to the Qur'an, Muslims across the Ottoman Empire were forbidden from drinking alcohol, were expected to fast (go without food) from dawn to dusk during the holy month of Ramadan, were expected to give a portion of their wealth to the poor, were to perform ritual prayers five times a day, and were forbidden to gamble or eat certain foods (such as pork). On holy days, Muslims were expected to gather at the mosque to worship Allah.

On the doorstep of the Ottoman Empire, on a narrow strip of land known as the Italian Peninsula, was a collection of independent cities and surrounding areas, known as **city-states**. Although there were significant differences in the way each of these city-states was ruled, one characteristic common to all of them was a belief in a Christian god. Hundreds of years before the formation of these city-states, in 394 CE, Roman **emperor** Constantine had converted to Christianity and made it the official religion of all people living in the Roman Empire. This of course included all people living on the Italian Peninsula. From this time onwards, the Roman Catholic Church began to control every aspect of life in Italy, and the Pope – its spiritual leader – was based in Rome.

From around 1400 though, people in many different city-states began to question the authority of the Church. Although they were still very religious, people became more critical of the Church and began to question its values. Many became more interested in seeking the answers to spiritual questions through the study of



Source O.21 The Sultan Ahmed Mosque (also known as the Blue Mosque) in Istanbul, Turkey, was built during Ottoman rule. It is evidence of the importance of Islam to Ottoman society and remains one of the most important religious sites in Turkey today.



Source O.22 During the Renaissance period, the study of art, philosophy, science and music began to challenge the teachings and long-held authority of the Church. Leonardo da Vinci is perhaps the most famous thinker of the Renaissance. His paintings, scientific research and inventions have inspired generations. In this drawing of the Vitruvian Man, he examined the relationship between geometry and the human form.

art, philosophy, science and music. This period became known as the **Renaissance** – a French word meaning 'rebirth'. The Renaissance period across the Italian city-states led to a number of other movements such as **Humanism**, the **Scientific Revolution**, the **Enlightenment** and eventually the **Reformation**. Each of these movements changed and reduced the power and influence of the Church in their own ways.

Governments, laws and social structures

Governments, laws and social structures were important in societies across the Western and Islamic world as they helped to create order, define the roles and responsibilities of citizens, and set out systems for reward and punishment. Over time, laws and teachings evolved and became more complex. In some societies, these laws were passed on by word of mouth, while in others they were written down. Often the line between religious beliefs and laws and government was not clearly defined. Governments and laws were not only influenced by religious beliefs and customs, but also influenced them.

During the medieval period in Europe, society was organised according to a system known as **feudalism**. Feudalism began in Europe around 900 and spread across Europe over the next 150 years. Under feudalism, society was organised according to a strict hierarchy (social structure). The king was the most important member of society. He owned all of the land in his **kingdom** and was believed to rule with the authority of God.

In order to run his kingdom effectively, a king granted land to the nobles directly below him, for which they provided him with military support and loyalty. These nobles, in turn, provided land to the **knights** below them for protection. These knights then provided land to the peasants below them to live on in return for taxes in the form of money or crops. The Catholic Church also had its own land and charged taxes (known as tithes) from peasant farmers who worked the land. The Church controlled about a third of the land across Europe and had its own courts and law.

In the early history of the Vikings, their society was made up of a number of independent tribal communities, led by a chieftain or king whose role was to protect people. Like many societies across medieval Europe, Viking tribal communities were organised according to a social hierarchy. Within each tribal community there were three social classes – *jarls* (noblemen), *karls* (farmers, merchants and craftsmen) and *thralls* (slaves, prisoners and criminals). In order to rule effectively, the chieftain or king depended on support from the *jarls*. Viking society was ruled over by local



Source O.23 Societies across Europe during the medieval period were organised according to a system known as feudalism. The king was the most powerful member of society and stood at the top of the feudal hierarchy. At the bottom were peasants. This painting from the late 15th century shows peasants working the land outside a castle.



Source O.24 A 19th-century artist's impression of a Viking *thing* being held in Iceland

assemblies (similar to parliaments) known as *things*. Each *thing* met once a year to make new laws or change old laws, resolve disputes, and schedule marriages and divorces. Until the 12th century, Viking laws were not written down; instead they were recited by a law speaker at each *thing* so that all could hear. Unlike societies in medieval Europe, all Vikings were subject to the law – even the king.

Ottoman society was complex. At its largest, the Ottoman Empire expanded to cover dozens of provinces across Asia, Europe and northern Africa. At the absolute top of the Ottoman political system stood the sultan. The sultan could appoint or dismiss any official at his pleasure. Every decree or law came from him. In addition, the sultan was both supreme military commander and the religious leader, responsible only to God. Under the sultan was a complex and strictly defined group of officials and councils that carried out the administration and day-to-day running of the empire. Within the enormous territory of the Ottoman Empire lived many different groups of people, each with their own customs, beliefs and history – such as Christians and Jews. The empire was Islamic but promoted religious tolerance. To hold the empire together, the Ottomans developed unique social and political systems. The millet system, for example, enabled non-Muslim communities within the empire to govern themselves, collect their own taxes, own property and have their own courts to deal with small matters. Women had fewer rights than men. Nevertheless, they exerted strong influence over their families, and at various times the women of the sultan's harems had considerable political influence. Slavery was also an important feature of Ottoman society – one in five people in Istanbul were slaves.



Source O.25 At the absolute top of the Ottoman political system was the sultan. Every decree or law came from him. This portrait shows Mehmed II (also known as Mehmed the Conqueror). He is most famous for capturing Constantinople in 1453, when he was only 21 years old. He renamed the city Istanbul and made it the capital of the Ottoman Empire.

During the Renaissance period, the Italian Peninsula was divided into city-states, each with its own ruler and government. These city-states had formed over time as a result of marriages, political alliances and conflicts. As a result, each developed its own system of government – for example, some were ruled by kings, others were ruled as republics, and others were ruled by the Pope (who was the religious leader of the Roman Catholic Church). These city-states often changed borders and there were many changing political alliances between the Church, ruling families and merchants (who formed powerful organisations known as **guilds**).

Source O.26 City-states of the Italian Peninsula during the 15th century

Name of city-state	Features
Kingdom of Naples	The only city-state to officially have a king
The Papal States	Rome – governed by the Pope as head of the Roman Catholic Church
Duchy of Milan	Ruled over by a duke
Two republics: Florence Venice	Governed by elected representatives: • a council called the *signoria* in Florence • a leader (elected for life) and a council in Venice.



Source O.27 During the Renaissance period, the Italian Peninsula was divided into several city-states. This 15th-century artwork shows one of those city-states, Florence, at the height of the Renaissance.

Wealthy citizens flaunted their money and power by becoming supporters, or 'patrons', of artists and intellectuals. Because of this support, thinkers and scholars were able to spend their days avoiding ordinary jobs, instead travelling around Italy, studying ancient ruins and rediscovering ancient Greek and Roman texts. Italian merchants and bankers brought back exotic goods from their travels, as well as ideas from ancient classical texts they found preserved in the great libraries of ancient cities such as Constantinople. When Constantinople fell to the Ottoman Empire in 1453, many of the Greek scholars fled and found safety in Italy. The ideals and values of ancient classical philosophers, politicians, poets and writers inspired and encouraged the thinkers of Renaissance Italy. Scholars studied and discussed these ideals and applied them to their own world, influencing governments, laws and social structures.

Which significant people, groups and ideas from this period have influenced the world today?

Across all human civilisations regardless of their location, significant people, groups and ideas have influenced the way in which many people live. They may have changed the way people were governed, their beliefs and people's place within society. Many of these significant individuals and groups were forward thinking. They were not afraid to explore new ideas and ways of doing things, and were willing to take on difficult challenges. Throughout the Western and Islamic world, significant people, groups and ideas brought about a wide range of changes that have helped shape the world today. Some of these individuals are explored in this section.

Significant people

Medieval Europe: Charlemagne (740–814)

Charlemagne was born in 740 in the town of Herstal, in modern-day Belgium. He was the son of the Frankish king, Pepin the Short, and inherited the Frankish kingdom on his father's death. He has been called the greatest medieval king because he expanded his kingdom and it rose to dominate Western Europe. In 800 he was crowned Holy Roman Emperor by the Pope, confirming him as the most powerful king in the Christian world.

Charlemagne introduced many political and social reforms. He encouraged the arts and education, and funded great building programs. He also set up a monetary system to promote trade, built roads and bridges, and encouraged better farming methods. More than anything though, Charlemagne is remembered today for ensuring that Christianity and the Church would continue to play an important role in Western civilisation.

Charlemagne died in Germany in 814 of a lung infection after ruling for 47 years.



Source O.28 Charlemagne

The Vikings: Leif Ericson (970–1020)

Leif Ericson was born in 970 in Iceland. He was the second son of the Viking explorer Erik the Red. Leif was also an explorer. He is widely believed to be the first European to discover the North American continent. Archaeological evidence has shown that there was a Viking settlement founded by Leif Ericson in Newfoundland, Canada, 500 years before Christopher Columbus voyaged to the Americas.

Leif Ericson is considered significant today for his discoveries of unknown areas that later became known as the '**New World**'. This encouraged other Vikings to also make the journey.

He is credited with spreading Christianity to Greenland.

Leif Ericson is believed to have died in 1020, probably in Greenland.



Source O.29 Leif Ericson

The Ottoman Empire: Suleiman the Magnificent (1494–1566)

Suleiman was born in the city of Trabzon, Turkey, in 1494. He was the tenth and longest-reigning sultan of the Ottoman Empire. In the West, he became known as 'Suleiman the Magnificent' because of his influence and authority – he ruled the Ottoman Empire at the height of its political and military power. In the East, he became known as 'The Lawgiver' because he completely restructured the Ottoman legal system. Many of these laws still form the foundation of Turkish law today.

Suleiman also promoted the growth of Islamic faith. His rule heralded a golden age of art, learning and building. Magnificent mosques, bridges and aqueducts remain to this day – the best known of which is the Süleymaniye Mosque. It is one of the most visited sights in the capital Istanbul today.

Suleiman died in 1566 at the age of 72 during a battle in Hungary.



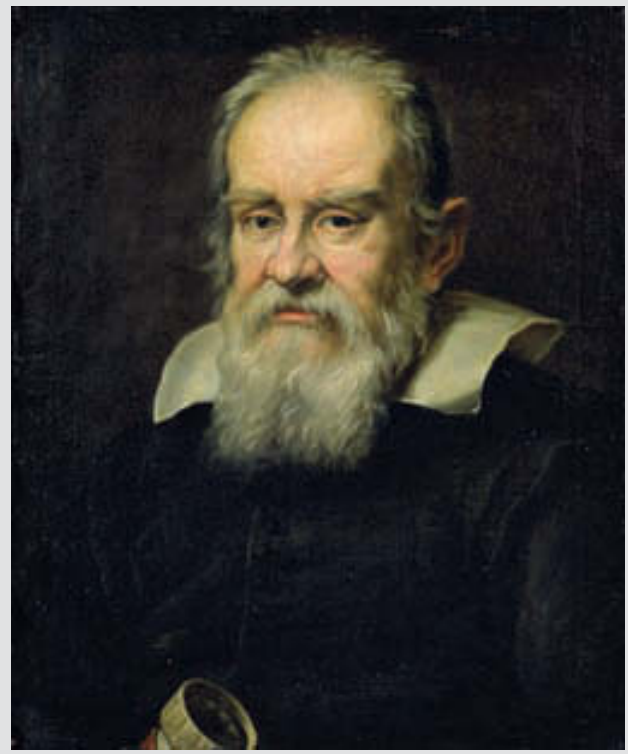
Source O.30 Suleiman the Magnificent

Renaissance Italy: Galileo Galilei (1564–1642)

Galileo Galilei was born in Pisa, Italy, in 1564. He began to study medicine at university but soon changed his focus to the study of science, philosophy and mathematics. Galileo made significant contributions to the study of physics, mathematics and astronomy. He invented the telescope and made many important observations about the planets. His ideas sparked an important movement in Italy known as the **Scientific Revolution**.

Galileo is considered significant today because many of our modern theories and understandings of the Earth and space are based on his work. Although condemned by the Church for his scientific theories, he was later acknowledged as a great thinker and scientific leader.

Galileo died in 1642 near Florence in Italy.



Source O.31 Galileo Galilei

Check your learning O.3

Remember and understand

1 Describe the role played by religion in each of the societies discussed in this overview.

2 Identify the changes that each of the significant individuals in this section introduced to their societies.

Apply and analyse

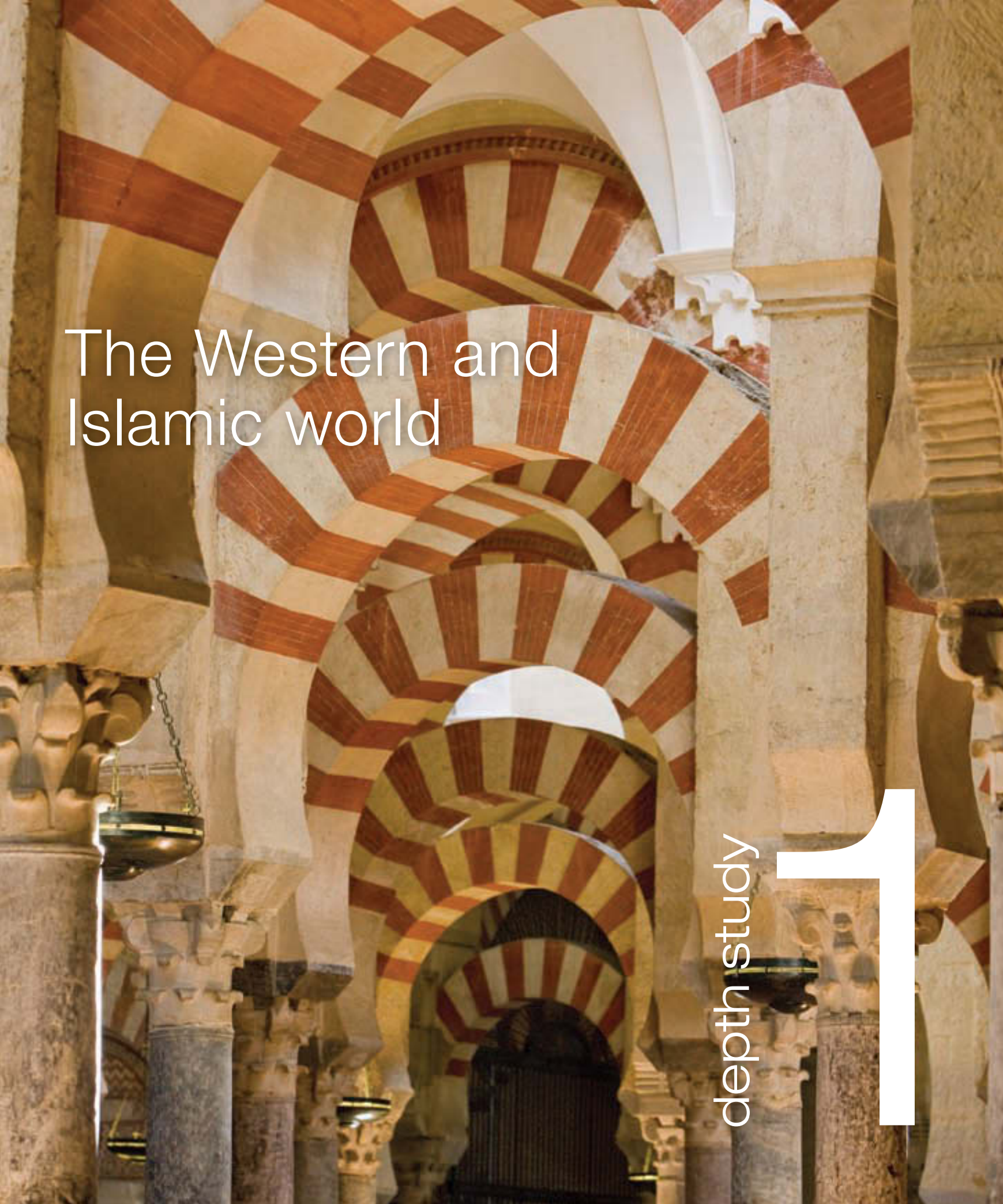
3 Select three ideas or events from the Western and Islamic world that continue to influence the world today. Explain who you think they are significant to and why.

4 Try to identify one or two characteristics that you think the significant individuals discussed in this section share.

Evaluate and create

5 Why do you think the beliefs and social structures of societies across the Western and Islamic world differed so greatly? What factors might have contributed to these differences?

6 Explain whether you believe religion helped or hindered the progress of these societies from ancient to modern times. Provide evidence from the text to support your view.

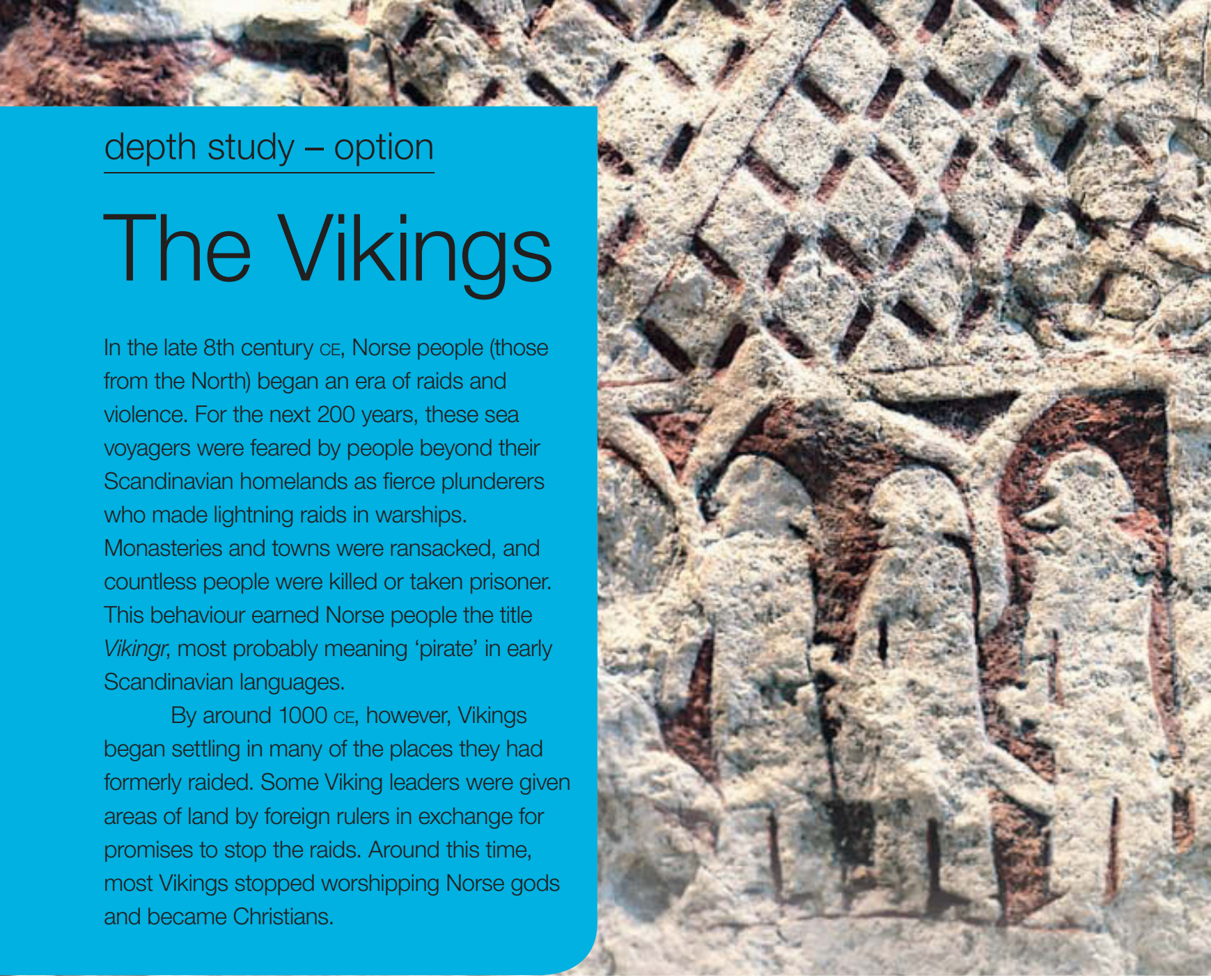


The Western and Islamic world

depth study 1

depth study – option

The Vikings



In the late 8th century CE, Norse people (those from the North) began an era of raids and violence. For the next 200 years, these sea voyagers were feared by people beyond their Scandinavian homelands as fierce plunderers who made lightning raids in warships. Monasteries and towns were ransacked, and countless people were killed or taken prisoner. This behaviour earned Norse people the title *Vikingr*, most probably meaning 'pirate' in early Scandinavian languages.

By around 1000 CE, however, Vikings began settling in many of the places they had formerly raided. Some Viking leaders were given areas of land by foreign rulers in exchange for promises to stop the raids. Around this time, most Vikings stopped worshipping Norse gods and became Christians.

6.1

How was Viking society organised?

1 Viking men spent much of their time away from home, raiding towns and villages in foreign lands. How do you think this might have affected women's roles within Viking society?

6.2

What developments led to Viking expansion?

1 Before the 8th century the Vikings only ventured outside their homelands in order to trade. From the late 8th century onwards, however, they changed from honest traders into violent raiders. What do you think may have motivated the Vikings to change in this way?



Source 6.1 A Viking picture stone showing a longship

6.3

How did Viking conquests change societies?

1 Christian monks, who were often the target of Viking raids, created many of the historical records about Vikings. How might this influence our view of the Vikings?

2 What other historical sources might offer information about how Viking conquests changed the societies they conquered?

The Vikings: a timeline



The remains of the monastery at Lindisfarne, in north-east England



An artist's impression of Viking raiders arriving in longships on the French coast

793
Vikings raid St Cuthbert's **monastery** on the island of Lindisfarne in Britain

878
Alfred the Great (king of Wessex) makes a treaty with Danish Vikings; they are given control of an area of east Britain in which to settle and trade (known as the *Danelaw*)

1 CE | **700** | **787** First Viking attack on England | **800**

867
Viking raiders (from modern-day Denmark) settle in northern England

799
Viking raids begin in France

795
Viking raids begin in Ireland

870
The first Viking settlement in Ireland

Source 6.2 A timeline of some key events and developments in the history of the Vikings



A modern statue of the explorer Leif Ericson, in Greenland



The Bayeux Tapestry, a medieval embroidery, shows the events leading up to and including the victory of the Normans over the English at the Battle of Hastings

c. 1001
Leif Ericson, son of Erik the Red, sails east from Greenland to reach Labrador in North America. A small settlement is set up there, but is abandoned by 1015

c. 985
Erik the Red is banished from Iceland for three years for murder; he sails west and discovers Greenland

911
The king of France makes a treaty with invading Vikings led by Rollo. The Vikings are given a tract of land, which later becomes known as Normandy

1066
In England, King Edward dies. Harold Godwinson becomes king. Another contender, William of Normandy, defeats King Harold at the Battle of Hastings and becomes king of England. He becomes known as William the Conqueror

900 | 1000 | 1100

930
The first *Althing* (Viking parliament) is held in Iceland

991
In a bid to stop Viking invasions in England, the English king, Ethelred, pays Danish Vikings the first of many tax payments known as the *Danegeld* (Danes' gold)

1015
Danish chief Cnut invades England; he becomes king of England in 1016 (and later of Denmark and Norway)

Check your learning 6.1

Remember and understand

1 In what year was the monastery on the island of Lindisfarne in England attacked by Vikings?
2 What was the *Danelaw* and in what year was it created?

Apply and analyse

3 Using the timeline, calculate the number of years that passed between when the first *Danegeld* payment was made and the first (Danish) Viking became a king of England.

Evaluate and create

4 Conduct some Internet research to find out the dates of some other significant Viking raids. Add these events to a new timeline in your notebook.

6.1 How was Viking society organised?

Social classes and roles in Viking society



Many factors influenced the organisation of Viking society and lifestyle. Social classes determined who controlled wealth and power in society, and who did the hard work. Social roles also determined what people did from day to day. Most men worked as farmers (when they were not away on raids), but many were also merchants, shipbuilders, weavers and blacksmiths, to name just a few. The main role of Viking women was to look after children and manage the home.

Viking society and lifestyle were also influenced by a set of laws, an economic system and a set of beliefs and values.

Social classes

In the early history of the Vikings, their society was made up of a number of independent tribal communities. Often, the title *konungr* (king) was given to the chief of each community. This title did not carry the same meaning that king has for us today though. There were many different kings. Some ruled over small regions (rather than whole nations), while others ruled over people (rather than land).

Within each tribal community, there were three social classes (see Source 6.3). In order to rule, each king depended on the support of the most important members of the community – the *jarls*.

Source 6.3 Social classes in Viking society

Social class	Description
Jarls	• They were powerful noblemen (the heads of influential families, often joined through marriage). • They were wealthy and generally wore fine clothes and intricate jewellery. • They often lived in large, well-appointed longhouses. • The king depended on their support in order to rule.
Karls	• They were farmers, merchants and craftsmen (such as silversmiths and shipbuilders). • They made up the majority of Viking communities. • They were 'free' people who were loyal to the king or a *jarl* and paid taxes to them directly. • Many *karls* took part in raids.
Thralls	• This class consisted of slaves, prisoners of war and criminals – the poorest of the poor. • They performed most of the hard work (e.g. farm labour, cutting wood and stone). • They had no rights under the law, but most were treated well.



Source 6.4 A reconstruction of a typical Viking village in Denmark

Social roles

Despite some clear differences between them, Viking social classes were much less rigid than most other medieval societies in Europe at the time. It was possible to move between these classes, especially if a person came into a lot of money. The largest single group in Viking society was the *karls* – a kind of middle class. These men performed a number of roles in society – mainly those of farmers, merchants and craftsmen. Many also took part in raids whenever required – often leaving their wives and families to fend for themselves.

Women and children

Viking women who were left behind when their men went raiding or trading had to manage on their own. This might mean taking on farm chores, tending to and butchering animals, and overseeing slaves. As a result, Viking women were very independent. This was unusual compared with many other societies in Europe at this time. Women could, for example, choose husbands for themselves, decide to divorce their husbands, or buy land.

A woman's main role (whether her husband was at home or not) was to look after children and manage the home. Common tasks for all but the wealthiest (who might have the help of slaves) included spinning and weaving, collecting firewood and preparing food stores for the winter. Daughters helped their mothers in the home, just as sons helped their fathers on the farm or in workshops.

What little education there was took place in the home, as there were no schools. For boys, learning to stay fit, ice skate, wrestle, use swords and ride horses was more important, especially during the Viking Age (late 8th to mid 11th centuries), when such skills were necessary for taking part in raids.

Some social roles of the *karls*

Some of the different social roles performed by *karls* in Viking society are introduced in Sources 6.5 to 6.8.

Source 6.5 A Viking merchant

I'm Hrodgeir the Lucky – a merchant. I've spent my life trading, as my father did. I have sailed many times across what you call the Mediterranean Sea and the Baltic Sea, and down many rivers in Europe. My ships carry out goods to trade, such as jewellery, combs made from deer antlers, decorated swords, furs, and sometimes slaves. What I bring back includes wheat, salt, silver and gold, and spices.



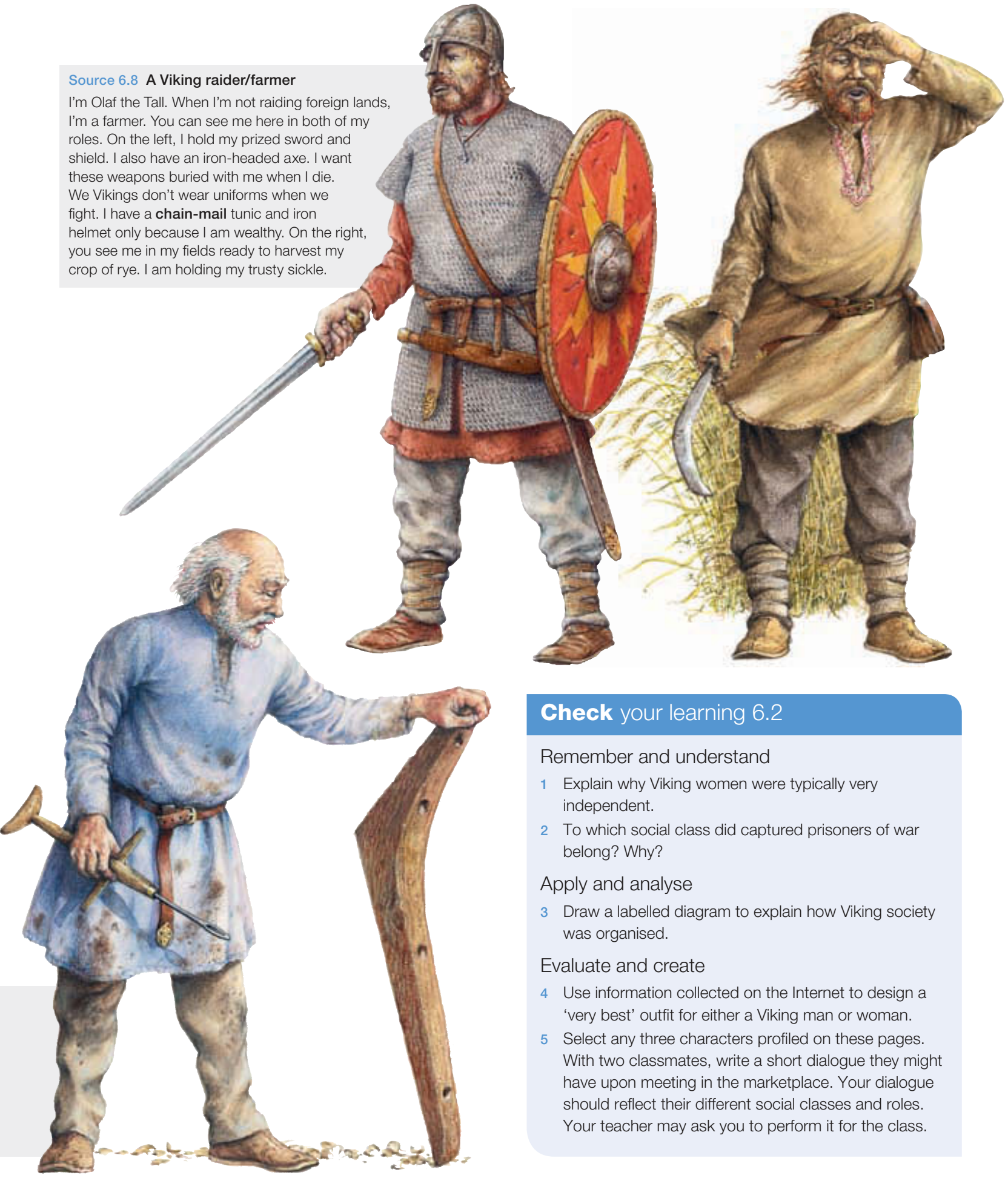


Source 6.6 A Viking merchant's wife

I'm Gudrun, Hrodgeir's wife. I'm often on my own while Hrodgeir travels and works, as you would expect. When not looking after the children, cooking or chopping wood, I'm spinning and weaving wool. Sometimes Hrodgeir brings me back a piece of silk. I use it to make my underwear. I also make dresses, aprons, jackets and hats, sometimes decorated with animal fur.

Source 6.7 A Viking craftsman

I'm Ingvar the Old, a shipbuilder – have been all my life. My sons help me when they are not away plundering. We use iron axes and adzes (another wood-shaping tool) to make keels from single tree trunks. We use freshly cut green wood to make the oak planks of the hull, and curved branches or roots to carve curved sections. A carved figurehead on the prow (front) and stern (back), often of a dragon, is the finishing touch.



Source 6.8 **A Viking raider/farmer**

I'm Olaf the Tall. When I'm not raiding foreign lands, I'm a farmer. You can see me here in both of my roles. On the left, I hold my prized sword and shield. I also have an iron-headed axe. I want these weapons buried with me when I die. We Vikings don't wear uniforms when we fight. I have a **chain-mail** tunic and iron helmet only because I am wealthy. On the right, you see me in my fields ready to harvest my crop of rye. I am holding my trusty sickle.

Check your learning 6.2

Remember and understand

1 Explain why Viking women were typically very independent.

2 To which social class did captured prisoners of war belong? Why?

Apply and analyse

3 Draw a labelled diagram to explain how Viking society was organised.

Evaluate and create

4 Use information collected on the Internet to design a 'very best' outfit for either a Viking man or woman.

5 Select any three characters profiled on these pages. With two classmates, write a short dialogue they might have upon meeting in the marketplace. Your dialogue should reflect their different social classes and roles. Your teacher may ask you to perform it for the class.

Viking home life and work

Vikings led mostly rural lives, living in small villages made up of a few family groups. Their homes were made of wood and simply furnished. Most Vikings were farmers and craftspeople.

Homes

Viking villages were often located near water – on a coastline or beside a river – making it easier to load and unload ships. Among the cluster of **longhouses** were barns to house animals and smoke fish, workshops of village craftsmen, perhaps a sauna, and an open area where markets were held.

The home (or hall) of the king or most important *jarl* was always the biggest and most elaborately decorated longhouse. Noisy feasts were held here after successful raids, with men getting drunk for days on ale or mead (a drink made from honey). Entertainment might include music (using animal horns and a type of fiddle), dancing and poetry recitals.

Longhouses were rectangular buildings with rounded ends and thatched roofs. They were generally 15 to 25 metres long and five metres wide. There was a dirt floor and no windows. The only opening, other than the doors, was a small hole in the roof. In the centre, underneath the roof opening, was a fireplace. It provided warmth, light and a means to cook, but also made the longhouse very smoky. A big metal pot or cauldron typically hung above it, sometimes hooked over a wooden beam from the roof.

Longhouses were dark, smelly places. Smells of smoke, sweat, sour milk and cooking mingled together and hung around the longhouse. There was also often a stink of animal manure from the animal pen that was built at the end of the longhouse. Toilets were holes in the ground outside.

Source 6.9 Longhouses like this one were home to the Vikings. Sometimes earth was piled along the walls and over the roof to insulate longhouses. Viewed from the front, longhouses would look like a grassy hill with a door built into it.





Source 6.10 The interior of a reconstructed longhouse

Furniture

The longhouses of most Vikings did not contain much furniture. Often there was no more than a roughly made table and some benches. Low platforms, built along the sides, doubled as beds and places to sit. These benches were typically covered in animal skins, furs or cloth bags filled with down (duck or goose feathers). In fact, the word 'doona' comes from the Norse word *dunn* – meaning feather down.

Food and diet

The foods Vikings ate were very simple and reflected their traditions of fishing and farming. Meat (from the cattle, sheep, pigs and hens they kept) and fish formed the basis of most meals. Meat and fish were smoked, dried and salted during the summer months and kept in storage so that there was enough to last through the long winter months. The Vikings also harvested grains (like wheat, barley and rye) to make into bread, and vegetables (like onions, leeks, peas and cabbage) for use in stews. They also collected fruits and berries from nearby forests and hunted wild boar, seabirds, hare and elk for meat.



Source 6.11 The simple and typical diet of Vikings

Work

The Vikings were not only fierce warriors, but also accomplished farmers and craftspeople. For the majority of Vikings, farming was their primary occupation. The whole family would take part in the various seasonal jobs involved in running the farm. Crops would be grown during the summer, harvested in autumn and stored for the long winter.

Viking craftspeople were essential to everyday life. The less skilled metalworkers produced farming tools while the most skilled would specialise in making the finest weapons, such as swords.

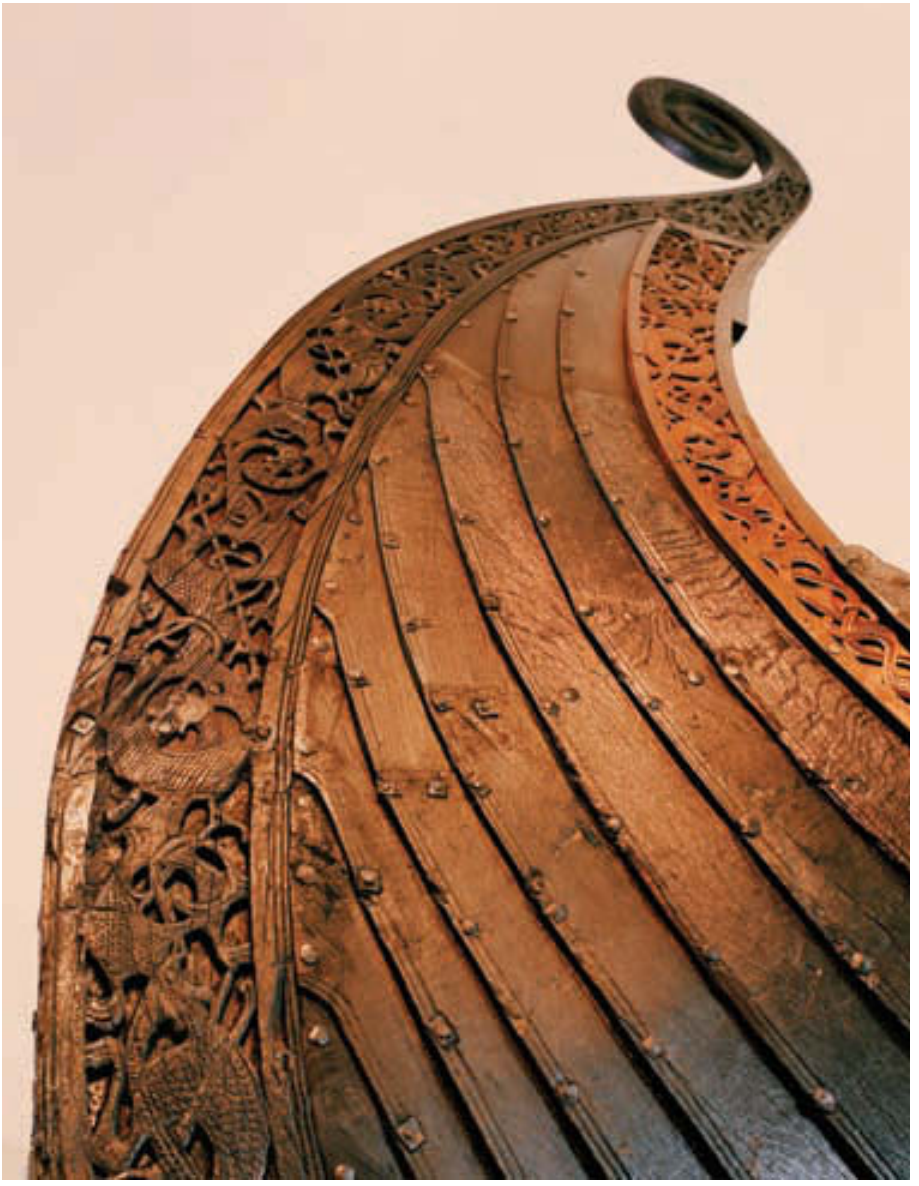
As well as making weapons for battle, metalworkers also made armour, such as the helmet shown in Source 6.12. Helmets like these were worn by Viking warrior chieftains or wealthy jarls (nobles). Poorer fighters wore leather caps, or hats lined with fur. Wealthy Viking warriors also wore chain-mail tunics, while poorer warriors wore leather vests or padded jackets.

Viking craftspeople also made fine jewellery and other luxury items. Jewellery was another way in which Vikings demonstrated their social standing and wealth.

Gold and silver jewellery was worn by those with the most wealth and power in the village. Those of less importance wore bronze or pewter jewellery. Sometimes the silver coins and candlesticks seized on raids were melted down to make jewellery such as the silver bracelet shown in Source 6.12. This piece, and many others that have been found, is evidence of the artistic flair and skilled workmanship of many Viking silversmiths. The distinctive Viking style is shown here with plaited strands ending in animal-like creatures. Jewellery tended to be highly decorative and used symbols taken from Viking mythology and religion.



Source 6.12 Viking metal workers were skilled craftsmen, able to produce items ranging from farming tools and weapons through to the finest decorative jewellery. This helmet and bracelet show the detail and skill obvious in many Viking artefacts.



Source 6.13 Viking craftsmen were also skilled at working with wood. Not only were they expert ship builders but also experienced wood carvers. This ship prow (front) shows the detail of their work.



Source 6.14 The Viking ship *Oseberg*, built in 820 CE, discovered in Norway in 1903

Vikings were also skilled carpenters and shipbuilders. Source 6.14 shows the Viking longship discovered in Norway called the *Oseberg* ship. It is nearly 22 metres long and has 30 oar holes (15 on each side). Note its low, curved hull made of evenly bent planks and its elaborately carved prow (front) and stern (back). Its design shows evidence of the great skill of Viking shipbuilders. Ships like these enabled the Vikings to travel great distances over the seas and discover foreign lands. Their encounters with other cultures also helped them to become skilled traders, exchanging many of their own well-made goods (such as leathers, jewellery, furs and woollens) for foreign foods and luxurious items.

Check your learning 6.3

Remember and understand

1 Why were Viking villages often located near coastlines or rivers?
2 Why were Viking longhouses smelly?
3 What connection does the doona on your bed have to a Viking longhouse?

Apply and analyse

4 Explain how social classes might have been obvious among a band of raiding Vikings.
5 Think about some of the silver bracelets made today. Rate the metal bracelet shown in Source 6.12 against modern jewellery in terms of its design and craftsmanship. What do you conclude?

Evaluate and create

6 Make a labelled sketch showing a modification you would make to the longhouse shown in Source 6.10 to make its interior more suitable as the hall of a Viking ruler.

Viking laws and economy

When people today think of Vikings, many of them imagine hoardes of lawless warriors. However, the Vikings had a system of strict laws that guided behaviour in their communities. Also, the Vikings were not always plunderers – they traded with many other societies in Europe and beyond.

Laws

In the early history of the Vikings, different areas were ruled by tribal communities. Each community had what was known as a *thing* (a political assembly), which acted like a parliament and court in one. *Things* were held once a year in every Viking community. Their main purpose was to make and change laws, and to judge when they had been broken. Only those people who owned land could attend and speak.

Until the 12th century, Viking laws were not written down. Instead, they were preserved in the memory of a law speaker. It was his job to remember all laws and recite them loudly at each *thing*.

The Vikings respected their laws. This is partly because the reputation of each individual was important to them, but also because some punishments were very harsh. For example, if an individual was found guilty of breaking a law at the *thing*, and did not pay the required fine to the person harmed, the punishment was death. Another harsh punishment was to be made a full outlaw. This meant being banished (sent away) for life, with a large bounty (reward) on one's head.

Source 6.15 Some typical activities conducted at *things*

Activities carried out at *things*

- Existing laws were recited by the law speaker so all could hear
- New laws were made (or old laws changed) after discussion and general agreement
- Disputes were resolved, sometimes even by conducting fights to the death
- Rulings were made on whether or not a law had been broken
- Social proceedings, such as marriages and divorces, were carried out

key concept: continuity and change

The *Althing*

Iceland was the only Viking community to have a national *thing*, known as the *Althing*. It was the first parliament in the world. It met for the first time on the Plains of Thingvellir in 930 CE. Like other *things*, it was held once a year. People from different communities travelled long distances to get there, setting up temporary camps. The focal point of the *Althing* was the Law Rock (*Lögberg*). Here the law speaker stood to proclaim the laws. Today, it is a grassy mound, changed over time by natural forces.

Since that first meeting, there have been changes to the *Althing*; it was even abandoned for a time. But even now, 1000 years later, it continues to be the name of Iceland's Parliament. Icelanders continue to gather at the *Lögberg* on 17 June each year to commemorate the *Althing* decision (in 1944) to create the Republic of Iceland.

For more information on the key concept of continuity and change, refer to section HT.1 of 'The historian's toolkit'.



Source 6.16 The Icelandic flag flying near the site of the Law Rock, where the first *Althing* was held in 930 CE

Economy

In early times, the Viking economy was based mainly on agriculture. However, as Viking societies grew larger, good farming land became difficult to find. Much of the landscape of Scandinavia is mountainous or thickly forested, and winters can be harsh. This made clearing and cultivating the land impossible in many cases. As a result, trade helped to meet the needs of the growing population.



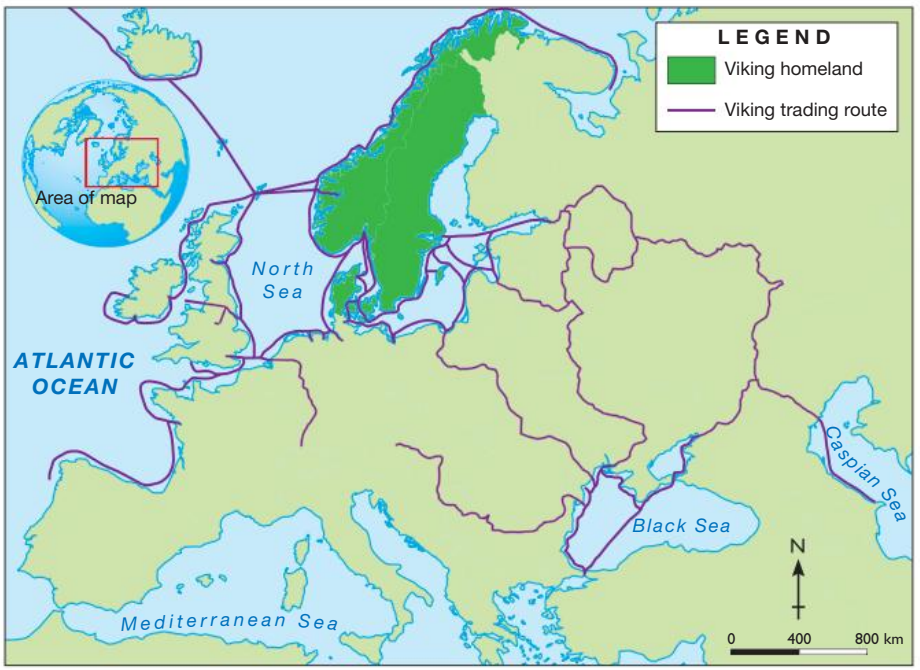
Source 6.17 An artist's impression of a bare-chested Viking trader selling a female slave to Persian merchants

Trade

Viking merchants traded in ships across seas and down rivers. Stashes of foreign coins found in Sweden are evidence that the Vikings were trading in parts of modern-day Russia and central Asia. In fact, they reached as far east as Constantinople and Jerusalem, in order to meet up with traders who had travelled the **Silk Road**.

Items the Vikings carried for trade included timber, leather shoes and bags, smoked fish, amber, fur, **artefacts** carved from walrus tusks and whale bones, jewellery and slaves (particularly once their raids started). These were exchanged for goods such as wheat, iron, silverware, wine, spices, silks, salt, weapons and glassware. At first, trade was conducted through a process of **bartering** (exchanging goods for other goods of similar value). Later, goods were bought and sold with coins. Many towns the Vikings later colonised – such as York (England), Kiev (Ukraine) and Dublin (Ireland) – became busy centres of trade.

MAJOR VIKING TRADE ROUTES



Source 6.18 Source: Oxford University Press

Check your learning 6.4

Remember and understand

1 What were *things*? Give two examples of how *things* influenced the lives of Vikings.

2 List three goods that Viking traders exported and three goods they imported.

Apply and analyse

3 Use Source 6.18 and an atlas to list five modern-day countries that Vikings traded with.

Evaluate and create

4 Write a paragraph explaining why the *Althing* is an example of continuity and change in the history of Iceland.

Viking beliefs and mythology

Compared with many other civilisations, we know very little about the traditional beliefs and religious practices of Vikings. We do know that the Vikings had their own religion, and worshipped many different gods early in their history, but these old beliefs died out once they started to convert to Christianity.

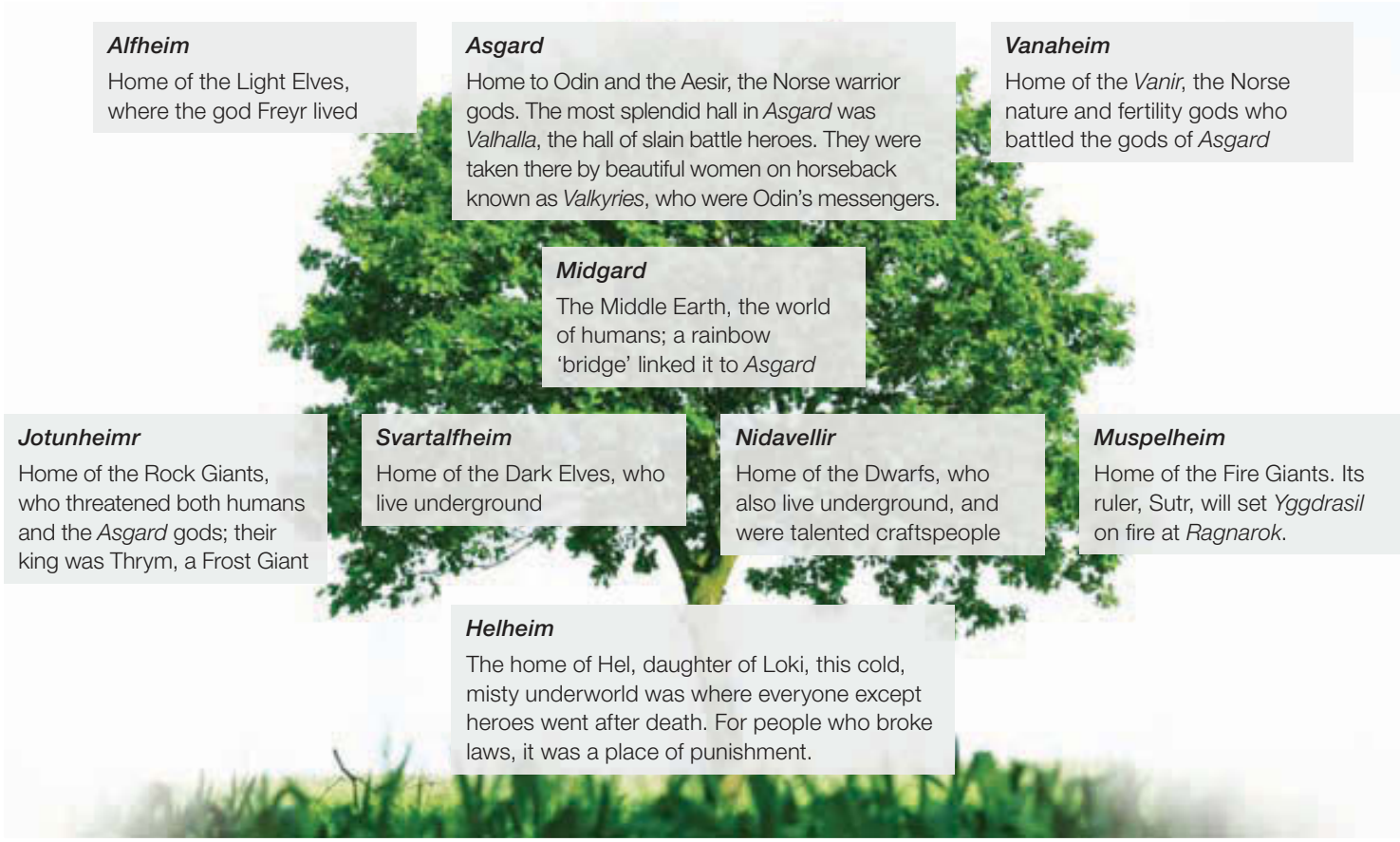
The traditional stories Vikings told about gods, giants and monsters are known as Viking mythology. Many of these stories tell of the creation of the world, and were recorded in a collection of stories known as the Viking **sagas**. In traditional Viking mythology, there were 'nine worlds'. Each was connected to the other by the branches of the 'world tree' known as *Yggdrasil* (see Source 6.19).

When people died, their bodies were cremated (burned) and the remains were buried along with a few items that were important to them during their life. It was believed that they could take these items into the next world. Some Viking chieftains were given ship-burials, with treasure and weapons. Often, their favourite dogs and horses were killed and buried with them. Sometimes, chieftains were even buried with human sacrifices.

Like the ancient Greeks, the Vikings did not really have a positive or negative view of the afterlife. Many believed that the dead travelled to a place called *Helheim*, which lay underground. *Helheim* was ruled by the goddess Hel – half beautiful woman and half rotting corpse. Hel is the origin of the modern word 'hell'. *Helheim* was thought of as a cold and damp place where the spirits of the dead continued to live in a dreamlike form, a kind of eternal sleep.

Vikings who were killed in battle were believed to travel to *Valhalla*, a splendid hall in *Asgard*, after they died. *Valhalla* ('Hall of the Slain') was where warriors would spend the afterlife feasting and living in large halls.

Source 6.19 In Viking mythology there were 'nine worlds' each connected by a world tree know as *Yggdrasil*.



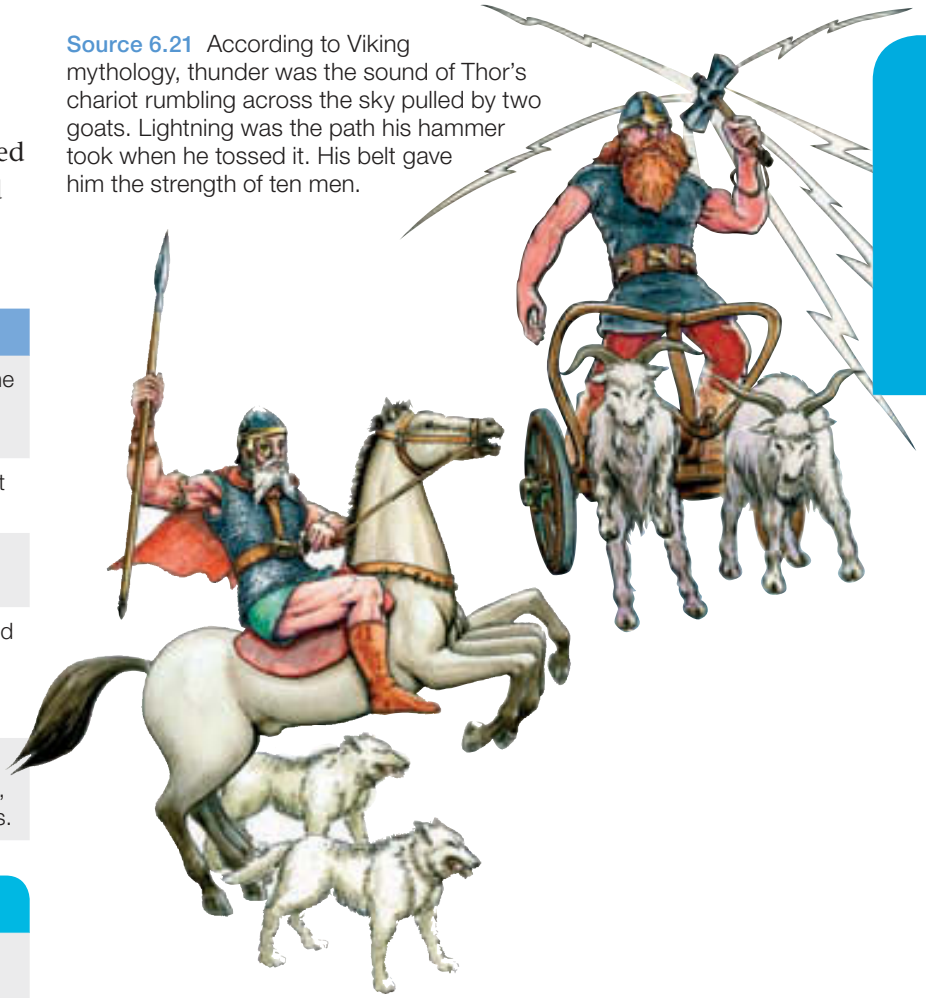
Viking gods

According to Viking beliefs, gods were responsible for different areas of daily life. There were gods that watched over harvests, love, family and fertility. Others watched over success in battle and wars.

Source 6.20 Some important Viking gods

Viking god	Role/relationships
Odin (also known as Wodin)	King of the gods in Viking mythology. He was the god of magic, poetry and war. His wife, Frigga, was the goddess of women and the home.
Freya	Goddess of beauty and love. She rode a chariot drawn by two cats.
Freyr	God of fertility, peace and harvests. He was the twin brother of Freya.
Thor	God of storms and thunder. The Vikings believed he rode a chariot across the skies creating the sound of thunder. Thor also caused lightning with his magic hammer.
Loki	A shape-changing trickster god, Loki was both friend and foe of the gods. He was father of Hel, as well as the monsters Jormungand and Fenris.

Source 6.21 According to Viking mythology, thunder was the sound of Thor's chariot rumbling across the sky pulled by two goats. Lightning was the path his hammer took when he tossed it. His belt gave him the strength of ten men.



Source 6.22 In Viking mythology, Odin watched over the universe while travelling on an eight-legged horse, Sleipnir. He was protected by two wolves, Geri and Freki. His two ravens, Huginn and Muninn, flew all over the world to bring him information.

key concept: continuity and change

Days of the week

In English, many of the names of the days of the week have their roots in Norse and Old English culture (see Source 6.23). Tuesday, for example, is named after the god of war, Tiwes. His day was *Tiwesdæg*, which became Tuesday. Similarly, Wednesday was named after Odin (or Wodin). His day was *Wodnesdæg*, which became Wednesday. Thursday was named after the god Thor, and Friday was named after Freya (Odin's wife).

Source 6.23 The Viking roots for the days of the week

English	Norse	Meaning
Sunday	*Sunnandæg*	Sun's day
Monday	*Monandæg*	Moon's day
Tuesday	*Tiwesdæg*	Tiwes' day
Wednesday	*Wodnesdæg*	Wodin's day
Thursday	*Ðunresdæg*	Thor's day
Friday	*Frigedæg*	Freya's day
Saturday	*Sæterdæg*	Saturn's day

For more information on the key concept of continuity and change, refer to section HT.1 of 'The historian's toolkit'.

Check your learning 6.5

Remember and understand

1 In traditional Viking mythology, how many worlds were there and how were they believed to be connected?

2 What did Vikings believe happened to warriors after they died?

Apply and analyse

3 Write down three points that interest you about Odin and three points that interest you about Thor.

4 Why might Viking people have been reassured by the sound of thunder?

Evaluate and create

5 How do Viking myths compare with any other creation stories that you have studied? In particular, can you identify any similarities or differences between these creation stories and those of Indigenous Australians?

6.1 big**ideas:** rich task

Brutal barbarians … or not?

Mention the word 'Vikings' and most people will immediately imagine hordes of bloodied warriors terrorising innocent villagers and plundering monasteries. Although this was certainly true, there was also another side to the Vikings. In addition to being 'brutal barbarians', they were also skilled craftspeople, poets, wood and ivory carvers, weavers and musicians.

As with any historical inquiry, the reality of who the Vikings were lies hidden among a range of different primary sources.

Source 6.24

> Winter he would spend at home on Gairsay, where he entertained some 80 men at his own expense … In the spring he had … a great deal of seed to sow … Then when that job was done he would go off plundering in the Hebrides [islands off the coast of Scotland] and in Ireland … then back home just after mid summer, where he stayed until the cornfields had been reaped [harvested] and the grain was safely in. After that he would go off raiding again, and never came back till the first month of winter was ended.

A translated extract from the *Orkneyinga Saga*, an Icelandic saga written in the 1100s. It provides a perspective on a Viking named Svein Asleifarson, who lived on one of the Orkney Islands (off the coast of Scotland)



Source 6.25 An exact copy of a carefully carved metal container made by a Viking craftsman. The heads of birds and animals decorate the lid.

Source 6.26

> [The Vikings] … came to the church of Lindisfarne [in north-east England], laid everything to waste with grievous plundering, trampled the holy places with polluted steps, dug up the altars and seized all the treasures of the holy church. They killed some of the brothers [monks], took some away with them in chains, many they drove out naked and loaded with insults, some they drowned in the sea …

A translated extract from *Historia Regum*, written by an English monk, Simeon of Durham, in the 12th century. It is said to be a careful copy of a lost version of the *Anglo-Saxon Chronicle*.



Source 6.27 A wooden game board thought to have been used by the Vikings to play a strategic game similar to chess, known as *hnefatafl*.

skill**drill**

Analysing primary sources

The primary sources that historians use to understand the Viking way of life tell different stories. It is the job of historians to examine these sources and come to a conclusion about their usefulness and reliability. It is important to identify who created each source and the reason why it was created. That way you can identify any potential **bias**. What did the person creating the source want his or her audience to think?

Apply the skill

1 Examine Sources 6.24 to 6.27 carefully and complete a copy of the table below in your notebook.

2 Once you have completed the table, use the information you have gathered to write a short paragraph under the heading 'The Vikings: brutal barbarians or cultured artists?'

	Source 6.24	Source 6.25	Source 6.26	Source 6.27
Who wrote or created the source?				
How might the source's creator be biased?				
Why was the source created?				
Was the source intended to be used by non-Vikings? Why or why not?				
What does the source suggest about the Vikings?				
What evidence does the source provide that the Vikings were brutal barbarians?				
What evidence does the source provide that the Vikings were civilised and cultured people?				
Do you think the source is true and reliable? Why or why not?				

Extend your understanding

Imagine you are a writer and poet living in England during a period of Viking raids. You have been asked by one of the king's officials to write a book about the Vikings. You will be paid generously for your work. The king has ordered that your book should be designed to convince your countrymen that the Vikings are brutal barbarians. In order to do this it will be an advantage to present a biased (or one-sided) view of the Vikings.

1 Of all four primary sources in this section, which two would you choose to put in your book? Why?

2 Write the caption that you would put underneath each source to explain what it shows. Remember, your aim is to make your readers believe that all Vikings are brutal barbarians.

3 Now that you have some experience at presenting a biased point of view, name at least two hints or clues you should look for in primary sources to identify bias.

4 Is the fact that you were paid money to write your book proof that your point of view is biased? Why or why not?

6.2 What developments led to Viking expansion?

Viking raids

Viking society changed significantly in the late 8th century. Up until this time, the Vikings were known as honest traders outside their homeland. After this time, however, the Vikings became feared as they pushed outwards from their homeland to expand their territory. For the next 200 years, they terrorised villages, towns and monasteries in surrounding lands with a series of brutal raids.

Raids were often planned and timed to take victims by surprise. Many were launched just before dawn as unsuspecting villagers slept. The raids were carried out quickly – hence the description 'lightning raids'. Part of the terror for victims was that Viking communities also continued to trade normally during this time. If Viking longships were spotted off the coast, those on shore often could not tell whether the Vikings were coming to trade peacefully or attack.

Possible reasons for Viking raids

Historians still argue today about what motivated the Vikings to change from honest traders into violent raiders. Several reasons have been put forward to explain this.

Necessity

Resorting to raids may have been necessary for the survival of some Viking communities in a harsh land with an unforgiving climate. There was only limited coastal farming land in the Viking homeland (see Source 6.28). As the population grew, the pressure on such land would have increased. Also, winter is long and can be severe in Scandinavia, especially in areas further north. Summer brings long hours of daylight but is quite short, so the growing season for crops is short too.



Source 6.28 A common landscape in many parts of Scandinavia. Note the relatively small area of coastal flatland suitable for farming.

Local knowledge

The knowledge the Vikings had built up through years of trade with neighbouring countries is another possible explanation for beginning their raids. A combination of local experience and reports passed on by Viking merchants helped them piece together an accurate picture of the surrounding regions – in particular the riches that were held in the towns and monasteries there. By the 8th century, their shipbuilding abilities and navigational skills were highly advanced, making such raids a viable alternative to trade. Other scholars have suggested that the Vikings were also taking advantage of what they saw as weak and divided rule in surrounding regions at the time.

Desire for wealth and glory

Historians also argue that the change in Viking behaviour was linked to the desire for quick and easy wealth. Important Vikings such as kings or influential *jarls* could use the stolen riches to reward their men and build their support base in the community. This would then strengthen their influence and power at home.

Some argue that the desire for glory and adventure was also a factor. For example, a man's reputation was very important to a Viking. To lose honour or respect was a disgrace. Raids may have been the way for some dishonoured Vikings to redeem themselves, returning as warriors who had fought bravely. Viking warriors also believed that they would go straight to *Valhalla* if they died fighting bravely in battle.

Revenge

Another possible reason why Vikings may have started to carry out raids on nearby lands was a desire for revenge. Charlemagne (*c.* 742–814), king of the Franks and later the Holy Roman Emperor, fought for about 40 years to bring most of western and central Europe under his control. As part of his military efforts, he ordered those he regarded as **pagans** (including many Vikings) to become Christians. Any who refused were killed. Early Viking raids on Europe took place during the later years of Charlemagne's reign, and the raiders may have been motivated by a desire to get back at Christians, as well as by greed.



Source 6.29 Medieval churches and monasteries were attractive targets for plundering Vikings. The Lindisfarne Gospels, an 8th-century manuscript bound in silver and jewels, is an example of why Vikings would have searched far and wide for such easy pickings. The original binding was lost during the raid on the Lindisfarne monastery in 793. This replacement was made in 1852.

Check your learning 6.6

Remember and understand

1 What major change happened in the Viking society in the late 8th century?
2 Why might tales merchants told of churches and monasteries have tempted some Viking tribal rulers to raid such places?
3 How would such wealth benefit Viking rulers?

Apply and analyse

4 Imagine you are a Viking farmer who works the land in the coastal region shown in Source 6.28. The population of your village is growing. Why might you be tempted to leave your homeland?

Evaluate and create

5 Draw a concept map that explains how and why you think societies that came in contact with the Vikings might have changed. Compare your finished concept map with that of a partner.
6 Why do some historians take the view that early Viking raids on Europe were revenge missions? What evidence would you look for to help to confirm this view?

Viking skills and achievements

The Vikings were highly skilled craftspeople. They built seagoing ships and made their own weapons and armour. These skills increased their success in trade and, later, in the search for and conquest of new lands.

Shipbuilding

The Vikings were expert shipbuilders with easy access to the timber of Scandinavia's forests. They built trade ships, ferries, rowing boats, fishing vessels and ceremonial longships such as the *Oseberg* (see Source 6.14).

By the end of the 8th century, Vikings had been sailing as merchants for some time. They were skilled at navigating, using the sun and stars, weather patterns, bird-flight trails and coastal features as guides. In other words, they were well placed to be either sea traders or sea pirates. Their strong navigational and shipbuilding skills gave them all the expertise they needed to make and sail efficient warships. These included the **longships** they used for lightning raids. The Vikings called them *drakkar* – meaning 'dragon'.

Longships

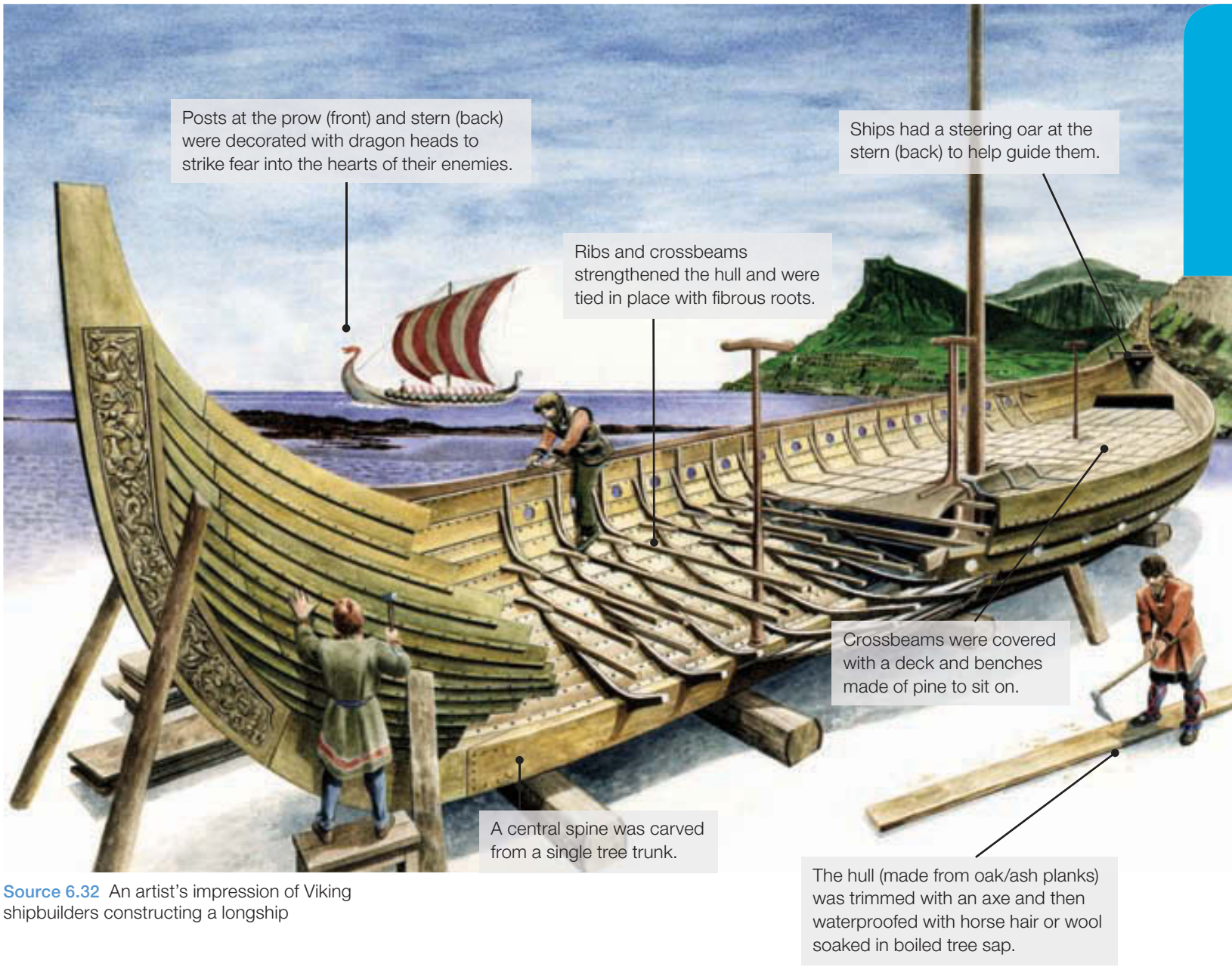
Longships were up to twice as long as trade ships (up to about 37 metres in length). With a thinner, lighter hull, they could carry 100 warriors (68 of whom were oarsmen; 34 on each side). Being so light, the longships were easily able to be carried overland when necessary.



Source 6.30 A Norwegian shipbuilder carving a stern post (back) using the same methods his Viking ancestors did more than a thousand years ago



Source 6.31 A dragon head on the prow (front) of a replica Viking longship in Norway



Source 6.32 An artist's impression of Viking shipbuilders constructing a longship

The longships were wide and shallow, helping them to stay upright in rough seas and to be taken into shallow water. Because longships could be sailed very close to shore, Viking raiders were able to wade in very quickly for a surprise attack.

The huge square sails (made from pieces of woollen or linen fabric, stitched together) were commonly dyed blood red and coated in animal fat to make them more water resistant. In strong winds, the sail provided for a fast sea or ocean crossing. The longships were also equipped with oars. If there was no wind then the sail could be lowered and the men could row the longship instead. Rowing was also necessary to navigate rivers.

The blood red sail together with the dragon heads at the prow (front) and stern (back) helped to heighten the terror for raid victims. Vikings also believed that these dragon heads would frighten away any evil spirits or monsters during sea crossings.

Weapons and armour

Weapons were very important to the Vikings. For a start, they were essential for hunting animals for food. They were also traditional symbols of a man's wealth and power. For example, the swords of rich men often featured hilts (handles) decorated with silver, copper or bronze (see Source 6.34). Swords were the most valued weapons. The Viking sagas tell of some weapons (particularly swords) being so highly valued by their owners that they were given 'pet' names (see Source 6.33). A man's sword was usually buried with him when he died.

By the start of the Viking Age, the Vikings were highly skilled metalworkers. As a result, Viking warriors were heavily armed. As time passed and raids became more a part of Viking culture and tradition, weapon makers were kept busy forging arrows, spears and axe heads from iron. They also became skilled at sharpening the steel edges of swords until they were razor sharp.

Wealthy Vikings could afford metal armour, including helmets with nose bridges and **chain mail** (see Source 6.35). By the time William the Conqueror (whose ancestors were Vikings) fought in the Battle of Hastings in 1066, chain mail was worn by most soldiers.

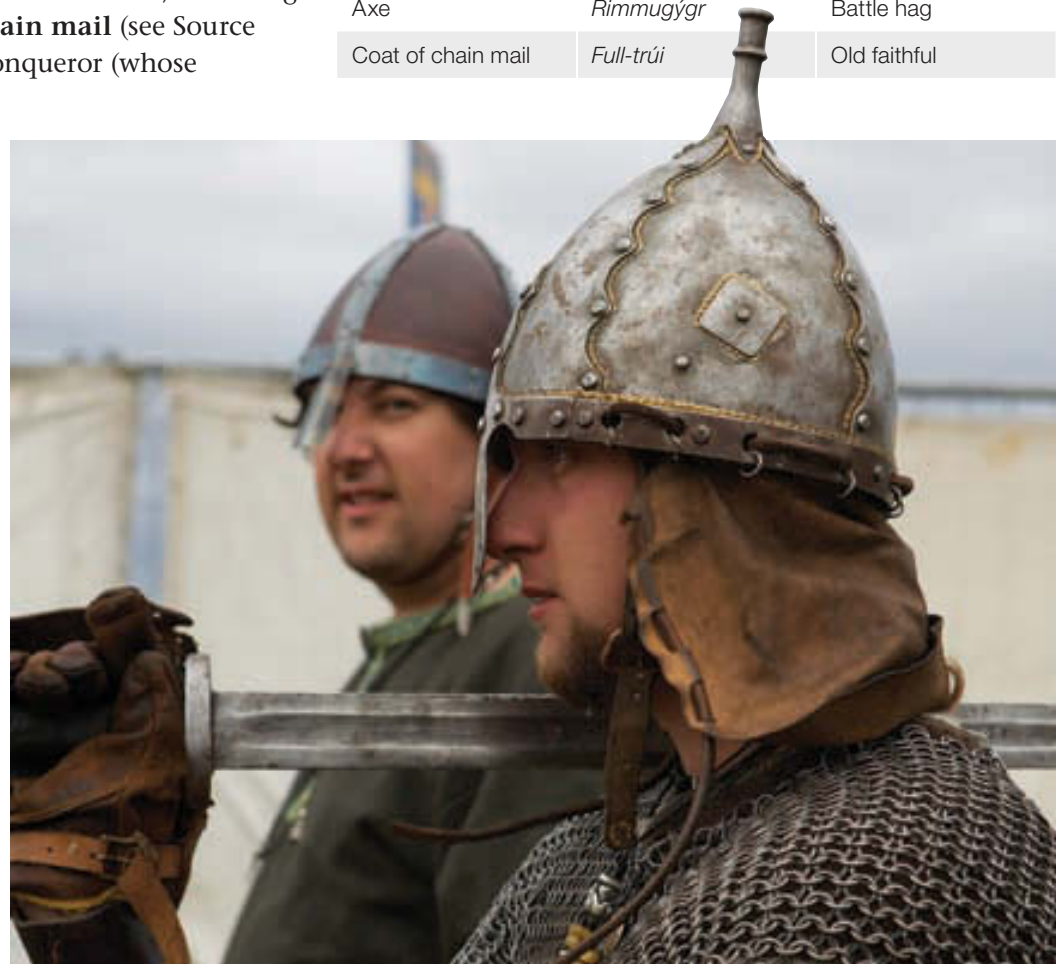
Most other Vikings fought with a shield and either a spear or an axe. Spears were up to a few metres long and made from wood with an iron spearhead at the end. Axes had a thick, rounded blade, were light to use and extremely effective. These blades were strong enough to cut through armour. The shields were generally made of wood and reinforced with either leather or iron. They were the main form of defence for the Viking warriors.

Source 6.33 A selection of 'pet' names used to describe weapons recorded in Viking sagas

Weapon	'Pet' name	Translation
Sword	*Fótbítr*	Foot biter
Sword	*Gunnlogi*	Battle flame
Sword	*Leggbítr*	Leg biter
Sword	*Saetarspillar*	Peace breaker
Axe	*Himintelgja*	Heaven scraper
Axe	*Rimmugýgr*	Battle hag
Coat of chain mail	*Full-trúi*	Old faithful



Source 6.34 Two Viking swords and a spearhead



Source 6.35 Reproductions of authentic Viking armour, including helmets, on show at a battle re-enactment in Iceland

keyconcept: evidence

Horned helmets

Many people today think that the helmets of Viking warriors had large horns on either side – mainly because Vikings are often shown this way in popular culture. Movies, comics, books, games and even the mascots of popular sporting teams perpetuate this image, even though there is no evidence to support this at all. Think about it – horns on helmets would have made them easier to grab or knock off, leaving Viking warriors defenceless against blows to the head from swords or axes. For more information on the key concept of evidence, refer to section HT.1 of 'The historian's toolkit'.



Source 6.36 Vikings are often shown in popular culture wearing horned helmets – like these characters from the 2010 animated film *How to Train Your Dragon* – even though this is historically incorrect.

Check your learning 6.7

Remember and understand

1. Explain why the Vikings' skills as shipbuilders and sailors made it easy for them to be effective sea pirates.
2. How did some Vikings display their wealth and social position through their weapons and armour?
3. What Norse word did the Vikings use to describe their longships? What is the meaning of this word in English?

Apply and analyse

4. Why is shipbuilding considered by many historians to be one of the most significant Viking achievements?

Evaluate and create

5. Use Source 6.33 as inspiration to create Norse names for the items displayed in Source 6.34.
6. Conduct some Internet research into the Battle of Hastings in 1066. In particular, look for information about (and images of) the Bayeux Tapestry – a medieval embroidery that retells the events leading up to the battle. Start at the beginning of the tapestry and click through, scene by scene. Locate the section where William the Conqueror's warriors are loading up their ships to invade England. Study it carefully. How do they transport the chain-mail tunics?

6.2 big**ideas:** rich task

Viking *berserkers*

During the Viking Age, lightning raids led by fierce Viking warriors were feared by people across western Europe. The most terrifying of all Viking warriors were the *berserkers* – members of a wild, uncontrollable gang similar to modern-day 'shock troops'. *Berserkers* were the most savage of all Viking warriors and fought in a frenzy, clad in the skins of bears or wolves. The word *berserker* means 'bear coats'.

Berserkers seemed not to fear death, injury or pain. Today, one legacy of the Vikings is the English word 'berserk', which is used to describe a violent rage.

Source 6.37

> When Hardbeen [a *berserker*] heard this, a demonical frenzy suddenly took him; he furiously bit and devoured the edges of his shield; he kept gulping down fiery coals; he snatched live embers in his mouth and let them pass down into his entrails; he rushed through the perils of crackling fires; and at last, when he had raved through every sort of madness, he turned his sword with raging hand against the hearts of six of his champions [fellow Vikings].
>
> An extract from a 1905 translation of *The Nine Books of the Danish History,* by the 12th-century Danish historian Saxo Grammaticus

Source 6.38

> Men saw that a great bear [a *berserker*] went before King Hrolf's men [King Hrolf was a warrior chieftain in the 6th century CE], keeping always near the king. He slew [killed] more men with his forepaws [bare hands] than any five of the king's champions. Blades and weapons glanced off him and he brought down both men and horses in King Hjorvard's forces, and everything which came in his path, he crushed to death with his teeth …
>
> An extract from *Erik the Red and Other Icelandic Sagas,* Gwyn Jones (ed.), Oxford University Press, 1961, p. 313



Source 6.39 A 6th-century stone carving from Sweden, showing one man with a helmet adorned with the heads of birds. The other is depicted with the head of a wolf or bear. Bear skins were typically worn by *berserkers*.

skill**drill**

Writing an explanation using sources that are acknowledged

The four sources in this section portray berserkers from different perspectives. An important skill all historians need to develop is the ability to prepare a written text (in the form of an explanation) using evidence gathered from a range of sources. It is also important to acknowledge these sources.

In section HT.2 of 'The historian's toolkit', you will find a detailed set of instructions that will help you write an explanation. The table below summarises the structure of an explanation.

Source 6.40 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. There should also be some analysis of the evidence 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 (e.g. 'I' or 'my') 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.

Any sources you have used in your historical writing must be acknowledged. First, you need to mention in your writing where information is coming from. This makes it clear to the reader what your evidence is and where you are drawing your opinions from. Second, you must formally acknowledge a source by citing (officially mentioning) it using an accepted citation system. There are a number of different citation systems, for example the Harvard (or author–date) system. More information about this system is also available in section HT.2 of 'The historian's toolkit'. For this exercise, however, we will focus on acknowledging the source within your writing.

Some examples of how you can do this are:

- 'According to the 12th-century Danish historian Saxo Grammaticus …'
- 'The depiction of warriors in the 6th-century Swedish stone carving shows that …'
- 'The Icelandic saga *Erik the Red* demonstrates how …'

Apply the skill

Write a short explanation about why Vikings may have used *berserkers*, referring to at least two of the primary sources in this section as evidence to support your ideas. Your explanation can be in the form of a short written response, a newspaper article or an information brochure.



Source 6.41 These 12th-century chess pieces show Viking *berserkers* biting their shields.

Extend your understanding

The tactic of using fear to weaken your enemies in battle is not unique to the Viking *berserkers*. Today, many modern conflicts have become infamous because of their use of 'terror tactics'. These tactics even include the use of suicide bombers – people who are willing to sacrifice their own lives in order to kill or weaken their enemies.

1. In pairs, conduct some further research into Viking *berserkers* and suicide bombers. Create a table that compares and contrasts the types of tactics used by Viking *berserkers* and suicide bombers. Consider how the tactics used by both of these groups might affect:
   - the morale of the people and fighters on their side
   - the morale of the people and fighters against them
   - the individual *berserker* or suicide bomber.
2. How do you think historians in 200 years' time will explain the actions of suicide bombers today?

6.3 How did Viking conquests change societies?

Changes within the Viking homeland

The Viking Age was a period in which many Vikings set sail to foreign lands to raid and plunder. The riches they brought back to the Viking homeland changed political and economic systems that had been in place there for hundreds of years. Over time, many Vikings left their homeland to settle in the places they, or their ancestors, had once raided. Others set out to discover new lands.

Political changes

Warriors returned 'home' from their raids with large stores of plundered loot (including prisoners taken as slaves). This started a process of great change in the Viking homeland. In time, this loot made some local Viking rulers enormously wealthy. Some became so powerful and influential that they no longer needed the support of *jarls* in order to rule. Smaller local tribes began to join together under the protection of one ruler, forming larger **kingdoms**. These kingdoms covered the areas we now know as Norway, Sweden and Denmark (see Source 6.42).

THE KINGDOMS OF NORWAY, SWEDEN AND DENMARK



Source 6.42 Source: Oxford University Press

Economic changes

After they began raiding, the Vikings developed an economy based on exchanging goods for the value and weight of different precious metals. Silver was most commonly used. Much of this silver was brought back to the Viking homeland as plunder. These silver items would be broken into smaller pieces until they matched the weights needed to buy other goods such as cloth, grain and even slaves.



Source 6.43 A scene from the Bayeux Tapestry showing the army of William, Duke of Normandy, crossing the English Channel to attack England. William was a descendant of Viking settlers who left their homeland to settle in northern France.



Source 6.44 A stockpile of Viking loot found in a field in Yorkshire, England, in 2007. The stash, which had been buried for over 1000 years, included 617 coins.

The Vikings also collected taxes (often as coins) from villagers in the places they colonised. The penalty for not paying taxes to the Viking rulers in Ireland during the 8th century was to have your nostrils slit with a knife. This is where the saying 'to pay through the nose' comes from.

Over time, the Vikings developed an economy based on money – that is, one where a particular coin had a particular value. This is similar to the way our currency works today. Most of the places the Vikings raided and colonised had similar economies. In many cases, Vikings even copied the designs of coins used in the regions they colonised. By the late 10th century, the kings of the emerging kingdoms of Sweden, Norway and Denmark were all issuing their own currencies.

key**concept:** cause and effect

Christianity and the Vikings

In addition to political and economic changes, one of the most important factors that changed the Viking homeland was the introduction of a new belief system – namely Christianity.

During the Viking Age, many of the towns, villages and monasteries raided belonged to Christians. Many of the places in which the Vikings later settled were also Christian lands. In addition to this, around 1000 CE Christian missionaries travelled to parts of the Viking homeland to convert as many Vikings as they could. Over many generations, all of these factors, and others, combined to cause the Viking people to change their beliefs. This affected many aspects of Viking behaviour – in particular the ways in which people were dealt with after death.

Source 6.45 is an account of a traditional Viking funeral that was common before the Vikings converted to Christianity.



Source 6.46 An artist's impression of a Viking cremation before the adoption of Christian beliefs. A boat would be filled with goods and slaughtered animals – even sacrificed slaves – and set on fire. It was then covered with a mound of earth. Runestones might be erected at the site.

Source 6.45

> The dead chieftain was put in a temporary grave that was covered for ten days until new clothes were prepared for him. They asked which of his thrall [slave] women wanted to join him in the afterlife and one of the girls volunteered … When the time had arrived for cremation, his longship was pulled ashore and put on a platform of wood. On the ship, a bed was made for the dead chieftain. Soon after, an old woman named the 'angel of death' put cushions on the bed. She was an old witch, stocky and dark. She would be responsible for the ritual and would be the one to kill the thrall [slave] girl.
>
> An extract from an account of a human sacrifice at a Viking funeral, by the Arab traveller Ibn Fadlan

After converting to Christianity, Vikings adopted similar burial practices to those followed in Christian countries to this day. Many other changes also took place as a result of the shift to Christianity:

- Attacks on Christian communities stopped altogether.
- Human sacrifices stopped.
- A large number of Christian churches were built.
- Many Vikings granted slaves their freedom.
- New Christian festivals were celebrated, such as Christmas; although in some cases, Christian rituals were mixed with elements of traditional Viking beliefs.

For more information on the key concept of cause and effect, refer to section HT.1 of 'The historian's toolkit'.

Check your learning 6.8

Remember and understand

1 How did Viking raids change the status and influence of some Viking rulers?

2 Where does the expression 'to pay through the nose' come from? What does this expression mean?

Apply and analyse

3 Explain in a short paragraph how conversion to Christianity changed the traditional burial practices of the Vikings.

4 Examine Source 6.44. Besides the coins, how many other items can you identify? What do you think these were used for?

Evaluate and create

5 Draw a simple flow chart explaining how the economy of Viking society changed during the Viking Age.

Changes in other societies



Source 6.47 An artist's impression of a Viking fleet at sea

Viking societies were not the only ones that changed as a result of the raids. The societies that Vikings came in contact with also experienced many changes. Deals were struck between Viking leaders and the rulers of places they raided. Some of these deals involved payments of money, others involved grants of land. In time, the language, customs and beliefs of Viking settlers mixed with those of the local people, changing both societies.

The first Viking raids

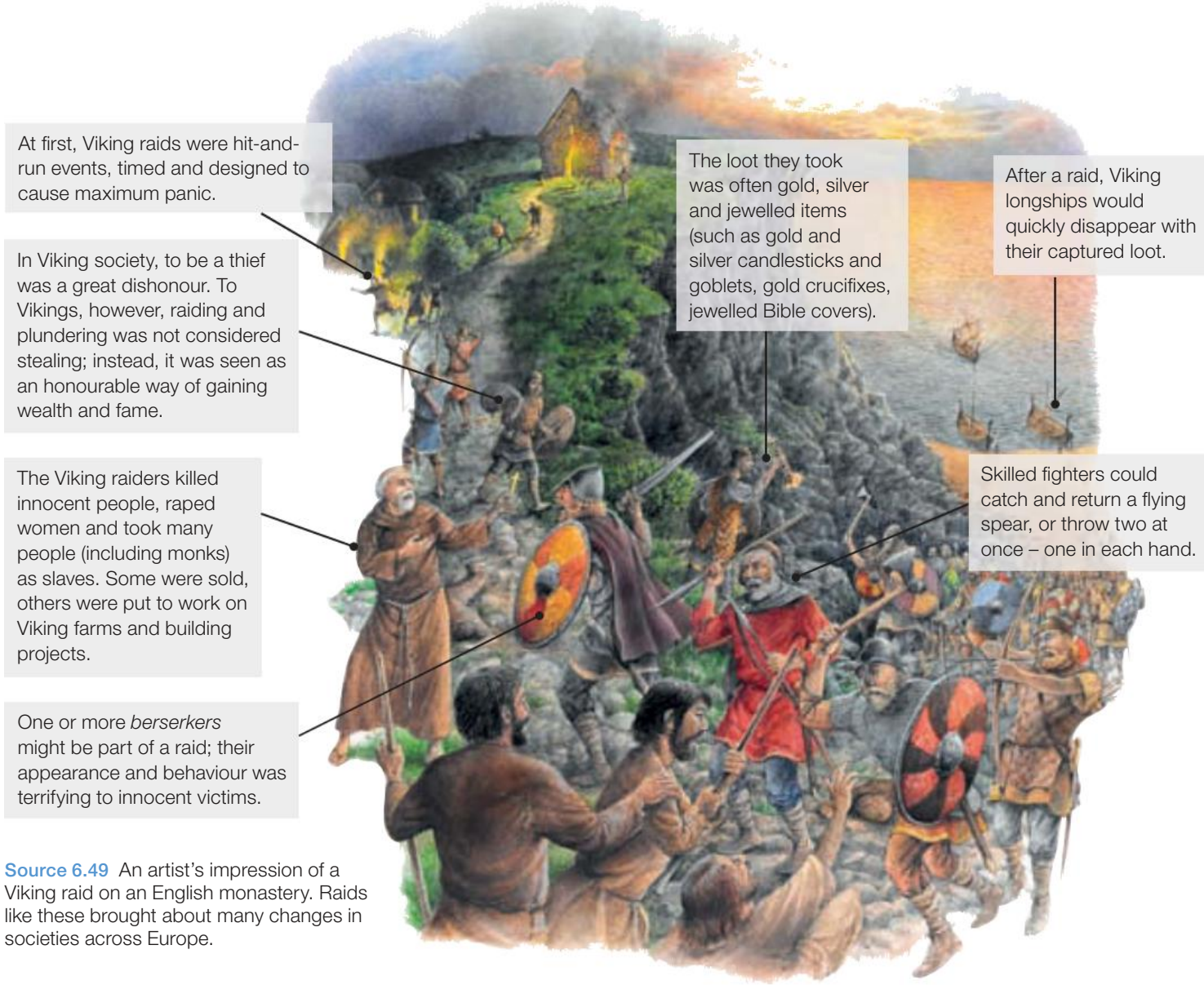
The *Anglo-Saxon Chronicle*, a collection of records kept by the **Anglo-Saxons**, lists 787 CE as the year of the first Viking attack on England. Three ships manned by Danish Vikings came ashore in the south of the country. They were met by a royal official who assumed they were merchants. The official intended to escort them to the king's town so that they could pay the required taxes. Instead, they murdered him.

Six years later, Vikings attacked the Christian **monastery** at Lindisfarne, in north-east England. This was one of Britain's most sacred sites. The attack was the beginning of 200 years of uncertainty and terror for many monasteries and settlements in lands around the Viking homeland.

The first Viking raids were hit-and-run affairs. There was no long-term plan behind them – the aim was just to loot and plunder. Over time, though, Viking attacks along rivers pushed deeper into Europe and Asia. They also extended their plundering missions into modern-day Wales, Scotland and Ireland. Their attacks were swift, noisy and usually unexpected. By all accounts, they were brutal affairs.

Source 6.48

> The number of ships grows: the endless flood of Vikings never ceases to grow. Everywhere Christ's people are the victims of massacres, burnings and plunderings. The Vikings conquer all in their path and nothing resists them.
>
> A translation from the writing of the Frankish monk Ermentarius of Noirmoutier, 860 CE



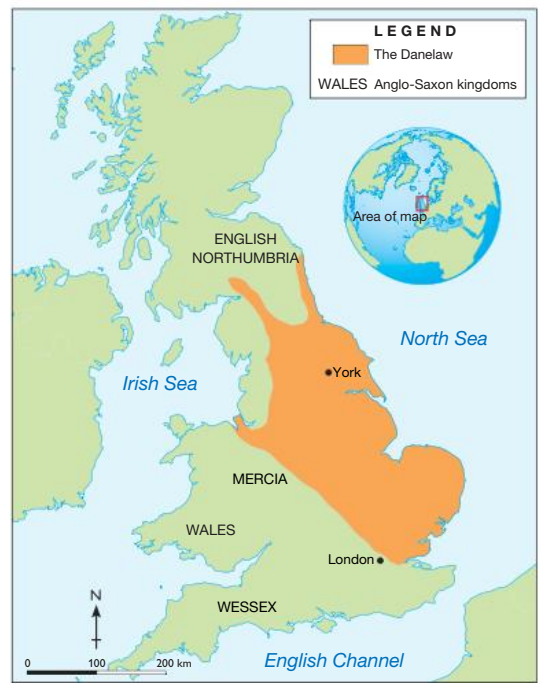
Source 6.49 An artist's impression of a Viking raid on an English monastery. Raids like these brought about many changes in societies across Europe.

The end of Viking raids in Britain

In 865 CE, Britain was invaded by a huge Viking army from Denmark. This time the motive was conquest, not plunder. Within a year, Vikings controlled the Northumbrian city of Jorvik (now known as York). By 870, they controlled every Anglo-Saxon kingdom in England except Wessex.

From 871 to 899, a man called Alfred (later Alfred the Great) was the king of Wessex. King Alfred fiercely resisted Viking attacks. By 878, he had forced the Viking leader, Guthrum, to accept a truce – and to convert to Christianity. As part of the peace treaty the two men drew up, King Alfred agreed that the Danish Vikings could take an area in England as their own. This agreement and the area of land that came under it became known as the **Danelaw** – meaning 'the area where the law of the Danes is enforced' (see Source 6.50). Over the next 100 years or so, Viking traditions, beliefs and language took hold in the former Anglo-Saxon community, influencing the history and society of England.

THE AREA OF THE DANELAW IN 878 CE



Source 6.50 Source: Oxford University Press



Source 6.51 An artist's impression of a Viking attack on Paris in 885 CE. At this time, Rollo was a lesser commander of a small Viking fleet; however, he would go on to become Rollo of Normandy and control a large section of Gaul (now part of modern-day France).

Viking raids continued, on and off, after Alfred's rule. Instead of fighting the invaders, some English kings preferred to pay the Vikings to leave them in peace. In 991 ce, King Ethelred became the first English king to make these kinds of payments to the Vikings. They became known as *Danegeld* (meaning Danes' money). In 1007 alone, the English paid Danegeld of nearly 13 500 kilograms of silver. The payments put a crushing weight on the English economy.

In 1016, the council that appointed English kings asked the then king of Denmark, Cnut, to become England's king. King Cnut ruled England wisely and well until his death in 1035. His reign largely ended the era of Viking raids for England. They stopped altogether with William the Conqueror's victory at the Battle of Hastings in 1066. English society would then be changed again, in a different way, when William became king of England – he would go on to introduce **feudalism**.

The end of Viking raids in Gaul

A similar situation developed in Gaul (an area now part of modern-day France). A Viking leader known as Rollo had repeatedly attacked settlements in Gaul along the Seine River (including Paris – see Source 6.51). In 911, he was at last defeated by the army of the Frankish king, Charles the Simple. Charles the Simple gave Rollo an area of land in exchange for becoming a Christian and halting attacks in Gaul. The land he was given was called Normandy. About 150 years later, in 1066, a duke from Normandy and descendent of the Vikings, William, would invade Britain and become king.

Check your learning 6.9

Remember and understand

1 When was the first ever recorded Viking attack on Britain?

2 What was *Danegeld* and how was it supposed to help keep the English safe from Viking raids?

Apply and analyse

3 What does Source 6.48 reveal about how some felt about Viking attacks?

4 Explain why giving the Viking leader Rollo land was a clever move on the part of the Frankish king.

Evaluate and create

5 Develop a concept map to explain how you think villagers living near Lindisfarne (who would have heard about the attack on the monastery) might have felt and acted. Think how this event might have changed their lifestyle.

Significant individual: Leif Ericson



The first European explorer to discover the North American continent was a Viking by the name of Leif Ericson. In fact, Vikings were already living in North America 500 years before Christopher Columbus even came close to its shores. Leif and his crew landed in what is now Greenland and Canada. This significant event was recognised in 1964 when the US president declared 9 October as 'Leif Ericson Day'.

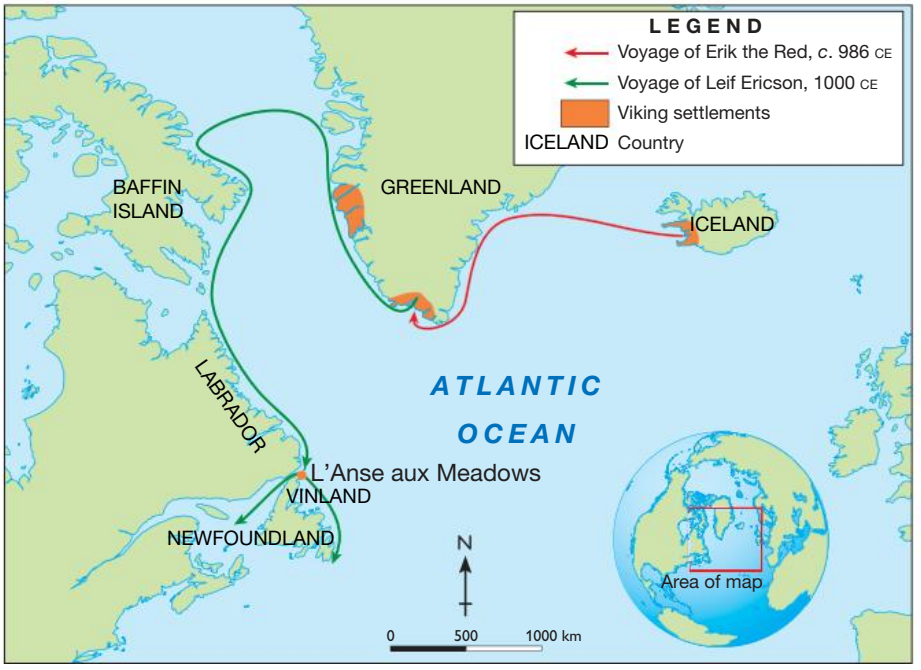
Leif's early life

Leif was the second son of the Viking explorer Erik the Red and was born in Iceland around 970 CE. In 982, when Leif was about 12 years old, his father was banished from Iceland for killing a man. So Erik and his family set out in a boat with slaves and supplies, heading west. He called the land he found Greenland. There he settled, later encouraging other Icelanders to join him.

Finding North America

Different accounts (known as **sagas**) have been written about Leif's discovery of North America. As a result, there is some debate among historians as to how Leif actually found North America. According to *Eiríks Saga* (*Saga of Erik the Red*), Leif visited Norway in 999 with gifts for the king, Olaf I Trygvasson. He stayed for a year, and converted to Christianity. He then returned to Greenland with the intent of carrying out the king's request to convert Greenlanders to Christianity. However, he was blown off course, ending up in what is today known as Newfoundland on the Canadian east coast.

THE VOYAGES OF ERIK THE RED AND HIS SON LEIF ERICSON



Source 6.52

Source: Oxford University Press

Another account, the *Groenlendinga Saga* (*Greenlanders Saga*), is generally considered to provide more reliable evidence, even though – like the *Saga of Erik the Red* – it was written 200 to 300 years after the events occurred. It states that Leif's discovery was far from accidental. In 986, Bjarni Herjólfsson, a Norwegian explorer, arrived in Greenland looking for his father (who had recently emigrated from Iceland with Erik the Red). Along the way, Bjarni got lost. He reported to Leif that he had seen a wooded, hilly land to the west of Greenland, but it was more than a decade before Leif Ericson acted on this news.

Leif bought Bjarni's boat and, in around 1000 CE, set off with a crew of about 35 people to find the unknown land Bjarni had spoken of. One year later, after making two landings – first in a place he named Helluland (Flat Rock Land) and second in a place he named Markland (Wood Land) – he settled in a grassy place he called Vinland (Wine Land). They built shelters there and spent the winter before returning to Greenland.



Source 6.53 An artist's impression of Leif Ericson and his crew landing in Newfoundland, Canada, in 1001 CE



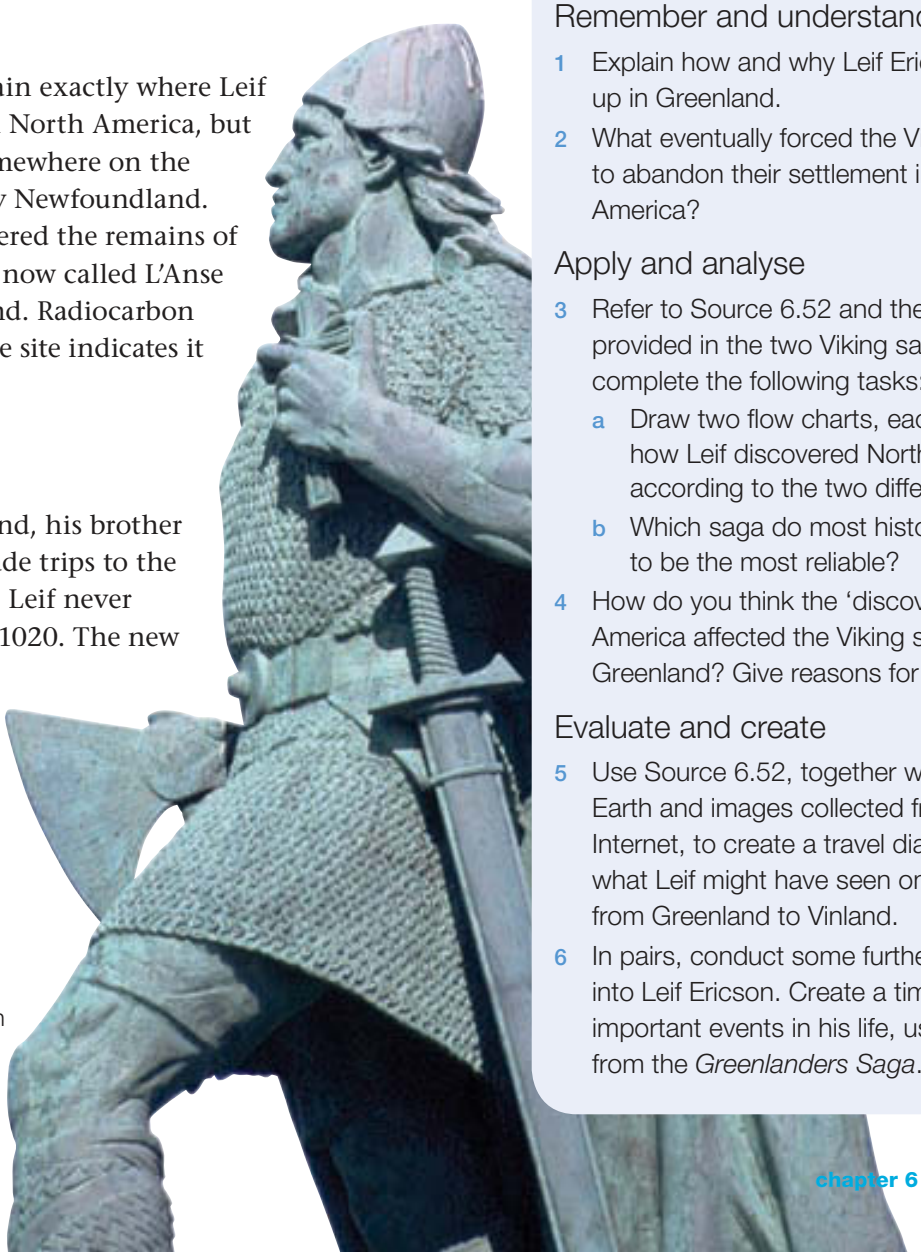
Source 6.54 The heritage-listed site of L'Anse aux Meadows in Newfoundland, Canada (with its reconstructed dwellings)

Where Leif settled

Historians cannot say for certain exactly where Leif Ericson's expedition landed in North America, but most agree it was probably somewhere on the east coast of Canada – possibly Newfoundland. In 1963, archaeologists discovered the remains of a Viking settlement in a place now called L'Anse aux Meadows in Newfoundland. Radiocarbon dating of charcoal found at the site indicates it was used in around 1000 CE.

Later visits

After Leif returned to Greenland, his brother and other family members made trips to the settlement he had established. Leif never returned though, and died in 1020. The new Viking settlement remained for a few years, but faced increasingly hostile attacks from the Indigenous people there. Eventually these attacks forced the Vikings to abandon the settlement and return to Greenland.



Source 6.55 A statue of Leif Ericson in the capital of Iceland, Reykjavik

Check your learning 6.10

Remember and understand

1 Explain how and why Leif Ericson ended up in Greenland.

2 What eventually forced the Vikings to abandon their settlement in North America?

Apply and analyse

3 Refer to Source 6.52 and the information provided in the two Viking sagas to complete the following tasks:
   a Draw two flow charts, each showing how Leif discovered North America according to the two different sagas.
   b Which saga do most historians believe to be the most reliable?

4 How do you think the 'discovery' of North America affected the Viking society in Greenland? Give reasons for your opinion.

Evaluate and create

5 Use Source 6.52, together with Google Earth and images collected from the Internet, to create a travel diary describing what Leif might have seen on his journey from Greenland to Vinland.

6 In pairs, conduct some further research into Leif Ericson. Create a timeline plotting important events in his life, using data from the *Greenlanders Saga*.

6.3 big**ideas:** rich task

The Viking legacy

Whether or not you are Christian, you are probably familiar with the Christmas story of the birth of Christ. You may even have wondered how that story relates to Christmas traditions like Santa Claus and Christmas trees. Over the course of its history, Christianity has 'borrowed' many traditions from other religions and civilisations and made them part of important Christian celebrations. For example, Viking customs have had a substantial influence on the way Christmas is celebrated today, as many Christmas traditions were taken from the Viking 'Yule' celebrations around the winter solstice.

The following sources may provide some insight into the origins of a few Christmas traditions.

Source 6.56

> And she brought forth her firstborn Son, and wrapped Him in swaddling clothes, and laid Him in a manger; because there was no room for them in the inn. And there were in the same country shepherds abiding in the field, keeping watch over their flock by night. And, lo, the angel of the Lord came upon them, and the glory of the Lord shone round about them: and they were sore afraid. And the angel said unto them, Fear not: for, behold, I bring you good tidings of great joy, which shall be to all people. For unto you is born this day in the city of David a Saviour, which is Christ the Lord.

An extract from the Bible, Luke Chapter 2, describing the birth of Jesus

Source 6.57

> It was ancient custom that when sacrifice was to be made, all farmers were to come to the heathen temple and bring along with them the food they needed while the feast lasted. At this feast all were to take part of the drinking of ale. Also all kinds of livestock were killed in connection with it, horses also; and all the blood from them was called *hlaut* [sacrificial blood], and *hlautbolli* [the vessel holding the blood]; and *hlautteinar* [the sacrificial twigs]. These were fashioned like sprinklers, and with them were to be smeared all over with blood the pedestals of the idols and also the walls of the temple within and without; and likewise the men present were to be sprinkled with blood. But the meat of the animals was to be boiled and served as food at the banquet. Fires were to be lighted in the middle of the temple floor, and kettles hung over them. The sacrificial beaker was to be borne around the fire, and he who made the feast and was chieftain, was to bless the beaker as well as all the sacrificial meat.

A description of Yule celebrations by Snorri Sturluson, *c.* 1230, in *Heimskringla: History of the Kings of Norway*, trans. M Lee Hollander, University of Texas Press, 2007



Source 6.58 The Christmas trees of today have their origins in earlier traditions.

Source 6.59 A comparison of modern Christmas traditions and practices of Vikings

Christmas celebrations or Christian traditions	Yule celebrations or Viking traditions
A feast, which includes a Christmas ham or turkey	Feasting, which often included a roast boar
Takes place in late December, though Christ was likely not born then	Coincided with the winter solstice, which was celebrated by many pagan peoples
Santa rides a flying sleigh pulled by magic reindeer	The Viking god Thor rode a flying chariot pulled by magic goats
A 'Yule log' – a type of log-shaped cake that is sometimes eaten at Christmas	The Yule log was a large log that burned in the hearth during Yule celebrations
The 12 days of Christmas	Celebrations of Yule lasted for 12 days
Decorated Christmas trees	Vikings used to decorate evergreen trees with clothing, food and other ornaments
Father Christmas (Santa) brings gifts	The Viking god Odin was thought to visit families in secret during winter and leave gifts

skill**drill**

Developing a written historical argument

Presenting a series of historical arguments in writing is an important skill for all historians. It is particularly useful when convincing others of your point of view on a historical research question. To achieve this, you will need to present well-reasoned points and support your argument with information from various sources.

When developing a written historical argument, follow these steps:

Step 1 Devise a research question or argument.

Step 2 Read and understand the information in the sources.

Step 3 Create a table, diagram or mind map to compare and contrast information in the sources. Work out which sources agree with each other and which do not.

Step 4 Find any information in the sources that supports or refutes your argument.

Step 5 Write your argument into one or more paragraphs using the sources as evidence. You should explain why particular sources support your argument, and give reasons why the sources that disagree with you are not as important or valid.

Step 6 Acknowledge your sources using referencing conventions.

Apply the skill

1 Study the sources on these pages.

2 Research and prepare a written response to the following argument: 'Many Christmas traditions originate in Viking customs rather than in Christian texts.'

Extend your understanding

1 Discuss with your classmates why you think Christians would have included so many non-Christian traditions in their celebrations of Christmas.

2 Now, imagine you are important members of the Church, trying to bring Christianity to the Vikings. Stage a debate about whether to include local customs in your Christmas celebrations, or whether to stay true to the religious story and ignore local non-Christian customs.

depth study – option

Medieval Europe



Europe's medieval period began with the fall of the Roman Empire around 476 CE. Over time, a system called **feudalism** replaced Roman laws and the spread of **Christianity** changed societies across Europe. Christianity had many positive effects on daily life, architecture, the arts, medicine and the justice system, but also provided motivations for war and justifications for prejudice. Social change in Europe was also brought about by the rapid growth of towns and trade, and a series of Christian–Muslim wars known as the **Crusades**. Towards the end of the medieval period, around 1500 CE, the discoveries of inventors and explorers, together with new ways of thinking, brought an end to the period and led to the birth of modern Europe.

7.1

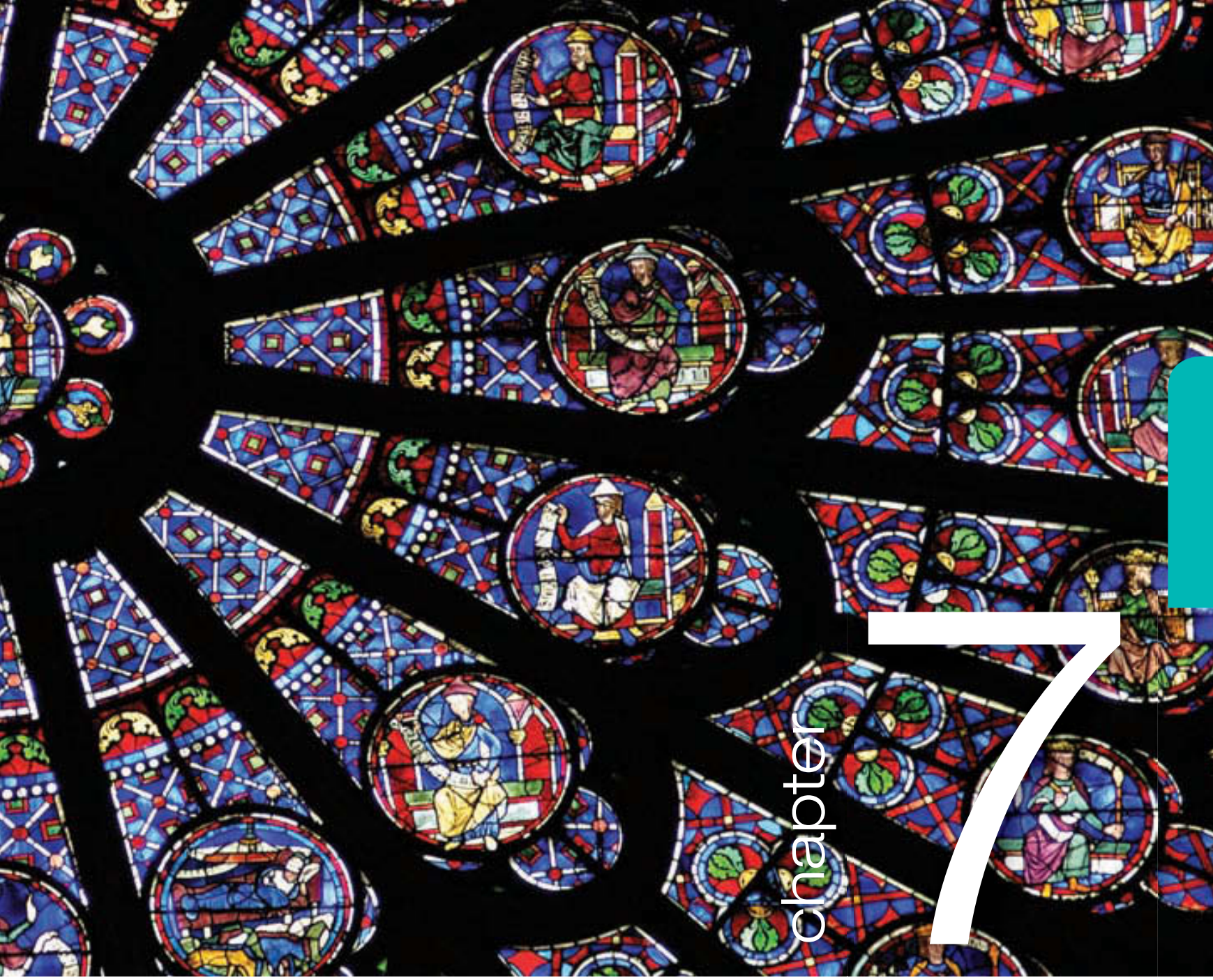
How were societies in medieval Europe organised?

1 Societies in medieval Europe were based on a system known as feudalism. In this system, everyone had a clear position in society and had certain rights and responsibilities. How do you think feudalism might have helped to ensure stability and order?

7.2

How and why did societies in medieval Europe change?

1 Christianity was a powerful force in medieval Europe. People believed that only the Church could grant them forgiveness for their sins and ensure their entry into Heaven when they died. How do you think this might have affected the lives of people in medieval Europe?



Source 7.1 Part of a stained-glass window from the Chartres Cathedral, in France, mostly built during the early 13th century

7.3

What developments influenced life in medieval Europe?

1 A number of important developments took place during the medieval period in Europe. Some related to society and culture, while others related to technology. Make some predictions about the types of things that may have changed over this time and their effect on people's lives.

Medieval Europe: a timeline



A scene from the Bayeux Tapestry depicting Norman cavalry troops disembarking for their battle with Saxon forces at Hastings in England

476
The Roman Empire in Western Europe collapses; start of the medieval period

1066
The king of England, Edward the Confessor, dies. Harold Godwinson declares himself king. William of Normandy invades England, defeats Harold Godwinson at the Battle of Hastings and is crowned King William I of England

400 CE | 800 | 1000 | 1100

813
Charlemagne dies

800
Charlemagne, king of the Franks, is crowned emperor of the Holy Roman Empire

1042
Edward the Confessor becomes king of England

1050
A militant Islamic group, the Seljuk Turks, take control of Jerusalem

1096
The First Crusade begins; the first of eight wars to be fought between Christians and Muslims over the next 175 years

1154
Henry II becomes king of England



An artist's impression of Charlemagne, Holy Roman Emperor

Source 7.2 A timeline of some key events and developments in the history of medieval Europe



An illustration from the Toggenburg Bible (*c.* 1411) of two victims of a plague known as the Black Death



An artist's impression of Gutenberg's printing press

1347
A deadly virus breaks out in Sicily and quickly spreads across Europe, killing between 50 and 90 per cent of those who catch it; the pandemic becomes known as the Black Death

1315
The Great Famine begins; it lasts for two years and kills millions of people across Europe

***c.* 1450**
Johannes Gutenberg invents the printing press in Germany

1200 | 1300 | 1400 | 1500

1215
The Magna Carta, the first ever document outlining the rights of the English people, is drawn up and King John is forced to give it his royal seal

1187
Muslim forces again capture Jerusalem, providing a motive for the Third Crusade

1337
Start of the Hundred Years War between England and France

1381
The Peasants' Revolt takes place in England; peasants revolt against strict rules imposed on wage rises and working conditions, following the severe labour shortages caused by the Black Death

Check your learning 7.1

Remember and understand

1 In what year did the Battle of Hastings take place, and who fought in it?
2 In what year did the Crusades begin and what were they?

Apply and analyse

3 What is the Magna Carta? Why do you think it is important to this day?
4 Why do you think the fall of the Roman Empire in Europe would have caused such an important change for everyday people?

Evaluate and create

5 In pairs or small groups, conduct some Internet research into the Crusades.
   a How many Crusades were there in total?
   b What was the aim of the First Crusade?
   c Had the goals of the Crusaders changed at all towards the end of the final Crusades?
   d Using the information you have gathered, create your own timeline of the Crusades and an image to represent each one.

7.1 How were societies in medieval Europe organised?

Feudalism

Europe's medieval period lasted for about 1000 years, beginning almost immediately after the collapse of the Roman Empire in Western Europe in 476 CE. It was a time of great change over a vast area – from the Viking homelands in the north to the Mediterranean Sea in the south, and from the Atlantic coast in the west to the borders of Russia and the peoples of the east (see Source 7.3). Over this time, the borders and rulers of European societies changed countless times as people competed for territory and power.

Without the Roman army to enforce the laws, society largely broke down. Barbarian raids were common, so people had to find new ways to protect and sustain themselves. A system known as **feudalism** held the answer for many societies across Europe. Feudalism was introduced across Western Europe between the 8th and 11th centuries and was a kind of social system based on rights and obligations relating to land ownership. It shaped medieval European societies for hundreds of years.



Source 7.3 A map of medieval Europe (*c.* 1360) from a 1911 atlas of historical maps

The origins of feudalism

Tribal people began invading Western Europe from about the 4th century CE. These groups included the Huns, Visigoths, Vandals, Angles, Saxons and Vikings. The ancient Romans called them all **barbarians**. Some of these tribal people were warlike and aggressive.

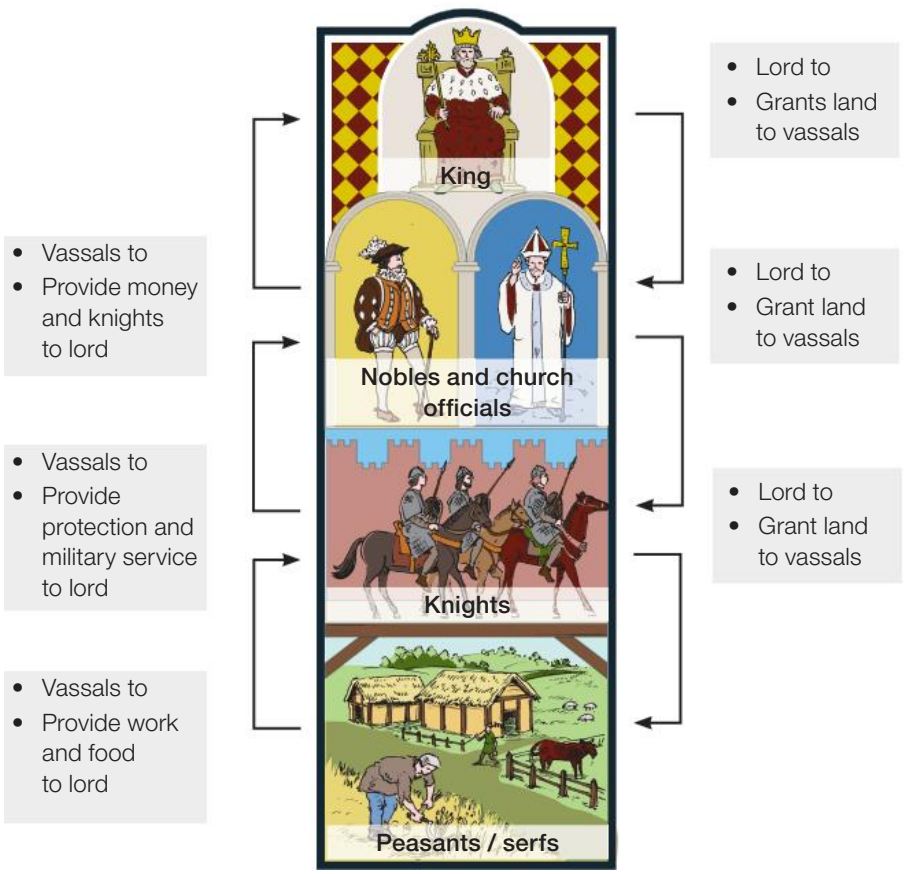
During the rule of the Roman Empire, common people had been protected against these invaders by the soldiers of the **emperor**. When the empire fell, there were no laws or soldiers left to protect these common people. As a result, they moved onto lands owned by wealthy and powerful lords, where they could be protected by the lord's private army and take shelter in his castle during attacks. As payment, these people worked the lord's land for him and tended his animals. This was the beginning of feudalism.

How feudalism worked

Feudalism was a way of organising a society through a **hierarchy**. A hierarchy is any system that classifies its members from top to bottom in order of importance. In a feudal society, everyone from the king to the poorest peasant had certain rights (things they could expect, such as protection) and responsibilities (work they had to perform in return, such as farming).

Under feudalism, relationships in the hierarchy were between **lords** (people higher up in the hierarchy) and **vassals** (people lower down in the hierarchy). However, feudalism was not simply a top-down structure where the people at the top could tell the people below them what to do. Obligations were mutual (two-way). For example, a king (lord) had an obligation to the nobles directly below him (his vassals). He provided them with land to live on (known as a **fief**). In return, each noble promised to obey the king and provide military support when needed. At the same time, each of these nobles (lords) had obligations to the knights directly below them (their vassals). These relationships carried on down the hierarchy, as shown in Source 7.4.

In a feudal system, a person could almost never change their social position. If a person was born as a peasant (at the bottom of the feudal hierarchy), he or she died as a peasant. Peasants could not become nobles, no matter how hard they worked or how intelligent they were.



Source 7.4 The system of mutual obligations under feudalism

Check your learning 7.2

Remember and understand

1. Why did feudalism emerge after the fall of the Roman Empire in Europe?
2. Explain the relationship between a vassal and a lord.
3. What was a fief?

Apply and analyse

4. What is a hierarchy? Do we have hierarchies of any kind in Australia today? Explain.
5. How do you think a medieval ruler's position might have been strengthened by giving fiefs to those who provided loyalty and support?

The feudal manor

Under feudalism in Europe, land not belonging to the ruler or the Church was mostly divided into manor lands. Each manor was owned by a noble or knight who was given it by his lord as a fief. Manor lands were made up of the demesne (the lord's land), and peasants and **serfs** farmed the land to meet their own needs.

Under this arrangement, the lord of a manor provided serfs on his estate with a place to live and the means to survive. In return, they provided him with their labour. They also provided taxes (a portion of what they produced on the land they farmed). Most serfs were not free to leave the manor lands and had to have the lord's permission to do many everyday tasks.



Source 7.5 A modern artist's impression of a typical feudal manor

Check your learning 7.3

Evaluate and create

1 Carefully analyse Source 7.5. Imagine you are a serf living on medieval manor lands. Write a short diary entry describing a typical day in your life.


After a harvest, stock were allowed to graze on a field's stubble; their manure provided fertiliser.
Forests – where the lord and his vassals hunted for game (e.g. deer and boars). Gamekeepers patrolled the forests to ensure that manor peasants did not hunt there.
Serfs harvested crops by hand. Threshers would then beat harvested crops to free the grains (such as wheat).
Fortified manor house (or castle), where the lord and his family lived
Mill for grinding grain. Serfs could use the mill to grind their grain for a fee (paid in produce).
Reeve – the chief serf in the village. He reported to the bailiff.
Pasture land (called a common) for stock. Serfs could graze their own stock there for short periods.
A common punishment was to be locked in the stocks or a pillory; people threw objects such as rotten food and manure at the face of the defenceless victim.
Village well – water was transported back to village huts in barrels or animal skins.
Village – where the serfs lived; typically a cluster of huts, animal pens and barns.
Women cooked, cared for their family and animals, spun, wove cloth and worked on the land (e.g. by sowing seed).
Thatchers made roofs from bunches of reeds collected from swamps and riverbanks.

Social groups in medieval society

In medieval Europe, a number of different groups made up society. These groups were organised in a strict hierarchy – from the very rich and powerful to the very poor and powerless.

The king

In medieval times, the king (and occasionally a queen) sat at the top of the social hierarchy. All of the land ruled by the king was believed to belong only to him. In most medieval European societies, the king kept about 25 per cent of all land for himself and granted permission to nobles and Church officials to use the rest. The king enjoyed great wealth and privilege, hosting lavish banquets and balls. However, the role of king was also difficult – much time was spent administering the country, planning or fighting wars, and fending off challengers to the throne.

Nobles

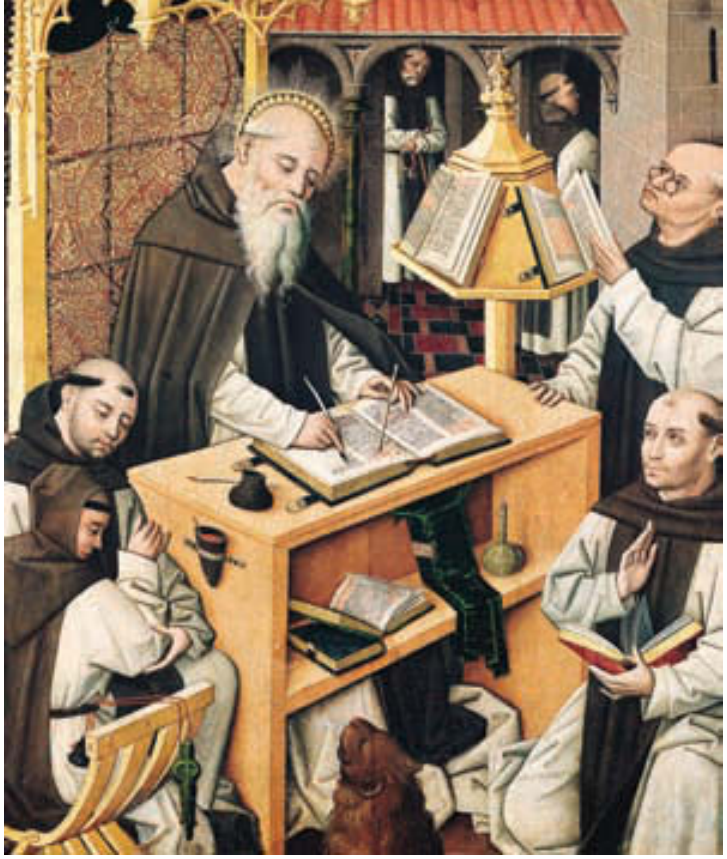
Below the king was a group of noble families loyal to him. They often lived in large manor houses built on land granted to them by the king (known as fiefs). These manor lands were farmed by peasants and serfs who were allowed to live there by the nobles in exchange for labour and food. Noblemen often spent their days attending to business on their land, hunting, attending church and ruling over their vassals.

Church officials

In medieval Europe, the Church was extremely powerful and influential. The Pope and the Church were supported by a large network of Christian workers – cardinals, archbishops, bishops, deacons, abbots, monks, nuns, village priests and friars. Some of these people (such as abbots) were often given fiefs by the king or ruler. By acquiring land and by collecting taxes and payments from the people who lived on it, the Church became very wealthy. For example, in England, the Church and the nobility owned about 75 per cent of all the land between them. The Church was not required to pay taxes.

Source 7.6 A medieval artist's impression of peasants harvesting grapes and tending grapevines on a feudal manor. In the foreground, the lord of the manor is inspecting their work.





Source 7.7 A 16th-century artist's impression of monks creating manuscripts

Other members of the Church

Devout Christians in medieval Europe often chose to serve God as monks or nuns. Their lives were controlled by their vows of chastity (no sexual relationships), obedience and poverty. They devoted their lives to serving God and their superiors. This meant living a simple life – praying many times a day (including late at night and early in the morning), caring for the poor and sick, and performing their religious duties. To help them keep their vows and show their devotion, monks and nuns lived apart from the community – monks in monasteries and nuns in nunneries.

In medieval times, monks were usually the only people who could read and write. Some were historians, and others were librarians and keepers of important documents for feudal lords. Many others copied or translated important **manuscripts** such as the Bible and ancient medical texts from around the world. The medieval Church played an important role in preserving ancient documents that might otherwise have been lost to us today.

keyconcept: significance

The Catholic Church

The Catholic Church (which later became known as the Roman Catholic Church) was a very significant institution in medieval Europe. Its head was the Pope. He was seen as God's representative on Earth by believers. In medieval times, the Pope had enormous religious and political authority, even influencing kings. One of the Pope's greatest powers was the ability to **excommunicate** (expel from the Church forever) members of the faith – a punishment that terrified medieval Christians. An excommunicated person could no longer go to church, and his or her soul was doomed to live in hell.

The Catholic Church played a dominant role in the life of medieval Christians from birth to death. Its many religious festivals filled the calendar. Many were named after Christian saints and martyrs (people who died in the name of their religion). People's lives typically revolved around the activities of the village or town church.

People learned from childhood how the Church expected them to behave and what they should believe. Obeying the Church's teachings helped to preserve the social order in medieval Europe.

For more information on the key concept of significance, refer to section HT.1 of 'The historian's toolkit'.



Source 7.8 A 12th-century artist's impression of a knight swearing allegiance as a vassal to his lord in return for favours such as a fief

Knights

As a group, **knights** made up only a small percentage of the population. In feudal society, though, they played a particularly important role. Through the feudal hierarchy, many were given grants of land from their lords. In return they were expected to protect their lords when required, and also fight for the king. In addition to this, many knights also received income in the form of food and supplies from peasants in exchange for protection.

Peasants and serfs

Peasants made up the largest group in medieval European society (about 90 per cent of the population). They undertook the bulk of the physical work, most of which was related to farming. Their labour produced the food and other goods needed by the wealthy (such as furniture and armour). They also provided much of the income of the rich through the rents and taxes they paid. Peasants lived hard lives that were usually short.

Farm work was difficult. Everything had to be done by hand, and tools were basic. These included sickles and scythes (large, curved, sharp-edged knives used to cut long grass and harvest grain crops like wheat and rye).

People went to bed early and woke up at dawn. For the peasants, there were few human comforts, especially when the weather was bad. Survival depended on working hard and staying healthy. There was little time for rest and leisure.

Rules for peasants on manors

- Work the lord's land as required
- Pay taxes to the lord, usually in the form of crops
- Ask permission to leave the manor or move house
- Ask approval from the lord to allow their daughters to marry or their sons to be educated
- Be punished or fined for breaking manor rules
- Pay fees to the lord for basic privileges (e.g. for grinding their grain in his mill)

Source 7.10 Rules for peasants working on feudal manors



Source 7.9 A medieval artist's impression of the life of a peasant, representing the 12 months of the year (from top left to bottom right)

Check your learning 7.4

Remember and understand

1 How did their Christian beliefs influence how monks and nuns typically lived their lives?

Apply and analyse

2 Look closely at Source 7.9. The 12 months of the year are depicted, in order, from left to right and top to bottom. Based on this source, what might be a task that a European peasant typically did in each of the following months: February, July, December?

Evaluate and create

3 Decide on three questions you would ask a medieval monk or nun to help you better understand why they chose to live the lives that they did.

Daily life in medieval Europe

In the medieval world, the lives of the wealthy and the poor were very different. These differences reflected the social group of which people were members, and could be seen in things like clothing, hygiene, food and entertainment.



Source 7.11 An artist's impression of a range of garments worn by people in 11th-century England. The top panel shows the types of clothing worn by common people and soldiers; the bottom panel shows clothing typically worn by the rich – including the king.

Medieval fashions

By the 11th century in Europe, there were great differences between the clothing worn by the rich and the poor. In fact, laws were passed to enforce this difference. Only people of royal blood were allowed to wear gold and silver materials and purple silk, and only noblewomen could wear veils and have dresses made from satin and velvet.

The clothes of the wealthy were almost always custom-made by tailors. Women typically wore long, trailing garments with elaborate sleeves and ornate headgear. Wealthy men commonly wore tunics, stockings, decorated cloaks and fancy hats. The clothes of the poor were, by contrast, drab and dull in colour. They were crudely cut, and made from coarse cloth woven by peasant women from handspun wool or linen.

Hygiene

Cleanliness was valued by medieval people, even though they did not understand the health benefits of staying clean. For the poor, personal hygiene was very basic. Peasants washed in a dish of cold water. Wood was a scarce and valuable resource for the poor, so it was not wasted on heating water for washing.

Only the wealthy could afford the luxury of a long, hot bath. This was called a 'stew'. Scented oils, rose petals or herbs such as rosemary and spearmint were added to the water. Often, expensive perfumes from faraway places such as Arabia were also used. Dried herbs and spices such as mint and cinnamon were also burnt to purify and sweeten the air while bathing.

Dental hygiene for both the rich and poor was almost non-existent. People occasionally cleaned their teeth, but only by rubbing them with a piece of cloth. Sometimes, mixtures of herbs and ash were also used. There was only one treatment for a bad tooth – it was pulled out with no anaesthetic or pain medication.



Source 7.12 An artist's impression of a medieval man enjoying a 'stew'

Medieval food

There were no supermarkets, refrigerators or ovens in medieval times. People killed their own animals and preserved meat by salting, smoking or pickling it. Spices were also used to disguise the taste of meat when it was old and rotting. Sometimes dogs were used to test this meat before it was eaten to see if it was safe. Vegetables were commonly dried or pickled. Grain was ground into flour to make bread. People used spoons, knives or their fingers to eat; instead of plates, most people ate off thick slices of bread called trenchers.



Source 7.13 A 15th-century illustration of a rich man's feast

Eating habits of the rich

The rich ate the meat of both domestic animals (such as cows, pigs and sheep) and game animals (such as deer, wild boars and pheasants). They also ate fish, fruit, soft cheese, eggs, coloured jellies, vegetables, sauces and soups, salads, white bread, pies and tarts, and ornate sweet dishes called subtleties. Food was washed down with ale, wine or mead (a brew made from honey and water).

Banquets were held on important religious feast days, and to mark events such as marriages, coronations, special birthdays, tournaments and the arrival of important guests. Important people (such as members of the lord's family) sat at a higher table than other diners. Feasts often lasted for hours. In between the many courses, diners were entertained by acrobats, **minstrels**, **troubadours**, storytellers, jugglers and **jesters**.

Eating habits of the poor

The poor ate a simpler and less varied diet than the rich. It included stews, grainy bread, vegetables and fruit (when available), milk, hard cheese, porridge made from oats or barley, and perhaps some nuts from the forests. Most peasants ate their main meal for the day while working in the fields. If peasants were lucky enough to live near the sea or rivers, they ate fish. Generally, however, they ate very little meat, as they were often too poor to own and raise animals. Hunting for game (wild animals) in the lord's forests was forbidden.

Medieval entertainment

Many pastimes in medieval Europe were the privilege of the wealthy. These included lavish banquets and, for the men, activities such as hunting, falconry and playing chess. Wealthy women might embroider, stitch tapestries or listen to musical performances.

Hunts were typically conducted in the woods and forests surrounding feudal manors. Sometimes, women, riding side-saddle, would be part of the hunting party. Access to these areas was forbidden to the poor; instead, they hunted for rabbits and birds in the fields.



Source 7.14 This 14th-century illustration shows a hunting party of nobles carrying birds of prey on their wrists. They are led by a falconer, who trains and looks after these birds. The long stick in his hand was used to beat trees and bushes to flush out small game animals, which would then be caught by the trained birds of prey.



Source 7.15 This painting by Pieter Brueghel the Elder, *Children's Games* (*c.* 1560), shows a wide range of games played by children in medieval Europe.

Falconry involved using trained birds of prey such as eagles, falcons and hawks to catch small animals such as pigeons and hares (see Source 7.14). The type of hunting bird used indicated a person's status – eagles, for example, were only owned by kings. Appearing in public with a bird of prey on a leather-strapped wrist was a sign of a person's wealth and social status.

The poor did not have many opportunities for entertainment, but during special feasts, such as at harvest time, there might be dancing, dice throwing, ball games and wrestling, for example. Many of the games played by medieval children, such as hopscotch and hide-and-seek, are still played today (see Source 7.15).

Check your learning 7.5

Remember and understand

1 Describe one way in which an 11th-century noblewoman might 'advertise' that she was wealthy in the way she dressed.

2 What did 'having a stew' mean in medieval times? What social group might engage in this activity? Why?

Apply and analyse

3 Compare and contrast the diets of the rich and poor. Which diet do you think was healthier? Justify your opinion.

4 With a partner, identify as many medieval games and activities as you can in Source 7.15. Create a table and sort the activities into those you recognise instantly and those that seem strange to you.

Evaluate and create

5 Refer to Source 7.11 and conduct some further research on the Internet in order to design two separate outfits for:

- a peasant man or woman in medieval England
- a nobleman or noblewoman in medieval England.

Sketch and colour your finished garments, ensuring that they follow the established rules and laws in medieval England (in terms of colours, materials and styles).

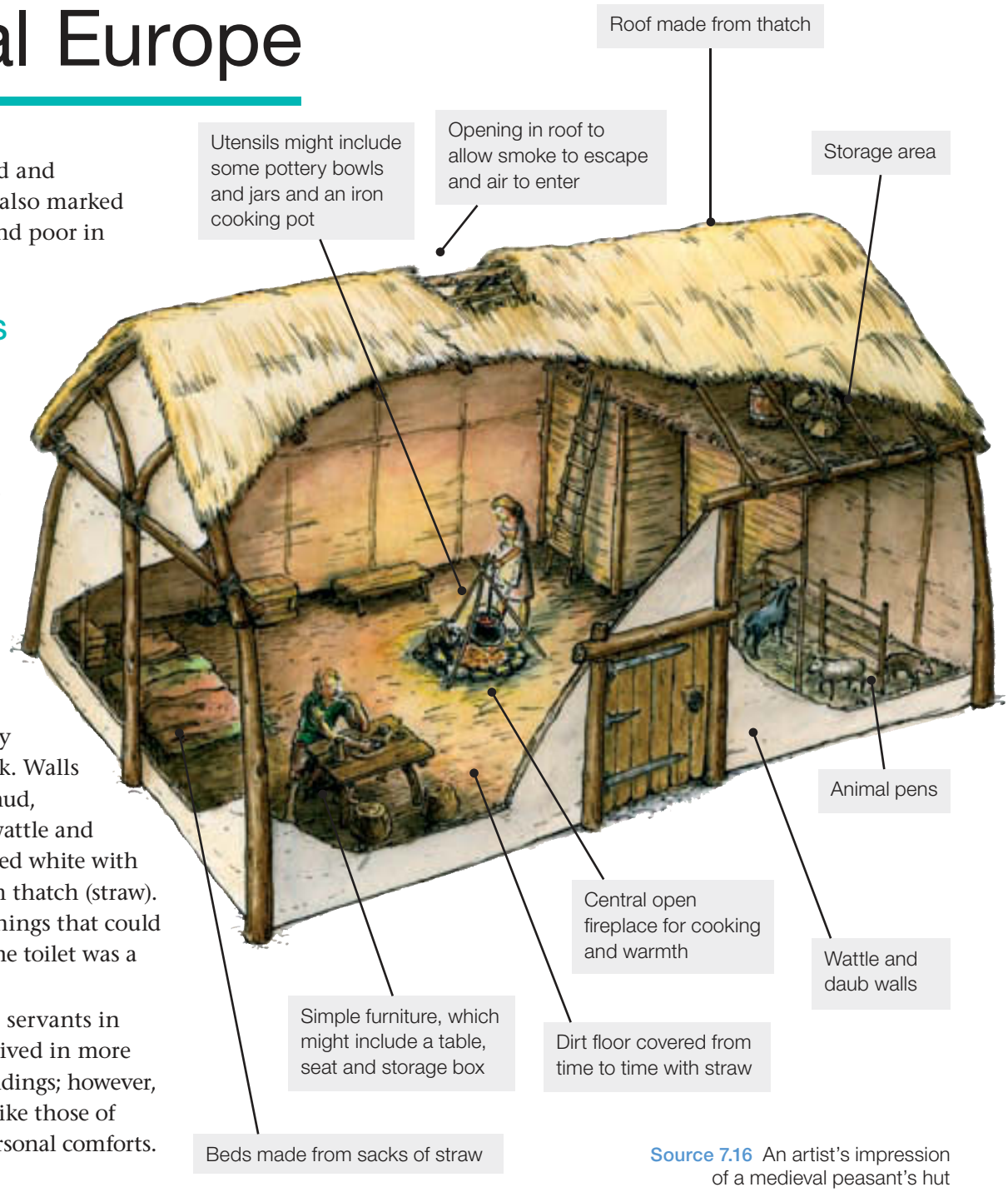
Living conditions in medieval Europe

In addition to fashion, food and entertainment, there were also marked differences between rich and poor in terms of living conditions.

Living conditions for the poor

Conditions for the poor were not very comfortable. Peasant farmers often lived in a one- or two-roomed hut shared with domestic animals such as chickens and pigs (see Source 7.16). This was often one of a number of similar huts on a feudal manor (see Source 7.5). These huts were usually dirty, sooty, smelly and dark. Walls were mostly a mixture of mud, manure and sticks (called wattle and daub). They might be painted white with lime. Roofs were made from thatch (straw). Windows were narrow openings that could be boarded up in winter. The toilet was a hole in the ground outside.

Peasants who worked as servants in manor houses and castles lived in more secure and pleasant surroundings; however, their daily lives were hard like those of other peasants, with few personal comforts.



Source 7.16 An artist's impression of a medieval peasant's hut

Living conditions in towns and cities

During the medieval period, towns across Europe were usually small, with populations of only a few hundred people. Some, however, grew into larger cities over time. The wealthy townspeople often lived in larger houses, close to the centre of town. The poor lived in dirtier, more cramped quarters. Narrow cobbled or dirt streets separated rows of wooden buildings with thatched roofs where these people lived. The buildings were a serious fire risk – they were made of highly flammable materials and people lit fires and candles inside for warmth and light.



Source 7.17 The restored bedroom of the French king Henri III in the Château de Blois in France. Often the beds of the wealthy had blankets, sheets, feather pillows, fur covers and linen curtains. Tapestries covered up draughty cracks in the stone walls of castles.

Living conditions for the wealthy

The rich included kings and queens and their extended families, feudal lords and their ladies, and the families of knights. When not fighting wars, the wealthy led mostly comfortable lives, often in manor houses and castles. The Church, too, had great wealth and certain members lived very comfortably despite their vow of poverty.

In times of peace, castles were the settings for feasts, workshops, markets, romance, raising and entertaining children, crafts and music. They were also the focal point for military training, the day-to-day running of the realm, and for administering justice.

A typical day for a lord's family began when the sun rose. By then, servants were preparing meals and had lit the fires in the kitchen and great hall. The noble family would wash in tubs (often with the help of servants) and dress. They would also visit the garderobe (a medieval toilet), which was a small, cold room with a seat that opened directly onto a stinking pit or moat below. A chamber pot kept in the bedroom was typically used for toilet visits during the night. Strips of torn fabric were used as toilet paper.

After breakfast, the lord and lady would usually visit their private chapel. The lord's tasks for a day might include making decisions about the manor, receiving rents, presiding over a manor court and planning to visit another castle he owned. At night, there might be a feast for an important guest (perhaps the king) or to celebrate something special, such as the end of a **tournament**.

Check your learning 7.6

Remember and understand

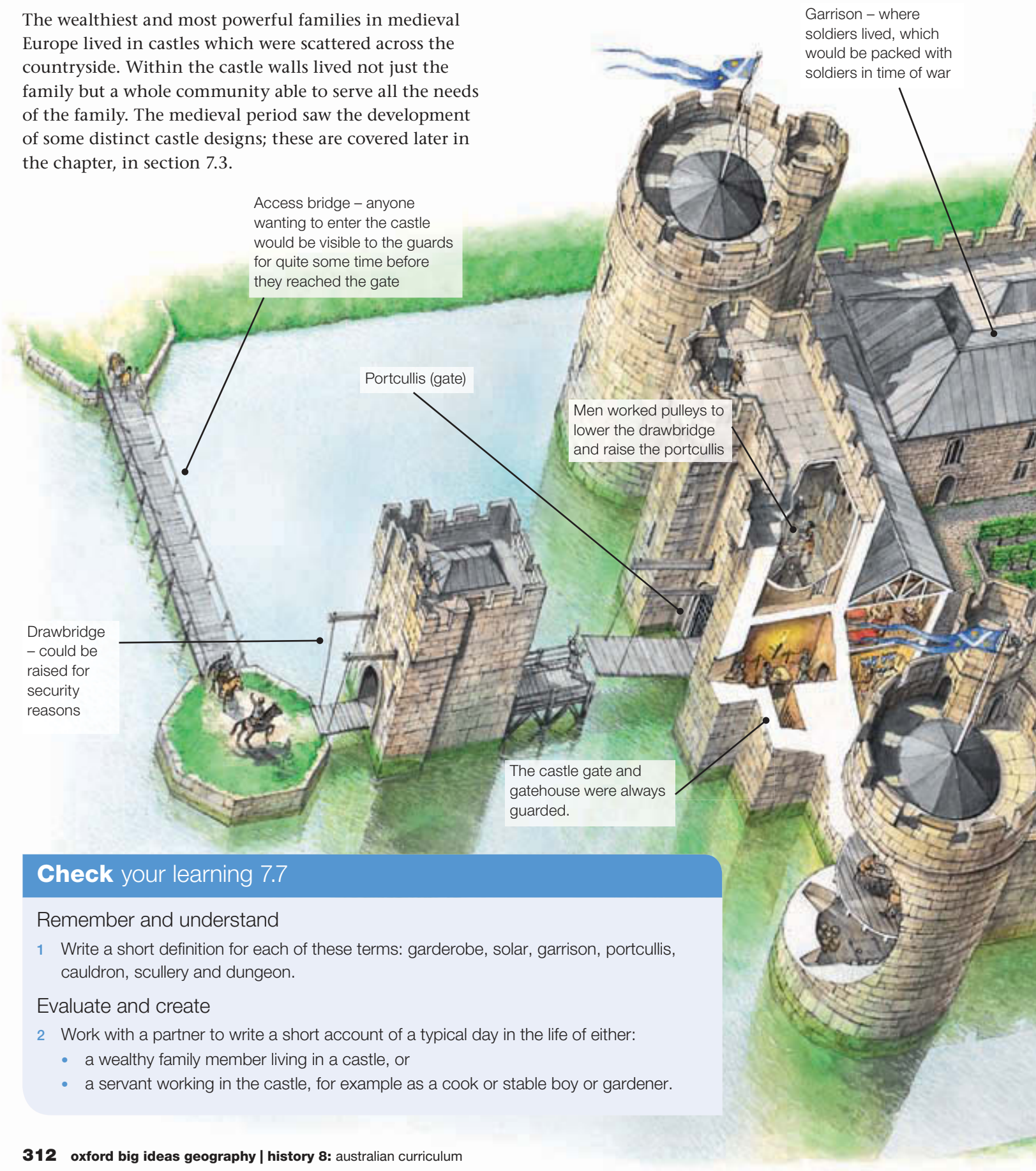
1 What were some of the typical activities and events that took place in medieval castles?
2 How would a typical lord in medieval Europe spend his day?
3 Why was there a high risk of fires in medieval towns?

Evaluate and create

4 Work in groups to construct a model of either the hut of a poor medieval family or the bedroom of a wealthy medieval noble. Share responsibilities, including research, preparing materials, assembling the model and presenting it to the class.

The medieval castle

The wealthiest and most powerful families in medieval Europe lived in castles which were scattered across the countryside. Within the castle walls lived not just the family but a whole community able to serve all the needs of the family. The medieval period saw the development of some distinct castle designs; these are covered later in the chapter, in section 7.3.



Check your learning 7.7

Remember and understand

1 Write a short definition for each of these terms: garderobe, solar, garrison, portcullis, cauldron, scullery and dungeon.

Evaluate and create

2 Work with a partner to write a short account of a typical day in the life of either:
- a wealthy family member living in a castle, or
- a servant working in the castle, for example as a cook or stable boy or gardener.



Source 7.18 A modern artist's impression of 'home sweet home' for many wealthy and powerful families in medieval Europe

7.1 big**ideas:** rich task

The achievements of medieval women

The societies of medieval Europe were dominated by men. The Pope and bishops controlled the Catholic Church, and the king and his nobles governed all other social and legal matters. The man was the head of his household, just as the king was the head of his kingdom. Both noble and peasant women were expected to work in the family home until they were married. After marriage, they had to run their husband's household and raise children. Typically they received very little education and had few rights. Every woman was required to obey her father or husband in all matters and was not able to make decisions for herself. Despite these challenges and restrictions, some women in medieval Europe became very influential and their stories live on to this day.

Eleanor of Aquitaine (1122–1204)



Source 7.19 A 19th-century artist's impression of Eleanor of Aquitaine

During her lifetime, Eleanor of Aquitaine was queen of France and England, and also ruled England as **regent**. She was an intelligent, creative and sensitive woman. Eleanor was born in France in 1122. She was the daughter of the Duke of Aquitaine and heir to his land. When her father died, however, the land became the property of Louis VI, the French king. When she was 15, she married the king's son and later became queen of France. She took part in the Second Crusade alongside her husband, taking 300 women to fight and help care for the wounded. She was not happy with Louis VII and the marriage was annulled (declared non-existent) in 1152. In 1154 she married the Duke of Normandy, who later became Henry II, the king of England. Eleanor supported her sons when they revolted against Henry in 1173, and was imprisoned for 16 years. When Henry II died she was released, and helped rule England with and for her eldest son, Richard the Lionheart.

Joan of Arc (1412–1431)



Source 7.20 A 19th-century artist's impression of Joan of Arc

Joan of Arc was born in 1412 in a small French village called Domrémy. As the daughter of a peasant farmer, she received no education apart from the lessons of the Church. When she was 13, she believed she began to see visions and hear the voices of saints. They told her that she would help the French defeat the English and so secure the coronation of Charles VII, then crown prince of France.

Aged 18, she travelled in men's clothing to see Charles. Her conviction and faith inspired many nobles and common people. She helped lead the French to victory, and in 1429 Charles was crowned. Less than a year later, Joan was captured and imprisoned by the English. Wanting to discredit the new French king, they accused her of **heresy**. Because she refused to confess that she did not hear the voices of saints she was burned at the stake in 1431.



Christine de Pizan (1363–*c.* 1430)

Christine de Pizan was born in Venice in 1363. Her father was Tomasso de Pizzano, a respected physician. She grew up at the court of King Charles V of France, where her father made sure she received a good education. At 14, Christine married Etienne du Castel, a court secretary, and they had three children. In 1389, however, her husband died. Her father and the king were now also dead, and she decided to support her family by writing. Over the next 50 years, Christine wrote many poems, essays and books. As well as entertaining stories and love poems, she wrote serious works about the place of women in society, defending them against those who dismissed them as ignorant and worthless.

Source 7.21 A 19th-century artist's impression of Christine de Pizan

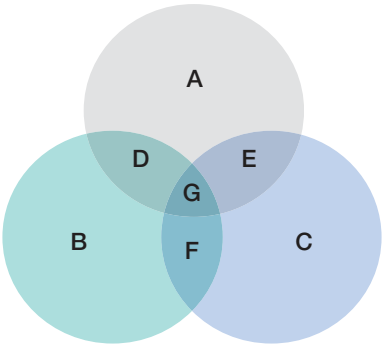
skill**drill**

Using Venn diagrams to compare information from a range of sources

Venn diagrams are simple diagrammatic tools that help you organise your thinking. They help to quickly identify the similarities and differences of two or more things. These 'things' can be anything – people, events, political systems and so on. Venn diagrams are a useful tool to compare information you have gathered from a range of sources.

To complete the Venn diagram in Source 7.22, follow these steps:

Step 1 Think about how each of the three things you are comparing are different. Record these individual features in the non-overlapping sections (A, B and C).



Source 7.22 A Venn diagram

Step 2 Then think about how two of the things are similar or share common features. Write any features that are common to A and B in section D, features common to A and C in section E, and features common to B and C in section F.

Step 3 Finally, think about the features that all three things have in common. Record these common features in section G.

Apply the skill

Use the written and visual sources about the three women provided to compare, select and use the most relevant information as evidence. Copy the Venn diagram from Source 7.22 into your notebook, and arrange facts from the written and visual sources to show what they had in common and what was different about them.

Consider the following topics:

- family connections
- education
- type and extent of influence.

Extend your understanding

Consider the place of women in Australian society today. Create a table to compare the ways in which women's social positions are similar, and the ways in which they are different.

Investigate the following areas:

- home life
- legal rights
- work and roles performed
- access to education
- family.

In order to collect this information you may need to conduct some additional research on the Internet.

Comparison of women's social positions in modern Australia and in medieval Europe	
Similarities	Differences

7.2 How and why did societies in medieval Europe change?

New empires, kingdoms and rulers

The medieval period in Europe was a time of great change. New groups of people moved and settled across the region; new empires and kingdoms were established; new ideas and beliefs spread throughout the population; and important events such as wars, famines and plagues brought about changes at all levels of society.

The kingdom of the Franks was one of the most important kingdoms in medieval Europe. During the 8th and 9th centuries, it was dominated by the Carolingian Dynasty, which rose to power at a time of great instability in Europe. The Carolingian kings commanded a powerful military force and had a close relationship with the Catholic Church. They created a single kingdom out of much of Western Europe and played a key role in converting tribal groups, such as the Saxons, to Christianity. The Carolingian **monarchy** was at its most powerful during the reign of Charles I (also known as Charlemagne). Under Charlemagne, the Christian lands of Western Europe were united to form the Carolingian Empire.

The Carolingian Empire did not last long after Charlemagne's death in 814. His son, Louis the Pious, and grandson, Charles the Bald, headed an empire increasingly at war with itself. By 887, the empire had largely been reduced to a few smaller kingdoms. These laid the foundations of what we know today as France, Germany and Italy.



Source 7.23 An artist's impression of Pepin the Short, one of the Carolingian kings and father of Charlemagne and Carloman I

Arrival of the Vikings

The decline of the Carolingian kings was helped by the arrival of the Vikings between about 850 and 1050. Initially they raided coastal settlements and monasteries in England, Ireland, Scotland and coastal France. Over time, however, they came to control large areas of medieval Europe, settling in places they had previously attacked and raided. They built new towns, like Dublin, the capital of modern Ireland, and set up their own kingdoms, such as the **Danelaw** in England.

The Normans

In France, the Vikings established a strong base. In 911, a Viking leader named Hrolf defeated the Frankish king, Charles the Simple (a descendant of Charlemagne). Hrolf forced Charles to pay a heavy penalty – a **fief** (a grant of land) in a region of western France. This area became known as Normandy, which derives its name from 'Norman' meaning 'Northman' or 'Viking'. In return for this land, Hrolf promised to stop raiding and to convert to Christianity.

In their new country, the Vikings (or Normans) adopted and refined some of the political and cultural practices of the Franks, including their language. By the early 11th century, the Normans had made further conquests in Europe and established a kingdom in southern Italy.



Source 7.24 A scene from the Bayeux Tapestry (an embroidery retelling the Battle of Hastings, made in around 1080). This scene shows the mounted soldiers of William, Duke of Normandy, attacking the Saxon foot soldiers of Harold Godwinson.

The Normans in England

The Normans also had long-standing interests in England. For example, Emma of Normandy (the sister of Richard II, Duke of Normandy) had married the English king Ethelred II. Their son, Edward the Confessor, became king of England in 1042. During his reign, many Normans became involved in English politics.

When Edward the Confessor died without an heir to the throne in 1066, a number of people believed they had a right to rule England. One contender, Harold Godwinson (the powerful Earl of Wessex), had himself crowned king that year. Harold claimed that Edward had promised him the throne on his deathbed.

Edward's cousin William, Duke of Normandy, was another contender for the throne. He also claimed that Edward had promised him the throne on his deathbed. Later that year, he invaded England to take the throne for himself. William's army defeated Harold's army at the Battle of Hastings. King Harold was killed, shot in the eye with an arrow. William (who became known as William the Conqueror) was then crowned King William I of England.

After 1066, William I and his Norman nobles began imposing their rule on the English. Many of the former **Anglo-Saxon** nobility fled to Denmark, Scotland and Wales. William claimed their lands, giving some to the Church and some as fiefs to his loyal followers and knights as a reward.

The Normans built castles in their new kingdom to protect their territory and enforce their rule. They also introduced the system of **feudalism** already common across mainland Europe.

Check your learning 7.8

Remember and understand

1 Who were the Carolingian kings and why were they so powerful?
2 Why is Charlemagne considered to be one of the most significant rulers of the medieval period in Europe?

Apply and analyse

3 Explain how a large region of France came to be ruled by the Vikings. What was this region called?
4 Why did Harold Godwinson and William of Normandy both believe they were legitimate contenders for the English throne in 1066?

Evaluate and create

5 Explain the relationship between the Battle of Hastings in 1066 and the beginnings of a feudal system in Britain.
6 Draw a simple sketch diagram showing how the system of feudalism worked.

Significant individual: Charlemagne



Source 7.26 A medieval bust of Charlemagne, Holy Roman Emperor

Charles I (742–814), more commonly known as Charlemagne (meaning Charles the Great), was one of the most important kings in medieval Europe. Charlemagne and his brother Carloman both took the throne of the Frankish kingdom when their father, Pepin the Short, died in 768 (see Source 7.23). After Carloman's death in 771, Charlemagne ruled in his own right.

He was active in overseeing his kingdom and regularly travelled around it. He also set up a network of messengers to report back to him on what was happening. Under his rule, his kingdom rose to dominate Western Europe.

Charlemagne, the man

Much of what we know about Charlemagne today was written by Einhard, a scholar and dedicated servant of Charlemagne. Einhard's accounts were written at the request of Charlemagne's son, Louis the Pious, between 817 and 836.



Source 7.25 An artist's impression of Charlemagne leading his troops over the Swiss Alps on a military campaign to conquer new territories

Source 7.27 A selection of statements describing Charlemagne

> [Charlemagne] was large and strong, and of lofty [grand] stature … the upper part of his head was round, his eyes very large and animated, nose a little long, hair fair, and face laughing and merry. Thus his appearance was always stately and dignified, whether he was standing or sitting …
>
> He … was temperate [controlled] in eating, and particularly so in drinking, for he abominated [hated] drunkenness in anybody … While at the table, he listened to reading or music.
>
> He … had the gift of ready and fluent speech, and could express whatever he had to say with the utmost clearness. He was not satisfied with command of his native language … [he] was such a master of Latin that he could speak it as well as his native tongue.
>
> He … cherished [valued] with the greatest fervour [passion] and devotion the principles of the Christian religion, which had been instilled into him from infancy [childhood].

Translated extracts from *Life of Charles the Great*, a biography of Charlemagne, written by Einhard

Charlemagne, the conqueror

Over his lifetime, Charlemagne fought many wars. His victories expanded the territory under his control. He was helped by the armies of his loyal supporters. Charlemagne had earlier given many of these men grants of land, a common practice among the Franks. This was done partly so they could support themselves, and partly so they could equip themselves to help Charlemagne in battle. It also encouraged their ongoing loyalty and support.

Charlemagne, the leader

Charlemagne did not just lead in battle. He was also a leading thinker, introducing many political and social reforms. For example, he set up a common system of currency, bringing back coins as the means of buying and selling goods and services as the Romans had done hundreds of years earlier. He also encouraged the arts and education, setting up a number of schools for both peasants and nobles alike. Many of the cultural and artistic traditions of the Greek and Roman empires were brought back to life during Charlemagne's rule. As a result, the period of his rule is often described as the Carolingian **Renaissance**. His leadership encouraged many new developments in literature, architecture and the arts.

Charlemagne, the Holy Roman Emperor

Charlemagne had always had a close relationship with the Catholic Church. In 799, he came to the aid of Pope Leo III. The Pope, accused of adultery, had fled Rome. His accusers had threatened to gouge out his eyes and cut out his tongue. Charlemagne escorted the Pope back to Rome and forced his reinstatement.

Pope Leo III was understandably grateful to Charlemagne. On Christmas Day in 800, the Pope crowned Charlemagne as Holy Roman Emperor. This endorsement from the Pope not only reinforced Charlemagne's position as the most powerful king, but also ensured that the Catholic Church remained a strong force in Europe (as the ancient Roman Empire had been).

Charlemagne's death

In late 813, Charlemagne crowned his son Louis the Pious co-emperor. Shortly after, on 28 January 814, Charlemagne died. He had ruled for 47 years.



Source 7.28 An artist's impression of Charlemagne, who established a number of schools for boys from different social classes during his rule

Check your learning 7.9

Remember and understand

1 Explain who each of the following people were: Charlemagne's father, his brother, his son.

2 How did giving grants of land to his closest supporters benefit Charlemagne?

Apply and analyse

3 Consider the statements in Source 7.27 and answer the following:

- a Are these accounts primary or secondary sources? Why?
- b Do you think these accounts are truthful and reliable? Give reasons for your answer.

4 Why do you think the Pope decided to crown Charlemagne as Holy Roman Emperor?

Evaluate and create

5 Conduct research to learn more about the regions of Europe ruled by Charlemagne. On a blank map of Europe, shade the area ruled by Charlemagne when he and his brother took the throne. Next, shade the area covered by his empire at the height of his rule. Use two different colours to distinguish between the two areas. Now use your atlas to discover which modern European countries were originally ruled by Charlemagne.

6 Provide three reasons why you think Charlemagne deserves to be considered a significant individual.

The spread of Christianity

One of the most significant and lasting changes that took place across Europe during medieval times was the spread and adoption of Christianity. Christianity was one of the legacies of ancient Rome. At first, Roman emperors made every effort to stamp out Christianity across the empire, even feeding Christians to the lions. But over time it became accepted and was declared the official religion of the Roman Empire in the late 4th century CE. As a result, Christianity was well established as a religion in Europe when the Roman Empire collapsed and the medieval period began. Its influence and relevance was kept alive by the Catholic Church (today referred to as the Roman Catholic Church). Christianity influenced the arts, education, medicine, architecture and even wars. It also affected medieval Europe's relationships with other societies, such as the Muslim nations of the Middle East.

The influence of Christianity across Europe increased under the rule of Charlemagne. He supported missionaries that travelled across Europe converting people who were not Christians. He was a dedicated and passionate believer in Christianity and made constant efforts to improve the religious life across his realm. He defended the Church with his forces and protected the Pope from his enemies in Rome. In 800, the Pope crowned Charlemagne Holy Roman Emperor in order to strengthen ties between the Church and the ruler of Europe.

Source 7.29 Canterbury Cathedral in England is significant not only because of its impressive architecture but also because it played a vital role in the lives of medieval Christians.



The organisation and influence of the medieval Church

The Church and its leader, the Pope, had great power and influence over almost every person in medieval society. From a very early age, all people, from the very rich to the very poor, were educated in the customs and traditions of the Church that would grant them salvation (entry into heaven). The desire to gain entry into heaven and the terrible fear of hell were strong incentives for people in medieval times to obey Church rules and customs.

By the middle of the 11th century, the Church was a well-organised hierarchy, reaching every level of medieval society. Small parishes, headed by priests, were set up across every region. These parishes were organised into larger dioceses, headed by bishops. Bishops were responsible for all religious affairs. They controlled church courts, which sat in judgement of cases involving members of the clergy and church property, and also ruled over other matters like marriages and wills.

Most importantly, bishops also held the authority to **excommunicate** any Christian who did not follow Church law. Excommunication prevented people from participating in church services or receiving the sacraments (sacred rituals) – meaning they would spend eternity in hell.

Source 7.30 An illumination (an illustration decorated with gold or silver) from an early 15th-century French manuscript showing a school lesson





Source 7.31 An artist's impression of Christian pilgrims travelling to a shrine at the Canterbury Cathedral in England. This shrine attracted many pilgrims during the Middle Ages.

In addition to exercising great power over people in medieval society, the Church also provided many benefits. More than anything, it provided a stable and unifying system of beliefs and rules that all Christians were bound to follow. The Church was also responsible for providing a great deal of practical help. In most parishes the Church established schools and universities, provided care for the poor and sick, and offered legal advice and other community services.

Holy pilgrimages

As Christianity spread across Western Europe, people of all social classes started to set out on journeys to places of religious importance (such as shrines and burial sites). These journeys, known as **pilgrimages**, were designed to prove Christians' loyal devotion to God. Each region of Europe had its own sites popular with pilgrims; however, the most sacred pilgrimage site for all Christians was the Holy City of Jerusalem. The Holy Land had been held by Muslim Arabs since 637 CE, but Christian pilgrims had been allowed to travel there freely. This changed in 1050, when a group known as the Seljuk Turks, who had recently converted to Islam, took control of Jerusalem. They began harassing pilgrims and refusing them entry to the city. These events led to the start of a series of religious wars known as the **Crusades**.

Religious warfare – the Crusades

The Crusades were a series of religious wars between Christians and Muslims between 1096 and 1270 to gain control over key religious sites in and around the city of Jerusalem – an important spiritual and religious location for believers of both Christianity and Islam.

Historians argue about the total number of wars that were fought, but most agree that eight major crusades took place (see Source 7.32).

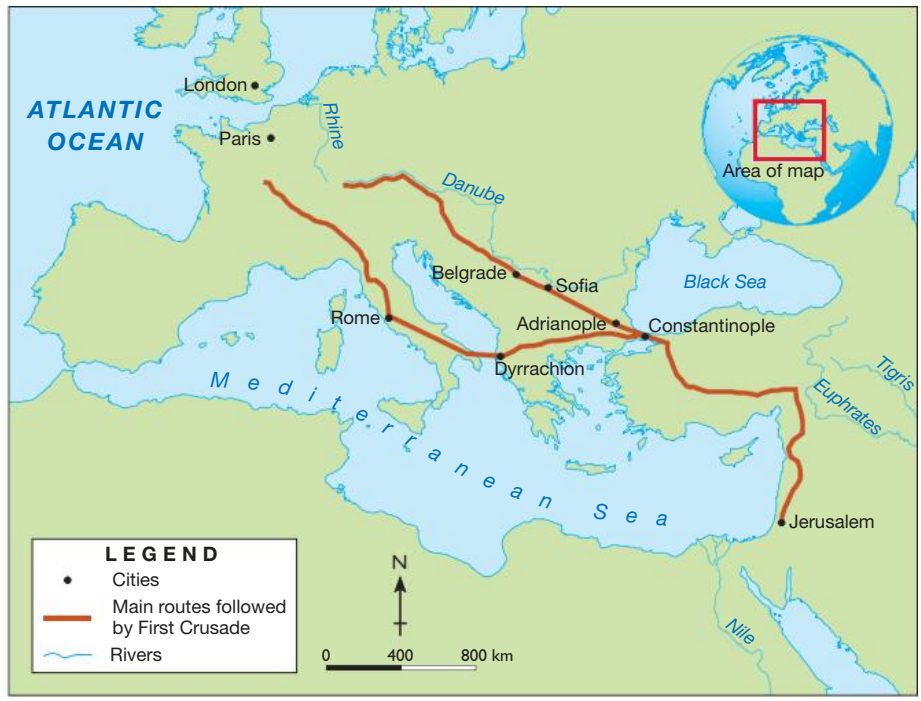
Source 7.32 The dates of the eight major Crusades

Date	Crusade
1096–1099	First Crusade
1147–1149	Second Crusade
1188–1192	Third Crusade
1202–1204	Fourth Crusade
1217–1222	Fifth Crusade
1228–1229	Sixth Crusade
1248–1254	Seventh Crusade
1270	Eighth Crusade



Source 7.33 An artist's impression of a battle during the First Crusade, painted in 1490

THE ROUTES OF THE FIRST CRUSADE



Source 7.34 Source: Oxford University Press

The start of the Crusades

Following the takeover of Jerusalem by the Seljuk Turks in 1050, Christian pilgrims and traders no longer felt safe in the region. Many believed that this new Islamic regime would also move to invade Constantinople, capital of the Byzantine Empire (formerly the Eastern Roman Empire), which was under Christian rule. This growing threat caused the Byzantine emperor to ask for support from Pope Urban II in 1096. In response, the Pope rallied Christians all over Europe to fight for control of Jerusalem and to help defend other Christians in the Middle East against the Turkish invaders. This was the start of the First Crusade.

People from all walks of life – from kings to peasants – joined the Crusades. Young people were particularly caught up in the desire to fight in the name of Christianity. Many young peasants who took part in the Crusades were encouraged by their local parish priests to join the fight. The priests believed that young people, free from 'sin', would make more successful Crusaders than older people.

Although most people joined the Crusades to return control of the Holy Land to Christians, many people also went for other reasons. During this deeply religious time, most Christians believed that taking part would be a sure way of gaining entry into heaven when they died. Some were also hoping to find wealth and fame; others were looking for adventure.

The effects of the Crusades

Although there were eight major Crusades, only the first was successful in bringing Jerusalem under Christian control. All remaining Crusades were either designed to protect the gains made during the First Crusade or motivated by a desire for wealth and fame. By the time of the Eighth Crusade in 1270, the Holy Land had not been regained by the Christians and many Crusaders had never returned home at all. Some were killed in battle for the Holy Land, while others died of disease or injuries. Others were sold as slaves, never to see their homes and families again.

The Crusades did, however, have enormous effects on Europe and its people. Crusaders who returned home brought new wealth, new ideas, new customs and new products (such as foods, spices, perfumes, pearls and precious stones). The power and wealth of the Church increased greatly. Trade with the East also increased. Goods from the East poured into Europe through trading ports in Italy. With the growth in trade came the desire to explore and discover unknown lands. This, in turn, brought new ideas, greater knowledge and more inventions.

People's lives improved. New trade and opportunities often meant greater wealth, and with this wealth came better living standards, health and access to education and work. The Crusades were also responsible for weakening the system of feudalism that had dominated Europe for centuries. Many lords had mortgaged or sold their estates before heading off on Crusades and many more never returned at all. All of these changes led to a move from a land-based economy to a money-based economy. All of this contributed to increased commerce in towns – causing them to grow into cities.

Some effects of the Crusades

- New inventions and devices (e.g. the windmill, the magnetic compass, new ways of drawing maps)
- New products and goods (e.g. foods, perfumes, precious metals and stones)
- New castle designs and weapons
- Weakening of the feudal system and the development of a more money-based economy
- The growth of more towns and cities
- New ways of practising medicine (Arabic medicine was far more advanced than that in Europe at the time)

Source 7.35 Some of the new ideas and technologies Crusaders brought back to Europe from the Holy Land



Source 7.36 An artist's impression of a medieval Crusader

Check your learning 7.10

Remember and understand

1 Why was the Catholic Church so influential in the lives of all people in medieval Europe?
2 List some of the positive contributions made by the Catholic Church to society in medieval Europe.
3 What event caused Pope Urban II to call for people to go on the First Crusade?
4 Why did so many Christians take up Pope Urban's call to go on a crusade?

Apply and analyse

5 When did the First Crusade take place? What was the goal of this crusade?
6 List three reasons why the Crusades were such significant events for societies across medieval Europe.

Evaluate and create

7 Consider what you have read about the takeover of Jerusalem by Seljuk Turks in 1050.
   a What was the immediate effect on the Middle East region of Jerusalem's takeover by this group of people? Why?
   b Predict what might have happened in 1096 if Pope Urban had ignored the Byzantine emperor's request for support.

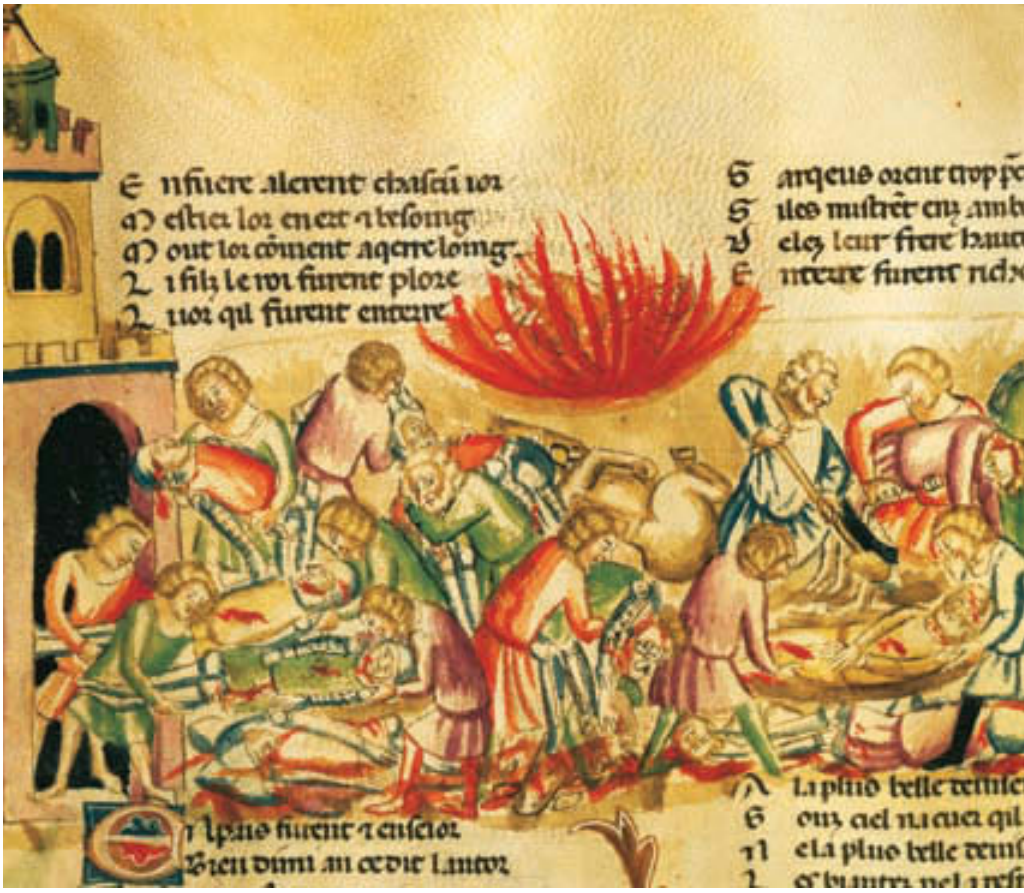
Other causes of change across medieval Europe

All societies change over time, even if this change is very gradual. New developments, new ideas or contact with other societies often bring about changes. Sometimes these changes can be positive, other times they can be negative. This was certainly the case in medieval Europe.

Major events

In the late medieval period, there were three major events that brought about changes to societies across Europe:

- the Great Famine – This famine mainly affected northern Europe (including England) from 1315 until 1317. The poor suffered greatly. A monk described how 'plump dogs were stolen … men and women in many places secretly ate their own children'.
- the Hundred Years War – This war was fought between England and France between 1337 and 1453. The English were driven out of Normandy, ending their claim to the crown of France. A young woman, Joan of Arc, was burned at the stake for her role in uniting the French.
- the Black Death – This pandemic arrived in Europe in 1347, reducing the population by about a third. Its most common form was the **bubonic plague**. It was caused by bacteria found in the blood of the rat flea. Medieval Europeans knew nothing about germs, and paid little attention to hygiene.



Source 7.37 The Black Death killed millions of people across Europe, as depicted in this medieval manuscript.

Short-term impacts of these changes

The events briefly described above dramatically changed the societies of medieval Europe. France's population alone was halved during the 14th century. Peasants fled the Black Death, creating huge labour shortages. Those prepared to stay (on feudal manors or in towns) often demanded higher wages to do so. Suddenly they had more bargaining power because their services were in demand. In towns, these changes led to outbreaks such as the Peasants' Revolt against the high taxes they were being asked to pay.

Long-term impacts of these changes

Systems such as feudalism and Christianity had helped to stabilise the societies of medieval Europe over hundreds of years. There were, however, changes from the 13th century onwards that made people more aware of the world beyond Europe and their place in it. In time, this led to a number of social and political movements. Some movements questioned aspects of Church power and influence (the **Reformation**), while other movements looked to build on the knowledge and teachings of ancient Greece and Rome (the **Renaissance**). Some movements even challenged ways of thinking and learning about the world by testing new theories in the areas of medicine, biology and astronomy (the **Scientific Revolution**).

Some of these new ways of looking at things were helped by new inventions such as:

- the magnetic compass – invented by the Chinese, it seems to have been first used in Europe in the late 12th century to help sailors navigate the English Channel
- the astrolabe – an ancient navigation tool used across the European and Islamic world. Together with the magnetic compass, the astrolabe enabled European sailors to travel across oceans to claim new lands
- the printing press – invented by Johannes Gutenberg around 1450, it revolutionised people's access to the written word. Books could now be produced quickly and cheaply. Most importantly, new ideas could spread rapidly.



Source 7.38 A page from Gutenberg's Bible



Source 7.39 A magnetic compass



Source 7.40 An astrolabe was used to chart the movements of planets and stars.

Check your learning 7.11

Remember and understand

1 What major events in the 14th century led to significant changes in medieval societies?

2 Which areas of Europe were most affected by the Great Famine?

Apply and analyse

3 In your own words, describe some of the factors that led to the Peasants' Revolt of 1381.

Evaluate and create

4 Conduct some further research on the magnetic compass, the astrolabe and the printing press. Create a short report outlining how each of these inventions helped bring about change in medieval Europe. Include information on the following:

a the effect on people in Europe

b the effect on trade in Europe

c the effect on European exploration.

7.2 big**ideas:** rich task

The Battle of Hastings

The Battle of Hastings is one of the most significant battles in medieval Europe. It took place at Hastings in the south of England on 14 October 1066. The forces of the newly crowned king of England, Harold Godwinson, and William, Duke of Normandy, fought for the English throne. Harold was killed, and William was crowned king. This marked an end to Anglo-Saxon rule and the start of Norman rule in England.

Norman rule changed England forever – there were changes to the government, the Church, language and everyday life.

There are a number of different primary and secondary sources that retell the events of the Norman invasion and the Battle of Hastings. Three of these are described here:

1 The Bayeux Tapestry

One of the best primary sources is a 70-metre embroidered cloth known as the Bayeux Tapestry. It is a valuable document for the study of medieval weapons, warfare, architecture and clothing. It tells a story that begins around 1064 and ends in October 1066, with the death of King Harold at the Battle of Hastings. The exact origin of the tapestry is not known. One story claims that Matilda, William the Conqueror's wife, sewed the tapestry. Other accounts claim it was probably commissioned in the 1070s by Bishop Odo of Bayeux, half-brother of William the Conqueror.

2 The *Anglo-Saxon Chronicle*

Written between the 9th and 12th centuries, the *Anglo-Saxon Chronicle* is a collection of seven volumes written by Anglo-Saxon monks in England. The Chronicle is written in Old English (the language of the Anglo-Saxons). It recounts events and tells the story of England. A few brief descriptions of the Battle of Hastings appear in the Chronicle, but in some cases the entries were made several years after the battle took place.

Source 7.41

> William came against him [Harold] by surprise before his army was drawn up in battle array [formation]. But the king [Harold] nevertheless fought hard against him [William] … and there were heavy casualties on both sides.
>
> Many English deserted from the line, and very few stood firm with him [Harold]: yet from the third hour of the day until evening he resisted his foes with the utmost courage … But alas, after so many had fallen on both sides, Harold himself was slain [killed] as the evening shadows lengthened. King Harold was dead … and many good men. God granted the victory to the [Normans] because of the sins of the English people.

An extract from the *Anglo-Saxon Chronicle*, retelling the events leading up to the death of King Harold

Source 7.42 A section of the Bayeux Tapestry depicting William and his Norman troops fighting the English army



3 The writings of William of Poitiers

William of Poitiers served as a knight in Normandy before becoming a priest. When William, the Duke of Normandy, became king of England in 1066, William of Poitiers was appointed his personal chaplain. In 1073, William wrote *The History of William the Conqueror*. The book contains the most detailed written account we have of the Battle of Hastings.

Source 7.43

> [The Duke of Normandy] hastily built a fleet of three thousand ships. At length he brought this fleet to anchor at St Valery in Ponthieu [in France] where he filled it with mighty horses and most valiant men, with hauberks [armour] and helmets. Then when a favourable wind began to blow, he set sail, and crossing the sea he landed at Pevensey [in England] where he immediately built a castle with a strong rampart [defensive wall].

An extract from *The History of William the Conqueror* by William of Poitiers, retelling the events leading up to the Battle of Hastings

skill**drill**

Drawing conclusions about the usefulness of sources

A useful source will add to your understanding of a historical period or event. The source needs to be relevant to your investigation and reliable. Ask yourself the following questions to determine the usefulness of a source:

- What type of source is it?
- Who wrote or created the source?
- Why was it written or created?
- Is it balanced or does it present only one point of view?
- Is it based on fact or opinion?
- Is there enough information and detail for the source to be of use to my inquiry?
- Does the information support and reinforce evidence from other sources?

Apply the skill

Use the sources and information in this section to draw conclusions about their usefulness and reliability. When examining a range of different sources, it is often helpful to gather your information into a table or graphic organiser.

1 Copy the table below into your notebook and complete it using the information provided. Alternatively, create your own graphic organiser (such as a Venn diagram) to draw conclusions about the sources.

Source name	Source type (primary/ secondary)	Key questions to determine the usefulness of each source
Source 1: **The Bayeux Tapestry**	Type of source:	• Who created the source? • Why was it created? • Is it balanced or does it present only one point of view?
Source 2: ***The Anglo-Saxon Chronicle***	Type of source:	• Who wrote the source? • Why was it written? • Is it balanced or does it present only one point of view?
Source 3: **The writings of William of Poitiers**	Type of source:	• Who wrote the source? • Why was it written? • Is it balanced or does it present only one point of view?

2 In what ways are the three sources similar? In what ways are they different?

3 Based on your findings, which of the three sources provided do you think is the most reliable and useful? Give reasons for your answer.

Extend your understanding

1 The complete Bayeux Tapestry is a rich source of information about the Battle of Hastings. Use the Internet to collect images of the full Bayeux Tapestry. Make a flow chart showing the major events in the Norman invasion of England (including the Battle of Hastings) using the images from the tapestry. Most sites that show the full tapestry will provide commentary about what is happening in each panel. Consider using the following format:



7.3 What developments influenced life in medieval Europe?

Developments in architecture, literature and music

The medieval period in Europe lasted for about 1000 years. Over this time, there were many important developments and achievements that affected the lives of people – some were cultural and social (such as developments in music, literature and the law, and the growth of towns), while others were technological (such as developments in architecture, weapons and warfare).

Architecture

A lasting example of these developments in medieval Europe is its architecture. Most European towns and cities settled during the medieval period still have buildings that date back almost 1000 years. These buildings include churches, **monasteries**, manor houses, town halls, castles and cathedrals (see Source 7.44).

Gothic style

A major development in medieval architecture was the Gothic style. It originated in France during the 12th century and was popular across Europe until the 16th century. Gothic architecture, with its use of pointed arches and large windows, ornate decorative patterns and tall spires, was commonly used when designing and building cathedrals (see Source 7.44). Large stained-glass windows in these cathedrals played an important role in retelling important religious messages. Images in the windows were used to convey biblical stories because many people could not read.



Source 7.44 Completed around 1240, Notre Dame Cathedral in Paris is one of the most famous Gothic cathedrals in the world.

Literature

Few people in medieval Europe could read or write. Those who could were often members of the clergy – mostly priests, monks and a few nuns. All documents were written by hand until very late in the medieval period. This was a time-consuming process, with books taking years to produce.

Medieval manuscripts contained laws or administrative information about a kingdom or a landholding. Some rulers also arranged for others to write accounts of their lives or those of their ancestors. It was rare for the common people to write anything, even diaries or letters. This fact greatly limits our knowledge of how the poor lived in medieval Europe. Most medieval manuscripts related to religion, including copies of the Christian Bible and prayer books.

Illuminated manuscripts

Some medieval manuscripts were ornate works of art, known as illuminated manuscripts. They featured highly detailed illustrations decorated with gold and silver, often depicting scenes related to the text.

Illuminated manuscripts were significant historical documents. For a start, they were very valuable. Many materials and skilled craftspeople were needed to make them. They were generally written on parchment or on vellum (a material made from the skin of sheep, goats or calves). Paints were made from plants, ground-up semi-precious stones, charcoal and spices to give them bright and vibrant colours. Sometimes even earwax and urine were used to create colours. Gold and silver were also painted onto manuscripts.

The invention of the printing press

When the printing press was invented in Germany by Johannes Gutenberg around 1450, it revolutionised reading and writing across Europe. Books became quicker and cheaper to produce, which made them more readily available to common people. This increased the number of people who could read and write, and also meant that the Church no longer had control over the types of books that people could read.



Source 7.46 A page from an illuminated manuscript created in the 15th century, which records the New Testament gospel of John

Music

Music played an important role in medieval life. It marked the end of harvests, provided entertainment for people at all levels of society, and was an important part of religious life.

Although most popular music from medieval times has been lost, traces of tunes to which peasants sang and danced can be found in modern folk and traditional music. Most sources of evidence for medieval music survive from more formal settings, such as church services and coronations.

Source 7.45 A stringed medieval instrument called a dulcimer



Check your learning 7.12

Remember and understand

1 What are two features common to the Gothic style?
2 In what areas of medieval life was music important?

Apply and analyse

3 Why was the invention of the printing press a significant development in the lives of medieval people? How did it change the course of history?
4 Consider what you have learned about illuminated manuscripts.
   a Explain what an illuminated manuscript is.
   b List some of the materials used when creating illuminated manuscripts.
   c Why might such documents be thought of as significant?

Evaluate and create

5 Design your own Gothic cathedral either on paper or using computer software. Conduct further research to plan your design. Include a floor plan (as seen from directly above) and a close-up sketch of two important features.

Developments in law and order

Options

How different developments influenced life in medieval Europe is discussed in the context of the following topics:

- Developments in law and order
- Developments in military and defence systems
- The growth of towns, cities and commerce.

Choose only ONE of these topics for study.

Throughout the medieval period in Europe, laws were extremely harsh and punishments were even harsher. Those in charge of law (kings and the nobility) believed that peasants and common people would only behave properly if they feared what would happen to them if they broke the law. Even the most minor offences had serious punishments.

Under feudalism, different courts dealt with different types of offences. Minor matters, such as a woman gossiping and nagging her husband, were heard by village courts. If found guilty, a woman like this (known as a scold) would be forced to wear a 'scold's bridle' (see Source 7.48). More serious matters, like a peasant's son being educated without the lord's permission, were heard by manor courts. If found guilty, a peasant might be fined or put in the stocks.

The most serious charges were dealt with in Church courts (for charges such as **heresy** and witchcraft) and the King's court (for charges of **treason**). Confessions for such crimes were often obtained under torture (with the use of thumbscrews and other devices). If found guilty, people could be executed by being burned or skinned alive. Traitors were frequently executed by being hanged, drawn and quartered. This involved first hanging a person, cutting him down while still alive, then pulling out his intestines while he watched, and finally attaching each of his hands and legs to a horse and having the horses pull him apart.



Source 7.47 This painting from 1471 shows an ordeal by fire. The woman is trying to prove her dead husband's innocence of a crime against the king by holding a red-hot iron bar in one hand and her husband's head in the other.



Source 7.48 A medieval engraving of a woman wearing a 'scold's bridle' being paraded through the streets by her husband. While wearing the mask it was impossible to speak. Some scold's bridles had bells on top to draw even more attention to the woman wearing it, increasing her humiliation.

Trial by ordeal

The legal system of early medieval Europe required accused persons to prove their innocence. They did this by swearing an oath before God. Sometimes the oath of the accused was tested using trial by ordeal. There were two types of ordeal:

- ordeal by fire – The accused held a red-hot iron for some time, put an arm in a fire or walked across burning coals. If, after three days, the burn was not healing, they were seen to be guilty (see Source 7.47).
- ordeal by water – The accused placed an arm in boiling water, with the same test as above. They also could be bound and tossed into a river. If the body floated, they were seen to be guilty.

Trial by combat

Another trial commonly used for members of upper classes was trial by combat, where the accused fought the accuser. Sometimes a champion (such as a strong knight) fought on behalf of a weaker party. The winner (or whoever they represented) was innocent – God was believed to ensure this. Guilty people were punished or killed. They might have ears or hands cut off, or worse.

Changes to the medieval justice system

In 1154, Henry II became king of England. The various types of courts continued to exist during his reign, but Henry also wanted all his subjects to have access to royal justice. So he and his court (the king's court) travelled around the land, hearing cases. At this time, judges also began recording court decisions.

Over the centuries, this initiative continued to be refined. It set the basis for today's common law, as practised in England and in Australia – where judges' decisions, and the penalties for them, are based on similar examples from the past. Another initiative of Henry II was trial by jury. It, too, continues to this day as a key part of the Western justice system.

The Magna Carta

By the early 13th century, John was king of England. He was unpopular because he raised taxes, fought a series of unsuccessful wars and upset the Pope. The Pope was so angry that he banned religious services in English churches.

The nobles decided to act. They negotiated with King John, forcing him to sign a charter (legal agreement) known as the **Magna Carta**. The Magna Carta marked a significant legal development in England because it required the monarch to be subject to the will of others, not just God. No longer could he rule exactly as he saw fit. This is seen as one of the first steps towards the development of legal and political rights for 'the people' and the start of modern democracy.

The Magna Carta also abolished trial by ordeal. No more could people be condemned, tortured or killed on the grounds of suspicion or rumour.



Source 7.49 An artist's impression of King John of England reluctantly signing the Magna Carta

Check your learning 7.13

Remember and understand

1. What were some of the different courts in medieval Europe? What sort of cases were heard in each court?
2. How was the medieval practice of trial by ordeal changed by the Magna Carta?

Apply and analyse

3. The words 'Magna Carta' mean 'Great Charter' in Latin. Do you agree that it was 'great'? Discuss in pairs and present your ideas to the class.
4. Do you think that trial by ordeal was fair? Give reasons for your view.

Developments in military and defence systems

Warfare was one of the chief ways a medieval kingdom in Europe could become powerful (either by fighting to expand its territory or by defending itself against invaders). The focus was often on capturing the enemy's stronghold, usually a castle. Castles were typically built in places that were easier to defend – on top of a cliff or hill, on an island, or jutting out into a lake.

Castle fortresses

In times of peace, castles were home to important rulers or wealthy feudal **lords** and their families, servants and **vassals**. At these times, only a small group of soldiers was needed to guard the castle. In times of war, however, castles became hives of military activity as the ruler or lord called on his supporters to defend the castle by supplying him with foot soldiers, armour, weapons and often horses.

Knights and soldiers

In medieval Europe, **knights** were obliged to fight for their lord in times of war as well as recruit others to fight for him. Some recruits were professional soldiers, men of the upper social class. They might be the younger sons of noble families, wanting to improve their standing through military service. Such soldiers were often called men-at-arms. Other fighting recruits were commoners or peasants. These men usually came straight from the fields or towns to fight. They often had no formal training and fought as foot soldiers because they could not afford horses. Their weapons and armour were much simpler than those of knights and men-at-arms.

Military training

To stay fit and trained for war, knights fought jousts. Often these were public spectacles. Heavily armoured knights charged each other on horseback holding wooden lances ahead of them. Sometimes a long wooden fence, called a tilt, separated the charging horses. The idea was to knock an opponent off his horse.



Source 7.50 An illustration from a medieval manuscript showing a joust between Jean Chalons, an Englishman, and Loys de Beul of France in 1446



Source 7.51 This modern-day re-enactment of a medieval tournament shows two knights on horseback fighting with swords.

Larger contests between hundreds of knights on horseback and soldiers on foot were also held during the medieval period. These events, known as tournaments, were mock battles similar in principle to military training exercises today. By the 13th century, tournaments had become colourful spectacles (like carnivals) that created great excitement among medieval communities.

Changing castle design

Over the medieval period, certain elements of castle designs changed and developed, improving on weak features and strenthening those that worked. Three castle designs evolved over the medieval period in Europe:

Motte-and-bailey castles

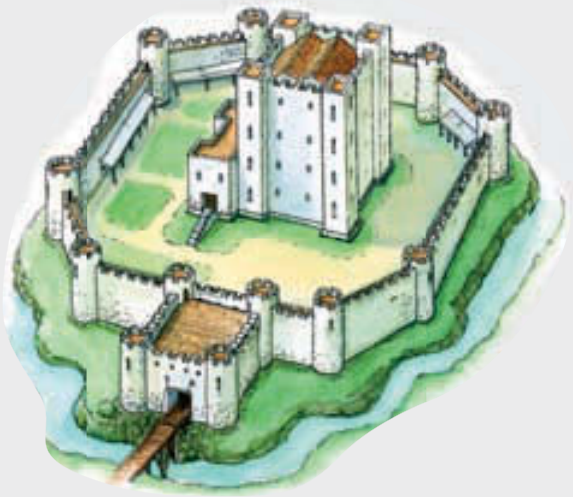
Early fortresses were called motte-and-bailey castles. The motte was a raised area (such as a hill) on which a wooden fortress was built. Below it was an open area called the bailey, where barns, workshops and stables were located. Both the bailey and motte were encircled by a gated timber palisade (fence-like barrier, made of logs), a ditch (sometimes filled with water) and an earth bank.



Source 7.52 A motte-and-bailey castle

Stone castles with keeps

By the late 10th century, stone structures (called keeps) were starting to replace the wooden fortress in the motte-and-bailey design. These keeps, usually rectangular and up to four storeys high, were fitted out to withstand a **siege**. Thick stone walls replaced the palisade and a wide moat replaced the ditch. Access to the castle was via a drawbridge.



Source 7.53 A stone castle with a keep

Concentric castles

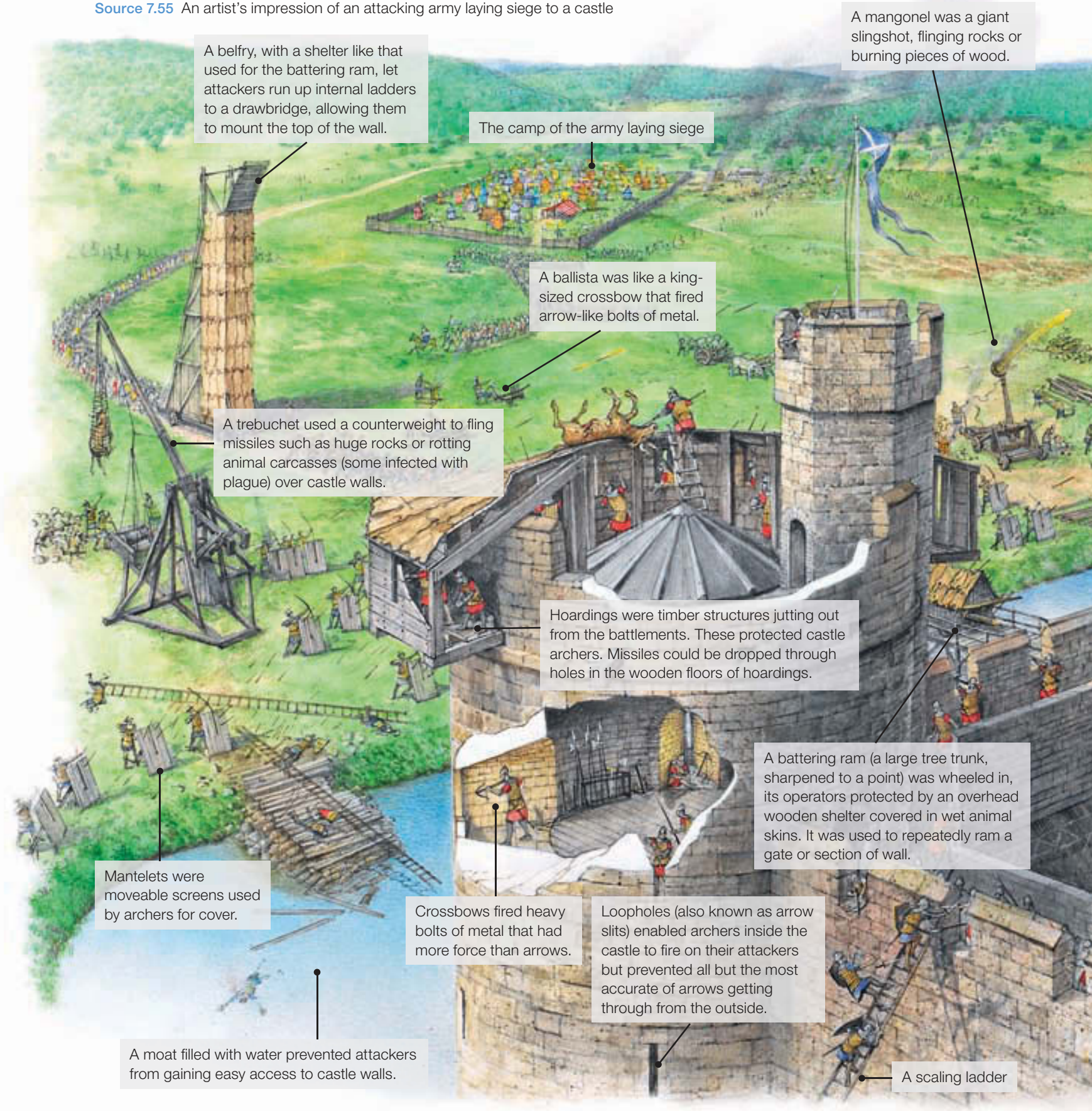
Two hundred years later, the concentric castle emerged. It was based on designs Crusaders had seen in the Holy Land. This stone and/or brick castle had two outer walls (with battlements) to provide an extra barrier against attack. The outermost wall was often curved. The wall closest to the centre was the highest. There was a greatly reinforced gatehouse, but no keep.

For more information on the key concept of continuity and change, refer to section HT.1 of 'The historian's toolkit'.



Source 7.54 A concentric castle

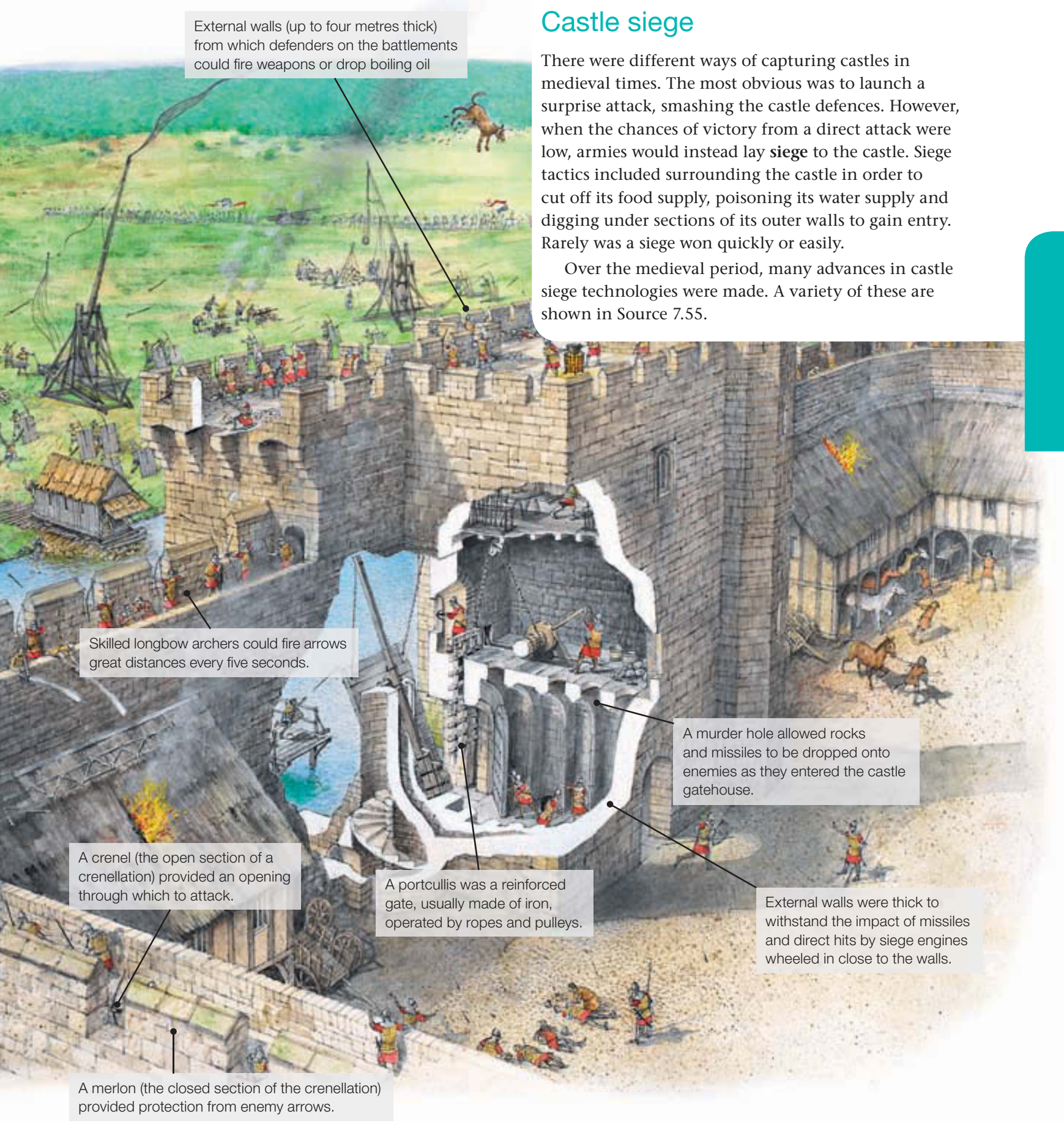
Source 7.55 An artist's impression of an attacking army laying siege to a castle



Castle siege

There were different ways of capturing castles in medieval times. The most obvious was to launch a surprise attack, smashing the castle defences. However, when the chances of victory from a direct attack were low, armies would instead lay **siege** to the castle. Siege tactics included surrounding the castle in order to cut off its food supply, poisoning its water supply and digging under sections of its outer walls to gain entry. Rarely was a siege won quickly or easily.

Over the medieval period, many advances in castle siege technologies were made. A variety of these are shown in Source 7.55.



Developments in medieval warfare

Until about the 12th century, armour was made of chain mail (small hoops of iron linked together), which was fashioned into a knee-length tunic. From about 1300 onwards, however, metal plate armour became more common (see Source 7.56). Over the years, its design changed further so it eventually protected the whole body. Full-body armour made shields less necessary.

When using a shield, the fighter had only one hand for his sword, so early swords were lighter and made for one-handed use. As armour changed, and shields became less common, the design of swords also changed – they became larger and heavier for two-handed use. The aim of these weapons was not so much to cut as to bash. Two free hands meant that other weapons such as the mace (an iron club), morning star (a spiked club like a mace), flail (a metal ball, often spiked, attached to a chain and handle) and battleaxe could be more easily used (see Source 7.57).

The bow and arrow was also a popular weapon during the medieval period. Archers were an important force used in medieval battles because their arrows were easily able to pierce through armour. There were two main types of bow – the longbow and the crossbow. The longbow was a bow drawn by hand which released an arrow. A skilled archer could shoot arrows very quickly, releasing arrows every few seconds that would travel over long distances. The crossbow was a bow fixed across a wooden stock with a groove for the arrow. The crossbow required less skill to use as it had a mechanism for drawing and releasing the arrow.



Source 7.56 The type of full-body armour worn by a man-at-arms in Italy in the late 1300s



Source 7.57 An illustration of a range of medieval weapons, including a spiked club (left), mace (second from left), flails (third and fourth from left) and battleaxes (fifth and sixth from left).



Source 7.58 A 15th-century illustration depicting the siege of the French walled city of Orléans in 1429 during the Hundred Years War. It shows the English forces using cannon fire to attack the city walls.

Gunpowder

Gunpowder reached Europe from China during the 13th or 14th centuries, where it was first developed 400 to 500 years earlier. Gunpowder was another factor that helped to end Europe's feudal system. It did so by changing how wars were fought.

It was first used effectively during the Hundred Years War between France and England (see Source 7.58). Now castle walls could be more easily broken down using weapons fired with gunpowder. By the 15th century, different forms of cannon were becoming commonplace.

The use of firearms in warfare gradually reduced the importance of knights on horseback. Early firearms increased the distance between fighting armies. They also meant that all soldiers in battle now required armour. This made it more expensive to equip an army. Kings, rather than nobles, had to take responsibility for this increased cost. As a result, the importance of knighthood began to diminish. In place of knights, new types of professional soldiers emerged who led new types of troops.

Check your learning 7.14

Remember and understand

1 Name three locations where a castle might commonly be built for security.

2 What two main purposes did castles serve in feudal Europe?

Apply and analyse

3 Explain briefly how both castle design and armour design changed over time. Where relevant, explain what aspects of each continued (even if in another form).

4 Study Source 7.55.

- a List three ways of defending a castle under attack.
- b List three tactics or items an attacking army might use to force the surrender of a castle.

Evaluate and create

5 Draw a flow chart to show some of the ways gunpowder changed medieval warfare, both in the short and long term.

The growth of towns, cities and commerce

During the early part of the medieval period, societies and economies of Europe were based around agriculture and land ownership. These various kingdoms were largely divided into feudal estates and manors, owned by nobles and farmed by peasants. For centuries, this system was successful because these peasants needed the protection of these nobles and their knights against attacks from barbarians; however, from about 900 CE on, these attacks began to ease. This meant that common people no longer needed the protection from their lords and the system of feudalism began to weaken. Slowly, people began moving and living in towns.

Over the next few centuries, a number of other events further weakened feudalism and fuelled the growth of towns. The Crusades, in particular, played an important role. Before heading off to fight, some lords sold their estates; others never returned at all. Those who did return brought new ideas, new customs and new products to trade. As trade increased, so too did the number of towns. Over time, many of these towns grew into cities. By 1200, there were about 600 cities in Europe, three times as many as there had been 50 years earlier. Many cities also had cathedrals, so they attracted Christian pilgrims as well as merchants.



Source 7.59 The medieval city of Fribourg, in Switzerland. Many of its medieval buildings still remain, including St Nicholas Cathedral.

Types of towns

Across Europe, a number of different types of town began to pop up. Many grew up around castles or manor houses that had been established for hundreds of years, while others were newly settled close to ports, rivers and roads that were important for trade and transport. As trade increased, so did the size and populations of these towns. To begin with, the populations of these towns across Europe were largely made up of people who had left manor estates. Many of the peasants that resettled there went on to earn a living as skilled craftspeople, labourers or merchants.

New markets, new goods and booming commerce

Not all those who drifted from feudal manors settled immediately in towns. Some chose to travel around as wandering 'salesmen'. The goods they offered for sale were often cheap and basic, but the best profits came from selling goods like spices, oils and perfumes from faraway places. The risks of sourcing these goods, though, were high – pirates, harsh landscapes, extreme weather and attacks by wild animals claimed the lives of many merchants and traders. Despite the dangers, some merchants made huge profits and returned to settle in towns in order to establish thriving businesses.

The growth of businesses and guilds

Merchants in medieval Europe mainly sold their goods in marketplaces and at huge open-air fairs held each year. Buyers flocked to these displays and purchases were often made in bulk and taken away the same day on carts.

Over time though, permanent shops and businesses were built and those who worked in the same craft or specialist occupation (such as butchers or carpenters) started banding together to form organisations known as **guilds**. Guilds were similar to modern-day unions and professional organisations in one. They were particularly common in large Italian cities where trade was the main industry. Guild members met regularly to discuss quality standards, conditions of work, fair pay and prices, and to set up apprenticeships for young workers.

The growth of moneylending and banking

As commerce and trade continued to grow in towns and cities, the need for moneylending, banks and financial record-keeping became more common across Europe. The beginnings of these practices originated long before medieval times, but after the Crusades they became more formalised. Merchants in the Holy Land had been acting as moneylenders for generations, so many of these practices were brought back to Europe by the Crusaders in the 12th and 13th centuries. Loans enabled more goods to be purchased and traded, boosting town economies. Some merchant families became so wealthy they even lent money to kings and royal families. Many also invested in the construction of large public buildings, palaces and works of art in their towns and cities.

The independence of towns

As time passed, the growing numbers of large towns and the wealth of the people living there brought about the desire for another change. Townspeople wanted more independence from feudal restrictions and more rights. As mentioned, many towns across Europe during the medieval period were settled on land 'owned' by nobles and feudal lords. Many of these lords continued to expect payment for the use of this land, even after the feudal system had weakened – the only change was that they now demanded payment in money rather than crops. Many townspeople came to resent this. They started to present petitions to these lords demanding release from old feudal arrangements and a set of rights. In return for large payments, some towns were given what they asked for and town **charters** were drawn in writing to set out what had been agreed by the lord and the townspeople.



Source 7.60 A 15th-century artist's impression of a covered medieval European marketplace

Rights outlined in many town charters

- The ability to trade freely
- Freedom to enter and leave the town freely
- The right to establish town laws independently
- The ability to hold trials in town courts, rather than the lord's manor court

Source 7.61 Some of the rights sought by townspeople and included in town charters

Check your learning 7.15

Remember and understand

1. What changes caused the growth of towns across medieval Europe?
2. How did some of these early towns form, and where?
3. Where could people living in towns buy the goods merchants brought back from distant lands?

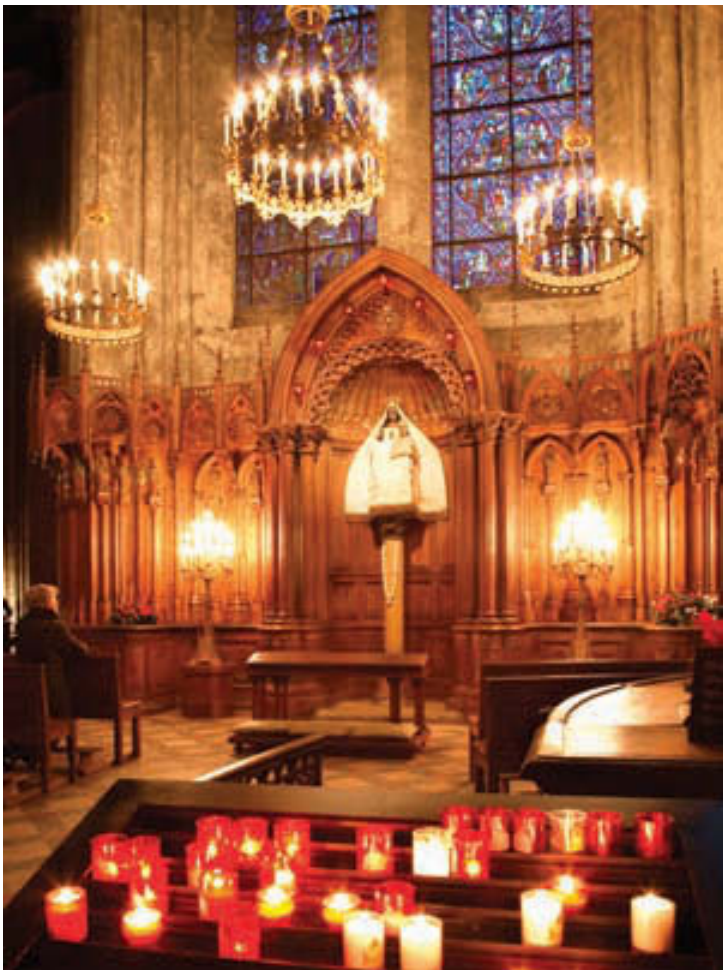
Apply and analyse

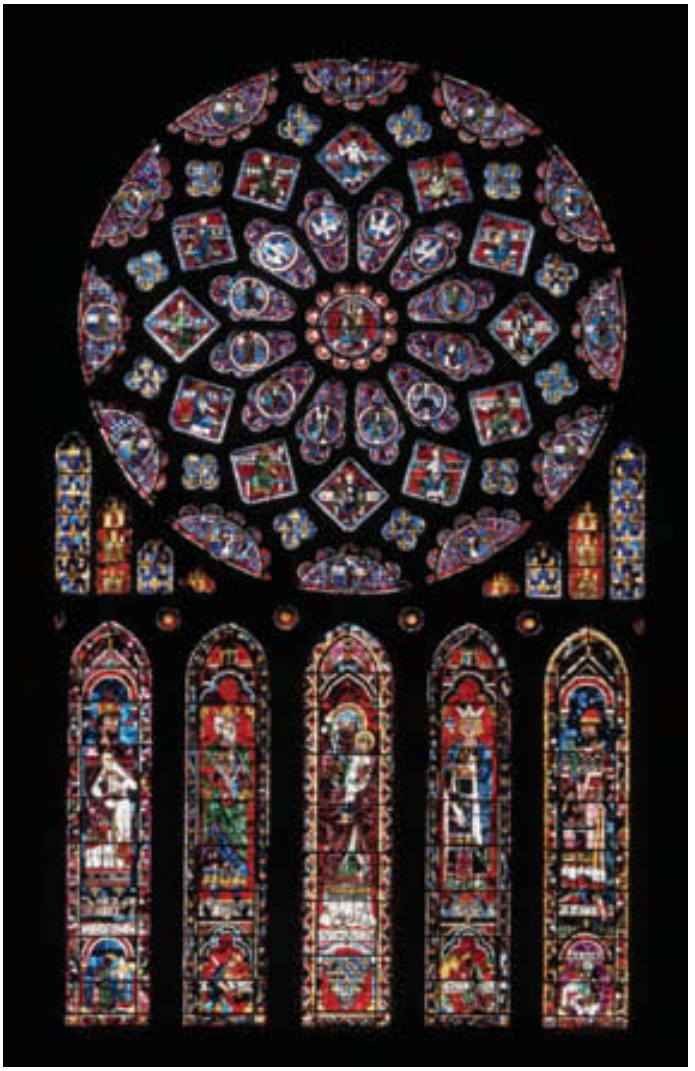
4. Explain how and why the practice of moneylending came to be adopted in medieval Europe. Where did this practice originate and how did it become common in Europe?

7.3 big**ideas:** rich task

Medieval architecture and the influence of the Church

The Catholic Church played a key role in the daily lives of almost everyone in medieval Europe. Most medieval Europeans were Christians and lived according to the teachings of the Church.





Source 7.62 The north rose window at Chartres Cathedral in France

Until the 15th century, monks were usually the only people in society who could read and write. In order to form their own opinions and beliefs, common people had to rely on what they were told by village priests, what they heard and saw in religious plays, and what they saw in religious artworks such as stained-glass windows and paintings. Scenes in stained-glass windows retold lessons and stories from the Bible, as well as recounting important historical events. In this way, stained-glass windows played an important part in educating people and ordering society by maintaining the power of the Church and the king.

Chatres Cathedral just south of the French capital, Paris, is an excellent example of a Gothic cathedral. It was built between 1194 and 1250 and features 176 stained-glass windows.

Source 7.63 The interior of Chartres Cathedral in France



Source 7.64 A detail of the north rose window at Chartres Cathedral

skill**drill**

Identifying the origin and purpose of medieval stained-glass windows

Unlike the windows in most other buildings and houses, the stained-glass windows in medieval churches and cathedrals across Europe were created for a number of reasons. In order to understand these reasons, historians need to ask a number of questions. Analysing sources by asking 'who', 'what', 'when' and 'why' questions will help you identify the origin and purpose of the sources. Use the following table to help guide your investigation.

Identifying the origin and purpose of primary and secondary sources	
Is it a primary or secondary source?	Was the source created at the time you are studying or afterwards?
Who created the source?	Is the creator's personal perspective obvious in the source? Is the creator a member of a particular group, religion or organisation?
When was the source created?	How old is the source? Is it an eyewitness account or was it written/created by someone at a later date? Is the source complete?
Why was the source created?	Was it designed to entertain, persuade or argue a point of view? Did 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 creator or source?

Apply the skill

1 Work individually or in pairs to complete an investigation into the origin and purpose of one of the stained-glass windows at the Chartres Cathedral in France. Use the sources in this section to help you begin an Internet search.

2 Once you have chosen the window you would like to investigate, conduct a further search to gather the information you will need to answer the questions in the table. You may not be able to answer every question, but try to answer as many as you can.

3 When you have completed your table, share your results with other students in your class. Compare the origin and purpose of the different windows you have researched. Which factors are similar and which are different?

Extend your understanding

1 Make a table comparing the size and appearance of Chartres Cathedral with the average peasant's home (see Source 7.16). Describe how a peasant might have felt when viewing the windows in the cathedral.

2 Examine the position of the windows and how they were lit, to explain why they gave the viewer a sense of 'godliness' – awe and wonder.

3 Many of the windows make strong links between the Church and the king. Identify what those links are. You will need to look for symbols belonging to the royal family.

4 Explain how links between the Church and the king in the Chartres windows may have helped to maintain power over the peasants. In your explanation, refer to:

- the emotional reaction peasants would have had to the windows
- the way the feudal system functioned
- the benefits for the Church and nobility of these things being linked in the minds of the peasants.

What key beliefs and values emerged and how did they influence societies?

Depth study 2
The Asia–Pacific world

This depth study offers a choice of three options:

- The Khmer Empire
- Japan under the shoguns
- The Polynesian expansion across the Pacific.

You are required to choose ONE of these civilisations and learn in detail about particular aspects of its development.

Before beginning a detailed historical investigation of your chosen civilisation, it helps to look briefly at some of the key beliefs and values that influenced societies across the Asia–Pacific world. In particular, it is useful to look at the types of belief systems and religions that were important to each one, as well as the systems of government, laws and social structures that influenced their development.

In Overview 2, you will be exploring the similarities and differences between civilisations across the Asia–Pacific world, and making links between them. This will help you develop a more detailed understanding and appreciation of your chosen society.

Belief systems and religions

Belief systems and religions formed the foundations of all societies across the Asia–Pacific world. The principles underpinning these belief systems, and the religious teachings that went along with them, influenced almost every aspect of life. Common to many ancient societies across the Asia–Pacific region was a belief in spirits of the natural world.

The Polynesians were a group of people whose civilisation spread over a vast area of the Pacific Ocean between 700 and 1756. Polynesians settled thousands of islands in the Pacific across an area known as the Polynesian Triangle. The points of this triangle were formed by the islands of Hawai'i, Rapa Nui (Easter Island) and Aotearoa (New Zealand). As they spread throughout the region, Polynesians created many different societies on many different groups of islands. Each had its own belief systems and religions, but there were some common features between them. All Polynesian cultural groups worshipped multiple gods and spirits. Each of these spirits were responsible for the Earth's natural features and processes such as the wind, rain, sun, moon and stars. Each cultural group passed down creation stories that explained how these important elements – such as the sun – came to be. They also worshipped their ancestors, and created rituals to please the gods, so that food was plentiful and women would bear healthy children. Over time, a group of spiritual guides and priests developed in many Polynesian societies. Some priests made offerings to the gods, such as human sacrifices, to ensure protection, good fortune and healthy crops.

One Polynesian cultural group that settled the islands of New Zealand were the Māori. Spirituality had a significant impact on the way Māori societies and culture developed. Their beliefs shaped how they lived and the rituals they performed. How the Māori managed the use of their resources and the arts and crafts they produced clearly reflect the importance of spirituality in everyday life.

From the early 1800s, European and American missionaries moved throughout



Source O.32 Polynesian societies across the Pacific shared many beliefs about gods and the creation of the world. Many Polynesian societies during this period made representations of these gods in the form of large wooden *tikis*.

overview 2

the Polynesian Triangle, trading and converting the islanders to Christianity. These Christian missionaries transformed all aspects of Polynesian beliefs and customs to make them more 'civilised'. In many cases they destroyed traditional belief systems and replaced them with the religion of Christianity.

To the north-west of the Polynesian Triangle was another Asian civilisation based on the islands of Japan. Like the Polynesians, the Indigenous people of Japan worshipped nature and *kami* (divine spirits). The early Japanese believed that all natural things were inhabited by these natural spirits who took the form of things necessary for life, such as the sun, hills, lakes, mountains, rivers and trees. The spirits were also responsible for things like fertility. After they died, people in Japan were believed to become *kami*. These people were then worshipped by their families. In many ways, this was similar to Polynesian beliefs.

Over time, these beliefs developed into a more formalised Japanese religion known as Shinto. Shinto shrines were built across Japan and the **emperor** of Japan was worshipped as a god. Another similarity between Shinto and Polynesian beliefs was the telling of creation stories. One Shinto creation myth tells of two gods placing a spear into the ocean. When it was withdrawn, water drops fell from the spear forming the islands of Japan.

In the 5th century, Buddhism was introduced to Japan from China. From this point on, Shinto and Buddhism coexisted. In the 8th century, Buddhism became the state religion and Buddhist temples were constructed. Between the 6th and 9th centuries, **Confucianism** was also introduced from China. Confucianism had a positive impact on ethics and politics. Finally, Christianity was brought to Japan in 1549 by Christian missionaries. At first, Christianity was tolerated, but later it was banned. It reappeared in 1859 and promoted social reform and justice in Japan.

To the south-west of Japan, only a few years after the **shoguns** took control from the emperor, the Khmer Empire came to power. Like the early Polynesians and Japanese, the ancient Khmer people believed in local gods and ancestral spirits. These beliefs were passed from one generation to another through word of mouth. Unlike the societies of Polynesia and Japan, however, the Khmer people later went on to worship Hindu gods. Hinduism first developed in India and was introduced to the Khmer from the 9th century onwards. Hinduism had a

Source O.33 The Heian Shrine in Kyoto, Japan. Shinto shrines such as these were built all over the country.



significant influence on Khmer society. Between 800 and 1200 CE, beautiful temples were built to honour the three most important Hindu gods – Shiva, Vishnu and Brahma. At the same time, Khmer kings were also regarded as living gods.

In the late 13th century, the Khmer King Indravarman II adopted the beliefs of Theravada Buddhism, which did not recognise the king as a living god. This reduced the number of temples built by kings to honour themselves and their Hindu gods. It also changed the way in which society was organised.

Governments, laws and social structures

Although the ways in which societies across the Asia–Pacific world were organised was quite different, there were some important similarities. Broadly speaking, all three societies were made up of a number of social groups organised according to strict hierarchies. Power was often controlled by those at the top of the **hierarchy**, whether they were a king, tribal or military leader, or priest.

In Polynesian societies, the place of a person within the social hierarchy was generally based on their relationship with the ancestors. Those whose ancestors could be traced back the furthest often had the greatest power and social standing. For example, on the islands of Aotearoa (New Zealand), Māori tribes had five social classes – rulers, elders, *tohunga* (specialists and priests), commoners and slaves. The ruling class, or *rangatira*, was made up of the most important families. The *ariki* (chief) was usually the first-born son of the most senior family that could trace its ancestry back to the founding canoes. The *ariki* was expected to listen to opinions of all members of the tribe and to prove their leadership in war, diplomacy and the wise treatment of the people.



Source O.34 Angkor Wat is the largest Hindu temple complex – and the largest religious monument – in the world. It is arguably the most significant achievement of the Khmer Empire and reflects the influence of religion on Khmer society.



Source O.35 A portrait of Māori chief Tāmati Wāka Nene (*c.* 1785–1871). In Polynesian societies, the social hierarchy was generally based on their relationship with the ancestors. In New Zealand, Māori chiefs sat at the top of the social hierarchy. They were expected to listen to opinions of all members of the tribe and prove their leadership in war, diplomacy and the wise treatment of the people.

At the bottom of the hierarchy were slaves who had been captured in war. They carried out all the manual tasks for the tribe, but were not prisoners. Tribal beliefs stated that once they were captured, slaves were considered dead, so it made little sense to escape. These slaves could often marry into the tribe and their children would be free.

A set of laws were central to Māori life. These were known as *tapu*. These were developed to protect sacred places, people and objects.

Similar to the tribes of Polynesia, the social structure of ancient Japan was based on **clans** – groups of families related by blood or marriage. The most direct line to the



Source O.36 During the medieval period in Japan, a warrior class evolved that was controlled by a military leader (shogun) rather than the emperor. Samurai (such as the one shown here) were an important part of this warrior class. They lived by a strict moral code that still influences elements of Japanese society to this day.

ancestor *kami* was the clan leader. Another similarity between these two societies was their willingness to go to war over land to increase the power of one tribe or clan over another. Over time, however, as Japan moved into the medieval period, these clan structures became more formal and led to the formation of a strict social hierarchy. Social rank was determined at birth and was strictly defined. Broadly speaking, there were six social classes – the emperor, the warrior class (including the **shogun**, *daimyo* and samurai), the peasant class, the craftspeople, the merchants, and the outcasts. Power became concentrated in the hands of the warrior class. The shogun held all the power, while the emperor was only a figurehead. In many ways, this system was similar to **feudalism** in medieval Europe. Each social class knew what was expected of them and had rights and responsibilities they had to fulfil. Unlike Polynesian societies, which were disrupted by European colonisation, from this point Japan became a closed society for 200 years. Interestingly, the codes of behaviour established during this period in Japan are still important today.

Before the rise of the Khmer Empire in 802 CE, the Khmer people lived in several small **kingdoms** in the Angkor region of modern-day Cambodia. In 802 a prince by the name of Jayavarman II declared himself *Chakravartin* (king of kings) and formed the Khmer Empire. Like the societies of Polynesia and Japan, the Khmer also followed a strict social hierarchy. Roughly speaking, Khmer society was divided into five classes known as castes – the king, nobles, military officials and priests, common people (including peasants, architects and artists) and slaves. The king, at the top of the hierarchy, was the source of all legal and religious power and head of the military. He was also the main force behind the creation of public buildings (such as temples), roads and canals. The nobles and military officials were required to swear an oath of loyalty to the king and in return they were trusted to administer the king's laws and carry out tasks such as tax collection.

Source O.37 Khmer society was organised according to strict social classes known as castes. The king was worshipped as a god and held the highest caste. This stone carving at Angkor Thom shows a king at his royal court.



Which significant people, groups and ideas from this period have influenced the world today?

Across all human civilisations regardless of their location, significant people, groups and ideas have influenced the way in which many people live. They may have changed the way people were governed, their beliefs, or people's place within society. Many of these significant individuals and groups were forward thinking. They were not afraid to explore new ideas and ways of doing things. They were also often willing to take on difficult challenges. Throughout the Asia–Pacific world, significant people, groups and ideas brought about a wide range of changes that in some cases are just as relevant today as they were then. Some of these individuals – and the contributions they have made to the modern world – are explored in this section.

Significant people

The Polynesian expansion across the Pacific: Hongi Hika (1772–1828)

Hongi Hika was born in northern New Zealand in 1772. He was a warrior and chief of the Nga Puhi tribe. Hongi Hika befriended early Christian missionaries and helped them to introduce Christianity to the Māori. In return, he received food and iron tools. He was also the first Māori chief to obtain and use European guns (known as muskets). Armed with muskets, his tribe started the Musket Wars – a series of over 500 battles between various Māori tribes – which had a significant impact on society in New Zealand.

Hongi Hika is considered significant today because of his many military victories that went on to change the course of history in New Zealand. He is also remembered because of an important trip he made to England to meet King George IV. While there, he assisted in the production of the first Māori–English dictionary which was very important in preserving the Māori language and promoting trade between the Māori and the Europeans.

Hongi Hika died from a bullet wound during tribal fighting at Whangaroa in 1828.



Source O.38 Hongi Hika

Japan under the shoguns: Minamoto no Yoritomo (1147–1199)

Minamoto no Yoritomo was born in 1147 in south-eastern Japan. He was the chief of a Japanese warrior clan who became the first shogun (military ruler) of Japan in 1192. As the shogun, Yorimoto had huge amounts of political and military power. He set up his own capital in Kamakura, far to the east of the emperor's capital in Kyoto. He was the first in a long line of shoguns who went on to rule Japan for the next 700 years.

Yoritomo had always wanted to rule, and was so jealous, suspicious and cold-hearted that he killed several of his family members that he saw as potential threats to his power. Once in power, however, he proved to be an excellent leader.

Yoritomo is considered significant today because of the role he played in establishing a new social structure in Japan known as feudalism. Part of this structure was a warrior class, which included samurai who lived under a strict code of behaviour known as *bushido* ('the way of the warrior'). The *bushido* code was based on honour, loyalty and discipline. This code included the act of ritual suicide (known as *seppuku*) and is an important influence on many aspects of Japanese culture and society to this day.

Yoritomo died in 1199 of a fever in Kamakure at the age of 52.



Source O.39 Minamoto no Yoritomo

The Khmer Empire: Jayavarman VII (1120–1215)

Jayavarman VII was born in 1120 into the royal family of Angkor. He ruled as king of the Khmer Empire for over 30 years. During his long rule, the Khmer Empire expanded to its greatest extent. He was a skilled warrior who led many military campaigns against the neighbouring state of Champa in 1190, freeing the Khmer from their control and helping them to regain their independence.

Jayavarman VII is considered significant today because of the many temples (including Angkor Thom and the Bayon), roads and hospitals he built during his reign. He also introduced Buddhism as the state religion (replacing Hinduism). His devotion to the needs of his people has resulted in him being regarded as a national hero in Cambodia today.

Jayavarman VII was more than 90 years old when he died in around 1215.



Source O.40 Jayavarman VII

Check your learning O.1

Remember and understand

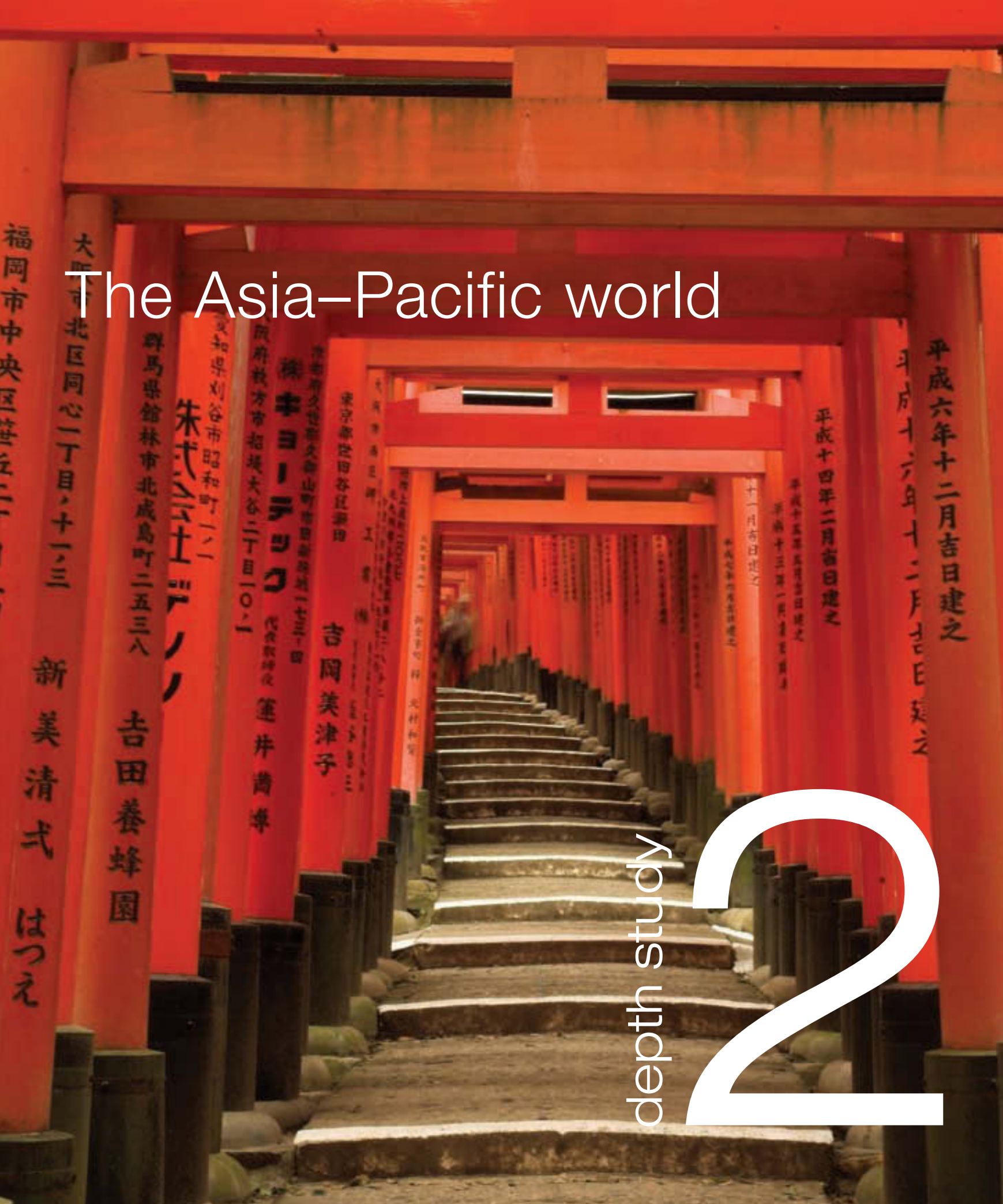
1 Identify the religions that these societies had in common.
2 Describe the role that religion played in these societies.

Apply and analyse

3 Compare and contrast the three religions described in this section.
4 Examine the individuals described, and explain why they were so important to their societies.

Evaluate and create

5 For each significant individual, explain what you think is the most important action he took and why.
6 Rank the three civilisations in terms of their importance and influence they have had on Australian society today. Justify your decisions.

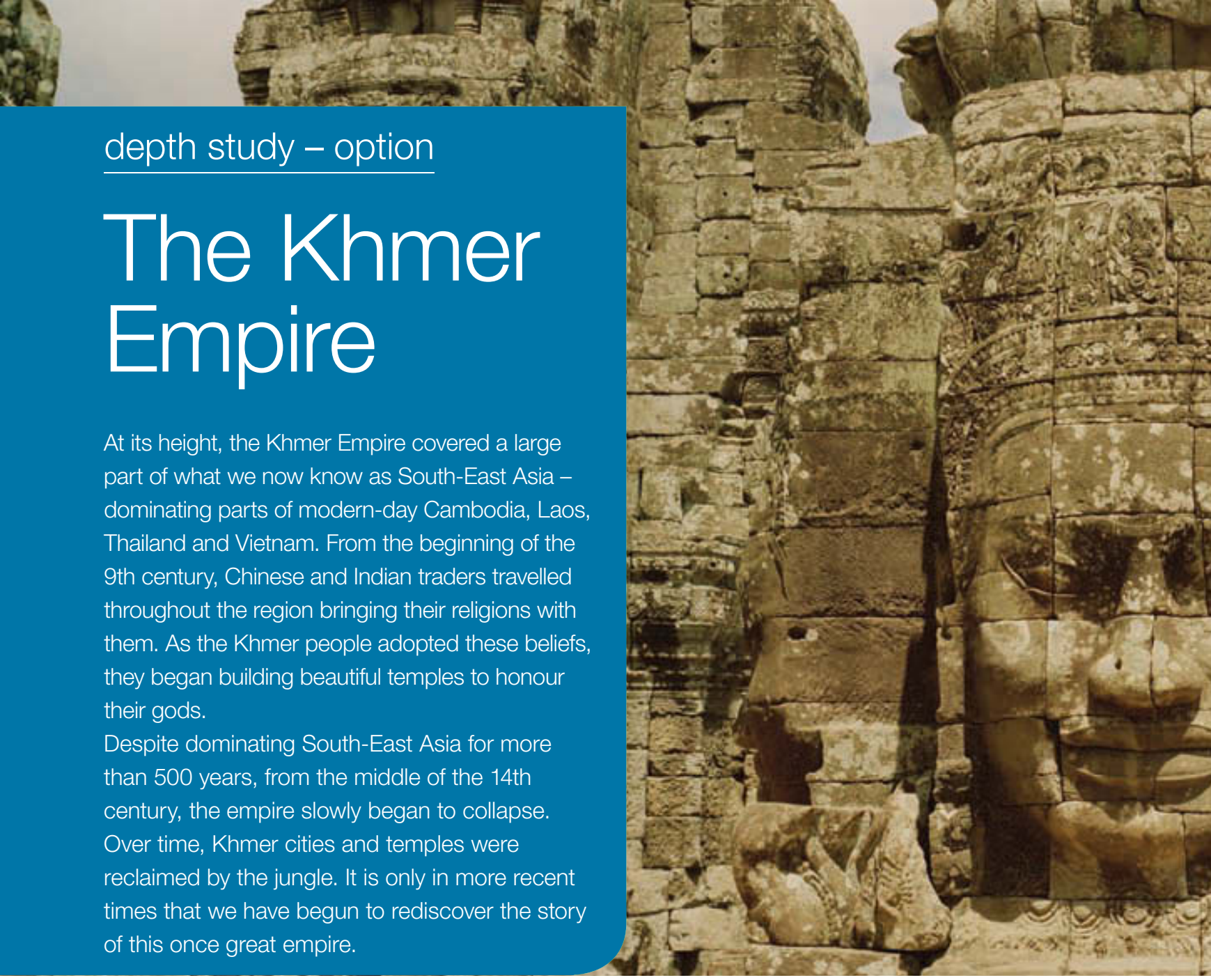


The Asia–Pacific world

depth study 2

depth study – option

The Khmer Empire



At its height, the Khmer Empire covered a large part of what we now know as South-East Asia – dominating parts of modern-day Cambodia, Laos, Thailand and Vietnam. From the beginning of the 9th century, Chinese and Indian traders travelled throughout the region bringing their religions with them. As the Khmer people adopted these beliefs, they began building beautiful temples to honour their gods.

Despite dominating South-East Asia for more than 500 years, from the middle of the 14th century, the empire slowly began to collapse. Over time, Khmer cities and temples were reclaimed by the jungle. It is only in more recent times that we have begun to rediscover the story of this once great empire.

8.1

How did the Khmer Empire rise to power and what were its greatest achievements?

1 The achievements of the Khmer Empire included advances in agriculture and water management systems. How do you think these achievements might have helped the Khmer gain power in the region?

8.2

How was society organised during the Khmer Empire?

1 Over the history of the Khmer Empire, different kings changed the location of the capital city many times. All of these sites, however, were near a large freshwater lake known as Tonle Sap. Why do you think this was the case?



Source 8.1 Carved stone faces decorate the Bayon Temple in Angkor Thom – once the capital of the great Khmer Empire

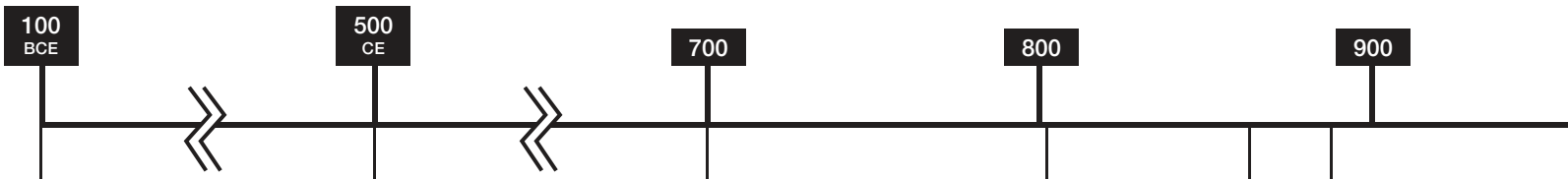
8.3

How and why did the Khmer Empire come to an end?

1 There are many theories about why the Khmer Empire came to an end, including climate change, the impact of the plague and changes in religious beliefs. Make some predictions about how these three factors might have contributed to the decline of the Khmer Empire.

The Khmer Empire: a timeline

Reference guide	
Key term	**Definition**
Angkor	A term used to describe the first capital city of the Khmer Empire. This city was actually referred to as Yasodharapura by the Khmer people. Angkor – meaning 'city' – developed from a word in the ancient Indian language of Sanskrit. Many historians use the term Angkor to refer to the first capital city, the Angkor region, or even the Khmer Empire itself. In this book, however, it is only used to describe the city.
Angkor region	A term used to describe a region within modern-day Cambodia that covers around 400 square kilometres and features over 1000 temples (including Angkor Wat and the Bayon Temple).
Angkor Thom	A Khmer term used to describe the last capital city of the Khmer Empire. Angkor Thom – meaning 'great city' – was a fortified city that contained the homes of priests, officials of the palace and military, as well as buildings for administering the empire.
Angkor Wat	A Khmer term used to describe a temple complex located in the Angkor region built by Suryavarman II in the 12th century. Angkor Wat – meaning 'city temple' – is the largest Hindu temple complex, and largest religious monument, in the world. It covers an area of around 2 square kilometres.



***c.* 100 BCE–*c.* 500 CE**
Legends tell of the first Khmer kingdom, known as Funan, being founded in the Mekong River delta; many Indian and Chinese customs and beliefs spread throughout the region as a result of contact through trade.

***c.* 500 CE–*c.* 700**
The power and authority of Funan declines and it is absorbed by a neighbouring kingdom to the north known as Chenla.

***c.* 700–*c.* 800**
The power and authority of Chenla breaks down; smaller kingdoms compete for power and control.

802
Jayavarman II forces a number of small Khmer kingdoms to unite, founding the Khmer Empire and building a capital; he then declares himself *Chakravartin* ('ruler of the world'); Hinduism becomes the official religion of the empire.

877
Jayavarman II's nephew, Indravarman I, becomes king and establishes his royal court at Hariharalaya; one of the first temples built during the Khmer Empire – Preah Ko – is built there; the East Baray (a man-made reservoir designed to store water) is also built.

889
Yasovarman I becomes king and establishes the first official capital of the Khmer Empire, Yasodharapura.

Preah Ko temple in Hariharalaya



Source 8.2 A timeline of some key events and developments in the Khmer Empire.



Detail from the Bayon Temple wall at Angkor Thom showing fighters from Champa and the Khmer Empire in battle



A sculpture of Jayavarman VII



Henri Mouhot

1860
French explorer and archaeologist Henri Mouhot visits ruins in the Angkor region and records his observations – leading many in the West to believe he has rediscovered a lost civilisation.

1181
Jayavarman VII becomes king; the Cham are defeated and driven out of Angkor; under Jayavarman VII's rule many temples and hospitals are built and the road system develops rapidly; Buddhism becomes the official religion of the empire.

1177
The kingdom of Champa (a civilisation to the east; now Vietnam) defeats the Khmer, plundering and burning parts of the Angkor region.

1006
Suryavarman I becomes king and expands the empire through several military conquests.

1000 | 1100 | 1200 | 1400 | 1900 CE

1066
The empire is divided as several contenders fight to gain control.

1002
Civil war breaks out in Angkor as rival leaders compete for control of the Khmer Empire.

968
Jayavarman V becomes king; the temple of Banteay Srei is constructed to honour the Hindu god Shiva.

1113
Suryavarman II becomes king; under his rule the Angkor Wat ('city temple') is built – it serves as a state temple and the capital city of the empire for a time.

c. 1200
A new capital city called Angkor Thom ('great city') is built by Jayavarman VII.

1296
A Chinese traveller and writer by the name of Zhou Daguan visits the Angkor region and records features of daily life in the region.

1432
The Angkor region is attacked by the kingdom of Ayutthaya (a civilisation to the west; now Thailand) and thousands are enslaved causing the Angkor Thom to be abandoned.

Check your learning 8.1

Remember and understand

1. In what year did Jayavarman II become king and found the Khmer Empire?
2. How did Chinese and Indian customs and beliefs spread throughout the Angkor region?
3. What does the term *baray* mean and what is it used for?

Apply and analyse

4. Use the information provided to calculate how many years there were between the founding of the Khmer Empire and its abandonment after invasion by the Ayutthaya.
5. What does the Khmer term Angkor Thom mean? Why might this term have been used to describe it?
6. Why do you think the word Angkor has developed to have so many different meanings? How might this have come about?

8.1 How did the Khmer Empire rise to power and what were its greatest achievements?

The importance of geography for the Khmer Empire

Every society has features that are unique. These features make one society stand apart from another. In the case of the Khmer Empire, these features were largely based on a range of geographical and environmental factors. These features, together with the hard work and initiative of the Khmer people, helped the Khmer Empire to become one of the wealthiest and most powerful empires in history. The Khmer dominated in the areas of architecture, warfare, agriculture and art across South-East Asia for over 500 years.

The Khmer Empire grew out of a number of different societies living across a region of South-East Asia now part of modern-day Cambodia and Vietnam (see Source 8.3). This region has a tropical climate, meaning that it is very warm and humid all year round. Unlike Australia's climate,

SOUTH-EAST ASIA SHOWING THE LOCATION OF MODERN-DAY CAMBODIA



Source 8.3

Source: Oxford University Press

which has four seasons, Cambodia has a wet season and a dry season. The wet season (from May until October) brings heavy rains and monsoons, while the dry season (from November until April) brings little to no rain at all.

During the Khmer Empire, the people took full advantage of these weather patterns as well as the natural geographical features in the area. In particular, the Khmer harnessed the Mekong River and Tonle Sap Lake to feed their people and grow their empire.

The Mekong River

The Mekong River not only provided water for drinking, it also helped the Khmer to irrigate rice crops and transport them. The fertile lands in the Mekong Delta were ideal for growing crops, and inland areas to the north of the coast became used for large-scale rice production. The river also allowed the Khmer to travel and trade with societies both to the north and south of the Angkor region, and connected the empire to the outside world. The Mekong was a good natural defence for the Khmer because of its many sand bars and changing currents. Only the local Khmer had the necessary local knowledge to navigate it.

Tonle Sap Lake

Tonle Sap Lake was another important geographical feature for the Khmer people. During the Khmer Empire it acted as a giant **reservoir** for the Mekong River and provided the growing population with a steady supply of fish.

During the dry season, Tonle Sap is a relatively small lake covering an area of around 2700 square kilometres with an average depth of about 1 metre. During the wet season, however, melting snow from high in the Himalayas flows into the Mekong River together with water from heavy monsoonal rainfalls. This water causes the Mekong River to flood and flow into Tonle Sap Lake. At this time of year, the lake expands to an area of around 10 000 square kilometres and its average depth increases to around 9 metres. The flooded areas surrounding Tonle Sap create the perfect growing conditions for rice and breeding environment for fish.

The lake was so important to the Khmer people's way of life that they even built floating houses and villages so they could live close to it. During the dry season, these houses rested on land; during the wet season, they floated.



Source 8.4 The waters of the Mekong River provided food and water for the Khmer people, as well as a means of transport for trade.



Source 8.5 Many floating houses and villages surrounding Tonle Sap Lake today are very similar to those that would have existed during the Khmer Empire.

Because access to food and water were vital to the Khmer Empire, managing and storing this water so that it could be used year round was vital. The Khmer people developed a complex network of canals and reservoirs to ensure their water supply year round. To this day, Tonle Sap is still the largest freshwater lake in South-East Asia and is of major importance to the people of Cambodia.

Check your learning 8.2

Remember and understand

1 Name the lake that was so important to the Khmer Empire. Give two reasons why it was so important.

2 How is Cambodia's climate different to Australia's?

Apply and analyse

3 In what ways did the climate of South-East Asia affect the way in which Khmer society developed?

4 What environmental factors cause Tonle Sap Lake to increase in size each year? How did these changes affect the way the Khmer people lived?

Origins of the Khmer Empire

Before the Khmer Empire rose to power in around 802 CE, there were several groups of small Khmer **kingdoms** with settlements across the Angkor region. Most were located across the fertile Mekong River Delta and around a large freshwater lake known as Tonle Sap. In addition to Khmer people, the region was also home to a kingdom of Malay people known as the Cham who formed a kingdom to the east of Angkor known as Champa.

From around 100 to 700 CE, two major Khmer kingdoms gained control over different parts of the Angkor region. Today, historians refer to the first as Funan and the second as Chenla.



Source 8.7 A view of Angkor Wat showing the type of geographical location in which the Khmer Empire formed

PART OF SOUTH-EAST ASIA SHOWING THE LOCATION OF FUNAN, CHENLA AND CHAMPA



Source 8.6 Source: Oxford University Press

The kingdom of Funan

Records kept by ancient Chinese historians often refer to the first kingdom of Khmer people that settled in the Mekong Delta as Funan. The name Funan comes from the Khmer word *phnom*, meaning 'hill'. Unfortunately, no records exist to show what the Khmer people living in Funan called themselves or their kingdom. Source 8.6 shows the location of Funan based on Chinese records. It occupies an area that is now part of Vietnam and Cambodia.

There is evidence to suggest that the influence of Indian culture had a great impact on the Khmer people in Funan. At this time, India was a highly developed society and its merchants travelled great distances to trade. The Indian merchants not only brought goods to trade with the Khmer, but also their culture, philosophies and religion. Over time, these beliefs and customs were adopted and mixed with the traditional beliefs and customs of the Khmer people. Historians refer to this process as Indianisation. Over time, the Khmer adopted Hinduism as their religion and introduced a modified version of the Indian **caste system**, which ordered society into a number of social groups depending on birth.



Funan's success and authority was mainly the result of two things:

- successful farming practices (based on water storage and management techniques) that produced large quantities of rice
- the location of its main trading settlement, Oc Eo, on the Mekong River close to a key stop on the trade route between China and India.

However, in the 4th century, Oc Eo's importance began to decline as the Chinese developed other sea routes and established trading settlements in places such as Java. Chinese ships no longer stopped at Oc Eo, so trade declined and the power of the kingdom decreased. Around the same time, another kingdom to the north began to grow in importance and prosperity. This kingdom is also only known to us by its Chinese name – Chenla.

The kingdom of Chenla

In the 6th century, Funan was absorbed by a neighbouring kingdom to the north known as Chenla. The kingdom was based in the Angkor region close to Tonle Sap Lake. Although very few records from the time exist, historians today believe that Chenla was made up of at least two smaller kingdoms – one in the south known as 'Water Chenla' and one in the north known as 'Land Chenla'. Water Chenla occupied the coastal areas that had once been part of Funan. It continued to trade with the outside world. Land Chenla was more inward-looking and based its economy on agriculture and the production of rice.

In the 8th century, historians believe the kingdom of Chenla broke down into a number of competing kingdoms, each fighting for control. It was not until around 790 CE that a local ruler by the name of Jayavarman II took control and forced these rival kingdoms to unite. In 802, he had himself declared *Chakravartin* ('ruler of the world') and the Khmer Empire was born.

Check your learning 8.3

Remember and understand

1 What name did the Chinese give to the first Khmer kingdom?
2 Why did the power and authority of the first Khmer kingdom decline?
3 What does *Chakravartin* mean?

Apply and analyse

4 What is meant by the term Indianisation? What effect did this process have on the Khmer people?
5 Look at Source 8.6.
   a Locate Chenla, Java and Oc Eo.
   b From this map, describe how changes in the routes taken by Chinese traders would have affected the people of Oc Eo and Funan.

Evaluate and create

6 Using Google Earth, locate Thoai Son District in An Giang Province in Vietnam, and then locate the site known as Oc Eo.
   a Zoom in on the network of grid-like lines in the surrounding area. Explain what you think these might be.
   b Make other observations about the Oc Eo site and its surroundings. Suggest how these features might have affected early Khmer settlements.
7 Create a poster or PowerPoint presentation outlining the key environmental features that allowed people to settle and thrive in the Angkor region.

Significant individual: Jayavarman II

Before Jayavarman II came to power in 802 CE, all the Khmer kingdoms in the lower Mekong River region had been in a state of conflict, both with each other and with nearby groups such as the Javanese and the Cham. The region was not unified under one ruler. Jayavarman II was responsible for forcing all the Khmer kingdoms to unite and form the Khmer Empire. For this reason, he is regarded as the founder of the Khmer Empire and one of its most significant kings. In fact, the name Jayavarman comes from Sanskrit (the sacred language of Hinduism) – *jaya* means 'victorious' and *varman* means 'protector'.

Because no written documents exist from the time of Jayavarman II, a lot of what we know is based on legends and records from later Khmer kings. For example, many stone inscriptions that mention him are from later periods. The best known of these is at the temple of Sdok Kok Thom.



Source 8.8 Stone inscriptions found at the Sdok Kok Thom temple (on the modern-day border between Cambodia and Thailand) tell us much of what we know about the rise of Jayavarman II to power in the 9th century.

Early life

Evidence from the inscriptions at Sdok Kok Thom temple (see Source 8.8) tells us that before Jayavarman II became king he had spent some years on the island of Java (now part of Indonesia), possibly as a hostage or prisoner. There is some debate about when he returned to Cambodia from Indonesia, but most agree it was around 790. Upon his return, he quickly conquered some territory halfway up the Mekong River, setting up his first capital at a place called Indrapura. He then moved his base three more times. The reasons for the changes are uncertain, but it may have been for a better source of food.

The rise of Jayavarman II

After establishing the Khmer Empire, Jayavarman II had himself declared *Chakravartin* (meaning 'ruler of the world') at a special religious ceremony. This effectively made him the king of all regional Khmer kings. At the same ceremony, Jayavarman II declared that one Khmer god would become the king of all other gods. By doing this, Jayavarman II created a system that ensured both political stability and religious stability. It enabled him and future Khmer kings to rule over the empire with political and religious authority. All minor Khmer kings that controlled small parts of the empire now served Jayavarman II, the 'king of kings', and all minor Khmer gods who protected each of these kings now served the *devaraja*, the 'king of the gods'. Many historians refer to this system as the *devaraja* cult. They believe that the *devaraja* was the Hindu god Shiva.

At the same ceremony, all previous pledges or oaths of loyalty between smaller Khmer kingdoms and their kings were overturned. Evidence of this ceremony is carved on the temple at Sdok Kok Thom. Jayavarman II left no inscriptions himself.

Around this time, Jayavarman II moved his capital once more, to Mount Mahendrapura near Tonle Sap Lake (now known as Phnom Kulen). Here, he built a large temple and carved images of Hindu gods into the river beds to bless the water flowing into Angkor (see Source 8.9).

keyconcept: evidence

Primary sources on the Khmer Empire

One of the things that makes the history of the Khmer Empire so difficult for historians to understand and document is a lack of primary source material.

In many cases, primary sources from the time of the Khmer Empire, such as written records, buildings, tools and household objects (for example pots and bowls), have been completely lost. What remains are the stone temples and carvings that tell of the kings, events and beliefs of the Khmer Empire. The difficulty with these sources of evidence is that they provide an incomplete picture of the empire – one that many historians argue about.

There is only one written primary source available to historians. This is provided by a Chinese diplomat and traveller who visited the Angkor region in 1296 and lived in Angkor for about a year. His journals provide another valuable source of evidence for historians, but one that cannot be fully verified as no other sources have been found.

Despite these challenges, historians continue their study of the Khmer Empire. As new technologies develop and more evidence is uncovered, historians continue to generate new and interesting hypotheses as they strive for a greater understanding of the Khmer Empire.

For more information on the concept of evidence, refer to section HT.1 of 'The historian's toolkit'.

Jayavarman II's achievements

In addition to founding the Khmer Empire, Jayavarman II established a system of officials and courtiers (people who serve the king in administrative roles), who were rewarded with land and political positions for their work. This system helped maintain the political and religious stability of the Khmer Empire – it was tied closely to the temples and was designed to control peasant workers in the rice fields by establishing a strict social hierarchy.

Jayavarman II is believed to have died in 850 when his son (Jayavarman III) became the next king, followed by his nephew (Indravarman I). How new kings were selected is unknown, but it was not necessarily by birth. More likely it was the man's ability as a soldier that made him suitable as a leader.



Source 8.9 These stone carvings at Mount Mahendrapura (now Phnom Kulen) were once part of a temple built by Jayavarman II.

Check your learning 8.4

Remember and understand

1 Why is it so difficult for historians to create a complete picture of how Jayavarman II came to power?

2 What does the name Jayavarman mean in Sanskrit? Why might he have been called this?

Apply and analyse

3 What motives might have prompted Jayavarman II to establish a set of officials and courtiers?

4 In your own words, explain the concept of the *devaraja* cult. Why was this important to the formation and stability of the Khmer Empire?

Evaluate and create

5 Write a paragraph outlining why Jayavarman II is such a significant figure in the history of the Khmer Empire.

Achievements in water management

As mentioned earlier in the chapter, the things that make one society historically significant are the things that make it stand apart from other societies. In the case of the Khmer Empire, there are a number of significant achievements that make it a unique and interesting civilisation to study. Compared with many civilisations across Europe at the time, the Khmer were a highly advanced and cultured society. A number of the most significant achievements of the Khmer Empire will be explored in detail in the following sections.

During the early days of the Khmer Empire, people used agriculture not only to feed a growing population but also to trade and become extremely wealthy. The heart of the Khmer agricultural system was the Mekong River and Tonle Sap Lake. Together with the inventiveness and hard work of the Khmer people, these two water sources enabled farmers across the empire to harvest vast amounts of rice. In addition, Tonle Sap Lake was also the centre of the fishing industry.

Water for rice cultivation, transport and trade

The ability of the Khmer people to exploit, direct and control the waters of the Mekong River, and Tonle Sap Lake, was key to the empire's success. When the Mekong River flooded during the wet season, Tonle Sap Lake would swell to cover an area of around 10000 square kilometres. Once full, the Khmer would channel water from the lake into a sophisticated network of reservoirs (known as ***barays***) and canals so that it could be stored and used throughout the dry season when there was very little rain. This enabled the Khmer to harvest rice three or four times per year, while most other civilisations across South-East Asia could produce only one or two harvests.

At the peak of the Khmer Empire, it is thought that farmers planted over 50 million fields of rice. The water management system was vital to the growth of these crops. The Angkor region could at times suffer from drought so it was vital to maintain a constant supply of water to keep the crops growing. Fish could be allowed into this canal system, which meant a plentiful supply of food that was easily available to people living in the rice-growing areas. This created a thriving economy across the Angkor region.

Until late in the Khmer Empire, there were very few roads available for transport and trade. Instead, the Khmer used the canals and rivers across the Angkor region to travel and transport these goods by boat.

Water for religion

The water management system across Angkor was not only a great achievement in terms of food production



Source 8.10 A reservoir known as the West Baray, constructed in the 11th century



Source 8.11 Many canals built during the Khmer Empire remain in use today. This one links the West Baray with a number of Cambodian villages.



Source 8.12 Rice production continues today in Cambodia much as it did during the Khmer Empire. These farmers are harvesting a rice field close to Angkor Wat.



Source 8.13 Water served an important religious role in the Khmer Empire. It was used to fill the moats of temples like the one surrounding Angkor Wat.

and the economy, it also served an important religious function for the Khmer people. To the Khmer, the power of the Mekong River was godlike; recent archaeological discoveries suggest that the waters provided by the monsoon rain and the great river were considered sacred.

Water was used not only to grow rice crops but also to fill the **moats** that surrounded Khmer temples (such as Angkor Wat) and royal buildings. Water was channelled to parts of the empire where new temple building was taking place in order to support growing numbers of people who had moved there to work on the construction. The *barays* (reservoirs) were fed water through a series of dams and channels. Often these *barays* were constructed before any temple building began. This ensured that those people building the temples had a constant supply of food and water. The regular supply of water increased the size of local rice crops and led to increased trade. This made the empire wealthier and enabled the kings to build even more temples and religious monuments.

By using ground-penetrating radar, modern archaeologists have been able to uncover a vast network of channels and moats built during the Khmer Empire that had been covered by the jungle or built over by later generations.

Check your learning 8.5

Remember and understand

1 How did the Khmer people control the waters of the Mekong River as well as the water that fell as rain during the monsoons?

2 Why were reservoirs (*barays*) constructed?

Apply and analyse

3 What modern technologies are archaeologists using to locate channels and moats constructed during the Khmer Empire? What might the location of these channels and moats tell historians about the Khmer Empire?

4 Do you think the water management system built across the Angkor region is a significant achievement? Justify your answer.

Evaluate and create

5 In what way do you think the Khmer people's ability to direct, control and store water led to the empire's economic prosperity and power?

Achievements in trade and warfare

Expansion of the empire through trade

Another key achievement of the Khmer Empire was its ability to build strong trade links with societies across South-East Asia. Trade in rice and fish became a key part of the Khmer Empire's economy. Use of the Mekong River allowed the Khmer to trade in regions both north and south of the empire. As the empire grew and developed, its trading partners grew in number as well. By 1100, trade routes to the south Indian ports were established, and inland routes across South-East Asia were also well-developed. The economy of the Khmer Empire became stronger and better than that of its rivals in other parts of the region. To a large extent, it was trade that supported this economy and helped the Khmer build the wealth that enabled them to design and build the lavish temple complexes that remain today.



Source 8.14 A detail from a stone carving on the wall of the Bayon Temple at Angkor Thom showing fish being traded at a busy market

Expansion of the empire through warfare

Despite the willingness of Khmer kings to trade peacefully with societies across the region, at its heart the Khmer Empire was a warlike society. Hundreds of stone carvings on temples across the Angkor region depict great battles and feats of bravery. Throughout the empire's rule, the Khmer clashed often with the kingdom of Champa – their closest neighbour to the east (now part of Vietnam). Towards the end of the empire's rule, the Khmer were also in regular disputes with the kingdom of Ayutthaya – to the west (now part of Thailand).

Based on the evidence available, Khmer soldiers appear to have been very successful in battle; the way in which the army was organised and the military strategies they followed were loosely based on models brought from India. In the early days of the empire, the army was organised into four divisions – the infantry (foot soldiers), the cavalry (soldiers on horseback), the charioteers (soldiers on horse-drawn chariots) and soldiers on elephants.



Source 8.15 A stone carving showing the Khmer army in battle

Martial arts in Cambodia

Another achievement of Khmer warfare was the development of a martial art, known as *bokator*, which roughly translates as 'pounding the lion'. Like many societies across Asia, the Khmer developed *bokator* in order to train soldiers for combat. *Bokator* drew its inspiration from nature by copying or imitating the movements of trees and animals. *Bokator* fighters used elbow and knee strikes, shin kicks and weapons such as bamboo staffs and short sticks. References to *bokator* during the Khmer Empire can be seen carved into the walls of the Bayon Temple at Angkor Thom (see Source 8.16).

This form of martial arts was closely linked to religious thought, and its rules were guided by this. The Khmer believed that the right hand represented the Hindu god Brahma and the left hand represented Buddha. Because Buddhism taught peaceful ways, it was the right hand that should be used to strike after blocking with the left hand at least three times.

The traditions of *bokator* in Cambodia were almost wiped out during the 1970s. At this time, Cambodia was ruled by a communist party called the Khmer Rouge. The Khmer Rouge carried out the mass murders of many different groups within society, including those who practised traditional arts. Experts in *bokator* were killed, along with thousands of others.

Despite the efforts of the Khmer Rouge, this brutal period in Cambodia's history did not put an end to *bokator*. It has survived to this day. In fact, it is now Cambodia's national sport (see Source 8.17).

For more information on the key concept of continuity and change, refer to section HT.1 of 'The historian's toolkit'.



Source 8.16 A stone carving of a *bokator* fighter from the Khmer Empire



Source 8.17 Modern-day *bokator* fighters in Cambodia demonstrating a fighting technique

Later, however, it appears horses were no longer used by the army. As they were not local to South-East Asia, they had to be imported at great expense. Horse-drawn chariots were also impractical, as they could not travel easily across waterlogged rice fields without becoming bogged.

Khmer soldiers used a range of weapons such as spears, swords, shields, bows and arrows in battle. Some stone carvings also show Khmer forces using a type of **catapult** designed to fire arrows at the enemy. These catapults were often mounted on the backs of horses or elephants. The Khmer were also famous as a strong naval force. Khmer soldiers often went into battle on large open boats around 20 metres in length. They were powered by many oarsmen and featured detailed carvings, presumably to scare their enemies. Stone carvings show Khmer soldiers defeating their enemies and throwing them off the ships to be eaten by the crocodiles.

The most common reason why the Khmer went to war was to expand their empire. The kings who followed Jayavarman II continued to extend the territory of the empire, mostly by attacking and plundering rival kingdoms outside their borders:

- Suryavarman I (1002–1050) made several military conquests. He extended the empire west into Ayutthaya, now part of modern-day Thailand and Laos.
- Suryavarman II (1113–1150) made further conquests west in the Mon kingdoms in modern-day Myanmar (Burma), and further south in the Malay Peninsula. He also invaded parts of Champa and modern-day Laos.
- Jayavarman VII (1181–1218) fought and defeated the Cham in 1203, taking much of their territory and adding it to the Khmer Empire. Before he came to power, the Cham had attacked Angkor and raided Khmer cities. Under Jayavarman II's military leadership the Khmer Empire reached its greatest extent (see Source 8.18).

THE KHMER EMPIRE AT ITS GREATEST EXTENT, AROUND 1200 CE



Source 8.18 Source: Oxford University Press

Check your learning 8.6

Remember and understand

1 Why did trade play such an important role in the success of the Khmer Empire?
2 Which two trade items were central to the Khmer economy?

Apply and analyse

3 Name the most common reason why the Khmer went to war.
4 Explain how the Khmer army was organised during the early days of the empire. How did this organisation change over time and why?
5 Name two kingdoms that the Khmer Empire regularly went to war with. Where were these kingdoms located?

Evaluate and create

6 Look carefully at Source 8.15.
   a How many divisions of the Khmer army can you identify?
   b Make a few notes about the dress style of the fighters shown. What reason might there be to explain what they are wearing?
   c What types of weapons can you identify?

Achievements in temple building

The people of modern-day Cambodia are very proud of their heritage. Khmer temples are so much a part of modern Cambodia that an image of Angkor Wat is featured on their national flag (see Source 8.20). Although it is the most famous temple in Cambodia, Angkor Wat is not the only temple that survives today. There are, in fact, hundreds of temples in the area north and east of modern-day Siem Reap, particularly around Tonle Sap Lake.

Temples are the last remaining sources of evidence of the great Khmer Empire, and many historians believe they represent the empire's greatest achievement. During the rule of the Khmer Empire, only temples and other religious buildings were constructed of stone. All other non-religious buildings, such as houses, were made out of perishable materials like wood and palm leaves, so none of these have survived. Historians believe that the remains of temples that have been found dotted across the Angkor region represent only a fraction of the total number that once covered the empire.

Purpose and layout of temples

Temples constructed during the Khmer Empire were dedicated to Hindu gods – most often Shiva and Vishnu. In the latter part of the empire, a number of Khmer kings adopted Buddhism so some temples were modified or built to honour Buddha. Khmer temples also often functioned as official state buildings (similar to parliament buildings today) and even cities. Each temple reflected the power and importance of the king who built it, reinforcing his authority as both a political and spiritual leader.

The Khmer believed that each temple functioned as a type of palace or home for the god it was built to honour. They believed that the spirit of this god inhabited the temple in the form of a stone statue or polished stone known as a *linga*.

Large temples could be home to several gods, so these often featured many linked shrines, with the shrine at the centre dedicated to the most



Source 8.19 Angkor Wat temple



Source 8.20 The national flag of Cambodia featuring an image of Angkor Wat temple

important god. These temples were often referred to as 'temple mounts'. They were designed to represent the universe surrounded by ocean. The central temple (*prasat*) represented Mount Meru, a sacred mountain for Hindus and Buddhists. It was surrounded by smaller mountains (additional buildings) and oceans (rectangular moats). The further away from the main *prasat*, the less decorative the enclosures became.



Source 8.21 An artist's impression of a skilled Khmer artisan creating a decorative sandstone carving on the wall of the Bayon Temple at Angkor Thom.

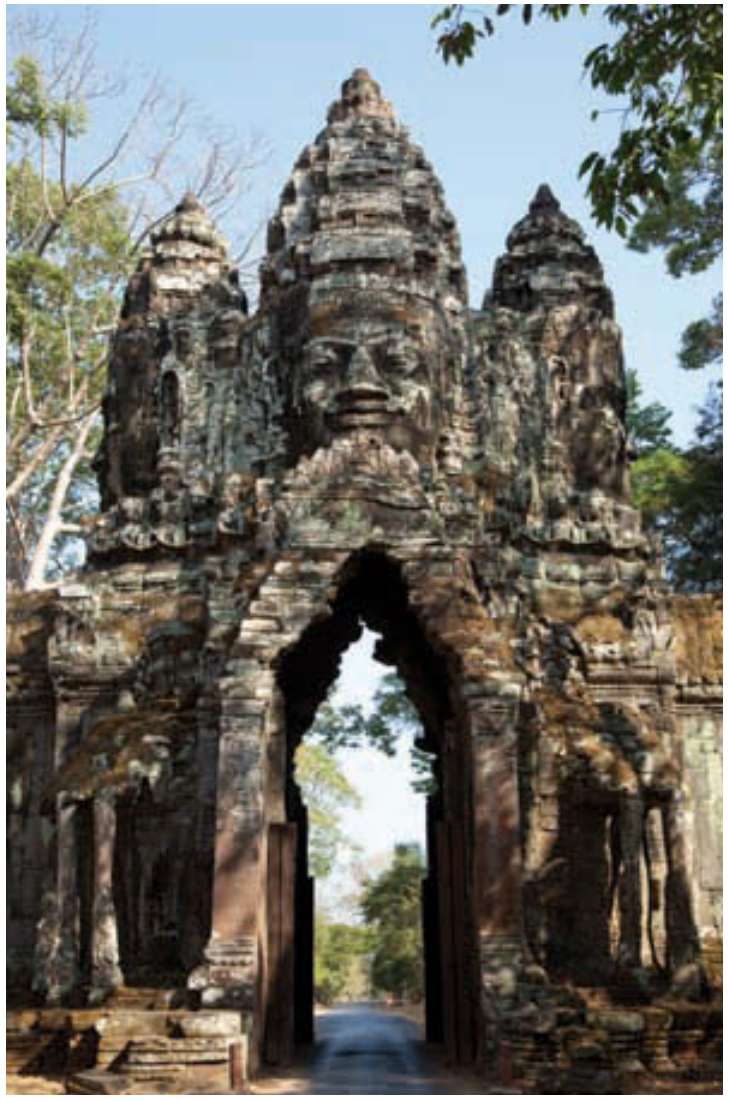
Temple building techniques

The main materials used to build temples throughout the Khmer Empire were brick, sandstone and a kind of clay called laterite. Timber was also used occasionally for roofs and ceilings.

Earlier temples tended to be built from brick, a simple product that was easy to make. Bricks were made of clay that had been fired at high temperatures to make them hard. When they were laid, they were held together with a kind of vegetable glue. This glue made the brickwork very strong. Sometimes the brick was carved, but more often any decoration was done in stucco, a kind of plaster that can be moulded and shaped.

The use of sandstone increased over time, so it is seen more in temples built from the 10th century onwards. Much skill was required to cut and decorate the sandstone, and it required far more people to quarry and transport it. Sandstone blocks were stacked on top of each other without mortar. The advantage of sandstone was that it was a very easy material to carve and decorate. However, sandstone was far more expensive than brick, so only the most important temples were made entirely of it.

The other main building product, laterite, was a special kind of clay containing large amounts of iron. When it was formed into blocks and exposed to the air, it became very hard – without the need for firing. Like sandstone, laterite blocks were not joined together with any kind of mortar or glue. They tended to be used in foundations of buildings because they could not be carved or decorated easily.



Source 8.22 This gateway at Angkor Thom is an example of a corbel arch.

Advances in building techniques and features

Khmer builders were skilled craftsmen and artists. Across the empire, they developed many building techniques

and decorative features that have survived to this day. Like the Romans, the Khmer knew how to make arches. Unlike the Romans, however, the Khmer built corbel arches rather than keystone arches. A corbel arch is built by stacking two columns of stone on either side of an opening. Once the desired height is reached, each new layer of stone on either side is offset so that it juts out a little more than the last one, until the whole structure meets in the middle. Without mortar, this is not an especially strong arch, but it allowed the Khmer to achieve stunning architectural feats with their buildings.

Other significant features that can be found in Khmer temples include decorative lintels (horizontal stone beams over doorways) and pediments (triangular stone shapes above lintels), as shown in Source 8.24.

It is clear from the many sources in this chapter that Khmer temples were often covered with intricate and complex stone carvings honouring important gods and Khmer kings. What is less commonly known, however, is that these temples were originally also brightly painted. As a result of detailed investigations, historians have uncovered traces of these paints at Angkor Wat and a number of other temples. What we now see as plain stone once may have been very colourful.



Source 8.23 An intricate stone carving of kala, a mythical creature representing the Hindu god Shiva, found at the temple of Banteay Srei



Source 8.24 Decorative columns, lintels and pediments found at Angkor Wat show traces of the brightly coloured paints that once covered many Khmer temples.

Check your learning 8.7

Remember and understand

1 Why are temples one of the most valuable sources of evidence relating to the Khmer Empire?
2 Why do no other buildings remain?
3 Why were Khmer temples built and what purposes did they serve?

Apply and analyse

4 How did the use of materials for building Khmer temples change over time? What were the reasons for these changes?
5 What is Mount Meru, and why was it an important influence on the design and construction of many Khmer temples?

Evaluate and create

6 Use the information provided in this section, together with your own research, to create a simple labelled diagram that shows the basic layout of a typical Khmer temple.
7 Using information from this section as well as material you find online, select one temple and prepare a tourist brochure or poster that:
   a tells visitors when it was built, why it was built and who built it
   b informs visitors why it is an interesting and significant temple to visit
   c provides a number of images of the temple, including a simple visitor map.

8.1 big**ideas:** rich task

Angkor Wat – the greatest temple

Many historians believe that Angkor Wat (meaning 'city temple') is the Khmer Empire's most significant and lasting achievement – a masterpiece among all Khmer temples. Angkor Wat was designed and constructed at the peak of Khmer architecture and culture, during the rule of Suryavarman II. Suryavarman II was devoted to the Hindu god Vishnu, and it was this spiritual belief that drove him to order the construction of Angkor Wat.

Although all historians agree on the significance of Angkor Wat, many still argue over the exact purpose it was built for. Despite all of the historical research that has taken place since Angkor Wat was rediscovered in 1860, historians still contest whether Angkor Wat was built as a temple, a tomb, an observatory – or all three.



Source 8.25 An aerial photograph of Angkor Wat showing the sun rising over the central tower

skilldrill

Comparing, selecting and using information from a range of sources as evidence

When conducting a historical inquiry, it is important to locate, compare, select and use information from a range of sources in order to answer your key inquiry question. By doing this, you can be sure that the evidence you gather from these sources is fair, balanced and accurate, rather than based on the point of view of only one person.

There are a number of different methods you can use to compare and select information for your sources, but one of the simplest and most effective is to use an organisation chart. Organisation charts can help you quickly decide which sources provide the most useful, relevant and reliable evidence. To create an organisation chart, follow these steps:

Step 1 Create a table that is four columns wide and has as many rows as required – this will vary depending on how many sources you are comparing.

Step 2 List your inquiry question at the top of the table, as well as any possible hypotheses you may have developed during your research.

Step 3 In column 1, list the name of the source and where you found it. In column two, list all of the positive things (pros) and negative things (cons) about the source. For example, the source may have been written by a very reputable historian (pro); but it may only be very short and not include all the details you need (con). In column 3, list the type of source it is – primary or secondary. In column 4, list the details of where you found it, such as Internet address or book title and author details.

Step 4 Once you have completed your organisation chart you will be in a good position to make some decisions about which sources provide reliable evidence and which do not. This will then help you answer your inquiry question.

Apply the skill

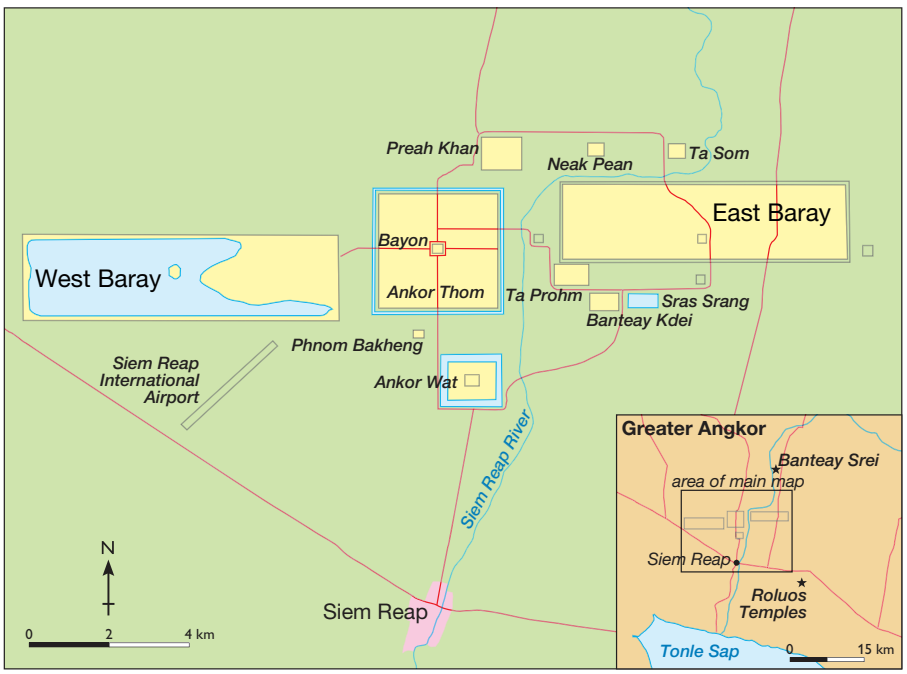
1 Compare, select and use the information provided in the table (including Sources 8.25, 8.26 and 8.27) by creating an organisation chart as described. For an example of this type of organisation chart refer to section HT.2 of 'The historian's toolkit'.

2 Based on your analysis of the available information, answer the following inquiry question: 'Why was Angkor Wat built?'

3 Which purposes do you agree with and why, and which purposes do you disagree with and why?

Possible purpose	Supporting evidence
Temple	• The temple clearly honours Vishnu, and the narratives in the stone carvings tell the story of the king's reign, often symbolised as struggles between Vishnu and Krishna. • Angkor Wat was built in the same overall style and pattern of other Khmer temples.
Tomb	• Temple faces west, but most other temples in the area face east, indicating a different purpose. • Stone carvings progress in an anti-clockwise direction instead of the more usual clockwise. This anti-clockwise direction was associated with Brahmin funeral rituals in Khmer culture. • A container was found in the central tower that may have been used to store the remains of the king.
Observatory	• If you stand at the western gate on the summer solstice before dawn, the sun rises directly over Angkor Wat's central tower. • Careful measurements of the temple show that the most common measurements relate to things such as the exact length of the solar year. • The name Suryavarman means 'protector of the sun'.

4 In pairs or groups, think about any additional evidence you would need in order to come to a conclusive answer about why Angkor Wat was built.



Source 8.27 A map showing the location of some key temple complexes in Angkor. The entrance to Angkor Wat is facing to the west.



Source 8.26 A stone carving of the Hindu god Vishnu found at Angkor Wat

Extend your understanding

Using the library or Internet, find out more about Angkor Wat and try to determine why it is so famous. There are literally hundreds of temples remaining from the Khmer Empire, yet this is by far the best known. Your job is to determine why this temple, as opposed to the many other remaining temples, has become the symbol of the Khmer Empire. Consider how the following factors have contributed to its fame:

- its location and access
- its design and architectural importance
- its historical significance
- its condition (for example, how well preserved it is)
- the availability of primary and secondary sources relating to it.

8.2 How was society organised during the Khmer Empire?

The structure of Khmer society

Like many societies across the ancient world, the Khmer Empire was organised according to a strict social structure, known as a **hierarchy**. According to this hierarchy, each group within society had certain rights and duties they were expected to perform. Khmer society was organised around the king and village temples, where political and economic decisions were carried out.

Khmer kings

At the very top of Khmer society was the king. From the time Jayavarman II had himself declared *Chakravartin* ('ruler of the world') in 802, the Khmer kings served both as political and religious leaders.

Khmer rulers were believed to have the powers of both gods and kings. They were the source of all legal and religious power. Members of lower social groups such as the nobles and military leaders swore an oath of loyalty to the king. There was the threat of eternal punishment if they broke this oath. The king, in turn, was expected to respect his people and their social positions, and to acknowledge the local rulers within his realm.

The king was the main force behind the creation of public buildings and works. These projects were carried out to guarantee the prosperity of the country and to show the power of the king and the empire. Temples were generally dedicated to Hindu gods, such as Shiva and Vishnu. It was good for the king's authority and reputation if he was associated with these gods.



Source 8.28 This stone carving found on the wall of the Bayon Temple at Angkor Thom shows a Khmer king at his royal palace.

Nobles and officials

The next most powerful group in the social hierarchy of the Khmer Empire was the nobles and officials. Much of this group was made of the king's family and relatives. Most of the administrative work across the empire was carried out by these people.

Local nobles and officials in each part of the empire managed their land through the village temples. The priests of each village temple collected crops from the local farmers (as taxes) and provided a storehouse for grain. These village temples, in turn, provided support to the local farmers. Across the empire, this network of village temples reported to bigger regional temples and these regional temples ultimately reported to a central temple linked to the king.

Artisans and professionals

The next group in the social hierarchy was artisan and professional workers such as architects, merchants, fishermen and skilled craftsmen. This was a very small group in society and very little information relating to them has been uncovered by historians.



Source 8.29 This stone carving found on the wall of the Bayon Temple at Angkor Thom shows a group of slaves captured during a war being transported in restraints.

Peasants

The next group in the social hierarchy was the peasants. Peasants made up the largest group in Khmer society by far. Most of the evidence we have today about this group comes from stone carvings on temple walls. Most were rice farmers or workers who were forced to work and pay taxes in the form of grain to nobles through the temple priests. They were also required to serve in the military and provide labour for building projects if ordered by the king.

Most peasants lived in simple houses made of wood with thatched roofs. Many of these houses were grouped around communal ponds that were a shared source of fish. Most peasant houses near Tonle Sap Lake were built on stilts, while others were designed to float. This ensured they were not washed away during the wet season (see Source 8.30).

Slaves

At the bottom of the Khmer social hierarchy were slaves. Although it is difficult to estimate the number of slaves and the size of this social group in Khmer society, we do know that there were a number of different types of slaves. The first type of slaves were foreign prisoners of war captured during Khmer battles with rival kingdoms; the second type of slaves were bought and sold legally or forced into slavery in order to pay debts they owed; the third type of slaves lived and worked at temples and were considered as the property of those temples.

Women in Khmer society

Unlike many other societies around the world at this time, the position of women in most social classes during the Khmer Empire was relatively strong. Zhou Daguan commented on the strength of the position of Khmer women and their social freedoms in his writings on the Khmer Empire in 1296. He observed that they could inherit land and property and that some held political posts, including positions as judges. The king's personal bodyguards were women, for instance, as it was believed that women were more trustworthy and loyal.

Check your learning 8.8

Remember and understand

1. In your own words, describe how society was organised during the Khmer Empire.
2. Generally speaking, how were women treated during the Khmer Empire?

Apply and analyse

3. What was the largest single social group in Khmer society? How did most of these people spend their days?
4. How did nobles and officials administer their land? How were peasants expected to pay taxes to these nobles and officials?

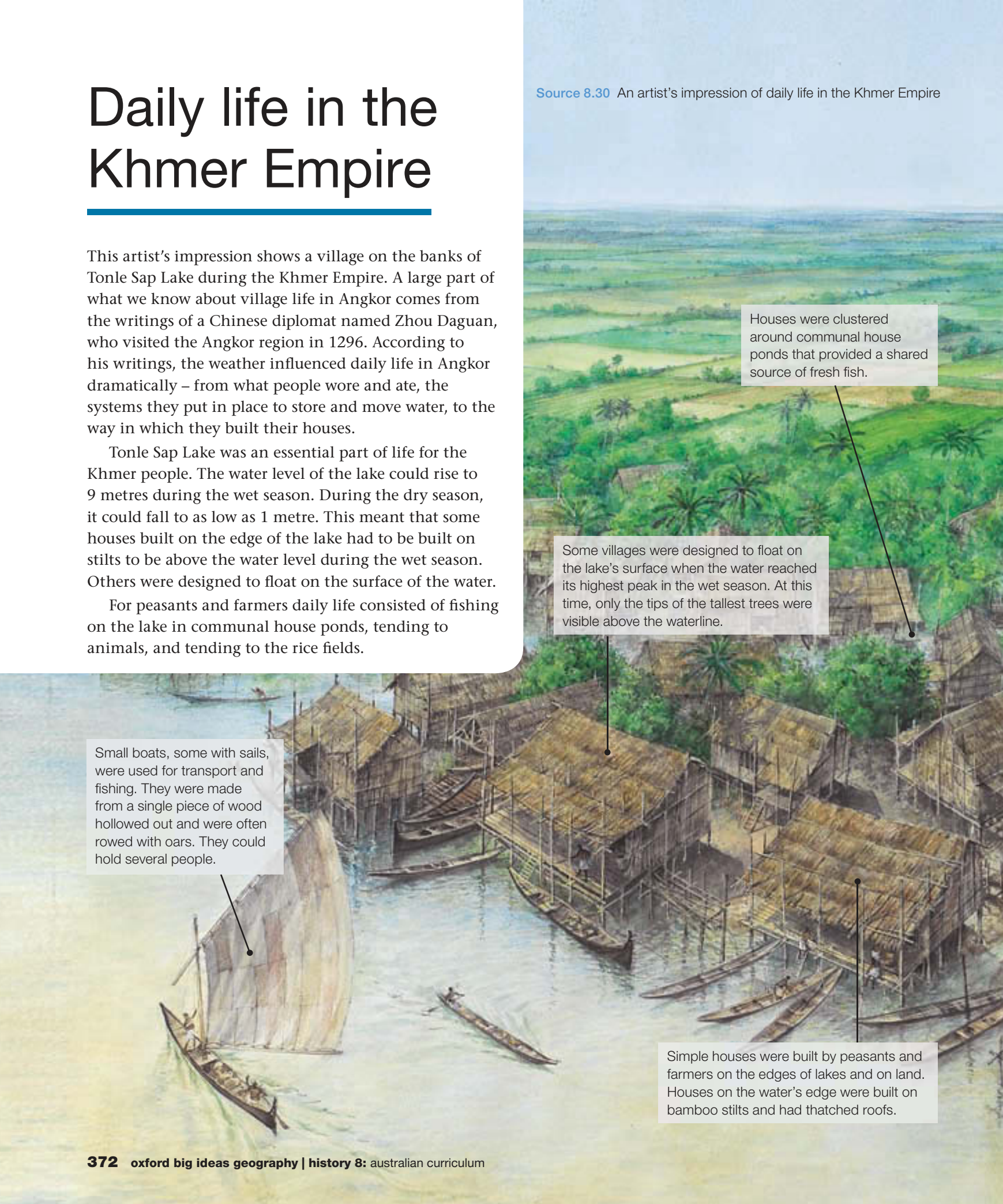
Daily life in the Khmer Empire

Source 8.30 An artist's impression of daily life in the Khmer Empire

This artist's impression shows a village on the banks of Tonle Sap Lake during the Khmer Empire. A large part of what we know about village life in Angkor comes from the writings of a Chinese diplomat named Zhou Daguan, who visited the Angkor region in 1296. According to his writings, the weather influenced daily life in Angkor dramatically – from what people wore and ate, the systems they put in place to store and move water, to the way in which they built their houses.

Tonle Sap Lake was an essential part of life for the Khmer people. The water level of the lake could rise to 9 metres during the wet season. During the dry season, it could fall to as low as 1 metre. This meant that some houses built on the edge of the lake had to be built on stilts to be above the water level during the wet season. Others were designed to float on the surface of the water.

For peasants and farmers daily life consisted of fishing on the lake in communal house ponds, tending to animals, and tending to the rice fields.





Check your learning 8.9

Remember and understand

1 Why is a Chinese diplomat so important to our understanding of daily life during the Khmer Empire?

2 What are *barays* and how were they used by the Khmer people?

Apply and analyse

3 How were the houses of Khmer farmers and peasants designed and built? What is the reason for this?

4 Why were groups of houses built around communal house ponds?

Daily life for the rich and poor

There are no surviving written records kept by the Khmer people about daily life in their empire. Instead, the only written records that exist are those written by Zhou Daguan. From his writings we have been able to learn about the daily lives of different groups in Khmer society, from the king and nobles right down to the peasants and slaves.

Clothing

Both men and women in Khmer society went bare-chested and barefoot. Their clothing was simple, and mostly consisted of a cloth wrapped around the waist. Although ordinary women wore no hair ornaments, they could wear jewellery such as golden rings and bracelets. If women were particularly beautiful, they might be sent to the court to serve the king or the royal family. In his writings, Zhou Daguan describes the type of clothing worn by a number of social groups:

Source 8.31

> From the king down, the men and women all wear hair wound up in a knot, and go naked to the waist, wrapped only in a cloth. When they are not out and about, they wind a larger piece of cloth over the small one.
>
> Only the king can wear material with a full pattern of flowers on it. On his head he wears a gold crown …. Sometimes he goes without a crown, and simply wears a chain of fragrant flowers such as jasmine wound round the braids of hair. Around his neck he wears a large pearl weighing about four pounds [approximately 2 kilograms]. On his wrists and ankles and all his fingers and toes he wears gold bracelets and rings …
>
> Zhou Daguan, *A Record of Cambodia: The Land and its People*, translated by Peter Harris, Silkworm Books, 2007, p. 50

Housing

From Zhou Daguan we also gain some insight into the way ordinary people lived in their homes:

Source 8.32

> At the lowest level come the homes of the common people. They only use thatch for their roofs, and dare not put up a single tile. Although the sizes of their homes vary according to how wealthy they are, in the end they do not dare emulate [copy] the styles of the great houses …
>
> Zhou Daguan, *A Record of Cambodia: The Land and its People*, translated by Peter Harris, Silkworm Books, 2007, p. 50



Source 8.33 An artist's impression of how Khmer kings and nobles may have lived and eaten



Source 8.34 An artist's impression of how Khmer peasants may have lived and eaten

Food

From the early days of the Khmer Empire, and even well before, rice and fish formed the staples of the Khmer diet. In addition to these staples, the Khmer kings and officials also ate a number of tropical fruits and vegetables such as bananas and melons. Stone carvings on the Bayon Temple at Angkor Thom show scenes of pigs being slaughtered and eaten. Kings, nobles and officials may also have had their food served to them on gold or silver plates. There is even some evidence to suggest that they may have used cutlery – although some historians contest this.

For other groups in society, the types of foods prepared and the way in which they were eaten was much simpler. Again, Zhou Daguan gives us a good understanding of the ways in which ordinary people cooked and ate in their homes:

Source 8.35

> Ordinary families have houses but nothing else by way of tables, chairs, jars, or buckets. They use a clay pot to cook rice in, and make sauce with a clay saucepan. For a stove they sink three stones into the ground, and for spoons they use coconut husks … When serving rice they use clay or copper dishes from China; sauce comes in a small bowl made from the leaves of a tree, which doesn't leak even when it is full of liquid. They also make small spoons from the leaves of the nypa palm, which they spoon liquid into their mouths with, and throw away after using.
>
> Zhou Daguan, *A Record of Cambodia: The Land and its People*, translated by Peter Harris, Silkworm Books, 2007, p. 76

Check your learning 8.10

Remember and understand

1 What were the main staples eaten by people during the Khmer Empire?

2 In addition to these staples, what other foods were eaten?

Apply and analyse

3 Why do you think the style of dress worn by most groups in the Khmer Empire was so simple?

4 Create a table to compare the differences in lifestyle between the rich and the poor in Khmer society. List four examples in each column.

Evaluate and create

5 During the Khmer Empire, women occupied many important social positions – even the king's personal bodyguards were women. Working in small groups, design a picture that could be used as the basis for a stone carving on a Khmer temple wall. Your design should show one aspect of life for women in Angkor. Be sure to pay attention to the clothing and headgear worn by women at the time.

The influence of religion on Khmer society

Perhaps more than any other single factor, religion went on to have the greatest influence on Khmer society. It influenced the way society was organised, the types of buildings that were constructed, and the way people chose to live their lives.



Source 8.36 A 12th-century statue of the Hindu god Shiva at Angkor Wat. During the Khmer Empire, it was the responsibility of temple priests to care for statues like this one that were believed to be inhabited by the spirit of the gods. Priests were responsible for waking the gods each morning, offering them food, and washing and dressing them.

Animism

Long before the rise of the Khmer Empire, the people of South-East Asia that settled along the Mekong River and around the edge of Tonle Sap Lake worshipped spirits of the natural world. This belief system – known as Animism – involved the worship of all living things (such as animals, humans and plants) as well as natural phenomena (such as the wind, rain and sun). In particular, the Khmer worshipped the spirits of their ancestors by making offerings of food, flowers and wine in order to please them. Although this type of spirit worship continues in a small way to this day, from around 100 BCE, religions brought by traders from India and China moving across the region spread across South-East Asia.

Hinduism

Over many hundreds of years, the Indian religion of Hinduism spread across parts of South-East Asia, including the Mekong River basin. While historians think that Buddhism was more popular in the early Khmer kingdom of Funan, Hinduism became the main religion in the kingdom of Chenla, which later became part of the Khmer Empire. For the next 400 years Hinduism became the dominant religion of the Khmer Empire.

At the time the Khmer Empire was founded, historians believe that Hinduism may have seemed like an attractive belief system to the Khmer people, mainly because the Indian traders who visited their region were prosperous and brought with them evidence of an advanced and cultured society. While we cannot be sure of their reasoning, we do know that it was around this time that the Khmer people began to build temples to the Hindu gods.

Although Hinduism is a religion with many different gods, the beliefs of the Khmer people focused particularly on a group of three Hindu gods – Brahma, Shiva and Vishnu.



Source 8.37 According to Hindu beliefs, *apsaras* (such as these decorating a temple wall at Angkor Wat) were dancing female spirits believed to care for Hindu gods at Mount Meru.

- Brahma is the god of creation.
- Shiva is the god of destruction and re-creation.
- Vishnu is the god that protects, bringing order and harmony to the land.

Hindus believe that their gods live on a mythical mountain (known as Mount Meru) in the Himalayas surrounded by seven seas. These gods are protected and cared for by dancing female spirits (similar to fairies) known as *apsaras* (see Source 8.37).

Evidence of the influence of Hinduism on Khmer society can be seen in the many stone temples, carved inscriptions and religious monuments found all across the Angkor region today. Inscriptions were often written in **Sanskrit** – a sacred language of Hinduism – and countless stone carvings of Hindu gods and *apsaras* decorate the temple walls.

The Khmer people believed that the gods controlled all aspects of life. They consulted the gods on all matters, from the best time to plant and harvest crops to the best person to marry.

Buddhism

Although Buddhism had existed across South-East Asia for as long as Hinduism, it was not until Jayavarman VII came to power in 1181 that it became an official religion of the Khmer Empire. Like Hinduism, Buddhism was a belief system that originated in India. It was founded by an Indian prince named Siddhartha Gautama – who would later become known to his followers as Buddha. Buddhists believe that to end pain and suffering, a person must work toward spiritual enlightenment through cycles of reincarnation (rebirth). On reaching this state of enlightenment (known as Nirvana) a person is freed from all the pain and bad things associated with being human. There are two main schools of Buddhism – Theravada Buddhism (the oldest and strictest school) and Mahayana Buddhism (a later school). As Buddhism spread throughout Asia, it influenced the history, culture and thinking of many civilisations, including the Khmer Empire.

During his rule, Jayavarman VII, a follower of Mahayana Buddhism, ordered many Buddhist temples be built. Despite Jayavarman VII's efforts, Mahayana Buddhism did not remain the state religion of the Khmer Empire after his death in 1218. Instead, Theravada Buddhism became the state religion in the 13th century. It remains the official religion of Cambodia to this day.



Source 8.38 The Bayon Temple at Angkor Thom was built by Jayavarman II as the official state temple of Mahayana Buddhism. The Bayon Temple is decorated with over 200 stone faces. Many historians believe that these faces represent a combination of the faces of Jayavarman II and Buddha.

Check your learning 8.11

Remember and understand

1 Explain how the religion of Hinduism was introduced to the Khmer Empire.
2 What was the language of Hinduism?
3 What are the two schools of Buddhism called that were eventually introduced to the Khmer Empire?

Apply and analyse

4 What was the name of the belief system of the Khmer people before the spread of Hinduism? What did this belief system involve?
5 a Many historians believe that the faces covering the Bayon temple are a combination of two faces. Name these two people.
  b Why might Jayavarman II have wanted himself to be portrayed in this way?

Evaluate and create

5 Conduct some research online to determine the key differences between Hinduism, Mahayana Buddhism and Theravada Buddhism. Create a PowerPoint presentation of your findings and present it to your class.

8.2 big**ideas:** rich task

Understanding daily life in the Khmer Empire

Because historians have very few sources of evidence relating to what everyday life was like for people in the Khmer Empire, the few sources that they do have become much more historically significant and valuable to our understanding. Stone carvings on temple walls depicting the activities of daily life, such as those from the Bayon Temple at Angkor Thom, are precious primary sources. Studying them closely in order to gather valuable historical evidence is an important skill for all historians.

- **Look for small details:** Are there any small details hidden in the scene? Examine clothing, tools, weapons, animals, buildings and other objects.
- **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.
- **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 The two sources provided are photographs of relief carvings on the walls of the Bayon Temple at Angkor Thom. Source 8.39 has been annotated for you (meaning that a range of relevant comments and observations have been written around it). Your task is to analyse Source 8.40 in the same manner, taking into account the features described above and the questions you should be asking yourself.

skill**drill**

Analysing historical representations

Analysing historical photographs is an important skill to develop. When analysing a photograph, painting, artwork or stone carving, it is useful to look at the following features:

- **Check the composition of the work:** What is shown in the scene? How do we know what is happening? Is the entire scene or work shown, or just a section of it?
- **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?
- **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?

Extend your understanding

1 Imagine you were commissioned by your principal to make a mural of everyday life at your school, which was to be displayed next to the school's entrance. What would you include in your mural and what would you not include in your mural? Remember, the principal wants to display this at the front of the school, so consider what the purpose of the mural is.

2 Draw a design for the mural, and annotate it to explain the composition, choice of figures, background and details.

3 Once you have completed your design and explanation, reflect on what your school mural teaches you about ancient stone reliefs, in terms of what is likely to be shown and what is unlikely to be shown. What types of things can we hope to learn from these Khmer carvings, and what kinds of things won't we be able to learn?

This is a scene of a busy market with happy traders. This might have reflected well on Jayavarman VII, the king responsible for building the temple, because it shows the wealth and prosperity of his empire.

Buyers, perhaps bartering or haggling, are dressed differently in shirts, suggesting they are foreign (perhaps Chinese).

Female traders are depicted with their hair tied up on their heads, and jewellery and garments tied around their waists.

These fish are confusing – they are not actually part of the market scene. Maybe they are part of another scene that is not shown in this photograph.



Stalls are out in the open, with some shelter provided by what looks like a canopy. The canopy looks quite low (making the woman crouch) but this could be because the whole scene needed to fit a narrow panel of sandstone.

This scene probably extends beyond the edges of the photograph, showing more traders and products.

One trader appears to be preparing something, perhaps a fish.

Source 8.39 A stone carving of a Khmer market scene



Source 8.40 A stone carving of Khmer troops going into battle

8.3 How and why did the Khmer Empire come to an end?

Internal challenges for the Khmer Empire

Time and time again over the course of human history, we see evidence of the rise and fall of mighty empires, and the Khmer Empire was no different. During the rule of Jayavarman VII, the Khmer Empire reached its peak, but after his death in 1218, the empire entered a period of slow decline that led to the fall of the empire in around 1431. Some of these challenges came from within the empire such as the breakdown of the water management system, economic problems and changes in religion. Some other challenges came from outside the empire such as changes in the weather, wars and even an outbreak of plague. Historians now believe that a combination of these factors contributed to the eventual collapse of the empire. Each of these factors will be explored in this section.



Source 8.41 After the fall of the Khmer Empire in around 1431, the city of Angkor was left largely abandoned. Many of the temples and buildings, such as Ta Prohm shown here, were reclaimed by the forest. Although the Khmer people knew of the ruins and continued to visit and worship there, they remained hidden from the outside world until 1860.

Breakdown of the water management system

The water management system across the Angkor region allowed the Khmer Empire to grow and thrive from early in its history. Water was crucial to trade, travel, communication and irrigation of rice crops, so the failure of the system had serious consequences. Towards the end of the empire, it appears that changes made to the local environment (such as the clearing of forests for farming) affected the water that collected in the system.

When forests are cut down more water runs off into canals and rivers, but this water carries large amounts of soil with it. As a result, the Khmer canals and irrigation channels became clogged with soil and silt, eventually killing the fish that lived in the canals and reducing the amount of water available for irrigation. From the 13th century on, historians believe that the number of rice harvests possible each year dropped from three or four to one or two. Without excess rice to trade, the prosperity of the empire declined.

In addition to this, extended periods of drought are thought to have caused serious problems for the water management system. Lack of water may have caused the canals to dry up completely and damaged many of the *barays* (reservoirs).



Source 8.42 The Khmer Empire depended heavily on a complex network of canals and reservoirs to store water and channel it to rice fields. Historians believe that the breakdown of the water management system from the 13th century onwards contributed to the decline of the empire. Today, this farm close to Tonle Sap Lake once again has a reliable source of water.

Economic problems

Another internal factor that may have contributed to the decline of the Khmer Empire relates to the economy. During his rule, Jayavarman VII embarked upon a lavish building program constructing many temples, monuments, roads and hospitals. He also conquered many new territories, expanding the empire considerably. Thanks to these achievements, Jayavarman VII is remembered as perhaps the greatest Khmer king, however these achievements came at a price.

The building program Jayavarman VII ordered was enormously expensive, requiring finance, equipment and labour. Added to the cost of these building projects was the cost of maintaining a large army to protect and defend the borders of the empire. Many historians now believe that the physical and financial burden of both these investments ultimately contributed to the decline of the empire.

Changes in religion

Many historians now also believe that a shift in the religious beliefs of the Khmer people probably influenced the downfall of their empire. It is likely that this may have begun when King Indravarman II introduced Theravada Buddhism as the state religion in the late 13th century. It may also have been due to greater interaction with rival societies outside the empire who were followers of Theravada Buddhism.

Theravada Buddhism caused a lot of change across the Khmer Empire, as it meant the end of kings being regarded as divine religious rulers. Unlike Hinduism, Theravada Buddhism taught that the king was just another human required to lead a simple and peaceful life on the road to spiritual enlightenment.

As a result of this change, temple building decreased because there was no longer a need to recognise Khmer kings and the achievements of their reign. This new religion taught all people to seek enlightenment and to abandon unnecessary worldly items, so grand displays and opulent buildings such as temples were not needed.



Source 8.43 Historians believe that the introduction of Theravada Buddhism across the Khmer Empire in the 13th century may have contributed to the fall of the Khmer Empire. It remains the official religion of Cambodia to this day.

Unexpected consequences may also have resulted from this religious change. Up to this time, workers had been tied to their village temples and ultimately to the king. They were required to work and pay taxes to the temple in the form of rice. With the change in the king's social position the belief in royal authority may have decreased, meaning workers may have felt less obliged to work for the king and the temple. This development would have had serious effects on social order and prosperity within the empire.

Check your learning 8.12

Remember and understand

1 In what ways might economic problems have contributed to the fall of the Khmer Empire?
2 What was the name of the king who adopted Theravada Buddhism and when did this take place?

Apply and analyse

3 Why might the authority and social position of the Khmer kings have changed with the adoption of Theravada Buddhism as a state religion?
4 Name one reason why the number of temples being built may have decreased after the introduction of Theravada Buddhism?

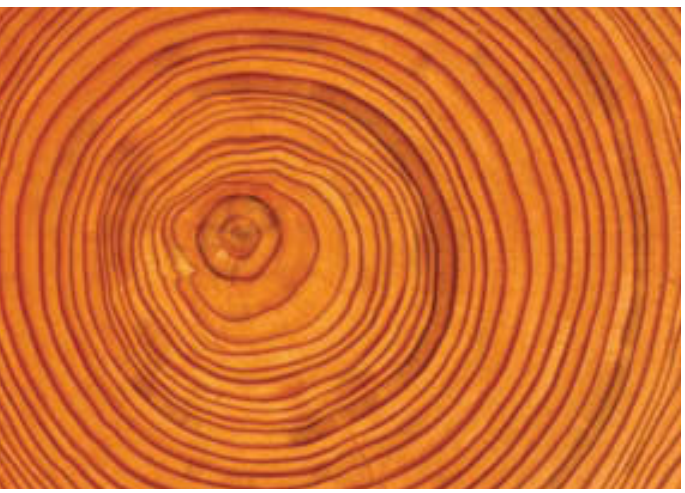
External challenges for the Khmer Empire

Changes in weather patterns

Recent advances in climate science have allowed researchers to gather and analyse weather data dating back thousands of years. Based on this research, many historians now believe that a period of unusually warm and stable weather from around 950 to 1250 helped the Khmer Empire to rise to the peak of its power. Scientists today refer to this time as the Medieval Warm Period.

These scientists also point to weather in order to explain the decline of the Khmer Empire. From around 1350 to 1850, their data shows a period of cold and unstable weather across Europe now referred to as the Little Ice Age. While South-East Asia is far from Europe, this cold weather is believed to have made the monsoon rains very unpredictable. Researchers have carried out studies on trees in the Angkor region, looking at the growth rings in tree trunks (a study known as dendrochronology). Dendrochronology provides information about the history of trees and what has happened to them over hundreds (or even thousands) of years. Each year, every tree adds a new ring to its trunk. In good years, when a tree receives plenty of water, the ring is thick; in bad years, when water is scarce, the ring is thin.

By studying trees in South-East Asia, scientists have determined that there were a number of lengthy periods of drought – the first from around 1360 to 1390 and the second from around 1415 to 1440. This would have greatly affected the Khmer Empire, which relied on a constant water supply to maintain its irrigation systems and grow its crops. If the water supply decreased, the canals would have dried up and been damaged. Although the empire had already lost control of much of its territories by this time, the extreme drought conditions would have left it weaker and more open to attacks.



Source 8.44 Dendrochronology is the study of the growth rings of trees. By analysing trees in South-East Asia, scientists identified two periods of serious drought that may have contributed to the fall of the Khmer Empire.



Source 8.45 An artist's impression of Ayutthaya war elephants going into battle

The effects of war

As the Khmer Empire became weaker, the Cham (who lived to the east of the Khmer Empire) became a more and more serious threat. In 1177, the Cham successfully attacked the Khmer using the Mekong River and Tonle Sap Lake to launch a water-based invasion that resulted in Angkor being captured and looted. Jayavarman VII was to spend a large part of his rule attacking and then finally driving off the invading Cham. By the 1190s, he had finally defeated them and driven them out of Angkor, but these constant battles left the empire exhausted and weak.

In addition to the Cham, the Khmer Empire also developed a new enemy to the north-west, known as the Ayutthayans. These people had previously been under Khmer control but developed their own kingdom and began to challenge Khmer authority. They attacked the Khmer Empire in 1335 and 1353, capturing Angkor for a short period. It is thought that during these attacks they damaged the water management system in Angkor. They certainly carried off many Khmer as slaves, leaving fewer people to maintain the irrigation system and to plant and harvest the rice crops.

In 1431, the Ayutthayans attacked again, this time capturing and looting Angkor and repeatedly driving the Khmer away to the south-east. The conquering Ayutthayan king looted the temples, removing statues of Buddha. As a result, many members of the royal court deserted cities such as Angkor Thom, retreating to the old capitals on the Mekong River.

Spread of the Black Death

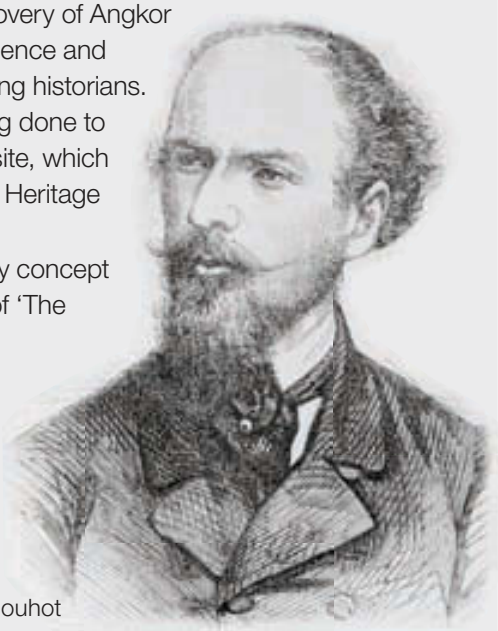
Although there is very little written evidence to support the theory, some historians believe that an outbreak of the deadly bubonic plague (known as the **Black Death**) may also have weakened the empire. The Black Death is believed to have first appeared in China around 1345, and some historians believe it may then have spread rapidly down through South-East Asia along trade routes. If this was the case, then the Khmer Empire would most likely have been affected. As in other countries, the pandemic would have struck quickly, devastating the society by killing large groups of the population. Harvests and trade would have suffered.

key concept: evidence

The rediscovery of Angkor

After about 1431, Angkor slowly lost influence and importance. Although the Angkor region was never completely abandoned, its large population declined greatly. Eventually, many of the temples and buildings became overrun by the surrounding forests. It was not until 1860, when a French explorer called Henri Mouhot came across the ruins at Angkor while trekking through the region, that the outside world was introduced to the Khmer Empire. Mouhot recorded his observations, which were published shortly after his death in 1861. The rediscovery of Angkor provided a wealth of historical evidence and raised a great deal of interest among historians. Today, a great deal of work is being done to protect, preserve and restore the site, which was added to the UNESCO World Heritage List in 1992.

For more information on the key concept of evidence, refer to section HT.1 of 'The historian's toolkit'.



Source 8.46 Henri Mouhot

Check your learning 8.13

Remember and understand

1 What is dendrochronology and how was it important in helping to identify one of the reasons why the Khmer Empire came to an end?

2 Name two kingdoms that the Khmer Empire went to war with. Which of these kingdoms attacked and looted Angkor in 1431, and what were the effects of this?

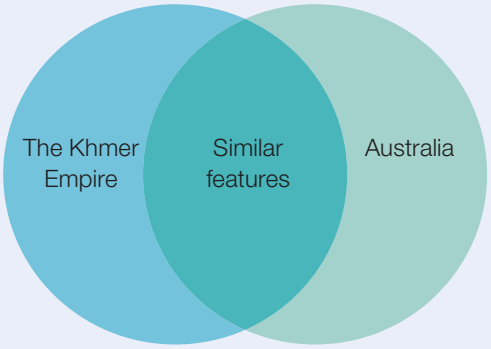
Apply and analyse

3 In your own words, explain the following terms:
   a Medieval Warm Period
   b Little Ice Age.

4 What effects did both of these weather patterns have on the Khmer Empire?

Evaluate and create

5 Conduct some research online in order to compare the effects of drought in the Khmer Empire with the effects of drought in Australia. Create a Venn diagram in your notebook to explore the similarities and differences between these two societies.



6 List the six internal and external reasons put forward for the fall of the Khmer Empire and rank each one from 1 to 6 according to the impact they had on the downfall of the empire. Discuss your answers with your class to see if you all agree.

8.3 big**ideas:** rich task

Conserving ancient Khmer sites

In order to protect, preserve and restore ancient historical sites, such as the temples and monuments across the Angkor region, historians need to understand what these sites used to look like, how they were constructed and how they may have been damaged over time. Conservation projects are expensive and time consuming, so historians need to conduct extensive research in order to understand a site before conservators can begin their restoration work.

In 1993, the Angkor region was added to the list of UNESCO World Heritage Sites, joining places such as the Pyramids of Egypt, the Taj Mahal in India and the Acropolis in Greece. Once a site is added to the list, the prestige often helps to raise the awareness of people and governments all around the world. This leads to a general rise in the level of the protection and conservation given to these sites. Countries also often receive funds and expert advice from the World Heritage Committee to support the preservation of their sites.



Source 8.47 This photograph taken in 1912 shows part of the ruins of the Bayon Temple prior to any restoration work

skill**drill**

Identifying and locating relevant sources using ICT

Researching ancient sites to understand why they are significant, what they were like in the past, and how they have changed is an important part of the work that archaeologists, historians and conservators do. The first part of this work involves identifying and locating different sources to help them. To begin such research, follow these steps:

Step 1 Construct a table to organise your thoughts and direct your research. Begin by listing the things you already know about each ancient site (such as where it is, what civilisation it was built by, and any other relevant information you already know about it). Then list the things you still need to find out about each ancient site (such as who built it, how it was built, what it looked like when it was built, what it looks like today, what it was used for, how and why it was damaged, and whether or not it is worth conserving).

Step 2 Use the questions you have listed in your table to create keywords and search terms for an Internet search.

Step 3 Conduct an Internet search to gather relevant sources and to answer your questions about the ancient site. You may also like to find images of the site and any conservation work that has been done so far.

Step 4 Remember to assess the reliability of the sources you have collected. Think about who wrote them and why. Also be aware of the types of websites you collected them from. Were they reputable?

A set of guidelines to help you identify relevant and reliable sources on the Internet is included in section HT.2 of 'The historian's toolkit'.

Apply the skill

1 Conduct an Internet search to locate and identify relevant sources related to these ancient sites:
   - **a** Angkor Wat
   - **b** Bayon Temple.

2 Follow the steps outlined above to complete the following table in your notebook.

	Site 1 – Angkor Wat	Site 2 – Bayon Temple
What I know already		
Where is it located?		
What civilisation (or ruler) built it?		
Why was it built and how was it used?		
Do I know anything else about it?		
What I still need to find out		
How was it built?		
What did it look like when it was built?		
What does it look like now?		
What was it used for?		
How and why was it damaged?		
Should it be conserved?		

3 Make a list of all of the websites you visited and the sources you gathered.
   a Which of these sources do you think are the most reliable and relevant? How can you tell?
   b Which of these sources do you think are not reliable or relevant? How can you tell?

4 Now imagine that you are a member of a committee deciding whether or not additional funding and resources should be set aside to conserve these two sites. Make a recommendation about why and how each site should be conserved (if you believe it should).



Source 8.48 A restoration team at work on part of Angkor Wat

Extend your understanding

1 Conduct some further research to find out which organisations are currently responsible for conserving Angkor Wat and the Bayon Temple, and which organisations may have carried out restoration works in the past.

2 Conservation projects are expensive, so use your research to determine who is funding any existing restoration projects and approximately how much money has been spent on them.

3 What reasons does UNESCO give for conserving Angkor Wat and the Bayon Temple? Do you believe these are worthwhile reasons?

4 Do you think that there are any other reasons to fund the conservation of these sites?

5 Imagine you are an archaeologist or conservator working on a restoration team at Angkor Wat or the Bayon Temple. Write a 'funding proposal' that outlines a number of reasons why your organisation/team requires funding to continue its conservation work on the site.

depth study – option

Japan under the shoguns

Japan first became united as a country under an emperor at the end of the 6th century; ever since, Japan has been ruled by a long line of emperors. However, for almost 700 years – from 1185 to 1867 – the emperor of Japan had no real power. Instead, Japan was controlled by a series of military leaders, known as shoguns. The title shogun comes from the Japanese words *sho* (meaning 'commander') and *gun* (meaning 'troops').

In 1868, the last shogun was overthrown and power was returned to the emperor. At this time, the capital was moved to a new location in Edo – now known as Tokyo.



9.1

What led to the rise of the shoguns?

1 Japan is a chain of islands, many of which are so mountainous that only about 15 per cent of the land can be farmed. How do you think these geographical features might have affected the way of life of early Japanese people?

9.2

How was Japanese society organised during the rule of the shoguns?

1 Shoguns were military leaders and the heads of powerful Japanese clans. How do you think they became more powerful than Japanese emperors, even during times when there were no wars?



Source 9.1 Matsumoto Castle was built in 1504 and is typical of most Japanese castles built during the rule of the shoguns in Japan.

9.3

How did Japan change under the rule of the shoguns?

1 For a long period of time, Japan effectively shut itself off from all contact with other countries. This changed in 1854 when an agreement was reached between Japan and the USA that Japan would open itself up to American trade. Do you think Japan's policy of isolation was a strength or a weakness?

Japan under the shoguns: a timeline

Source 9.2 A timeline of some key events and developments in Japan under the shoguns



An artist's impression of a samurai, a member of a warrior class that served lords known as *daimyo*.

1274
The Mongol army launches an attack on Japan, landing on the island of Kyushu; a typhoon destroys many of their ships and the invasion fails.

1185
The Minamoto clan seizes power from the emperor; Minamoto no Yoritomo becomes shogun and establishes his own capital city in Kamakura; with support from *daimyo* (lords) and samurai (warriors) a series of shoguns rules Japan for the next 700 years

1337
Ashikaga Takauji seizes power from Emperor Go-Daigo to become the new shogun

700 CE | 800 | 1100 | 1200 | 1300 | 1400

Nara period 710–794 | Heian period 794–1185 | Kamakura period 1185–1333

794
Under orders from Emperor Kammu, the capital of Japan moves to the city of Heian-Kyo (modern-day Kyoto); it remains the official capital of Japan for the next 1000 years.

710
The first official capital of Japan is based in the city of Nara; the imperial family – led by a series of emperors or empresses – rules over Japan during this time.

1281
The Mongol army launches a second attack on Japan, landing once again on the island of Kyushu; for the second time a typhoon hits destroying almost all Mongol ships and the invasion fails

1333
Emperor Go-Daigo overthrows the Kamakura shogunate, and takes back power from the shogun for a brief period.

An artist's impression of Japanese fighters facing the Mongol army during the attempted invasion of Japan



Heijo Palace in the city of Nara was the Imperial Palace, and seat of power, from 710–784





A statue of Tokugawa leyasu, founder of the Tokugawa shogunate

1598
William Adams, a sailor and navigator, becomes the first Englishman to visit Japan; he befriends Tokugawa leyasu (a future shogun) and later becomes a key advisor to him.

1603
Tokugawa leyasu becomes shogun and establishes a base in the city of Edo (modern-day Tokyo); the Tokugawa shogunate rules Japan for the next 260 years.

1467
A period of civil war, known as the Warring States period, begins in Japan between rival warlords; it lasts for around 100 years.

1633
Tokugawa Iemitsu introduces a policy known as *sakoku* (meaning 'locked country'); under the policy, no Japanese people are permitted to leave Japan and no foreigners are allowed to enter; the policy remains in effect until around 1853.

1853
Commodore Matthew Perry, a US naval officer, arrives in the city of Edo (modern-day Tokyo) to persuade the Japanese to open their borders to trade.

1867
The last shogun, Tokugawa Yoshinobu, steps down and hands power back to the imperial family under Emperor Meiji

1500 | 1600 | 1700 | 1800 | 1900

Muromachi period
1337–1573

Azuchi-Momoyama period
1573–1603

Tokugawa (or Edo) period
1603–1867

1666
A policy is introduced to reduce logging and increase the planting of trees; only the shogun and his *daimyo* are able to authorise the use of wood.

1724
Timber harvesting in Japan has now been reduced by 60 per cent; it remains at low levels for the next 30 years, allowing Japan's forests to recover.

1854
The Convention of Kanagawa puts an end to the policy of *sakoku*; Japan opens up trade with the United States.

Check your learning 9.1

Remember and understand

1 In what year was the city of Heian-Kyo built? What name is this city known by today?

2 How many times did the Mongol army attempt to invade Japan? Were these attempts successful?

Apply and analyse

3 Explain the policy of *sakoku*. Use the dates provided on the timeline to calculate how many years this policy was in place.

Evaluate and create

4 The timeline shows that the shoguns ruled Japan from around 794 to 1867. Many historians break this overall period into five further periods, commonly known as:

- the Heian period
- the Kamakura period
- the Muromachi period
- the Azuchi-Momoyama period
- the Tokugawa period.

a Conduct some Internet research to discover why each of these periods was given its name.

b For each period, generate two questions that you would like to find the answers to. As you work your way through this chapter, check back on these questions and provide the answers to them when you can.

9.1 What led to the rise of the shoguns?

Life before the shoguns



Source 9.3 Japan's mountainous landscape left little flat land for farming. Mount Fuji is the large mountain visible in the background – it holds special significance for the people of Japan.

Archaeologists believe that Japan was initially settled by humans around 30 000 years ago. Over time, groups of settlers from the nearby mainland (particularly China and Korea) continued to arrive in Japan. The fact that Japan is made up of many islands, and that each island is very mountainous, meant that many different groups of settlers formed isolated communities. Over time, these communities developed very different customs and traditions.

The influence of geography

Japan is a chain of islands in the Pacific Ocean formed by the peaks of underwater mountain ranges. More than 3000 islands are today part of Japan, but most Japanese people have always lived on the four largest. These are known as Honshu, Shikoku, Kyushu and Hokkaido (see Source 9.4). Japan's rugged landscape means that only 15 per cent of the land can be farmed effectively. As a result, Japanese people tended to settle in the valleys and coastal regions that were flatter, and more suited to agriculture.

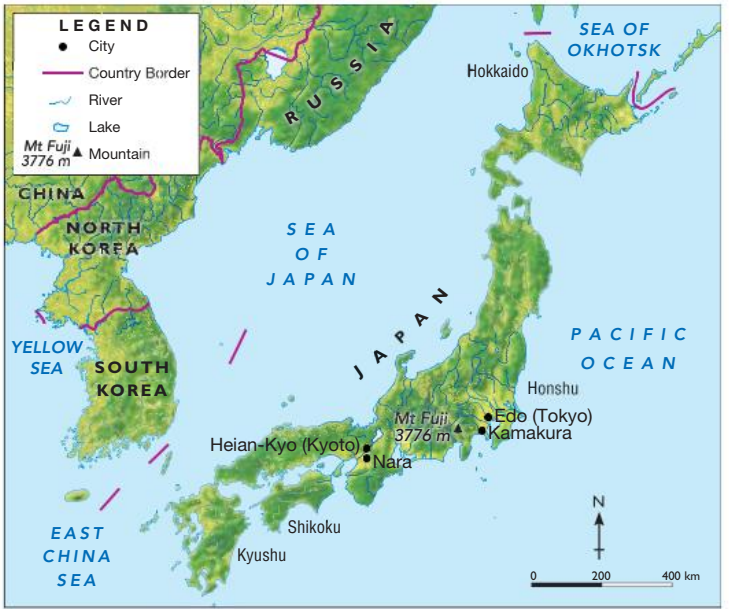
Crops commonly grown were soya beans, wheat, barley and millet (a type of cereal grain). These crops formed the basis of the traditional Japanese diet. Rice was also grown, but was eaten primarily by the wealthy.

The lack of suitable farming areas has meant there has always been fierce competition between people for fertile land. In addition to the rugged landscape, Japan is situated in an area of high volcanic and earthquake activity. It is also subject to regular tsunamis as a result of these earthquakes.

The difficulty of living and farming in the mountains encouraged many Japanese people to earn their livelihoods from the ocean. Early Japanese settlers fished from coastal villages and, to this day, seafood remains an important part of the Japanese diet.

The sea surrounding Japan separated its people from the rest of Asia and, as a result, Japan developed its own unique religion, arts and social structures.

JAPAN: PHYSICAL



Source 9.4 Source: Oxford University Press

The earliest settlers

Archaeological evidence suggests that people travelled to the Japanese islands around 30000 BCE. These people were followed by a second group of settlers in around 14000 BCE. Historians refer to these early people as Jomon because of the artefacts they discovered. *Jomon* translates roughly as 'cord patterned', which refers to the distinctive pottery with rope-like patterns that has been found. Other artefacts from this time that have been found across Japan include tools, weapons and figurines. These artefacts suggest that there were settled communities in the north of Japan at this time.

The clan system

Over time, small, independent societies and states formed on the islands of Japan. Each of these states was made up of different **clans** – groups of families related by blood or marriage. Each clan honoured a range of different gods. Some were spirits of the wind, trees and mountains, while others were spirits of dead ancestors of clan members. Each clan was led by a group of warrior chiefs. These warrior chiefs protected the people in return for a share of the crops that were harvested each year. Local wars between rival clans broke out regularly as they fought one another over access to resources such as fertile land.

key concept: significance

The Shinto creation myth

Shinto is the oldest religion in Japan and has played a significant role in the way Japanese society has evolved. According to a Shinto creation myth, in the beginning there were two gods – Izanagi and his wife, Izanami – who were asked by the spirits to create a new land. They were given a spear, which they plunged into the ocean. As they pulled the spear from the ocean, drops fell from the tip forming the first Japanese island. Izanagi and Izanami settled on this first island and gave birth to all of the islands that now form Japan. They also gave birth to a range of different gods to inhabit each of these islands, such as gods of the trees, winds, rivers and mountains.



Source 9.5 The Shinto creation myth tells of gods Izanagi and Izanami plunging a spear into the ocean; drops from the tip of the spear formed the first island of Japan.

While giving birth to the god of fire, Izanami died. Izanagi followed her to the Land of the Dead, to bring her back, but she refused. He returned alone, but by doing so brought many impurities back to Earth with him. These impurities cause human wrongdoing and suffering.

Izanagi washed himself clean, and the water drops that fell from his body became other gods. These included Susanowo (the storm god) and Amaterasu (the Sun goddess). Japanese legend and mythology states that Amaterasu's grandson, Jimmu, became the first Japanese emperor.

For more information on the key concept of significance, refer to section HT.1 of 'The historian's toolkit'.

Check your learning 9.2

Remember and understand

1 What body of water separates Japan from the mainland?
2 What do historians call the first people to settle in Japan? Why are they called this?

Apply and analyse

3 How did the location of Japan affect the way societies there developed?
4 What impact did the geographical features of Japan (such as its mountains) have on the development of society?

Evaluate and create

5 Create a facts chart on what you have learned in this section about the early settlement of Japan.
6 Draw a simple comic strip (using simple stick figures) to retell the Shinto creation myth.

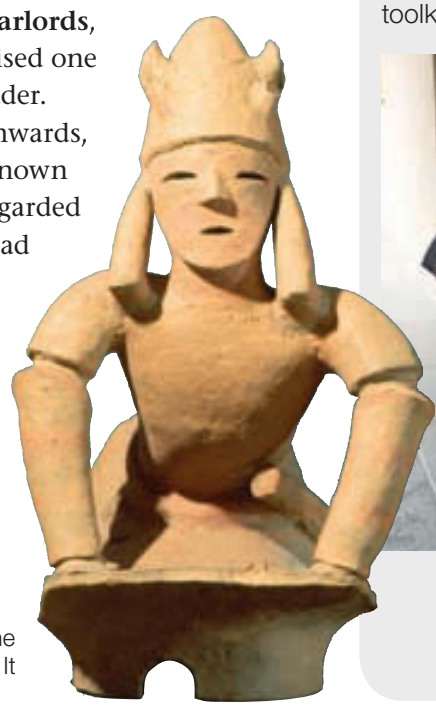
The rise of the emperor

In the 5th century CE, one Japanese clan, known as the Yamato clan, became more powerful than all others. Under the rule of the Yamato clan, the way in which Japanese society was organised began to take shape. A type of centralised government was formed and a system of taxation was introduced, but the most significant change was the appointment of an **emperor** – a supreme ruler who was believed to communicate with the gods and possess magical powers.

The Yamato rulers

Throughout the 5th century, the Yamato clan grew to control much of southern Japan from its territorial base on the central island of Honshu. They developed great military forces in order to protect this territory. While other clans across Japan still technically controlled their own territories, the leaders of these clans promised their loyalty to the Yamato chief, because they knew they could never defeat him in battle. The Yamato chief's territory was divided into a series of provinces that were controlled by junior clan chiefs. Each of these chiefs ensured that the supreme leader was obeyed and that taxes were collected.

The Japanese modelled their system of government on the neighbouring country of China. Even though Japan was ruled by a series of **warlords**, a system developed that recognised one Yamato chief as the supreme leader. From around the 7th century onwards, this leader eventually became known as emperor. The emperor was regarded as the spiritual and symbolic head of the country – descended from the Shinto Sun goddess Amaterasu. Clan chiefs across Japan were required to show their respect to the emperor by acknowledging his superiority and making payments to him to show their loyalty.



Source 9.6 A fired clay statue, from the burial mound of a junior Yamato chief. It was made in the mid 6th century BCE.

keyconcept: contestability

The ancestry of the emperor

Yamato chiefs claimed that they were descended from the Sun goddess Amaterasu, and therefore had a right to rule Japan. Japanese legend states that a Yamato leader named Jimmu, the 'grandson' of Amaterasu, was the first 'emperor' of Japan – even though the word was not used in Japanese until a thousand years after he was supposed to have lived. Jimmu is thought to have united a series of clans under his reign from 660 BCE to 585 BCE.

Some historians think that Jimmu is a mix of characters, both real and imagined, while others question whether or not he ever existed. The 13 emperors who came after Jimmu are known as 'legendary emperors', because their existence is also based on legend rather than solid historical evidence. Regardless of whether Emperor Jimmu is fact or fiction, his name is still listed on the official family tree of the current ruling family of Japan. The current Japanese Emperor, Akihito, is the 125th emperor to rule Japan – tracing his ancestors all the way back to Jimmu.

For more information on the key concept of contestability, refer to section HT.1 of 'The historian's toolkit'.



Source 9.7 US President Barack Obama bows as he meets Japanese Emperor Akihito and Empress Michiko at the Imperial Palace in Tokyo in 2009.

A centralised government

Prince Shotoku, a Yamato prince who ruled from 593 to 621, was a key figure in establishing a centralised government and strengthening the control of the Yamoto clan. He created a new constitution that gave all power to the emperor, who had to be obeyed by all Japanese people. Shotoku established a large bureaucracy with 12 different ranks and introduced Buddhism and Confucianism to Japan.

After him, in 646, the Emperor Kotoku introduced a series of reforms which further strengthened the centralised government. From then on, all land in Japan was said to belong to the emperor. Peasants were made to pay taxes to the emperor either in goods (such as rice or cloth) or in labour (by working on building sites or by serving as soldiers). To administer this system of taxation, the country was divided into provinces, each overseen by a governor appointed by the emperor.

In 710, the city of Nara was established as the first official capital of Japan and the emperor's palace was built there – from here, the new centralised government ruled Japan.

The Heian period (794–1185 CE)

In 794, Emperor Kammu moved the capital from Nara to a new city he had constructed called Heian-Kyo (modern-day Kyoto). Heian-Kyo remained the official capital of Japan for the next 1000 years (see Source 9.9). This move marked the start of a period in Japanese history known as the Heian period (794–1185 CE). During the Heian period, the Imperial Court in the new capital became known for promoting Japanese arts and culture, but it was also a time in which the emperor began to lose control.

The Imperial Court

Although he was considered the supreme ruler of Japan, the emperor did not involve himself in the day-to-day running of his country. Special advisors and ministers were appointed to carry out these functions. The emperor was removed from his people, living in a beautiful isolated palace known as the Imperial Court. It was a place of luxury and privilege for a select few. The reality of life outside the palace did not come inside.

During the Heian period, the Imperial Court was dedicated to fine arts and learning, both of which flourished. Music and writing were encouraged and poetry was a central part of life at court. Both men and women were encouraged to write. Ladies at court dressed in elegant kimonos (traditional robes), made from silk and often composed of up to 16 layers. Although men wore robes with fewer layers, they were still required to dress elegantly and according to tradition.



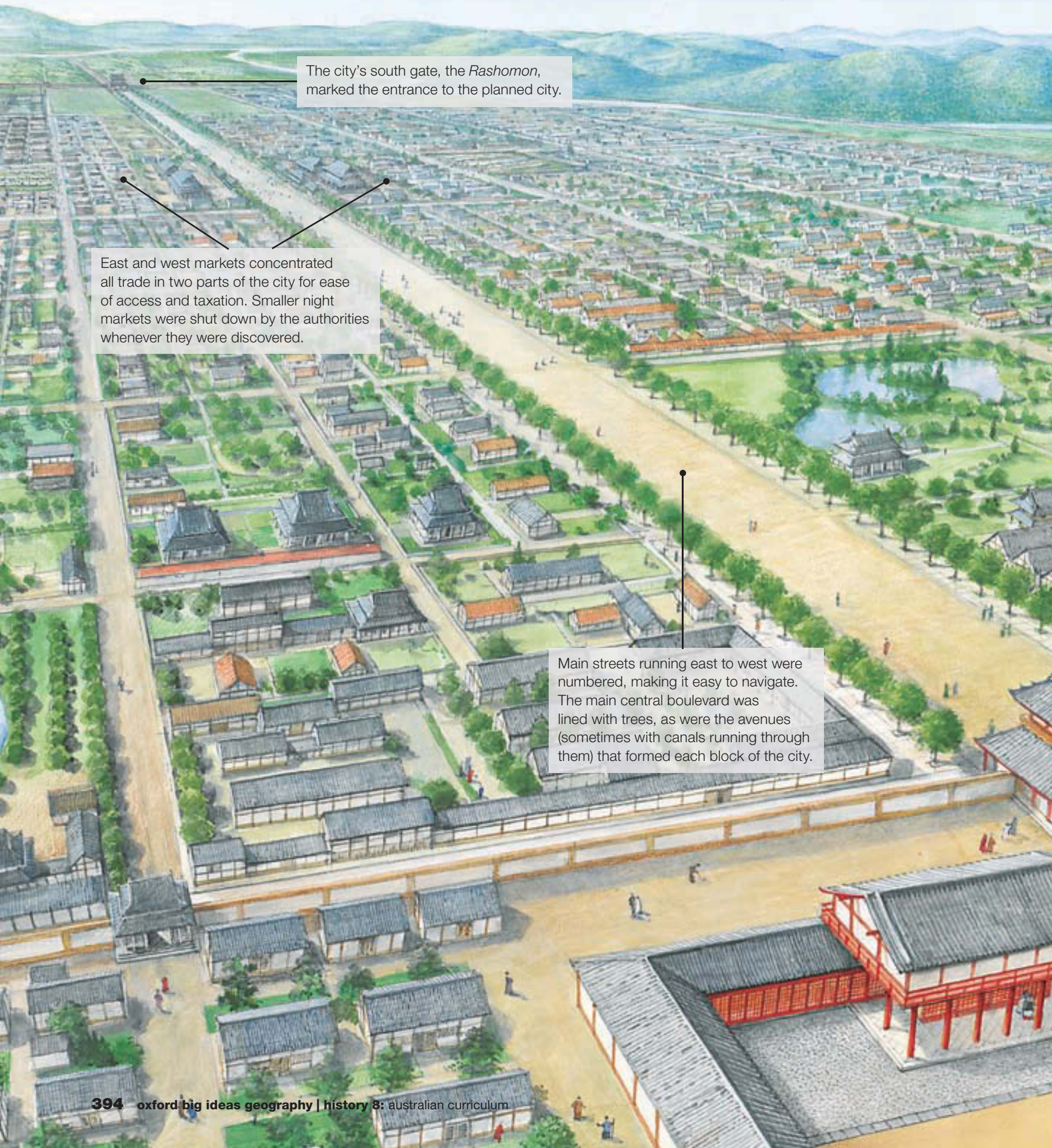
Source 9.8 A portrait of a typical woman at the Imperial Court during the Heian period

Men who belonged to the court had little contact with the outside world unless they were appointed as the governor of a province. At court, it was generally considered more important that a man be a good poet than a good administrator. The court was often entertained with poetry or music contests, or through scrolls of picture stories. Physical activities included archery and *kemari* (a traditional game in which players kicked a leather ball to each other without letting it touch the ground).

The emperor's power weakens

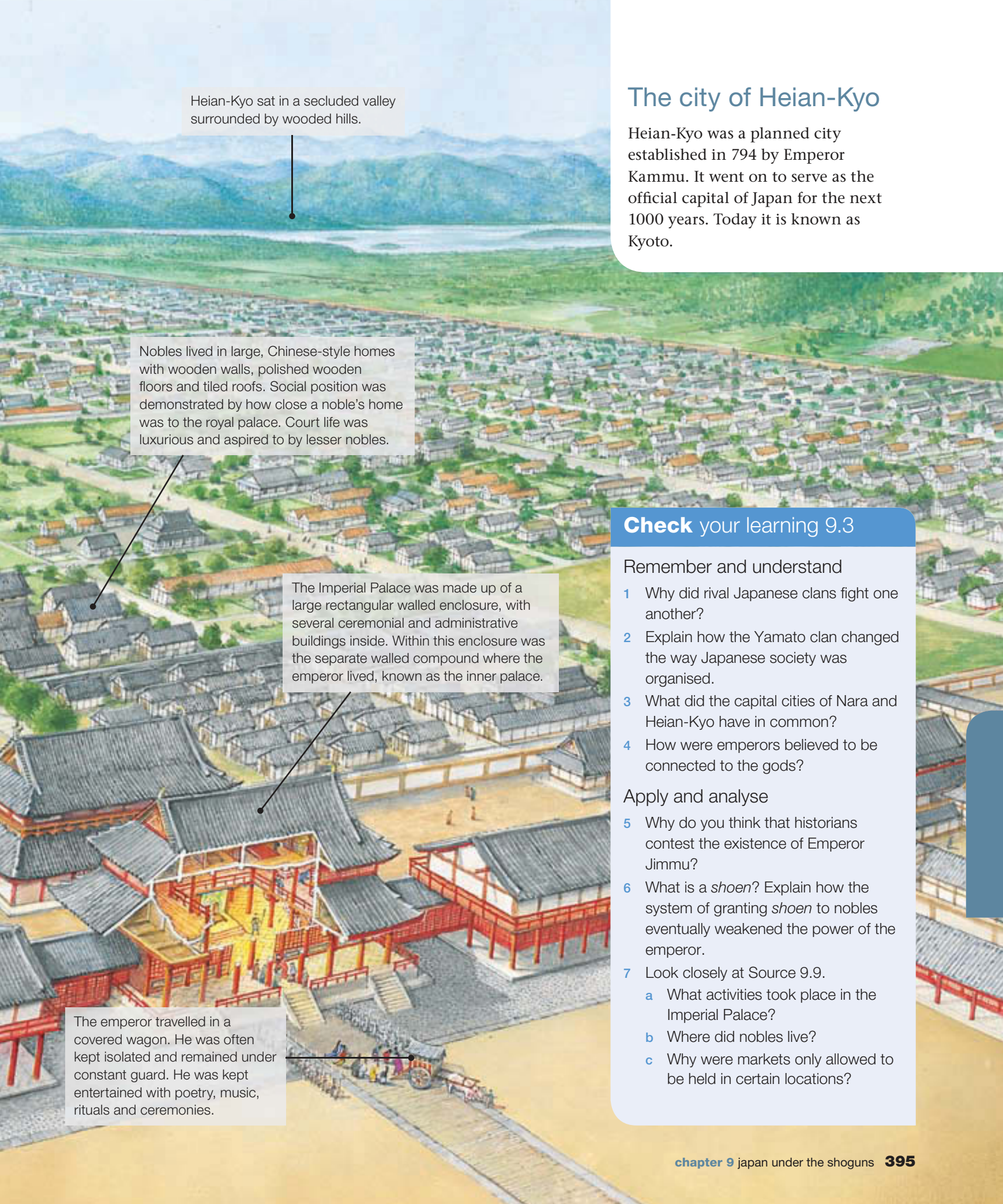
After the death of Emperor Kammu in 806, a series of weaker emperors ruled over Japan. Their reign resulted in the central government becoming increasingly removed from the daily governing of the provinces. Outside the city of Heian-Kyo, the emperor's power and control grew weaker. Lords who had been granted permission by the emperor to own and administer large rural estates – called *shoen* – started to become more and more powerful. To begin with, *shoen* were plots of land given to Buddhist monks to grow rice crops on, without paying tax to the emperor. Later on, emperors began granting *shoen* to nobles and officials as a reward for loyal service. Over time, the noble families who owned the *shoen* became increasingly wealthy and powerful, because they not only controlled the land (tax free) but also collected taxes from the peasants living on it. These noble families built up their own private armies in order to protect and police their *shoen*. These armies were led by generals known as shoguns and made up of warriors known as **samurai**. Eventually, the emperor began to depend on these private armies for support. This process marked the beginning of **shogun** rule in Japan.

Source 9.9 The city of Heian-Kyo was built as the new capital by Emperor Kammu.



The city of Heian-Kyo

Heian-Kyo was a planned city established in 794 by Emperor Kammu. It went on to serve as the official capital of Japan for the next 1000 years. Today it is known as Kyoto.



Check your learning 9.3

Remember and understand

1. Why did rival Japanese clans fight one another?
2. Explain how the Yamato clan changed the way Japanese society was organised.
3. What did the capital cities of Nara and Heian-Kyo have in common?
4. How were emperors believed to be connected to the gods?

Apply and analyse

5. Why do you think that historians contest the existence of Emperor Jimmu?
6. What is a *shoen*? Explain how the system of granting *shoen* to nobles eventually weakened the power of the emperor.
7. Look closely at Source 9.9.
   - a. What activities took place in the Imperial Palace?
   - b. Where did nobles live?
   - c. Why were markets only allowed to be held in certain locations?

Religious beliefs

Religion has long been an important part of life for the Japanese people. Religion was also significant in influencing social and political structures of Japan. As mentioned earlier, Shinto is the oldest religion in Japan and was a part of early clan life. During the rule of the emperors, Buddhism and Confucianism were also introduced from China. Today, Shinto and Buddhism are still the most significant belief systems in Japan.

Shinto

The roots of Japan's traditional Shinto religion (meaning 'the way of the gods') were laid down thousands of years ago. However, many Shinto customs and beliefs are still practised throughout Japan today. Followers of Shinto believe in a number of different gods and sacred ancestor spirits known as *kami*. Like many other ancient peoples, the early Japanese believed that all natural things were alive. *Kami* took the form of things and concepts important to life, such as the Sun, hills, lakes, mountains, rivers, trees and fertility. The Sun goddess, Amaterasu, was considered Shinto's most important *kami*. According to Shinto, people are also believed to become *kami* after they die. They are then worshipped by their families.



Source 9.10 Fortune-telling *omikuji* papers are found at many Shinto shrines, like this one in Kyoto. After making a small donation, a person randomly chooses an *omikuji* paper, hoping the resulting fortune will be good. Paper brings luck to followers of Shinto, because the word for paper in Japanese is also *kami*.

Shinto beliefs and rituals

Shinto is a belief system that has a positive, uplifting view of life on Earth. People are considered to be basically good. Evil spirits are seen to be responsible for the bad things that happen. Consequently, many Shinto rituals are aimed at warding off evil spirits through purification, prayers and offerings to *kami*. Shrines for worshipping *kami* are found across Japan, even in homes where small family altars hold offerings of *sake* (rice wine) and food.

Buddhism

Buddhism was first introduced to Japan in the beginning of the 7th century. Prince Shotoku was a keen follower of Buddhism and had many Buddhist temples built throughout Japan during his rule. Over a short period, Buddhism became the religion of the ruling class.

Buddhism is a religion that sees life as a cycle; you are born, you live, you die, and then you are reborn in a new form. Depending on how you live your life, you can come back as a better or worse thing or person in your next life. Buddhists try, in their lives, to work towards reaching nirvana, or enlightenment, the perfect state from which there is no need to be reborn. They do this by observing certain guidelines and behaviours in the way they live.

In Buddhism there are four Noble Truths:

1. life is full of suffering
2. suffering comes because people crave things
3. by getting rid of craving one is freed
4. the only way to do this is to have the 'right' understanding, speech, actions, efforts, livelihood, intentions, awareness and concentration.



Source 9.11 A Zen Buddhist monk practises meditation while looking upon a Zen rock garden

Zen Buddhism

From the 12th century onwards, a branch of Buddhism called Zen Buddhism became particularly popular in Japan. Zen Buddhism included an emphasis on meditation. Zen meditation involves sitting still for long periods of time to focus the mind on a single object or on the breath. Over time, this is believed to increase the believer's understanding of the self as a part of a single universe. Zen Buddhism has had a great effect on Japanese culture. The simplicity of Zen gardens has influenced landscape design, and the ritual of the tea ceremony is thought to have originated from a Zen ceremony.

Confucianism

Confucius was a Chinese philosopher and teacher who lived from 551 to 479 BCE. Unlike Shinto and Buddhism, **Confucianism** is not a religion. Instead, it is a set of ethical and philosophical guidelines by which to live. Confucianism appealed to the rulers of Japan as it promoted loyalty and stability.

One of the key principles of Confucianism is loyalty to family and, in particular, that family members should respect and obey their elders. This principle could also be applied to society as a whole, in which case complete obedience should be given to the ruler.

Confucius taught that if family members and rulers upheld values such as obedience, justice, truth, respect, honour and treating others fairly, societies would be stable.



Source 9.12 A Confucian shrine in Nagasaki, Japan

Check your learning 9.4

Remember and understand

1 Describe the concept of *kami* and explain why they are important to followers of Shinto.

2 Who was influential in bringing Buddhism to Japan in the 7th century?

Apply and analyse

3 Explain the relationship between nature and the Shinto religion.

Evaluate and create

4 What similarities and differences can you identify between the three belief systems described? Create a Venn diagram with three circles to conduct a comparison.

5 Create a facts chart on what you have learned about each of the three belief systems described here.

9.1 big**ideas:** rich task

The city of Heian-Kyo

Heian-Kyo was a planned city established by Emperor Kammu in 794. It became the capital of Japan for over 1000 years. Today it is known as Kyoto.

During the Heian period, Heian-Kyo was nine blocks long and eight blocks wide. Tree-lined avenues formed each block of the city. Some of the avenues had canals running through them. Heian-Kyo featured a royal palace, Buddhist temples, Shinto shrines, large public squares and many government buildings.



Source 9.13 The Imperial Palace in Kyoto has been rebuilt eight times – the last time in 1855 using the style of the original Heian architecture.

The royal palace stood at one end of Heian-Kyo, surrounded by the houses of the nobility. Nobles and their families lived in large, Chinese-style homes with wooden walls, polished wooden floors and tiled roofs.

At the other end of the city were two large markets for food and clothing. These sites were set up so that what merchants sold could be regulated and government officials could collect taxes.

The way societies build their cities provides information about what that society valued and how it functioned. By studying Source 9.9 you can identify questions about the city that will help you understand more about ancient Japan.



Source 9.14 The Heian Shrine in Kyoto, built in 1895, is a smaller scale replica of the first Imperial Palace built in 794.

skill**drill**

Generating historical inquiry questions

One of the first and most important steps in conducting a historical inquiry is to generate or pose key questions. The questions that you generate will frame and direct the research you then undertake.

Usually, historians generate one broad, overarching question for their inquiry, such as, 'How does the design of Heian-Kyo reflect the structure and organisation of Japanese society at the time it was built?' After that, you

need to generate more specific questions that are related to your overall inquiry question. You will need to generate a combination of three types of questions:

- simple or closed questions (e.g. 'When or where did event X occur?')
- open or probing questions (e.g. 'Why did event X occur?')
- 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 these questions is to work out 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 dot-point form in one column. In the second column, use each dot point in the first column to 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

Apply the skill

1 Use the process described above to generate a range of inquiry questions related to the overarching historical inquiry question: 'How does the design of Heian-Kyo reflect the structure and organisation of Japanese society at the time it was built?'

2 Copy the following table into your notebook. First, identify what you already know as a result of reading the information on this page and looking at Source 9.9. List these ideas in dot points in the first column. Then, in the second column, generate related questions that help to deepen or build your understanding. The first few have been done for you.

Overarching inquiry question: 'How does the design of Heian-Kyo reflect the structure and organisation of Japanese society at the time it was built?'	
What I already know	**Questions to help me deepen or build my understanding**
The emperor was the most powerful person in Japan.	• Where did the emperor live? (Simple or closed question) • What does the placement of the palace tell us about the role of the emperor? (Open or probing question)
Nobles lived in houses close to the Imperial Palace.	• What can you tell about Heian society from the style of architecture they used? (Open or probing questions)

Extend your understanding

1 Planned cities usually reflect important aspects of the society that has built them. Canberra, for example, is a planned city.

a Conduct research using the library or Internet to find out about the architecture and layout of Canberra.

b Create a Venn diagram or table to compare what you have found out about Canberra with what you know about Heian-Kyo. For example, Canberra is centred around Parliament House, whereas Heian-Kyo was centred around the Imperial Palace.

c Write a paragraph explaining what the designs of Canberra and Heian-Kyo might tell historians in the future about the values of modern Australia and ancient Japan.

9.2 How was Japanese society organised during the time of the shoguns?

The shogunates

As the power of the emperor and the Imperial Court began to weaken, the heads of Japan's noble families became increasingly powerful people. Because they were able to tax the peasants working on their *shoen* and sell the crops they grew without paying tax to the **emperor**, they also became extremely wealthy.

By the middle of the 12th century, two powerful clans controlled most of Japan; they were known as the Taira and Minamoto. These two **clans** became particularly powerful by supporting factions (interest groups) at the emperor's court. In addition to this, they controlled large armies of samurai. Over the next 25 years, the Taira and Monamoto clans fought for control over Heian-Kyo and the emperor. By 1185, the Minamoto clan had captured Kyoto and defeated the Taira. After the defeat, the leader of the Minamoto clan, Minamoto no Yoritomo, allowed the emperor to retain his title, but stripped him of any authority to rule over the people of Japan. This event marked the beginning of about 700 years of **shogun** rule in Japan (see Source 9.16).

Ruling family	During	Capital city	Period
Kamakura shogunate	1185 (officially recognised 1192)–1333	Kamakura	Kamakura
Imperial family (the emperor briefly regains power)	1333–1336	Kyoto	Kemmu restoration
Ashikaga shogunate	1336–1573	Kyoto	Muromachi
Shogun Nobunaga	1573–1582	Azuchi	Azuchi–Momoyama
Shogun Hideyoshi	1582–1598	Kyoto	Azuchi–Momoyama
Tokugawa shogunate	1603–1868	Edo (Tokyo)	Tokugawa (or Edo)

Source 9.15 The rulers of Japan during the shogun era



Source 9.16 Japanese warlord Minamoto no Yoritomo, shown in this artist's impression, was the first of the Kamakura shogunate, ruling from 1192 until his death in 1199.

Kamakura shogunate

In 1185, Minamoto no Yoritomo formed a military government at his base in the town of Kamakura. It was known as the Kamakura *bakufu*. A *bakufu* is a 'tent government' – in other words, it was meant to be temporary. In 1192 the emperor died, leaving Yoritomo with another opportunity to increase his control. He forced the Imperial Court to recognise his position with the title *Seii Tai-shogun* ('Barbarian-subduing great general').



Source 9.17 An artist's impression of the Japanese repelling Mongol invaders

The deal meant that although the incoming emperor would keep his symbolic position and receive some protection, Yoritomo would rule on his behalf. Since the shogun supposedly spoke for the emperor, all other nobles in Japan now also had to obey him.

Minamoto no Yoritomo then introduced a feudal system across Japan similar to the one in place across much of medieval Europe. He appointed his key supporters as military governors of the provinces. These ***daimyo*** (lords) were granted land and were responsible for collecting taxes in their region. They, in turn, gave parts of this land to their warriors (**samurai**) in return for their military support. Peasant farmers then were under the control of their local leaders and were granted protection in return for labour and food. For the next 700 years, a series of shoguns from a number of different clans would rule Japan while the emperor and his court remained in isolation with no real power.

Mongol invasions of Japan

One of the most significant events during the Kamakura shogunate was Kublai Khan's attempted conquest of Japan. From the beginning of the 13th century the size and power of the Mongol Empire in central Asia grew dramatically. Having already conquered China and Korea, the Mongol leader Kublai Khan (grandson of Genghis Khan) planned an invasion of Japan. Kublai Khan wanted to bring Japan under his control in order to expand his empire and increase his power. He was also eager to collect taxes from the Japanese people and plunder their treasures.

In 1274, a Mongol army totalling 40 000 men set sail from Korea in nearly 900 ships bound for Japan. Up until this time battles between rival clans in Japan were common, but this was the first time the clans were forced to unite to fight a common enemy. The Mongol army far outnumbered the Japanese samurai, and used superior fighting techniques and weapons. After only one day of fighting the Japanese forces were no match for the Mongols. They had no choice but to take cover in a nearby fortress. As the Mongol soldiers rested on their ships that night, a storm hit, sinking around 200 ships and drowning about 13 000 men. The remaining ships had no other choice but to return home unsuccessful.

Seven years later, in 1281, a second Mongol fleet returned. It was much larger – around 4000 ships carrying approximately 140 000 soldiers – and the Mongols were determined to conquer Japan. Once again though, as Mongol soldiers prepared to attack the Japanese, another massive typhoon hit. It wrecked the Mongol ships and

once again stopped the Mongol invasion. Most of the Mongol soldiers drowned and any others that made it to land were hunted down and killed by the samurai.

As a result of the failed invasions, there were many changes in Japan. The Japanese believed that their gods had sent the storms to save Japan from the Mongols, so Zen Buddhism became very popular. The Japanese called the two storms **kamikaze** (meaning divine wind). Kublai Khan seemed to agree that Japan was protected by supernatural forces; he abandoned the idea of conquering the island nation. In addition to this, the samurai adopted different fighting styles and weapons modified from those they had seen the Mongols use.

Kemmu restoration

Prior to the attempted Mongol invasions, successful samurai had been rewarded for their service in battle with treasures or land from their enemies – but the defeated Mongols left nothing behind. In 1333, Emperor Go-Daigo was able to gain the support of discontented samurai warriors who felt their elders had not been rewarded properly for their service in defeating the Mongols. They overthrew the Kamakura shogunate, promising loyalty to the emperor. However, the restoration was short-lived. In 1336, Ashikaga Takauji (a general who had helped Emperor Go-Daigo regain power from the shogun) seized power for himself and started his own shogunate.

Ashikaga shogunate

The new shogun, Ashikaga Takauji, moved the capital back to Kyoto and built a new palace in the Muromachi district. This is why this period of Japanese history (and the rule of this shogunate) is referred to as the Muromachi period.

Under the rule of the Ashikaga shogunate, the authority of local *daimyo* was expanded. In particular, all responsibility for military decisions, policing, the law, and economic and taxation matters was removed from the central government and given to the local *daimyo*. At first, this decision increased the power of the Ashikaga shogunate, mainly because it had a number of strong leaders in charge. However, as weaker shoguns came to power, the Ashikaga shogunate lost control. For the next few decades, from 1467 to 1573, Japan fell into a permanent state of civil war. This period is referred to by some historians as the Warring States period. The power of the shogun during this time did not extend much beyond Kyoto.

Despite this long period of civil war, the Muromachi period became known for its focus on the arts (with the growth of theatre) and for the growing importance and adoption of Zen Buddhism.

Azuchi–Momoyama period

Shogun Nobunaga

In 1573, after a century of civil war with *daimyo* fighting each other across Japan and weak leadership from the Ashikaga, the warrior Oda Nobunaga took control of Kyoto and became the new shogun. Ruling until 1582, Nobunaga centralised political power in Kyoto again and removed any *daimyo* he suspected of disloyalty.

A military man, Nobunaga reorganised his army into separate divisions of cavalry and foot soldiers and equipped them all with guns. His army proved to be an undefeatable force against more traditional samurai armies and during his rule his battles brought one-third of Japan under his control.

He committed *seppuku* in 1582, on the verge of defeat, after one of his generals rebelled against him.



Shogun Hideyoshi

In 1582 Toyotomi Hideyoshi, one of Nobunaga's key commanders, became the new shogun. He continued the process of reunification in Japan, gaining control of the islands Shikoku and Kyushu. Despite being the son of a peasant, Hideyoshi was a great believer in a strict class system and forbade farmers from carrying swords and samurai from engaging in trade.

Hideyoshi was killed in 1603 during a failed invasion of Korea.

The Azuchi–Momoyama period takes its name from a combination of castle names – Azuchi Castle (Nobunaga's base) and Momoyama Castle (Hideyoshi's base).



Source 9.18 A statue of Tokugawa Ieyasu of Toshogu shrine, Nikko, Japan

From 1603, the new shogun Tokugawa Ieyasu (see Souce 9.18) set about strengthening his position. He claimed absolute right to rule and made it clear to the emperor that the shogun had the right to approve all court appointments. He also ensured that the Tokugawa family directly controlled one-quarter of the countryside in Japan, which strengthened his family's position against any potential challengers.

Check your learning 9.5

Remember and understand

1 What demands did Minamoto no Yoritomo make on the emperor?
2 In 1274, the Japanese were forced to unite against a common enemy for the first time. Who did they fight?
3 Where does the Azuchi–Momoyama period take its name from?

Apply and analyse

4 Look at Source 9.17.
   a What impressions do you get about the warfare between the Japanese and the Mongols?
   b Is this a primary or a secondary source?
   c Was this source created by a Japanese or Mongol artist? Justify your response.
5 Why did the shift of power from the Imperial Court to the local *daimyo* weaken the Ashikaga shogunate?

Tokugawa shogunate

The long civil war in Japan ended with the warlord Tokugawa Ieyasu (1542–1616) being declared shogun in 1603 and completing the reunification of Japan. Once again, the country was united under a single military leader and a long period of peace and stability followed. Tokugawa Ieyasu built a new capital in Edo (modern-day Tokyo) and moved the government there. For this reason, the era of the Tokugawa shogunate is also referred to as the Edo period of Japanese history. The Tokugawa family would fill the role of shogun until 1868.

A significant individual: Minamoto no Yoritomo

Minamoto no Yoritomo was a warrior chief of the Yamato clan who, in 1192 CE, was named the first shogun by the emperor. As the shogun, Yorimoto wielded huge amounts of political and military power. He set up his own capital in Kamakura, far to the east of the emperor's capital in Kyoto. In Kamakura, he would be free to rule without interference from the emperor. He was the first in a line of shoguns who would go on to rule Japan for the next 700 years.

The emergence of a warrior class

Until the end of the 12th century, Japan was still ruled by the emperor and his government from the Imperial Palace in Kyoto. At this time, the decisions made by the emperor were very heavily influenced by members of the Fujiwara clan (who were trusted advisors at court). However, the emperor's government focused almost completely on life and affairs in the capital, and neglected to pay attention to the provinces that surrounded them. Because of this, from about the 10th century onwards, a new warrior class emerged to provide order and control in the provinces that the emperor had neglected.

By the 12th century, this new warrior class was dominated by two great clans – the Minamoto and the Taira. During the late 11th and early 12th centuries, warlords from the Minamoto and Taira clans began to participate more and more in the politics of the Imperial Court. After two armed conflicts in Kyoto, in 1156 and 1159, the Taira succeeded in replacing the Fujiwara as the most powerful clan in Japan.

Yoritomo's rise to power

Yoritomo was only 12 years old at the time of the 1159 conflict, in which the Taira defeated the Minamoto. The Minamoto clan was led by Yoritomo's father, who was killed in the conflict. In defeat, Yoritomo was sent into exile in the eastern provinces of Japan by the Taira leader.

During the next 20 years, the Taira clan became very powerful. However, like the Fujiwara clan before them, they continued to focus on the affairs of the capital and neglect the provinces and the needs of the new warrior class. Beginning in 1180, Yoritomo and other Minamoto clan leaders decided to rise up against the Taira clan in Kyoto. The war between the Minamoto and the Taira lasted for five years until Minamoto armies drove the Taira from Kyoto to final defeat.

In 1185, Yoritomo established government at Kamakura, a small coastal village south of modern-day Tokyo, where



Source 9.19 Minamoto Yoritomo went into battle for the first time at the age of 13.



Source 9.20 A 20th-century artist's impression of Minamoto Yoritomo parading through the streets after becoming shogun

the Minamoto clan had many supporters. A few years later, in 1192, Yoritomo received the title of shogun from the emperor. This made him Japan's first official shogun. The government Yoritomo founded, which lasted from 1185 until 1333, is known as the Kamakura shogunate.

Key achievements

Yoritomo had always wanted power and was jealous, suspicious and cold-hearted, even in his own circle. He killed several family members whom he saw as potential threats to his power. But once in power, he proved an excellent ruler.

During the war with the Taira, Yoritomo gained growing authority with the provinces of eastern Japan. He set up a system of feudalism with his followers, providing them with protection and land in exchange for their loyalty and military service.

After 1185, he received permission from the Imperial Court to appoint his followers to govern the provinces. They were given the job of administering and policing their provinces. They were also given the job of managing taxes and supervising individual estates. As a result, these lords held important military power over each province. They became known as *daimyo*.

Through these systems, the Kamakura shogunate undermined the power and authority of the emperor and his centralised government based in Kyoto. Before long, the Kamakura *bafuku* had replaced the Imperial Court at Kyoto as the effective central government of Japan. Yoritomo ruled from 1192 until 1199, dying of a serious illness at the age of 52, but the feudal system of government which he established remained in place for seven centuries.

Check your learning 9.6

Remember and understand

1 When did Minamoto Yoritomo become shogun?

2 How did a new warrior class emerge as a result of the emperor's approach to governing Japan?

3 What happened to Yoritomo after the 1159 conflict between the Minamoto clan and the Taira clan, in which his father was killed?

Apply and analyse

4 In your own words, explain what is meant by the term 'feudalism'. Why do you think Minamoto no Yoritomo is remembered today for establishing a feudal system in Japan?

Evaluate and create

5 Write a paragraph outlining the key reasons why Yoritomo was able to become so powerful.

Social groups in shogunate Japan

Although **feudalism** was first introduced under the rule of Minamoto no Yoritomo, it became even stronger during the Tokugawa period. Feudalism in Japan was a system for organising groups of people within society. Like the system in place across much of medieval Europe, feudalism in Japan classified social groups in order of importance. Each of these groups – from most to least important – had certain rights (things they could expect, such as protection) and responsibilities (work they had to perform in return, such as military service or farming). A person's position in this hierarchy was determined at birth and was strictly defined. People knew what was expected of them and were not able to move between social classes. There were even restrictions on the levels of interaction allowed between certain groups.

The emperor

The emperor of Japan was regarded as the spiritual and symbolic head of the country and descended from the gods. From 1185 onwards, however, the emperor had no real power and his role was mainly ceremonial. He was still seen as the head of state and was expected to officially give the shogun his title and right to rule. The emperor lived in the Imperial Palace in Kyoto.

The shogun

The shogun was the emperor's leading general. Between 1185 and 1867, shoguns formed their own governments and controlled Japan. As well as commanding the military, shoguns ran the everyday affairs of the country and were responsible for collecting taxes.

Daimyo

Daimyo were regional landowners allowed to rule provinces in return for providing loyalty and military support to the shogun. While the shogun owned 25 per cent of the land, the rest of the land was divided into 275 regions ruled by different *daimyo*. The shogun's authority depended on the loyalty of these *daimyo*. Each *daimyo* controlled a private army made up of samurai warriors that were made available to the shogun when needed. Each *daimyo* depended on the loyalty of his samurai, together with the labour, taxes and military assistance of the peasants living in his province, in order to hold power.

Samurai

Samurai were warriors who swore allegiance and loyalty to their *daimyo*. They wore plain, dark clothes bearing a clan crest so they could be easily identified. Male samurai wore two swords denoting their warrior status. Female samurai would also train in martial arts such as archery. (More information on samurai is provided in the next section.)

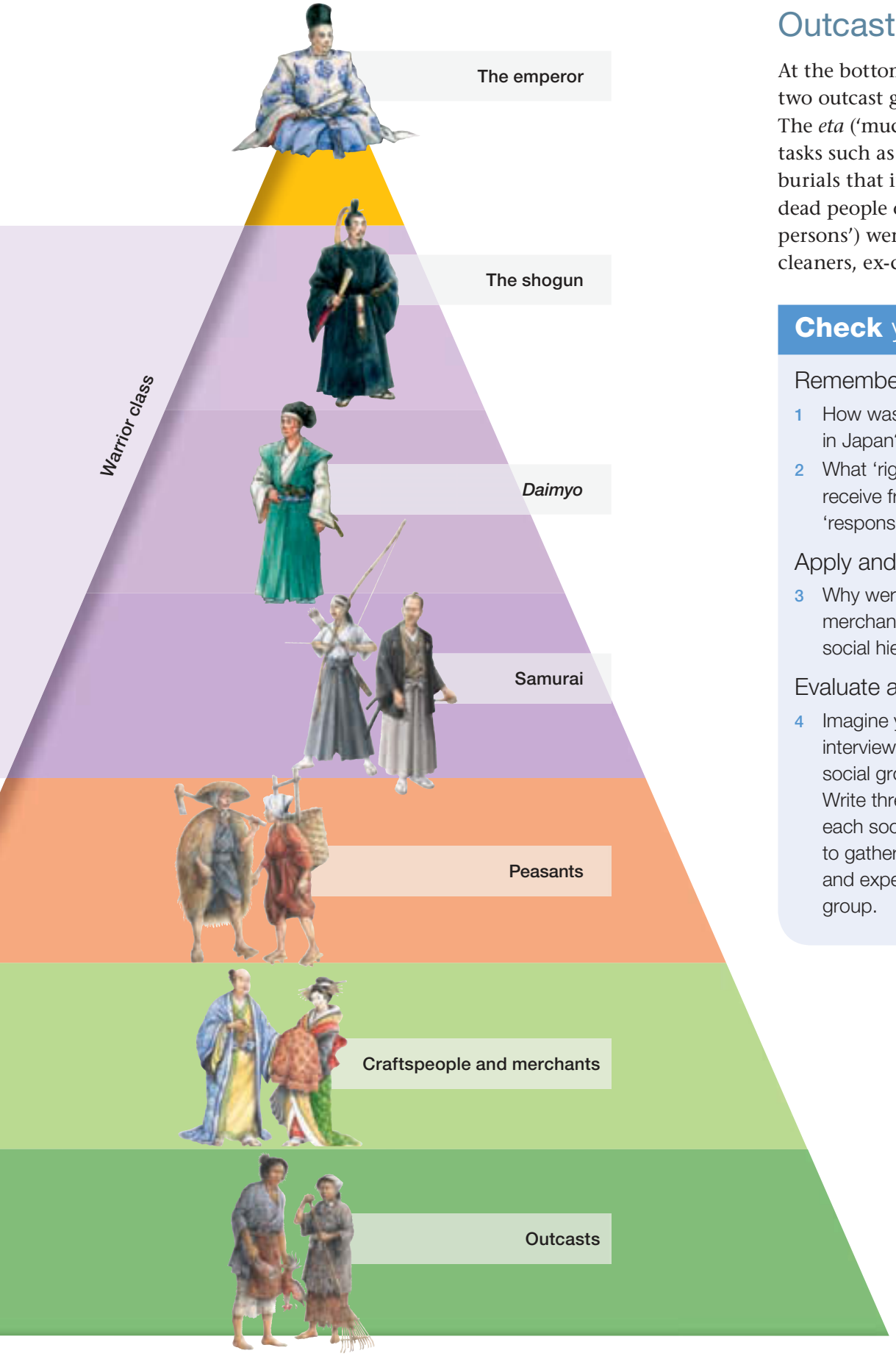
Peasants

Peasants were the largest single group in Japanese society, making up around 80 per cent of the population. Most peasants were farmers, but this group also included woodcutters, fishermen and mine workers. Unlike European peasants, peasants in Japan were given a higher rank than merchants and craftspeople, because it was believed that they performed an essential and important role in society – that is, producing food on which everyone depended. Despite this higher status, peasants lived a harsh life.

Craftspeople and merchants

Craftspeople were those who made goods and tools, including sword smiths, printers, boat builders and carpenters. Craftspeople received less official respect than peasants because, according to Confucian thought, people could live without the goods they made. Merchants lived by trading and transporting goods, lending money and running shops. They were given little respect because it was considered that they produced nothing useful themselves, only profited from the hard work of others. Merchants tended to live in the larger towns and cities and, despite their low status, they could be very wealthy.





Outcasts

At the bottom of the social ladder were two outcast groups – the *eta* and the *hinin*. The *eta* ('much filth') were involved in tasks such as butchery, leatherwork, or burials that involved the handling of dead people or animals. The *hinin* ('non-persons') were undesirables, such as street-cleaners, ex-convicts and actors.

Check your learning 9.7

Remember and understand

1 How was the feudal system organised in Japan?

2 What 'rights' did each *daimyo* receive from the *shogun*, and what 'responsibilities' did he have in return?

Apply and analyse

3 Why were Japanese craftspeople and merchants seen as being lower on the social hierarchy than peasant farmers?

Evaluate and create

4 Imagine you had the opportunity to interview a person from each of the social groups described in this section. Write three questions for a person in each social group that would help you to gather information about their lives and experiences as a member of that group.

Source 9.21 The social structure of shogunate Japan

Limiting the power of the *daimyo*

In feudal Japan, the shogun, his *daimyo* and their samurai made up a warrior class with a very high social status. Although the shogun had ultimate power, he constantly needed to protect his power and authority from other challengers. Most often the challengers were *daimyo* and samurai under his control. If they became rich and powerful enough, *daimyo* and their samurai could plot to overthrow the shogun and take control. In order to prevent this from happening, Tokugawa Ieyasu placed a number of restrictions on the *daimyo*. Some of these are detailed in Source 9.22.

Restrictions placed on *daimyo* by the shogun

- A *daimyo* had to spend alternate years living in Edo under the watchful eye of the shogun.
- *Daimyo* were not permitted move outside their own provinces or form treaties with other *daimyo*.
- A *daimyo* could not marry without the shogun's approval.
- Each *daimyo* was only permitted to build one castle in his province.
- Each *daimyo* was only allowed to keep a limited number of samurai.

Source 9.22 A number of the restrictions imposed by the shogun to limit the power of his *daimyo*

The samurai

As mentioned, all *daimyo* had armies of samurai. The samurai played a key role in Japanese socoiety during the Tokugawa period and were the top-ranking class in society beneath the shogun and *daimyo*.

The title samurai means 'one who serves'. Each samurai warrior was expected to live and die by a set of rules. During the Tokugawa period, the rituals and training for every samurai began at the age of five. Under the control of special teachers, young samurai learned fighting and military skills as well as reading, writing, calligraphy, etiquette and public service. By the age of 15, the samurai had finished their training. This was recognised at a formal ceremony.



Source 9.23 The samurai's sword became the symbol his status and honour.

The *bushido* code

Samurai lived under a strict code of behaviour known as **bushido** (meaning 'the way of the warrior'). This code was based on honour, loyalty, respect and discipline (see Source 9.24). During training, samurai were expected to withstand many physical challenges, such as walking barefoot through snow or going long periods without food. According to bushido, every samurai's first duty was to honour and obey his master. If a samurai was defeated in battle, captured by the enemy, or dishonoured in any way, the code required him to commit ritual suicide – an act known as ***seppuku***. A special knife or short sword was used to stab deep into the abdomen and cut across the body from left to right. Only by taking his own life in this way would the samurai and his family be spared public shame and disgrace.

Elements of the *bushido* code

- **Benevolence** – showing kindness towards others and those in need
- **Readiness** – mental and physical health; being ready for action
- **Organisation** – efficiency in all things
- **Respect** – to others, to parents, to their ancestors and lords
- **Fidelity** – always doing the right thing and following others

Source 9.24 Characteristics of the *bushido* code followed by all samurai

Weapons and armour

Samurai armour was created by lacing together small pieces of leather and iron using silk thread. Together, these pieces were like fish scales, creating armour that was flexible and easy to fight in – weighing as little as 10 kilograms. This armour was decorated so that people could identify who was wearing it. Helmets often carried horns or frightening images on them to both scare opponents and identify the wearer as a member of a particular clan. A section of the samurai's head was shaved at the top, with remaining hair tied into a knot and placed on the top of the head.

Each samurai had both a long and a short sword. Swords became a symbol of honour and status during the Tokugawa period, as no other groups in Japanese society (other than the shogun and *daimyo*) were allowed to carry them. If a samurai lost his sword, it was considered a great loss of honour. Most samurai also carried bows and arrows. The long sword was used in fighting, while the shorter sword was used to remove an enemy's head (or nose). If the samurai was dishonoured, he was also expected to use the short sword to commit *seppuku* (ritual suicide). By the 1500s onwards many samurai also carried guns.



Source 9.25 An artist's impression of a samurai on horseback, wearing armour and a horned helmet and carrying a bow and arrows

Warfare

In early samurai traditions, warfare took place in the open and there were strict rules governing how battles were fought. The opposing sides would agree where and when each battle was to take place. Once the armies were lined up facing each other, a single samurai would move forward from each side to issue a challenge. They talked of their strength and of the power of their ancestors. They then fired an arrow at each other.

It was only then that the two samurai moved in to fight. This challenging continued until these individual duels became so numerous that it turned into a group battle. Each samurai would cut off the heads of those he killed on the battlefield and carry them back to his camp in victory. The heads were presented to the *damiyo* to celebrate the victory. In later wars, samurai stopped removing enemy heads and simply collected noses, as they were easier to carry.

During the extended period of civil war in the 1500s the size of samurai armies increased from thousands to tens of thousands. Military tactics also developed during this period, with armies organised into troops. While samurai still rode on horseback, commoners could join the armies as foot soldiers. The use of guns also saw the samurai adopt more European-style group warfare and **siege** warfare.

During the Tokugawa shogunate that followed, a period of extended peace and stability across Japan meant the samurai had nobody to fight. As a result, the shogun began to reduce the number of samurai being trained and many samurai took up administrative positions.

Check your learning 9.8

Remember and understand

1 What is meant by the term *bushido*? Give three qualities that were demanded under this code.

2 What action was a samurai required to take if he was captured or defeated in battle?

Apply and analyse

3 How was the *shogun* able to limit the power of the *daimyo*? Why was this necessary?

4 Describe the act of *seppuku* and explain why samurai were bound to carry it out in some instances.

Create and evaluate

5 Using the information provided, together with information gathered on the Internet, develop a week-long training program for a young samurai who has recently been recruited at age five.

6 Sketch the samurai shown in Source 9.25. Add labels to show his weapons and armour.

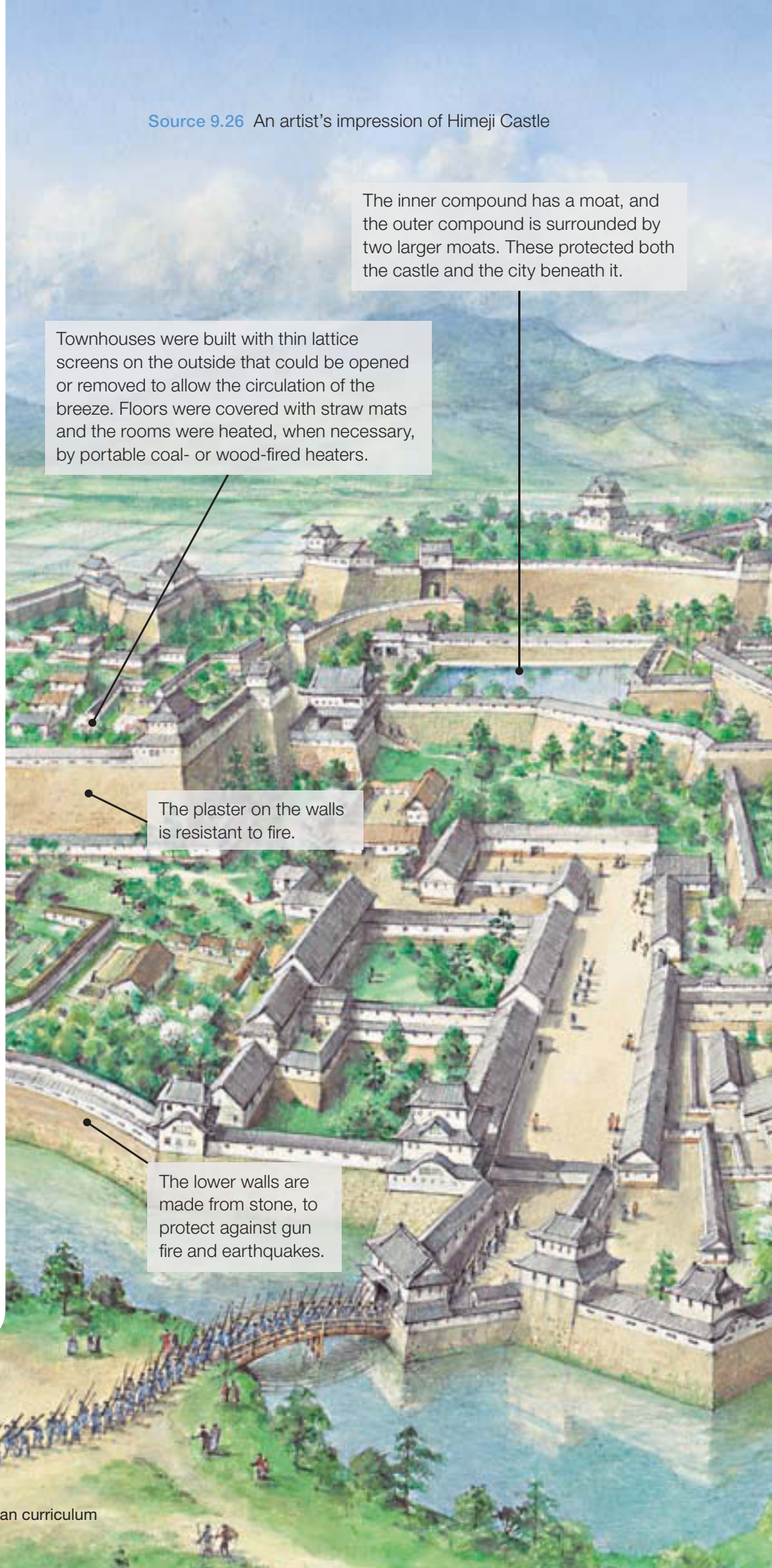
Towns and castles

Most towns built across Japan during the rule of the shoguns were made from wood, as this was the most freely available material. Internal walls of buildings and houses were typically screens made of paper or light wood, and rooms were divided with sliding doors. Initially, towns and castles were surrounded by simple moats or wooden fences, but more complicated structures began to be built from the 14th century onwards.

By 1615, over 200 castles had been built all over Japan by *daimyo* who were eager to display their wealth and power. These castles were surrounded by homes belonging to the *daimyo,* his family, his samurai and other social groups. The *daimyo* and his samurai would often retreat to the castle tower when they were being attacked. When not under attack, many would live in the areas inside the outer walls in more comfortable homes.

Himeji Castle is located in the city of Himeji, 100 kilometres west of Osaka in Japan. Himeji Castle is often referred to as the 'White Heron Castle' because its bright white plaster walls and black woodwork resemble a bird taking flight. The castle sits at the top of a hill. The central tower stands 46.4 metres above the ground. It has a complicated defence system, similar in many ways to a maze. When it was built, it incorporated the most up-to-date military technology of the period.

Source 9.26 An artist's impression of Himeji Castle





Check your learning 9.9

1. Why were Japanese buildings, on the whole, built from wood?
2. How did the Japanese protect their wooden castles from fire?
3. Look carefully at Source 9.26.
   a. How was an attack on the *donjon* made difficult?
   b. List three further defence mechanisms built into the castle design.
   c. Explain the need for a number of different moats.

9.2 big**ideas:** rich task

Comparing warrior cultures – Japanese samurai versus European knights

The warriors known as the samurai were an important social group in shogunate Japan. Although the word samurai means 'one who serves', they held considerable political power of their own. It was the samurai who imposed the will of their masters, the *daimyo*, on the rest of the population. They developed a well-defined relationship with their masters – the *daimyo* promised to reward their warriors with salaries or gifts, including portions of land; in return, the samurai promised to protect and extend the property and power of their *daimyo*, by force if necessary.



Source 9.27 A Japanese samurai on horseback in full armour

In many ways, the samurai in Japan were similar to the knights of medieval Europe. During medieval times, **knights** also developed from a group of skilled fighters (employed in times of conflict to defend villages and farms) into an influential social group made up of elite warriors. They operated within the feudal system, pledging their allegiance and service to a lord in exchange for accommodation, payment and gifts. Knights supplied their own weapons, horses and armour – these were the tools that made them formidable opponents in battle. Knights trained from the age of seven or eight as pages, learning to read, write, dance, look after horses and equipment, as well as practising fighting skills. They then became squires, training and fighting alongside more experienced knights. At eighteen they could pledge allegiance to a lord or lady and become knights themselves.

European knights lived by the **Code of Chivalry**, which was similar to the *bushido* code in many ways. They vowed to act honourably, and defend the weak and vulnerable. They promised to serve their lord to the best of their ability, only surrendering when the situation was hopeless or they were terribly outnumbered. The Code of Chivalry also emphasised the qualities of courtesy, honesty and chivalry towards women.



Source 9.28 A European knight on horseback in full armour

skill**drill**

Writing a historical description

Historical descriptions give clear information about people, places or objects at particular moments in time. They focus on the main characteristics or features of particular people or things. They 'paint a picture' in words for the reader to increase their understanding. Because of this, writing historical descriptions is an important skill for all historians to master.

Structuring a description

Descriptions must be well planned and always follow a set structure, with events organised in chronological order. Use the outline provided to structure your 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.

Apply the skill

1 Use your knowledge of the samurai and the *bushido* code along with the information provided about medieval European knights provided to prepare a written historical description that compares the two types of warriors. You can also use Sources 9.27 and 9.28 to help you. Before writing your description, conduct a comparison. In your comparison you should look for both similarities and differences between the two types of warriors. Use the table below to organise your thoughts and plan your writing. Each characterstic listed in the table should be covered in your description.

	Japanese samurai		European knights	
	Similarities	Differences	Similarities	Differences
Training				
Weapons and armour				
Code of conduct				
Service to lord				
Reward for service				

Extend your understanding

1 If you were given the choice, would you prefer to have lived as a Japanese samurai or European knight? Explain your point of view in two or three paragraphs. Give specific reasons and evidence for your point of view.

9.3 How did Japan change under the rule of the shoguns?

Changes to foreign policy



Source 9.29 This painting by a Japanese artist shows Portuguese missionary Francis Xavier and his entourage arriving in Japan in 1547.

Under the rule of the **shoguns**, Japanese society, customs, arts and culture, and govenment policy changed in many ways. One of the most significant changes related to Japan's foreign policy.

Since the mid 1500s, Portuguese, Spanish, English and Dutch traders had been visiting Japan, however under the rule of the Tokugawa shogunate, Japan's relationship with the outside world became strained. Although many *daimyo* wanted contact with the foreigners – mainly in order to buy weapons and other products – the Tokugawa shoguns feared the influence of the West would corrupt Japan. They put in place a policy to first limit, then completely cut off contact between Japan and the West. This policy of isolation would bring about many changes on Japanese society.

Christian missionaries

The early Portuguese and Spanish traders brought missionaries with them who came to convert the Japanese to Christianity. Christianity spread rapidly in Japan, and by 1570 over 30000 Japanese had become converts.

Though Christianity was allowed to grow until about 1620, Tokugawa Ieyasu soon began to see it as a real threat to the stability of the shogunate. It threatened Japanese society on several levels. It called for loyalty and obedience to a foreign power – the Pope – before the shogun. Christian church congregations were also socially mixed and allowed interaction between different social classes. This was frowned upon in Japanese society. Tokugawa Ieyasu eventually banned missionaries from Japan. Around 10 years later, another shogun by the name of Tokugawa Iemitsu took even stronger action. He began persecuting Christians from 1633 onwards and finally outlawed Christianity altogether in 1637.

Foreign trade

Between 1603 and 1635, Shogun Tokugawa Ieyasu attempted to monitor and control trade with the outside world by putting a permit system in place. As part of this, he issued 350 red-sealed permits for armed merchant ships destined for South-East Asian ports. He then allocated these permits to his favourite *daimyo* and to key merchants who were interested in foreign trade. Besides Japanese traders, only 12 European and 11 China-based traders are known to have received permits. All others were refused.

The shogun's seal guaranteed the protection of the



Source 9.30 A drawing from 1634 of a trade ship carrying the shogun's red seal

ships and allowed them to enter Japanese ports. The shogun vowed to pursue any pirate or nation who violated the seal. At this time, Japanese merchants mainly exported silver, copper, diamonds and swords, while Japan mainly imported silk from China, and sugar and deerskins from South-East Asia.

key concept: significance

William Adams and the shogun

William Adams is a significant figure in the history of Japan. Adams was an Englishman who sailed on a Dutch ship. In 1598, he anchored off the coast of the Japanese island of Kyushu. After a long and difficult voyage, only nine of his crew were fit enough to land. After arriving, Adams' crew were imprisoned because Portuguese missionaries on the island claimed that they were pirates. Adams was questioned by the future shogun Ieyasu and struck up a relationship with him. In 1604, Adams was ordered by Ieyasu, now the shogun, to help build Japan's first ship according to Western designs. The following year, a second ship was constructed.

By 1608, Adams was acting for the shogun, helping to establish relationships with the Philippines. Over time he became a personal advisor to the shogun.

Adams helped to establish a Dutch trading base in Hirado, Japan. He also encouraged the English in Indonesia to trade with Japan, helping establish the British East India Company in 1613. Thanks to Adams, the English gained a red seal that gave them the right to live, buy, sell and trade in Japan.

For more information on the key concept of significance, refer to section HT.1 of 'The historian's toolkit'.



Source 9.31 Sailor and navigator William Adams (standing) was the first Englishman to visit Japan in 1598. He was at first put in prison as a pirate, but was freed after building two ships for Tokugawa Ieyasu (seated, second from left).

The policy of isolation

By the time Shogun Tokugawa Iemitsu came to power in 1623, he wanted to limit contact between Japan and the outside world even further because he believed that foreign influence was a threat to his rule. In 1633, he outlawed Western traders from stepping foot on mainland Japan and also made it illegal for Japanese people to leave. Any Japanese person who did manage to leave and was then caught trying to return was sentenced to death. This policy was known as **sakoku** ('locked country'). It was an attempt to put a stop to Western influences (such as religion, philosophy and technology) on Japanese people. From 1633 until 1853, there was no trade with the outside world apart from some limited contact with China and the Netherlands through a small man-made island off the cost of mainland Japan called Dejima – which was heavily guarded.

Check your learning 9.10

Remember and understand

1. Why were many *daimyo* interested in trading with foreign countries?
2. Why did Christianity come to be considered a threat to Japanese society by 1620?
3. Who was William Adams and what skills and technology did the Japanese learn from him?

Apply and analyse

4. Why was the shogun's red seal so keenly sought by traders?
5. Explain the policy of *sakoku* and give two reasons why it was introduced.
6. Look at Source 9.31. What evidence does this source present that Adams was well treated and that the Japanese attitude towards outsiders was changing?

Changes to cities and the environment

Other changes that took place in Japan under the rule of the shoguns related to the construction of cities, the development of agriculture and the establishment of environmental policies.

When the Tokugawa Shogunate began its rule in 1603, it ended the conflict of the previous four centuries. The Tokugawa (or Edo) period brought 250 years of stability to Japan. The shogun had national authority, and his *daimyo* had regional authority. In response to this stability and peace, a new emphasis on education began, towns sprang up, and merchants and traders became more and more important. More sophisticated ways of managing the economy and its natural resources (such as forests) were also developed.



Source 9.32 A map of the city of Edo (with Edo Castle shown in the centre), drawn around 1844

The development of Edo

After coming to power in 1603, Tokugawa Ieyasu began a period of rapid construction and development in his capital of Edo – particularly the construction of Edo Castle. Canals were built to deliver clean water and to drain marshland. Extensive road networks were built to support the constant travel of *daimyo* and their samurai to and from the new centre of Japanese society – even though Kyoto (where the emperor lived) was still officially the capital. Towns and businesses grew along the roads. By 1721, the feudal town of Edo had become the largest city in the world, with over one million residents (see Source 9.32). Today, Edo is known as Tokyo and is still one of the largest cities in the world, with a population of more than 35 million.



Source 9.33 A satellite image of Edo Castle today



Source 9.34 Japanese cedar forests were strictly managed in the Tokugawa period

The development of agriculture

In agricultural regions, small farming groups were guaranteed land to cultivate and *daimyo* looked at methods to increase productivity on their land. These methods included the increased use of fertilisers and harvesting crops twice a year. More land became available for farming as water projects delivered more reliable water supplies for irrigation, and provided solutions to control flooding. These improvements enabled rice production to move from subsistence levels (growing only enough to eat) to commercial levels (growing enough to eat and trade).

Environmental management

During the Edo period, Japan developed an advanced forest management policy. Wood had always been a primary building material and a primary fuel in Japan. It had been used extensively in temples, shrines, castles, houses and shipbuilding. The huge growth in the size of cities led to increased demand for timber resources, which caused widespread deforestation. This, in turn, resulted in floods and soil erosion. Around 1666, the Tokugawa Iemitsu introduced a policy to reduce logging and increase the planting of trees. From then on, only the shogun and *daimyo* could authorise the use of wood.

The Tokugawa shogunate also established a policy of planting Japanese cedar trees and controlled who could own land in forest areas. The Tokugawa banned individual ownership of forested land, and limited access to forests by the *daimyo*. Communities were encouraged to plant trees on common land. Local villages managed the forests by planting seedlings, cutting trees selectively and patrolling forest areas to stop the illegal removal of timber.

By 1724, timber harvesting had declined by 60 per cent. It remained at low levels for the next 30 years to allow Japan's forests to recover.

Check your learning 9.11

Remember and understand

1 List some ways in which the Tokugawa Shogunate strengthened Japan's economy.
2 How did rice production change?
3 Why were more roads required around Edo as the city grew?
4 Why was timber such an important resource in medieval Japan?

Apply and analyse

5 Describe the environmental policies introduced to protect forests and change the way timber was harvested.
6 Write a paragraph to explain, in broad terms, the impact that the Tokugawa shogunate had on Japan.

Changes in arts and culture

During the Tokugawa (or Edo) period (1600–1868) there was also great cultural growth in Japan. The samurai educated themselves in areas such as literature, philosophy and the arts. They were expected to be as skilled in writing poems as they were in fighting. Townspeople also adopted a new focus on the arts, including literature, theatre and crafts. The arts were seen as expressions of learning and education.

Bonsai

During the Kamakura period (1185–1333) when Zen Buddhism was spreading into Japan, members of the Imperial Court and students of Buddhism who travelled to China returned with souvenir plants in Chinese known as *penjing* ('tray scenery'). This practice of cultivating miniature trees in ceramic trays quickly became popular in Japan. In fact, *bonsai* ('tray planting') remains popular to this day. The roots and branches of *bonsai* trees are continually trimmed to make them look as natural as possible. For example, a Japanese maple tree that might grow to 6 metres in the wild can be kept as small as 10 centimetres when grown according to *bonsai*. One of the oldest known living *bonsai* trees is a pine tree pruned by shogun Tokugawa Iemitsu (see Source 9.35).



Source 9.35 This 550-year-old bonsai pine tree was pruned by shogun Tokugawa Iemitsu.

Japanese poetry

Another art form that flourished during the rule of the shoguns was poetry. The Japanese created distinctive forms of poetry to capture the beauty of nature, and the joy and sadness of life.

Primary evidence of these art forms remains. One of the oldest forms of Japanese poetry is the unrhymed poem called a *tanka*. Source 9.36 is an example.

Source 9.36

On autumn nights
the dew is
colder than ever—
in every clump of grasses
the insects weep

Tanka from the Kokinshu (author unknown)

From *tanka* poetry, two other forms of poetry developed. These were known as *renga* and *haiku*. *Renga* poetry was written by many poets working together. There were sometimes hundreds of stanzas (verses). The opening stanza of the *renga* became what we now know as *haiku*. *Haiku* became very popular in the 17th century. *Haiku* poems are made up of 17 syllables (single sound units) divided into three parts – the first part has five syllables, the second has seven syllables and the third has five syllables. The most famous poet of the Tokugawa period in Japan was Matsuo Bashó. His *haiku* poems, such as Source 9.37, captured the feeling of a scene in a few simple words.

Source 9.37 The most famous Japanese *haiku* is called *Old Pond* by Matsuo Bashó.

古池や
蛙飛込む
水の音

This is pronounced in Japanese in the following way (the number of syllables is provided in parentheses):

fu-ru-i-ke ya (5)
ka-wa-zu to-bi-ko-mu (7)
mi-zu no o-to (5)

This translates into English as:

The old pond
A frog leaps in …
A sound of water splashing.



Source 9.38 A folded paper crane, using *origami* techniques



Source 9.39 A modern *bunraku* performance

Origami

The Japanese word *origami* is made up of two smaller words – *ori* ('to fold') and *kami* ('paper'). Japanese *origami* began in religious ceremonies after Buddhist monks carried paper from China to Japan during the 6th century.

During the Tokugawa period *origami* became a popular form of entertainment for the merchant classes and the common people. It is now also a popular art form with children around the world.

Theatre

Japan is known for a stylised form of theatre called *Noh*. It began in the 14th century as a dramatic way of presenting Shinto and Buddhist beliefs. It came to be used for non-religious themes as well. *Noh* plays were performed on a bare stage. The actors and chorus were all male, performing the parts of both men and women. The actors wore masks along with detailed costumes. They chanted poetry, and danced and gestured to the music of drums and flutes.

Newer types of theatre developed during the Tokugawa era. *Kabuki* theatre involved spectacular scenery and costumes with dramatic actions. It initially included female performers until they were banned in 1629. *Bunraku* is a form of traditional Japanese puppet theatre, created in 1684. In *bunraku* theatre, large puppets perform to a story chanted by a narrator. Unlike human actors, puppets could be beheaded on stage, or undertake actions impossible for humans.

Martial arts

Samurai felt that Zen Buddhism would help them to develop their mind and body, so that these would act as one when required. Weapons would become an extension of their mind so that they could fight without fear or undisciplined thought. Followers of Zen Buddhism learned to control their bodies through martial arts or combat sports.



Source 9.40 *Kendo* is a modern martial art based on the practice of *kenjutsu* used by samurai.



Source 9.41 Sumo tournament in Tokyo in 2009

Jujutsu

Jujutsu ('the gentle art') was used to train for close combat. The aim of *jujutsu* is to use the opponent's energy against him, rather than directly opposing it. This is achieved through holds and techniques to throw an opponent off balance.

Kenjutsu

Kenjutsu ('the art of the sword') involved the practice of swordsmanship. During the Tokugawa period, the development of the bamboo practice sword and protective armour allowed full sparring with reduced risk of harm. This came to be known as *kendo* ('the way of the sword').

Sumo wrestling

Sumo wrestling, an ancient temple ritual, became a form of professional sporting entertainment during the Tokugawa period. It is still a national sport today. The original professional wrestlers were probably samurai who needed another form of income. A sumo tournament is lengthy, and can go on for 15 days. During that time, the sumo wrestler will carry out matches against opponents using many of the 70 possible categories of moves. A sumo fighter is usually very big, with a large belly, around which he wears a *mawashi* belt that indicates his rank. As the wrestling bout starts, salt will be thrown into the ring before the referee enters carrying his paddle. Salt purification dates back to the days when sumo was used in the Shinto religion.

Check your learning 9.12

Remember and understand

1 How did the Chinese practice called *penjing* change gardening in Japan?
2 Zen Buddhism had a strong connection with Japanese art forms. List three artistic forms related to Zen Buddhism.
3 Which significant person pruned the *bonsai* tree shown in Source 9.35?
4 What is *haiku*?
5 Which martial art developed into a professional sport still popular in Japan today?

Apply and analyse

6 Before 1629, Japanese theatre included women.
   a What role did women play in Japanese theatre?
   b How did this change for a time when *kabuki* theatre was introduced?

Create and evaluate

7 Select one art form from Japanese culture that particularly interests you. Investigate it further by doing one of the following:
   a making a model
   b performing a role play
   c making an oral presentation (with examples)
   d preparing a facts chart.

The end of the shogunate

Japan opens up

In the mid 1800s, countries around the world began to push for Japan's restrictions on foreign trade to be lifted. One such country was the United States of America.

On 8 July 1853, four black ships commanded by Commodore Matthew Perry of the United States Navy anchored at Edo Bay (now Tokyo Bay). Commodore Perry had arrived in Japan to persuade the Japanese to open up their borders and trade with the United States. He carried with him a letter from the President to the Emperor of Japan.

Because Japan had been cut off from the outside world for so long, the Japanese had never seen steamships before. They thought the ships were 'giant dragons puffing smoke' and were shocked by the size of the ships and the number of guns they carried. In total, the four ships carried around 1000 men and 61 guns.

Commander Perry was an experienced naval officer who, at the age of 60, had enjoyed a long and distinguished career. He knew that this mission to Japan would be one of his most significant assignments. After dropping anchor in Edo Bay, Perry waited. He refused to receive low-ranking diplomats, instead insisting on seeing only the most senior representatives of the emperor.

Perry refused demands made by the Japanese to leave, and threatened them by fixing his weapons on the capital. The Japanese government realised that their country was in no position to defend itself against a foreign power, and Japan could not retain its isolation policy without risking war.

On 31 March 1854, after weeks of diplomatic talks, Perry received what he had been working towards – a treaty with Japan known as the Convention of Kanagawa. It was signed by Perry and the Tokugawa shogunate. In the years that followed, Japanese ports began opening up to American trade. After more than 200 years of isolation, Japanese society also began opening up to the world.



Source 9.42 A Japanese artist's impression of Commodore Matthew Perry drawn in 1856

Many Japanese people resented the increased power and position of the Westerners that followed Perry's arrival. The *daimyo* began to lose faith in the shogun who was, after all, supposed to suppress 'foreign barbarians'. There was talk of forcing his resignation. As a result, the power of the shogun decreased. In 1867, shogun Tokugawa Yoshinobu handed back power to Emperor Meiji.

On 3 January 1869, Emperor Meiji formally declared the restoration of his power.

The Meiji restoration

The handing over of power from the shogun to the emperor and the moving of the Imperial Court to Edo from Kyoto represented the return of imperial rule in Japan. Edo was renamed Tokyo ('Eastern Capital'). The new emperor quickly made his mark by establishing



Source 9.43 A Japanese artist's impression of the 'black ships' entering Edo Bay (now Tokyo Bay)



Source 9.44 Emperor Meiji shown wearing a Western military uniform

Shinto as the state religion. This reinforced his power, because under Shinto he was viewed as a living god. In 1871, it was declared that all provinces were now to be returned to the emperor. These 300 provinces were combined to form 75 larger areas known as prefectures. Each prefecture came under the control of a state-appointed governor.

Modernising and Westernising Japan

Emperor Meiji moved rapidly to modernise Japan. Western fashions and ideas were quickly adopted, often at the cost of traditional practices and beliefs. The military was strengthened, with the adoption of Western weapons and a modern navy. The government instituted nationwide military conscription (mandatory military service) in 1873, ordering that every man would serve for four years in the armed forces upon turning 21. Samurai were no longer allowed to walk about town bearing swords; instead, many became officers in the newly modernised army and navy.

Japan began to aggressively expand overseas, winning wars with China in 1894–95 and with Russia in 1904–05. Japan gained the island of Taiwan from China in 1895, and annexed Korea in 1910, becoming a powerful new force in the region.

A new constitution was written under the guidance of Prince Ito Hirobumi. It was adopted in 1889. A period of rapid modernisation and industrialisation followed.

The industrialisation of Japan required a huge increase in production capabilities. Shipyards, iron smelters and spinning mills were built. Coal was in heavy demand to power factories, trains and ships (see Source 9.45). Industrial centres grew quickly with the migration of workers from the countryside. A national railway system was also built to connect industrial regions with ports (see Source 9.46). Trade also developed rapidly thanks to a series of treaties signed with Western nations.

Source 9.45 Coal production in Japan, 1875–1913

Year	Coal production (metric tonnes)
1875	600 000
1885	1 200 000
1895	5 000 000
1905	13 000 000
1913	21 300 000

Source 9.46 Length of train tracks laid in Japan, 1872–1914

Year	Track (kilometres)
1872	29
1883	386
1887	1 030
1894	3 380
1904	7 564
1914	11 426



Source 9.47 An artist's impression of the Tokyo terminus of the new Tokyo–Yokohama railway, built in 1872 with the aid of foreign engineers

Check your learning 9.13

Remember and understand

1 List two things Emperor Meiji did to quickly demonstrate his authority.
2 How did the role and status of the samurai change under Emperor Meiji?
3 How did Japan expand through military engagements?

Apply and analyse

4 Why do you think the Imperial Court moved from Kyoto to Edo?
5 Explain why coal became important in the industrialisation of Japan.
6 Look at Source 9.45. Coal production in Japan increased fourfold between 1885 and 1895. How many years did it take for coal production to quadruple?
7 Why do you think the development of the rail system was important for trade?

Create and evaluate

8 Think about what you have learned about the shogunate in Japan. Overall, do you think it was a period that produced gains for Japan, or one that slowed down its development? Give reasons for your response.

9.3 big**ideas:** rich task

The Emperor's new clothes

Although Japan's emperors were officially the rulers of Japan, emperors held little authority while the shoguns were in power. They were not involved in the everyday running of the country, and were often cut off from any decision making during this time. Emperors lived with members of their court in the Imperial Palace in Kyoto – removed from the rest of society. The Imperial Palace was a place of privilege and beauty, dedicated to fine arts and learning. From the Heian period onwards, both men and women at court dressed in elegant garments of layered silk. Garments worn by women were called júni-hitoe ('twelve layers'). Men wore fewer layers.



Source 9.48 This woodblock print from 1883 shows Emperor Meiji observing sericulture (silk farming). He is shown wearing a Western-style military uniform. Next to him is Empress Haruko, wearing a traditional júni-hitoe ('twelve layers').

In the years after 1867, when shogun Tokugawa Yoshinobu handed power back to Emperor Meiji, clothing styles began to change. In an effort to modernise Japan Emperor Meiji adopted many Western ideas, including fashions. Many of the changes he implemented were unpopular, because they were seen as rejecting traditional beliefs and customs. In 1873, Meiji issued a proclamation that justified why he had decided to cut his hair and no longer dress in traditional Japanese robes (see Source 9.49). In 1887, Empress Haruko also began wearing Victorian (Western) style dresses on formal occasions (see Source 9.51).

These primary sources (see Source 9.51) provide us with a range of evidence from this time, and help us to understand the emperor's push to modernise and Westernise Japanese society by encouraging the shift to Western clothing.

Source 9.49

> We greatly regret that the uniform of our court has been established following the Chinese custom, and it has become exceedingly effeminate [feminine] in style and character … The Emperor Jimmu, who founded Japan, and the Empress Jingu, who conquered Korea, were not attired in the present style. We should no longer appear before the people in these effeminate styles. We have therefore decided to reform dress regulations entirely.
>
> Proclamation of Emperor Meiji, 1873

Source 9.50

> Now we can no longer restrict ourselves to bowing from a kneeling position, but will have to observe the Naniwa style of bowing while standing. Moreover, if we look at contemporary Western women's wear, we find that it combines a top or jacket and a skirt in the manner of our ancient Japanese system of dress. This is not only suitable for the formal standing bow but also convenient for action and movement and makes it only natural to adopt the Western method of sewing.
>
> Proclamation of Empress Haruko, 1887



Source 9.51 A portrait of Emperor Meiji, Empress Haruko and their family from 1880

skill**drill**

Interpreting primary sources

Because primary sources are often first-hand accounts they often convey the writer's or creator's personal point of view, attitudes and values. It is important that you are able to identify and describe these points of view, attitudes and values in any primary sources you are interpreting. Use the following steps to help you do this:

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 facts presented in the source can be verified. Where else might you look to check and make sure those facts are accurate?)

Step 2 Think about how the world described or depicted in the source is different from the world you live in today. What do you already know about what the creator of the source and the people around them believed? How would you feel if you were in the creator's shoes?

Step 3 Ask yourself what opinions are expressed in the source. If the source is written, ask yourself which specific words or phrases show how the writer feels about what they are 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 obvious.

Another important historical skill is the ability to sequence historical events and developments. This means identifying when significant events or changes occurred, and placing them in the order in which they occurred.

Apply the skill

Look at Sources 9.48, 9.49, 9.50 and 9.51 carefully. Interpret each of these sources by following the steps outlined above. Then complete the following tasks:

1 What reasons do the emperor and empress provide for changing to the Western style of dress?

2 What do these sources reveal about their attitudes towards Westernisation and traditional Japanese culture.

3 a How persuasive do you think the Japanese people would have found these arguments? Give reasons for your response.

b What sort of language has been used to present the arguments? How effective is this language?

c What do these sources reveal about the values of the Meiji Period?

Extend your understanding

1 Why do you think the adoption of Western-style clothing and other changes made during the Meiji Restoration were not popular with the Japanese people? Do you think it's important to maintain traditions and customs? Discuss as a class and explain your point of view.

What key beliefs and values emerged and how did they influence societies?

Depth study 3

Expanding contacts

This depth study offers a choice of three options:

- Mongol expansion
- The Black Death in Asia, Europe and Africa
- The Spanish conquest of the Americas.

You are required to choose ONE of these events and learn in detail about particular aspects of its development.

The focus of depth study 3 is a little different from the other depth studies you have completed so far this year. Rather than exploring the key beliefs, values and social structures of one civilisation in depth, you will be looking more at cause-and-effect relationships between different events. That is, the reasons why one civilisation came to expand its territory to dominate others, and the consequences of this expansion – or in the case of the Black Death, what caused the spread of this disease and how it affected a range of societies across Asia, Europe and Africa.

Despite this slight change in focus, it is still very helpful to look at some of the key beliefs and values that influenced these societies, as they will help you understand the reasons why these events took place. In particular, it is useful to look at the types of belief systems and religions that were important to each society, as well as the systems of government, laws and social structures that influenced their development.

In Overview 3 you will be exploring the similarities and differences between each of these events, and making links between them. This will help you develop a more detailed understanding and appreciation of the event you choose to study in detail.

Belief systems and religions

Belief systems and religions formed the foundations of most societies you will be learning about in this depth study. In many cases, the principles of these belief systems and the religious teachings that went along with them influenced almost every aspect of life. In fact, religious beliefs and values were often among the most important reasons why societies went to war or sought to expand their power and control. A dedication to religious beliefs – in particular the belief that the actions of a group are justified by a higher power – was a very powerful motivator for the expansion of these civilisations. It also acted as a justification for their rulers.

Before the formation of the Mongol Empire in around 1206, **nomadic** tribes of animal herders across central Asia worshipped spirits of the earth and sky – a belief system known as shamanism. Spiritual leaders (called shamans) were believed to be messengers between the spirit world and the human world. Shamans could be men or women of any age – even young children. In many Mongol tribes they were important members of society. Shamans were believed to be able to communicate with the spirit world, interpreting messages from dead ancestors, performing healing rituals and predicting the future. Because the Mongols were a nomadic people, in the early days of the empire there were no temples or permanent places of worship.

overview 3

Although most Mongols throughout the empire believed in shamanism, this was not one of the driving forces behind the expansion of the empire – in fact, the rapid expansion of the empire was based more on a need for resources (such as grain and metals) and access to pastures for animal grazing. The Mongols were actually very tolerant of different religions and races. Over time, religious missionaries spread the religions of Buddhism, Christianity, Islam and Judaism throughout different parts of their vast empire. Under the rule of Genghis Khan (the founder of the Mongol Empire), institutions were set up to ensure religious freedom. As new territories were conquered, religious leaders were allowed to continue practising their own beliefs. In order to win the support of the people, these religious leaders were not taxed. Confucian scholars and Tibetan Buddhist monks also acted as court advisors. As the power of the Mongol Empire reached its peak, trade and travel became more and more important. Merchants, craftsmen and missionaries of all different religions were guaranteed safe passage along busy trade routes – the most famous and important of which was known as the **Silk Road**.

One of the effects of Mongol expansion that no one could have foreseen was the spread of a deadly outbreak of plague known as the Black Death. There are many theories about how it spread, but the most widely held belief is that it originated in China or central Asia around 1334 and was carried across the Mongol Empire to Europe and Africa along land and sea trade routes. Many historians now believe that the Mongols were also responsible for unknowingly spreading the disease as they conquered new lands and peoples – most likely by transporting fleas on their animals that carried the disease. For brief periods throughout the 14th century, the plague ravaged populations across Asia, Europe and Africa, killing an estimated 75 million people. The pandemic became known as the Black Death mainly because of the large black bulges



Source O.41 A modern-day Mongolian shaman making an offering to the spirits



Source O.42 During the Black Death in Europe, religious groups travelled from town to town publically flogging themselves. These groups became known as flagellants. They flogged themselves in an attempt to take on the sins of humankind that they believed had caused God to send down the deadly plague. This woodcut dating back to 1493 shows a pair of flagellants.

that appeared on the skin of those who were infected.

Religious beliefs were central to the lives of people at the time the Black Death broke out – especially across Europe. As the Black Death spread, people's religious beliefs influenced what they thought and how they dealt with it. Many people's beliefs were put to the ultimate test. For a great number of people across Europe, the Church was seen as having failed in its duty to protect society. As a result, some turned away from the strict rules of the Church, choosing instead to live life for the moment – gambling, drinking and feasting. Others became even more devoted to their religious beliefs and the teachings of the Church in order to prove their faith and obedience to God. Some of these people took to publicly flogging themselves with steel-tipped whips to atone for their own sins, as well as the sins of all human kind. They became known as **flagellants**.

Across parts of Europe, minority groups were blamed for the disease. In particular, Jews were unfairly singled out and blamed for the spread of the plague. In parts of France, Switzerland and Germany, many thousands were tortured and killed. To escape, many Jews migrated to Poland and Russia.

By the time the Black Death had largely run its course in the middle of the 14th century, it is estimated that one-third of Europe's population had died. This loss of life went on to have huge impacts on people's religious beliefs and the structure and authority of the Catholic Church.

The aftermath of the Black Death also brought about changes on a social and political level across Europe. Because so many peasants had died, workers were hard to find. In response, peasants began demanding higher wages and better working conditions. Over time this also led to the availability of cheaper and more plentiful land for farming, and better supplies of food.

As populations slowly recovered, the search for new trade routes began. By this time, the Mongol Empire had broken apart and existing overland trade routes such as the Silk Road were no longer safe to use. Without the security and stability of Mongol rule, travellers and merchants were now being regularly attacked and robbed. As a result, a new generation of European explorers began to set sail across uncharted oceans. By the early 15th century, an age of exploration and discovery had begun.



Source O.43 This Spanish artist's impression of an Aztec religious ceremony shows the beating heart of a human sacrifice being offered to the sun god. When the Spanish arrived in the Americas in the 15th century, they regarded both the Aztec and Inca people as godless savages. They saw it as their religious duty to convert them to Christianity.



Source O.44 The Mongol army formed an important part of the social structure of the Mongol Empire. It was also vital for the expansion of the empire.

In 1492, explorer Christopher Columbus sailed west seeking a safer and more direct passage to Asia. The Catholic king of Spain, Ferdinand II, funded the voyage hoping to gain control of the spice trade. On this first voyage, Columbus discovered the area now known as the Bahamas, beginning the Spanish conquest of the Americas.

Before the arrival of the Spanish, there were two dominant empires in the Americas – the Aztec Empire (in the southern part of Mexico) and the Inca Empire (along the western side of South America, extending from Ecuador in the north to Chile in the south). At this time, the spiritual beliefs of both the Aztecs and the Inca influenced all levels of their societies.

The Aztecs believed that nature and human activities on Earth were controlled by many different gods and spirits. Many of these gods were greatly feared by the Aztecs, so they made offerings to please them. For example, in order to keep the sun shining and the earth fertile, most people performed blood-letting ceremonies in their homes – cutting themselves and letting their blood drip on the earth. In addition to this, the Aztecs believed that it was necessary to perform public human sacrifices to please the gods. Large, tiered temples were built specifically for this purpose. The beating hearts of victims were cut out of their chests and their bodies were thrown down the steep stairs of the temple.

The Inca believed that their ruler, known as the *Sapa Inca*, was the direct descendant of the Sun god, Inti. He had absolute power over his subjects. Like the Aztecs, Inca beliefs were closely tied to nature. The first Inca ruler was believed to be a god who was sent to Earth to teach humans how to farm, use weapons and worship. The Inca also made offerings to the gods; however, human sacrifices were extremely rare. Instead, animals were sacrificed. The *Sapa Inca* would also offer golden cups of maize (corn) beer, cocoa leaves and holy bread to the sun god.

When Spanish **conquistadors** (conquerors) arrived they saw both the Aztecs and Inca to be primitive barbarians. The Spanish brought very strict Catholic beliefs with them to the Americas and set about converting the natives. They saw this not only as their duty to God but their right as cultured and educated people. Spanish missionaries built permanent settlements to educate the natives and save their souls. In addition to converting the natives to Christianity the Spanish set about enslaving large sections of the population, looting the cities and murdering any who resisted them.

Many Indigenous people believed their own gods had abandoned them. They saw the Spanish conquest and devastating loss of life from European diseases as a sign of this. As a result, large numbers converted to Christianity. Some Spanish missionaries saw how terribly native peoples were being treated and called for an end to slavery.

Governments, laws and social structures

Between 1206 and 1368, the Mongol Empire expanded into Asia and western Europe. However, before the formation of the empire a group of separate tribes competed for land and resources in an area of central Asia known as the Eurasian **Steppe**. The Mongol Empire grew out of the leadership of a great ruler known as Temujin – who later took the title of Genghis Khan.



Source O.45 This 15th-century painting titled *The Triumph of Death* illustrates the devastation faced by societies across Europe. In the aftermath of the Black Death many social and political changes took place, including the introduction of new laws and the weakening of the feudal system.

Under his rule, the tribes united and began expanding their territory. Within 100 years, this territory would grow to become the largest continuous land-based empire in human history.

Under Genghis Khan's rule, the empire expanded rapidly. To thrive, it needed organisation and stability. The traditional social structures of the Mongol tribes needed to be changed to suit the new empire. Mongol tribesmen were natural warriors, so Genghis Khan built on this strength. He created an organised army that became the foundation of society. All men under 60 could be called up for military service. The army was divided into separate divisions with different functions. Each division had its own commander responsible for training and disciplining his men. The ultimate command of the army rested with the khan. An elite military group known as the imperial guard was also formed. It provided Genghis Khan with the people he needed to organise and administer his empire. The imperial guard also became the training ground for the empire's new ruling class. In 1206, members of the guard numbered somewhere around 10000. Recruits came from all tribes and membership was considered a supreme honour.

Whenever a new territory was conquered, the khan introduced immediate changes. If the rulers of these territories submitted to Mongol rule they were treated as allies and left in a position of power. If they refused, their cities were destroyed and their populations were killed. Once part of the empire, the khan ordered a **census** be conducted; this helped give an idea of the size of the population and the possessions of the people. Next, taxes were imposed on the population. Finally, a legal system known as the *Yasa* was introduced. At its peak, the *Yasa* governed over 100 million people.

Some of the most important legacies of the Black Death were the social and political changes that resulted from it. Societies across Asia, Europe and Africa struggled to cope with the devastation. Because so many people died there were huge labour shortages. Feudal lords had no one to farm their land and were forced to compete for workers. As a result, wages increased and conditions improved. Over time, the workers' obligation to stay on the feudal manor was reduced and many began moving around in search of better work. This was an important step in weakening the feudal system across Europe, because workers had significant bargaining power and could negotiate better working conditions and pay. Despite these improvements, there were still many peasant uprisings and violent revolts against the ruling classes. Most were in response to the introduction of new taxes or poor working conditions. Eventually, a number of laws were introduced protecting some basic rights and relaxing the strict class divides that had been in place for so long.

In addition to these political changes, there were also a number of key social changes. In many places, governments finally saw a benefit in improving the health of the population. Laws and large fines were introduced to prevent people from dumping waste and rubbish in the streets and rivers. Some cities such as London even began to employ permanent street cleaners to reduce the spread of disease. Medical knowledge and techniques also developed rapidly in the aftermath of

the Black Death. More than ever before, the failings of medical science became clear. There was a renewed motivation to understand the human body and develop techniques that made a real difference in the treatment of disease. Before the Black Death, hospitals were places where the sick were sent to die, rather than be treated. During the Black Death, however, many doctors began treating patients – a process that continued once the Black Death had passed. Many hospitals also began performing autopsies on the bodies of the dead in order to better understand human anatomy and surgical practices.

The Spanish conquest of the Americas had significant consequences not only in Europe and the Americas but all around the world. For the native people, the Spanish conquest had a profound impact on societies in the Americas – almost completely destroying the Aztec and Inca cultures. The populations of both societies were devastated not only by the battles they fought against the Spanish but also by the spread of diseases brought by the Spanish to which they had no immunity, such as smallpox. The consequences of so many deaths were drastic. People's faith in their traditional religions and leaders was severely weakened. These deaths also had economic impacts. The Aztecs and Inca lost vast numbers of skilled citizens such as craftspeople and farmers. There were severe labour shortages and it became difficult to grow and harvest crops to feed the population.

While devastating for the Aztecs and Inca, the Spanish conquest of the Americas was a hugely positive development for Spain and Europe. In Spain, the riches discovered in the Aztec and Inca empires created huge wealth for the Spanish king. The success of the conquests also made Spain a powerful force in Europe. In addition to being sources of precious metals like gold and silver, Spanish colonies in the Americas were a rich source of slaves and labour. Because so many Indigenous people in the Americas had died from disease or battles with the Spanish, slaves started being brought from Africa to work on plantations and in mines. This was the beginning of the transatlantic slave trade that would continue until the 19th century.

Conquest and colonisation also allowed the Spanish king to gain further wealth through taxes. By colonising the Americas, the Spanish continued to make money by taxing the local population, rather than just taking the treasures and leaving.

The **New World** (as it became known) was also an important source of crops for Spain and for Europe. Many crops that we take for granted around the world today had never been seen in Europe until they were brought back from the Americas. These included chocolate, tobacco, potatoes, tomatoes, bananas, chilli, corn, turkey, pumpkin, rubber, avocado, peanuts, vanilla and pineapple. Some of these crops, such as tobacco, were extremely valuable in monetary terms. Others, such as potatoes, were valuable for improving the nutrition of Europeans. Potatoes could yield more calories per acre than anything Europeans had grown before, providing a great source of energy. In addition, foods such as tomatoes and chillies were a rich source of vitamins. In the Mediterranean, these foods enriched diets and improved the health of the population. These improvements in health and nutrition also helped to trigger population growth in Europe. They were critical to the advancement of European civilisations after this time.



Source O.46 This artwork painted in 1519 shows Aztecs being massacred by Spanish soldiers.

Which significant people, groups and ideas from this period have influenced the world today?

Across all human civilisations regardless of their location, significant people, groups and ideas have influenced the way in which many people live. They may have changed the way people were governed, their beliefs, or people's place within society. Many of these significant individuals and groups were forward thinking. They were not afraid to explore new ideas and ways of doing things. They were also often willing to take on difficult challenges. These significant people, groups and ideas brought about a wide range of changes that in some cases are just as relevant today as they were then. Some of these individuals – and the contributions they have made to the modern world – are explored in this section.

Significant people

Mongol expansion: Genghis Khan (*c.* 1162–1227)



Genghis Khan (known by the name of Temujin in his youth) was born around 1162 in northern Mongolia. The son of a Mongol tribal leader, Temujin had a troubled childhood. However, by the age of 18 he had been chosen as the **khan** (leader) of his tribe. He immediately set about training his army and making alliances between different Mongol tribes. Over time, his reputation as a warrior and military leader grew. In 1206, he was elected leader of all the Mongol tribes and renamed Genghis Khan (meaning 'universal leader'). He brought organisation, unity and discipline to the already skilled and fierce Mongol warriors. Eventually, the Mongol Empire grew to become the largest land-based empire in history – covering 33 million square kilometres and ruling over 100 million people.

Genghis Khan is considered significant today because of the vast areas and peoples he conquered during his lifetime. Although the Mongols were brutal warriors, under Genghis Khan many new ideas and laws were also introduced that went on to influence the world – including the growth of safe trade routes such as the Silk Road – and that led to cultural and business exchanges between Europe and Asia.

Genghis Khan was injured in battle and died in 1227.

Source O.47 Genghis Khan

The Black Death in Asia, Europe and Africa: Giovanni Boccaccio (1313–1375)



Source O.48 Giovanni Boccaccio

Giovanni Boccaccio was born in Paris, France, in 1313. He was the son of an Italian merchant and grew up in the city of Florence. Against his father's wishes, Boccaccio began to study Greek and Roman classical literature around 1350 and formed lasting friendships with other Renaissance scholars and poets. It was in Florence that he wrote *The Decameron*, one of the most famous and widely read books in all literature. Written from around 1349 to 1351, *The Decameron* tells the story of 10 young people who flee the city of Florence into the countryside in order to avoid the Black Death. They spend 10 days telling 10 stories each – making 100 in total – giving the book its title, which translates as 'Ten days' work'.

Giovanni Boccaccio is considered significant today because of the influence his writing has had on the modern world. *The Decameron* in particular has had a lasting impact on European literature, not only in Italy but also in France and England. It is also one of the most significant primary sources of evidence about how societies in Europe were affected by the Black Death. Later authors such as Geoffrey Chaucer and William Shakespeare both borrowed from it. *The Decameron* has also been the subject of poems by famous English poets such as Keats and Tennyson.

Boccaccio retired to Artaldo, near Florence, in 1363. He died there in 1375.

The Spanish conquest of the Americas: Christopher Columbus (1451–1506)



Source O.49 Christopher Columbus

Christopher Columbus was born in Genoa, Italy, in 1451. As a sailor, navigator and map-maker, he tried to find a shorter and safer passage from Europe to Asia by sailing west. This was an attempt to avoid trade routes that crossed the territories once part of the Mongol Empire, such as the Silk Road. Since the breakdown of the Mongol Empire these routes had become dangerous for European merchants and travellers. In 1492, Columbus set sail on his voyage of exploration. His route took him through the Bahamas (which he claimed for Spain), Cuba and Haiti. Over the next few years, Columbus undertook three more voyages to find a shorter passage to Asia. Though he did not find a route to Asia, he opened up the New World for colonisation.

Christopher Columbus is considered significant today because his voyages of discovery changed the history of the world. Shortly after the discovery of the 'New World' for Spain, Spanish soldiers and adventurers (known as conquistadors) quickly moved in, bringing the Indigenous empires of the Americas under their control. In addition to almost wiping out these native civilisations, the conquest led to untold wealth and power flowing back to Spain in the form of gold, new foods and slaves.

Christopher Columbus died in 1506 in the Spanish city of Valladolid at the age of 55.

Check your learning O.1

Remember and understand

1 Describe the role played by belief systems and religions in each of the three events discussed in this overview.

2 Identify the important contributions made by these significant individuals.

Apply and analyse

3 Describe what we mean by religious tolerance, as practised by the Mongols, and explain why it might have helped the Mongols to build a mighty empire.

4 Explain how each of the three events affected the social structures and governments of the societies involved. Did these events lead to positive or negative outcomes over time?

Evaluate and create

5 Explain why you think disease and death during the Black Death weakened the influence of Christianity, but disease and death in the Americas strengthened Christianity.

6 Pinpoint the effects of the Black Death and Spanish conquest of the Americas that were similar, and evaluate why these similarities exist for two seemingly very different events.



Expanding contacts

depth study 3

depth study – option

Mongol expansion

The Mongol Empire began as small tribes of nomadic animal herders on the vast grasslands of northern Asia. Around 1206, a number of these tribal groups united to form a great army that began to invade and conquer neighbouring lands.

Even though the Mongol Empire only lasted for about 150 years, it became one of the largest and most powerful empires the world has ever known. Although they were feared as violent and merciless warriors, the Mongols also made many positive contributions. They allowed religious freedom across their empire and introduced many inspired policies and laws. They were also responsible for establishing vital trading routes between the East and West.



10.1

How was Mongol society organised?

1 Traditional Mongols were nomadic animal herders. How might this have influenced their lifestyles?

2 How and why might traditional Mongol customs have changed after all Mongol tribes united to become part of the powerful Mongol Empire?

10.2

How and why did the Mongols expand their territory?

1 Genghis Khan, the first great leader of the Mongol Empire, conquered much of eastern Europe. What characteristics do you think he might have had as a man and as a leader? How might these characteristics have helped him achieve the power and success that he did?



chapter 10

Source 10.1 These ruins in the Gobi Desert in Mongolia are all that remains of the great city of Karakorum, once capital of the Mongol Empire.

10.3

What were the consequences of Mongol expansion?

1 Whenever the Mongols conquered a new territory, they introduced immediate changes to ensure that the defeated enemy would become part their empire. What do you think these changes might have included?

Mongol expansion: a timeline



An artist's impression of the Mongol army invading Poland at the Battle of Legnica, 1241

1241
Mongol forces invade Poland (Battle of Legnica) and Hungary (Battle of Mohi); in the same year, the Great Khan Ogodei dies

Source 10.2 A timeline of some key events and developments in the Mongol expansion

1218
Northern China is conquered and the Mongols spread towards Turkestan, Persia and Russia

1235
Karakorum is established as the capital city of the Mongol Empire

1150 CE

1200

1250

1185
Temujin (later known as Genghis Khan) becomes leader of his Mongol tribe at the age of 18

1206
Genghis Khan unites all Mongol and Tatar tribes, marking the beginning of the Mongol Empire

1215
Mongol forces invade and conquer Beijing

1227
Genghis Khan dies

1229
Ogodei, Genghis Khan's third son, becomes Great Khan

1251
Mongke Khan becomes Great Khan



An artist's impression of Temujin (Genghis Khan)



An artist's impression of Marco Polo at the court of Kublai Khan



Japanese illustration showing samurai defending Japan against Mongolian invaders

1264
Kublai Khan's rule begins

1271
Kublai Khan establishes the Yuan Dynasty, claiming the title Great Khan and Emperor of China

1274
An attempted Mongol invasion of Japan fails because of a typhoon

1276
The merchant traveller Marco Polo arrives in Dadu, the capital of the Yuan Dynasty (now Beijing)

1281
A second attempted invasion of Japan fails

1294
Kublai Khan dies; the Mongol Empire begins to break apart

1300

1350

1353
Outbreak of disease in China (probably bubonic plague), killing huge numbers of people; Mongol control over China weakened

1400

1368
The Mongols are driven out of Beijing, marking an end to the Yuan Dynasty and the Mongol Empire

Check your learning 10.1

Remember and understand

1 In what year did Temujin become leader of his tribe?
2 In what year did the Mongols conquer Beijing?

Apply and analyse

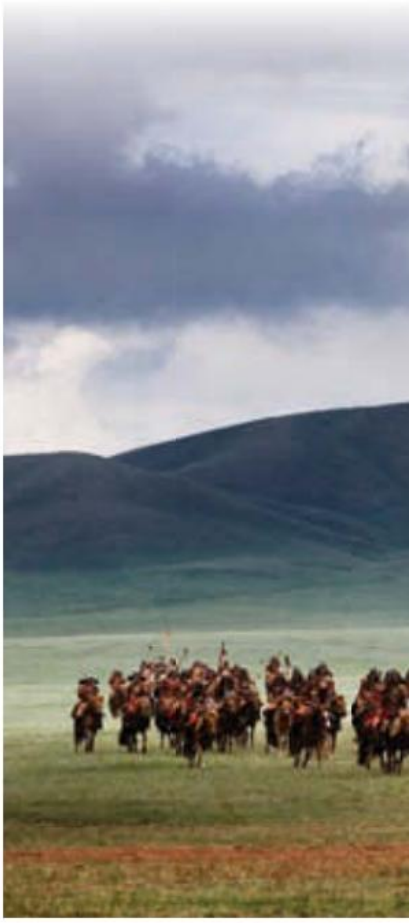
3 Use the timeline to calculate how many years there were between Kublai Khan's election as Great Khan and his death.

Evaluate and create

4 Conduct some Internet research to find out the dates of some other significant Mongol invasions and conquests of European countries. Add these events to a simple timeline in your notebook.

10.1 How was Mongol society organised?

Traditional Mongol culture and society



The Mongol **Empire** had humble beginnings on the vast grasslands and plains of northern Asia. These grasslands are part of a region known today as the Eurasian **Steppe**. The steppe is known for its severe climate and extreme temperatures. In the spring there is plenty of food for horses and sheep, but spring on the steppe is short. In summer, the sun beats down and temperatures can reach 40° Celsius, turning the grass to straw; in winter, the ground is covered with a thick blanket of snow and raging winds sweep across the plains pushing temperatures as low as –40° Celsius. Short, hot summers and long, cold winters made life hard for the Mongols and had a major influence on the way in which their society evolved and was organised.

The nomadic way of life

Because of the harsh environment in which they lived, the Mongols were **nomads**. They lived in tribal groups that would camp and move around together according to the weather and available resources. Each tribe was led by a chief. The tribe was divided into **clans** along family lines and each clan had its own leader. The **clans** lived as independent groups but would occasionally join together for security in the case of outside threats.

The Mongols were an adaptable and versatile people who moved from one location to another across a wide region, taking their homes and families with them. They moved in response to the seasons, taking their animals (such as sheep and horses) to the plains to graze in the summer months, and then into the valleys to take shelter during the bitter winter months. They tamed and rode the wild horses native to the region, hunted wild game, and traded with more settled

MONGOL HOMELANDS



Source 10.4

Source: Oxford University Press



Source 10.3 A re-enactment of a 13th-century Mongol army expedition on part of the Euraisan Steppe

societies in the south for foods and materials they could not source themselves (such as grain, and metals for their weapons).

Shelter and transportation

The Mongols lived in large, portable, circular tents called **yurts** (see Source 10.5). Yurts consisted of a circular wooden frame covered in felt made from sheep's wool. The felt coverings were often colourfully decorated. Yurts were designed so that they could be easily transported and reassembled – an important feature for nomads. Inside each yurt, carpets covered the floor. A hole (which could be covered over in bad weather) was left at the top to let smoke escape from the fires used for cooking and heating (see Source 10.6).

The animals they kept provided for most of the Mongols' needs. Horses were used for transport and enabled the Mongols to hunt. Female horses also provided milk. This was the Mongols' main source of nutrition, from which they also made yoghurt and cheese. Sheep provided skin and wool for clothing; bones for arrowheads; wool to make felt for yurts; meat, milk and cheese; as well as dung to burn for cooking and heating. Less important, but still essential to life and trade on the steppe, were camels and oxen. These were transport animals used to pull carts full of goods as the Mongols travelled across the vast areas of the steppe.

Source 10.5 Yurts on the Mongolian steppe



Food

The traditional Mongol diet consisted of 'white' and 'brown' foods – essentially, dairy products and meat products. Cheeses and yoghurts, usually made from sheep's milk, were an important staple in Mongol diets during summer months, when meat was seldom eaten. In the winter, however, meats were the main staple food. Sheep from their herds, as well as some wild game animals, such as birds and rabbits, provided the bulk of the Mongols' meat intake.

Horses provided milk for a fermented (and mildly alcoholic) drink called *kumis*. This drink was produced by churning the milk inside a bag made of animal skin. The churning process involved moving the bag regularly. This could be accomplished by hanging the bag on the saddle of a horse or near the entrance of the yurt so every person who entered would churn the mixture as they passed through.





Source 10.6 The interior of a modern-day Mongolian yurt

Clothing

Everyday clothing for both men and women were long robes called *deels*. For most herders, these were long woollen coats, buttoned on the side and belted around the middle. Wealthy members of Mongol society might have colourful *deels* made of brocade (a very delicate and decorative woven fabric) or silk. Men wore trousers under their *deels*, and women wore either trousers or skirts. Both men and women wore leather boots.

Source 10.7 A *deel* worn by a Mongolian herder

Religion

The ancient religious beliefs and practices of the Mongols were based on a system known as shamanism (see Source 10.8). This tradition involved interaction between the spirit world and a shaman – a holy person with special powers to communicate with and interpret the spirits. Spirits did not only include 'human' entities, such as ancestors, but the natural world of animals and the environment. The shaman's role was to speak with the spirits on behalf of people, bless the herds and young children, and predict the future.

Shamans, who could be male or female, also provided medical care. Because of their knowledge of the natural world, they were able to create medicines from local plants. That practical knowledge, combined with their spiritual gifts, gave shamans an important role and a certain amount of power in Mongol society.

The Mongol people were not limited in their spiritual beliefs to shamanism. They were also willing to embrace other religious teachings and traditions they encountered as their empire expanded. Some adopted Islam from Persia, others adopted Buddhism from Tibet. Some of the Mongol tribes even followed an early form of Christianity called Nestorianism.

Check your learning 10.2

Remember and understand

1 What word is used to describe people who travel from place to place according to the season?

2 In your own words, explain the tradition of shamanism.

Apply and analyse

3 Write a paragraph describing the climate of the Eurasian Steppe and how this influenced the Mongol way of life.

4 Create a diagram to demonstrate the different uses of animals in traditional Mongol society.

Evaluate and create

5 Make a model of a yurt. If necessary, consult Internet sites to find out more about the detail of a yurt's construction.



Source 10.8 A northern Mongolian shaman enters into a trance to communicate with ancestral spirits and seek their advice

Social roles in Mongol society

Early Mongol society, like many tribal nomadic societies, was clan based. A clan is a group of people who are blood relations, each sharing a common ancestor. Within each clan, there was a head man who led the group and was responsible for it. Before the unification of the Mongols under Genghis Khan, there was no single great leader. As a result, wars between clans were common. Tribal warfare was therefore a part of life for Mongol men. They were skilled horsemen and fighters – skills that would help the Mongols to become a great power in their time. As the Mongol Empire grew and unified, senior leadership in the form of **khans** (leaders) emerged.

Each Mongol man was the head of his own family, which could consist of several wives and many children. Because men spent a great deal of their time fighting wars between the clans, women were responsible for day-to-day outdoor work. This included the management of livestock, milking the animals, the making of felt for yurts, and breaking down and rebuilding the yurts whenever a move to a new territory was necessary. They were also responsible for household chores, such as cooking and sewing.

Although men were regarded as the natural leaders in Mongol society, Mongol women held a strong social position as well. Women were seen to possess wisdom, so it was common for men to have older wives to advise and guide them. It was considered unmanly if a husband did not listen to his wife. Also, it was not unknown for women to receive military training, and at times fight beside the men in battle. Mongol women could also be shamans. This meant that they too could have great influence in their clans.

Genghis Khan (also known as Temujin), the first great Mongol leader and founder of the Mongol Empire, is said to have listened carefully to his wife, Yesui. When she advised him to choose a successor in case he was injured or killed in battle, he is reported to have said, 'Even though she is only a woman, what Yesui says is quite right.' Temujin's mother also had a great influence over him. His career and leadership were inspired by her.



Source 10.9 A Mongolian woman pouring horse's milk into buckets for fermenting

keyconcept: evidence

Abilities and strengths of Mongol women

At times, women in the Mongol Empire exercised great political power and strength. Evidence shows that they not only took part in hunting and heavy labour, they also assumed leadership roles, usually because a male leader was absent or unavailable.

From 1227 until 1260, when Ogodei was Great Khan, his wife Toregene gradually assumed power. This was necessary because Ogodei is rumoured to have spent much of his time drunk. On Ogodei's death, Toregene became regent (a temporary ruler) because their son Guyuk was too young to assume power. She appointed her own ministers, including a woman called Fatima who was her close confidante.

Other powerful women who ruled Mongolia included Sorghaghtani, the widow of Genghis Khan's son Tolui, who ruled northern China and eastern Mongolia; and Ebuskun, the widow of Genghis Khan's son Chaghatai, who ruled Turkestan. Both these women were Mongol only by marriage.

Source 10.10

> [Genghis Khan] ordered women accompanying the troops to do the work and perform the duties of the men, while the latter were absent fighting.

An extract from *The Mongols and Russia*, by Russian historian George Vernadsky, 1953

Source 10.11

> Girls and women ride and gallop as skilfully as men. We even saw them carrying quivers and bows, and the women can ride horses for as long as the men; they have shorter stirrups, handle horses very well, and mind all the property. The [Mongol] women make everything: skin clothes, shoes, leggings, and everything made of leather. They drive carts and repair them, they load camels, and are quick and vigorous in all their tasks. They all wear trousers, and some of them shoot just like men.

A description of Mongol women's skills by Giovanni di Plano Carpini (1182–1252), a European who lived for a time at the court of the Great Khan Ogodei, in *The Story of the Mongols Whom We Call the Tartars,* 1245

For more information on the key concept of evidence, refer to section HT.1 in 'The historian's toolkit'.



Source 10.12 Female archers from Mongolia taking part in a *Naadam* – a traditional games festival involving wrestling, horse racing and archery. Mongolian women participate in all contests except for wrestling. These young women carry on the traditions and skills of their female ancestors.

Check your learning 10.3

Remember and understand

1. What were the main roles of men in Mongol society?
2. Study Sources 10.10 and 10.11 carefully. List the evidence these sources provide about Mongol women.

Apply and analyse

3. Even though men were seen as natural leaders in Mongol society, women held strong social roles.
   - a. What roles did women adopt that helped to strengthen their influence in Mongol society?
   - b. Why were women often responsible for the day-to-day outdoor work?
   - c. Why do you think it was considered unmanly for Mongol men to ignore the advice of their wives?
   - d. List three adjectives that you think best capture your impression of Mongol women. Give reasons for your choices.

Significant individual: Temujin (Genghis Khan)



Source 10.13 A Western artist's impression of Genghis Khan

Genghis Khan is regarded as the first great leader of the Mongol Empire. Given the name Temujin at the time of his birth around 1162, he was the eldest of five sons. Temujin's father, Yesugei, was a minor Mongol clan leader who was poisoned by a neighbouring Tatar tribe when he was only nine years old. The **Tartars** were a rival ethnic group who also lived on the steppe. Despite his age, Temujin took up his father's position as clan leader because he was the eldest son. The other members of the clan did not want such a young leader so they deserted Temujin, leaving him alone with his mother, Ho'elun, and younger siblings. For protection, the family was forced to move to the upper reaches of a river between the plain and the steppe, where they survived on berries and roots, as well as small wild animals.

As Temujin grew to become a teenager, other Mongol clans feared his potential. One Mongol clan decided to capture him. He was placed in a cage with a large wooden collar around his neck. He was unable to feed himself as his hands were tied. One of the clan members took pity on him, and eventually helped Temujin to escape. The man removed the wooden collar and gave him a horse so that he could return to his family.

Temujin becomes the khan

Temujin believed that he had survived his misfortunes because he was destined for greatness. Influential shamans supported him. A shaman named Kokuchu, the son of Yesugei's old servant, claimed that he had ascended into heaven in a trance and had been given the message that Temujin and his sons would one day rule the whole world.

In 1185, when Temujin was about 18, he was chosen as the khan of his tribe. He immediately began to organise and train an army, making them into a strong fighting force.

He also created alliances with other clans and tribal groups to increase his power. One such group was known as the Kerait. Their khan, Toghrul, had been a blood brother of Temujin's father, Yesugei, and was happy to support Temujin. Together, they launched attacks on groups of Tartars. Temujin's attacks on the Tatars were also helped by a change in attitude by the Jin **Dynasty**. The Jin Dynasty were a powerful Manchurian tribe that had conquered northern China a century before. The Jin had been allies with the Tatars in the past but now feared their growing strength. As a result, the Jin formed an alliance with Temujin and Toghrul to defeat the Tatars.

Defeat of the Tatars

In 1202, Temujin's well-trained and disciplined army defeated the **Tatars**, even though his forces were outnumbered. They killed and captured thousands. The days that followed were bloody and brutal. Tatar women and young boys were taken into slavery, and any Tatar boy who stood taller than a wagon axle was put to death.



Source 10.14 A scene from the 2007 film *Mongol: The rise of Genghis Khan* showing the Mongol cavalry

The rise of Genghis Khan

In the summer of 1204, Temujin entered into a battle with the Naiman tribe (one of 13 tribes still hostile to his alliance). At the battle of Chakirma'ut, Temujin was heavily outnumbered, but again the superior organisation of his army brought him success. A childhood friend and blood brother of Temujin, called Jamuka, fought against him at the battle. Jamuka escaped from the battlefield with a few followers and hid in the mountains. A year later he was betrayed by a supporter and executed by Temujin.

Temujin also fell out with Toghrul, his father's old blood brother. Toghrul felt threatened by Temujin's rise. When Temujin attacked his camp, the older man fled. The way now lay open for Temujin to assume control of all the Mongol tribes.

When he was about 40 years old, Temujin became the undisputed leader of Central Asia. In 1206, a Great Council (known as a *kuriltai*) was summoned. Tens of thousands of Mongols attended. They selected Temujin as their khan. As part of this ceremony, the Mongols gave Temujin a new title – Genghis Khan, meaning 'ruler of the world'.

Genghis was now the ruler of about one million people living in an area roughly the size of western Europe. With this, the Mongol Emprie was born. Not content with this, however, he soon began the real expansion of his empire.

Check your learning 10.4

Remember and understand

1 Who was Temujin? By what name is he more commonly known today?
2 When was Temujin born?
3 Why did the Jin Dynasty stop supporting the Tatars and begin to support Temujin instead?

Apply and analyse

4 Using the life of Genghis Khan as a model, discuss the following questions in small groups. Record your ideas and report back to the class at the end of your discussion.
   a What qualities does a person need to become a powerful leader in a society?
   b What conditions within a society allow one person to become powerful enough to take control of it?

Evaluate and create

5 On a scale from 1 (very weak) to 5 (very strong), rate Genghis Khan as a leader. In a paragraph, explain your rating.

The Mongol army

Under Genghis Khan's leadership, the Mongol Empire expanded rapidly, eventually growing to cover an area larger than the Roman Empire had centuries earlier. To survive and thrive, the empire needed organisation and stability – in other words, the traditional nomadic lifestyle of the Mongols would need to change. To achieve this, Genghis Khan immediately introduced a series of new measures, many of which centred on the organisation of the Mongol army.

Organising the Mongol army

Because the Mongols had traditionally always been warriors, Genghis Khan chose to use this to his advantage. He was determined to break the old tribal loyalties. He did this by emphasising each soldier's loyalty to his military unit. Beyond that, loyalty was to the house of the khan himself. To enforce this, he set about organising Mongol warriors from all different tribes into one unified fighting group based on the decimal system.



Source 10.15 A re-enactment of a Mongol army battle

The decimal system meant that all Mongol warriors were organised into groups by multiples of 10:

- The whole army was made up of large fighting units known as *tumen* (which had 10 000 members).
- Each *tumen* was then broken into *minghan* (which each had 1000 members).
- Each *minghan* was then broken into *zuut* (which each had 100 members).
- Finally, each *zuut* was broken into *arav* (which each had 10 members).

In addition to organising the army in this way, Genghis Khan created an imperial guard known as the *keshig*. At first, this was made up of his original and most faithful supporters. By 1206, however, the imperial guard was 10 000 strong. Recruits came from all tribes, and membership was regarded as a supreme honour. The imperial guard also provided Genghis Khan with people he could trust to organise and administer his empire. Later, members of the *keshig* became the basis of the Mongol Empire's ruling class.

Mongol weapons and fighting tactics

Each group within the Mongol army had specific tasks and functions that they were responsible for in battle, such as carrying messages or scouting enemy movements. Regardless of which group they belonged to, all Mongol warriors were trained to ride and fight on horseback. Genghis Khan divided these horsemen into light and heavy cavalry.

The light cavalry consisted mainly of archers. Each archer carried two bows and two quivers (containers) of arrows. Mongol archers could string and fire their arrows while riding at full gallop, timing their release so precisely that the jolt of galloping hooves did not affect their aim. Each man in the light cavalry also carried two or three javelins.

The heavy cavalry consisted of soldiers carrying battle axes or hooked lances (poles). Many members of the heavy cavalry also carried a sword and wooden shield covered in leather. Some also carried lassos.

In battle, the light cavalry galloped back and forth in front of the enemy, showering them with arrows.

After this, the light cavalry withdrew, leaving the heavy cavalry to charge. A favourite tactic of the Mongol army was to attack, then pretend to retreat. This would draw the enemy forward into a line of waiting archers. As well as cavalrymen, the Mongol army also had soldiers that would fight on foot. Often, these soldiers were recruited from societies the Mongols conquered, like China. They were assigned to a Mongol soldier on horseback and would move across the battlefield ensuring any wounded enemy soldiers were killed. Even in victory, the Mongol army often slaughtered entire cities full of civilians and enemy troops. During the rule of the Mongol Empire, it is estimated that between 80 and 150 million people were killed in wars.

Horsemanship and horses

Mongol horsemen were renowned for their riding skills. So central to their lives was horse-riding that children began riding at three or four years of age (and still do so today).

Mongol horsemen wore baggy trousers, long coats (fur-lined in winter), high leather boots and caps with thick fur brims. Every horseman carried a large waterproof saddlebag, which could be inflated and used as a flotation device for crossing rivers (similar to a modern-day life jacket).

Mongol horsemen used much shorter stirrups than European horsemen at the time (a bit like those used by professional jockeys today). This helped them to balance better on a galloping horse, and to stand in the saddle to shoot their arrows.

The breed of horses used by the Mongols are known as *takhi*. Over centuries, *takhi* horses were bred to be tough enough to withstand the harsh environmental conditions of Central Asia with its long, cold winters and short, hot summers. The lives of these horses were made much more difficult by the Mongols – they were a vital part of battles and were often pushed to their limits, being ridden huge distances each day. A rider and his horse could cover about 130 kilometres per day.

Horses also played an important role in the diet of the Mongols. Milk from female horses, often mixed with some of the horses' blood, was an important food. When riding long distances without food, Mongol warriors sometimes also slit a vein in the neck of their horses and drank the vitamin-rich blood. Despite this, horses were never killed for their meat. Those that outlived their usefulness were often put out to pasture to spend the rest of their days grazing.



Source 10.16 An artist's impression of a member of the light cavalry in the Mongol army

Check your learning 10.5

Remember and understand

1 What is meant by the term cavalry?
2 How did Genghis Khan go about breaking down the old tribal loyalties in his new empire?
3 How many soldiers were in the Mongol imperial guard by 1206?

Apply and analyse

4 Write a paragraph outlining the significance of horses in Mongol society.

Evaluate and create

5 Create a labelled diagram that shows the main characteristics of both heavy and light cavalry.

10.1 big**ideas:** rich task

Naadam – 'Three manly games'

Each summer across Mongolia, the festival of *Naadam* (meaning 'three manly games') is celebrated. These 'three manly games' are wrestling, archery and horse racing. These skills can all be traced back to traditional Mongol society and were of particular importance during the time of Mongol expansion. The *Naadam* festival is a good example of continuity and change in Mongolian culture.

The tradition of *Naadam* is thought to have started in the 13th century, when Genghis Khan used them as a form of celebration at the end of successful military campaigns. Warriors returned from battle and, along with feasting, had the opportunity to show off their manly skills. This also became a way to train young men in the essential skills of the Mongolian warrior.

Since Mongolia's revolution in 1921 *Naadam* has been officially celebrated every year and formalised into the modern competition we see today. Teams from all over the country compete for a place at the finals which are held in Ulan Batar. The day of this event is even a national holiday.

The *Naadam* today follows many historic traditions. Competitors wear traditional costumes to compete in. For example, wrestlers are all dressed in leather boots, open-front jackets and briefs, all embroidered with traditional patterns. Archers compete in the traditional Mongolian silk robe. Before each race, the child jockeys, aged seven to 12, gather on horseback to sing the folksong, the Giigoo, to their horses to encourage them to run well.



Source 10.17 An archer competing at the festival of *Naadam*



Source 10.18 A 14th-century image showing Mongol archers in battle

skilldrill

Creating and delivering an audiovisual presentation

It is likely that as part of your school work, you have already created many PowerPoint presentations. You may have also tried out some other audiovisual presentation software, such as Prezi, which is freely available on the Internet. Whichever program you use, it is important to use it effectively, and avoid the common problems of these types of presentations. Use the following steps to help you avoid these typical problems.

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 clear, concise dot-point form, *not* huge slabs of information in paragraph form. You do not need to put your whole talk up on the screen.
- Do not fill up your slides with a lot of random pictures that only loosely relate to the content. Include 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.
- A common mistake is to have objects and text moving on the screen in a way that just distracts the audience. Use graphics, sound, video, animations and transitions only if it adds value to the point being made, not just because you think it 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.

Step 2 Deliver your presentation

- When delivering an audiovisual presentation to an audience, do not just stand up and read out the text on each slide. Rather, 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 an audiovisual presentation on the *Naadam* in Mongolia today. Your presentation should focus on each of the 'three manly games'. In particular you should explore elements of continuity and change for each activity. Use the following questions to guide you:

   a What is the nature of the three activities in the 'manly games'?

   b Who participates in each of these activities?

   c Why are these three activities still considered important today?

   d What do you think is the link between today's *Naadam* and 13th-century Mongol society?

   Your presentation should be well researched and based on relevant and reliable sources. For detailed information on this skill, refer to section HT.2 of 'The historian's toolkit'.

   Your presentation should be no longer than seven minutes.

Extend your understanding

1 Choose a similar kind of cultural event celebrated somewhere in the world today that has its origins in a much earlier time – for example Carnival in Brazil, Rodeos in the USA, or Guy Fawkes Night in England.

   Consider various aspects of this event both now and in the past, such as:

   - the name of the event
   - the nature of the event
   - where and when the event takes place now
   - who participates in the event
   - how the event has changed (or not changed) over time.

2 Use the Internet or your local library to research the event you have chosen, then prepare an audiovisual presentation for your class.

10.2 How and why did the Mongols expand their territory?

Expansion of the Mongol Empire under Genghis Khan

The Mongol Empire expanded for a number of reasons. Living conditions in its homelands in the eastern part of the Eurasian Steppe were very harsh – even in good seasons. From around 1180 to 1220, the **steppe** experienced unusually cold weather. As a result, there was less grass available, which meant that the Mongols needed to find alternative ways of providing for themselves and their animals. This was a strong motivating factor for expanding their territory.

Another key factor for expansion was the will of Genghis Khan. Only a few years after becoming Mongol leader, Genghis Khan began a policy of conquest that would eventually see him control China, a vast **empire** that stretched over much of central Asia and eastern Europe.

Conquests in China

One of Genghis Khan's first concerns as Mongol leader was to invade and conquer territory in China. China at this time had been a divided country for many years. The Jin Dynasty ruled in the north, the Xia Dynasty in the north-west, and the Song Dynasty in the south.

Traditionally, the Mongols had traded with these dynasties for the items that they needed but could not produce themselves (such as grain, metals and fabrics). This made the Mongols heavily dependent on the Chinese, and gave the Chinese a great deal of power over the Mongols. In the early 13th century, the Chinese tried to limit trade with the Mongols. At first, the Mongols issued threats and launched raids against the Chinese. Soon though, Genghis Khan launched a full-scale attack.

In 1209, the Mongol army attacked a Chinese tribal group known as the Tanguts under the Xia Dynasty. The Tanguts commanded a strong army and were protected by walled cities. These types of defences were still quite new to the Mongols and it took them time to develop



Source 10.19 The Great Wall of China was built by the Chinese to repel Mongol invaders, led by Genghis Khan.

ways to defeat them. Initially, Mongol forces simply laid **siege** to these cities – waiting outside the walls until the starving citizens surrendered. Over the course of the conflict with the Tanguts, though, the Mongols learned many new warfare tactics, including how to invade fortified towns using ramps and catapults.

Around 1215, Genghis Khan attacked the Jin **Dynasty**. Their territory was protected behind the Great Wall of China, but the Mongol army was able to break through its defences to capture the Jin capital, Beijing. Genghis Khan was then able to increase his army with many Chinese recruits, who brought with them knowledge of new weapons and explosives, **siege** engines and ships. More importantly, the Mongols now had access to all of the goods they had once had to trade for. The expansion of the empire had begun in earnest.

THE EXPANSION OF THE MONGOL EMPIRE



Source 10.20

Source: Oxford University Press

Conquests in Central Asia and Russia

Next, Genghis Khan set his sights on the Khwarezm Empire – a large territory in western Central Asia. Initially, Genghis Khan was interested in becoming trading partners with Khwarezm, so in 1218 he sent a group of Mongol merchants to establish trading ties. However, the governor of Khwarezm became suspicious and attacked the group. Genghis Khan was deeply insulted and immediately moved to take revenge. He planned one of his largest invasion campaigns ever, gathering over 200000 soldiers and leading them into Khwarezm. The Mongol conquest of Khwarezm was brutal. A large percentage of the population was massacred.

Genghis Khan then moved towards Persia in 1219. Northern India and Afghanistan were also brought into the Mongol Empire. The Rus (early ancestors of modern-day Russians) and the Bulgars challenged the Mongols but both of these armies were defeated.

At the time of Genghis Khan's death in 1227, the Mongol Empire stretched almost 3000 kilometres from east to west (see Source 10.20).

Check your learning 10.6

Remember and understand

1 Why was one of Genghis Khan's main concerns to invade and conquer China when he first became Mongol leader?
2 Why did the Mongols initially find it difficult to conquer the Tanguts in the Xia Dynasty?
3 Why did Genghis Khan invade Khwarezm?

Apply and analyse

4 How do you think the Mongols were able to get past the Great Wall of China?

Evaluate and create

5 Conduct some research into developments in Mongol weaponry. Prepare a short report that shows how these developments contributed to the Mongols' success in expanding their empire.

Expansion of the Mongol Empire under Ogodei and his descendants

Before his death, Genghis Khan divided the Mongol Empire into four parts. Three sections were given to his sons Ogodei, Chagatai and Tolui. The fourth part was given to the wives and family of his eldest son, Jochi, who had recently died. On Genghis Khan's death, Ogodei – the third son – became Great Khan. He soon set about expanding the empire once more.

Ogodei

Ogodei was confirmed as Great Khan in 1229 (see Source 10.21). The main achievements of his reign were:

- the invasion of Russia and eastern Europe
- the establishment of the Golden Horde – a vast Mongol territory that stretched from the Danube River, across the top of the Black and Caspian seas, into Siberia (see Source 10.25)
- the completion of the conquest of the Jin Dynasty in northern China and Manchuria.

Ogodei turned the settlement of Karakorum into the first Mongol capital, building a large city wall in 1235. By European standards of the time, Karakorum was not impressive; this is not surprising when you consider that the Mongols were not natural city dwellers.

Under the rule of Ogodei, new regulations were also introduced across the empire to encourage and develop trade. These included the standardisation of weights and measures, and the introduction of paper money (an idea borrowed from the Chinese). Paper money was easier to carry on long journeys than gold and silver.

Renewed expansion of the empire

Under Ogodei's leadership, the Mongol Empire continued to grow. In 1235, after conquering the Jin Dynasty, Ogodei decided to expand his empire westwards. The first stage of the assault, in 1237, was directed against the Bulgars on the Volga River (see Source 10.20). A series of campaigns against the Russians followed between 1237 and 1240, under the leadership of Batu Khan, Ogodei's nephew.



Source 10.21 An artist's impression of Ogodei receiving gifts

The Mongols then invaded eastern Europe in 1241 in a two-pronged attack. A smaller force attacked through Poland and headed towards eastern Germany. It defeated a combined European army in 1241 at Legnica in Poland. The larger Mongol army attacked Hungary and crushed its army at Mohi, two days after victory at Legnica. Hungary was occupied and seemed destined to become part of the empire. The Mongols continued their advance to the west as far as Austria. At this point they seemed on the verge of conquering all of western Europe. However, in December 1241, the Great Khan Ogodei died. In response to this, Mongol forces withdrew from Europe and returned to their homelands to decide on the next leader.

Power struggles

When Ogodei died in 1241, there was much disagreement about who should be appointed Great Khan. At this time, there were signs that the empire was starting to break up into different regions – based largely on areas that certain khans had conquered and controlled. Each of these khans could not agree on a single leader to become Great Khan. After a five-year stalemate, in 1246 Guyuk (Ogodei's son) was appointed leader. He died only two years later, and his mother then became **regent** for a few years. In 1251, Guyuk's cousin Mongke (Genghis Khan's grandson) was elected as Great Khan.

Mongke Khan

Mongke quickly carried out a series of important reforms (see Source 10.22) and military campaigns. Under his leadership, the Mongol Empire became powerful once more. He sent his brother Kublai to take the city of Dali (in south-west China) in 1254. He also sent other generals to attack Annam (in Vietnam) and the area surrounding it. He continued to push into Tibet, India and parts of the Middle East – eventually reaching the Egyptian border.

Mongke appointed another brother, Hulagu Khan, to look after Persia. In the 1250s, the Mongol army attacked and conquered the city of Baghdad. It then moved into Palestine.

At this time, Mongke was still fixed on conquering the remainder of China. Kublai was ordered to supervise northern China while Mongke renewed his assault on southern China. Mongke took personal command of the army and attacked the province of Sichuan in 1258. However, he died in August 1259, during a siege.

Some of Mongke Khan's reforms

- Ordered census of households, fighting men, fields, livestock, vineyards and orchards to help establish a fixed tax
- Continued to exempt religious leaders from taxation, and allowed his people religious freedom
- Appointed or confirmed leadership positions in the Buddhist and Taoist religions, and intervened to resolve religious disputes
- Established a department of monetary affairs that controlled the issue of paper money

Source 10.22 Some of the reforms implemented by Mongke Khan



Source 10.23 Mongke Khan

Check your learning 10.7

Remember and understand

1 When was Genghis Khan's grandson Ogodei elected as Great Khan?
2 What were some of Ogodei's main achievements as Great Khan?

Evaluate and create

3 Create a flow chart to show the changes in Mongol leadership over the period 1229 to 1246.
4 In what year was Mongke Khan elected Great Khan?
5 What are some of the main reforms Mongke Khan introduced and how successful were they?

Kublai Khan and conquests in Asia

After Mongke's death, there was once again a power struggle to decide on the next Great Khan. This carried on for years and eventually resulted in a civil war.

An empire divided

By 1263, the result was an empire split into four regions known as **khanates**. Each khanate was administered and controlled by a different khan (see Source 10.25). Over time, each khanate began to take on its own characteristics and adopt different traditions from the region, such as religions and languages.

The rise of Kublai Khan

From around 1264, after many battles, Kublai Khan gradually became accepted unofficially as Great Khan. The brother of Mongke and the grandson of Genghis, Kublai Khan would go on to rule for 30 years. Throughout his rule there were many attempts to rebel against his leadership – mainly from his relatives.

Source 10.24 The four khanates of the Mongol Empire

Khanate of the Great Khan	• Led by Kublai Khan (1215–1294) • Covered parts of China during the Yuan Dynasty • Mongols in the region adopted many Chinese customs
Khanate of the Golden Horde	• Controlled by Batu Khan (1207–1255) • Covered regions of Central Asia and Russia • Mongols in the region adopted many Russian customs • Internal fighting among Mongol leaders in the region resulted in loss of Mongol control
Ilkhanate	• Controlled by Hulagu Khan (1217–1265) • Covered parts of the Middle East • Mongols in the region converted to Islam • Turkish became the common language
Chagatai Khanate	• Administered by Chagatai Khan (*c.* 1185–1242) • Covered parts of modern-day Mongolia

THE MONGOL EMPIRE AND ITS FOUR KHANATES



Source 10.25

Source: Oxford University Press

The conquest of southern China

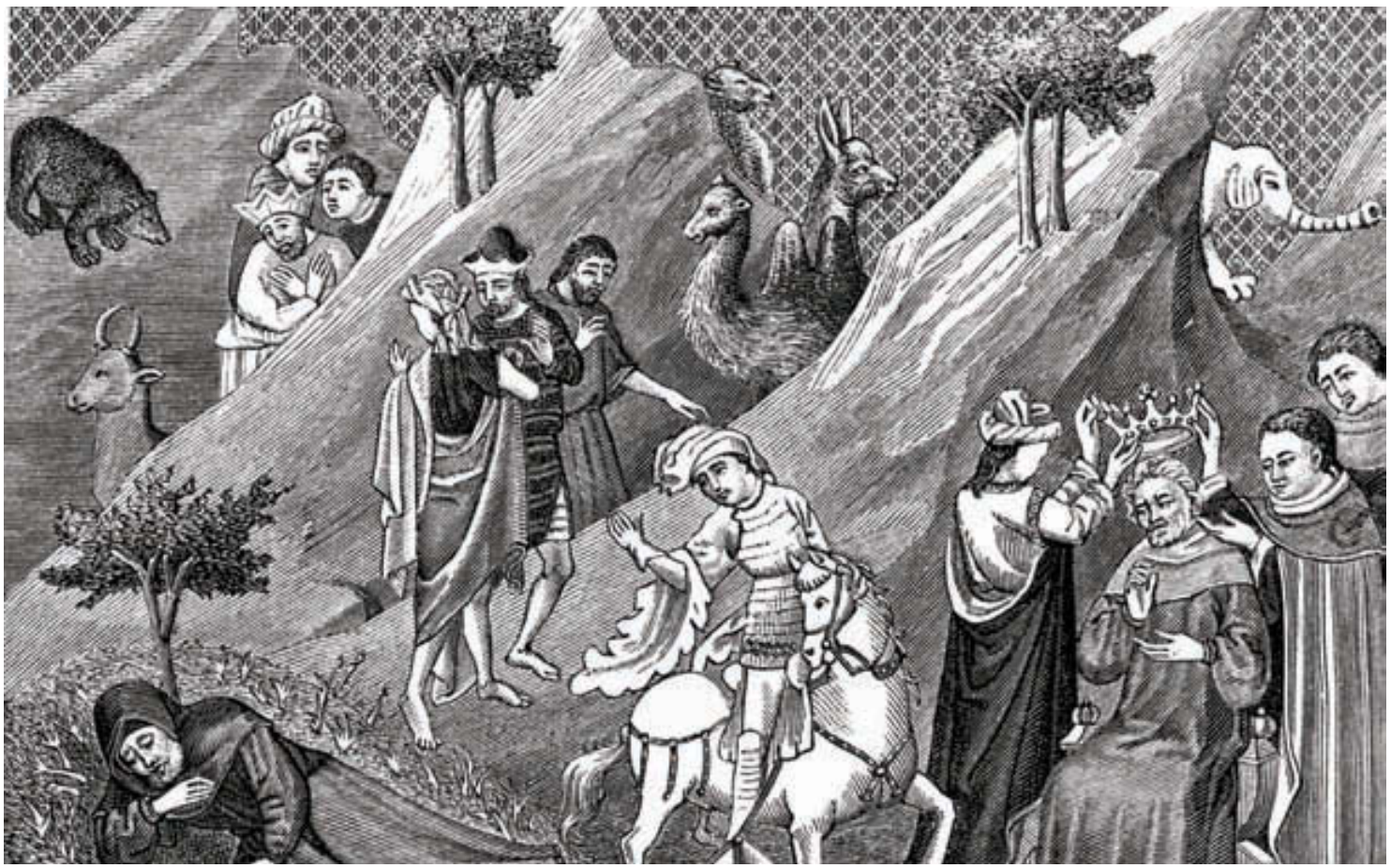
Almost immediately after taking power, Kublai Khan continued the conquest of the Song Dynasty in southern China, which Mongke had begun before his death. Kublai Khan's army took the Song capital, Hangzhou, in 1276, and wiped out the remains of any resistance by 1279. Kublai was still Great Khan, but now also controlled northern and southern China. There he founded a new imperial dynasty in China – known as the Yuan Dynasty. At this time, Kublai Khan also declared himself the **emperor** of the Yuan Dynasty. He renamed his base Dadu (meaning 'great capital'). From these roots grew the city we know today as Beijing.

Governing China

Kublai Khan understood the importance of agriculture and appreciated both architecture and city life. As a result, the destruction of homes and temples across southern China was kept to a minimum – this was very unlike the way earlier khans had treated cities they conquered in China's north. In the south, landowners who surrendered to Mongol rule were allowed to keep their estates. This move helped to ensure their loyalty to the new regime.

The Mongols adopted any institution and employed any servant (even foreigners) that would provide effective government, as long as nothing was done to endanger Mongol military power. The large amounts of money the Mongols earned from taxes suggest that this policy worked.

Chinese junior civil servants were allowed to keep their positions. However, Kublai preferred to appoint administrators from other parts of the Mongol Empire for the highest offices. For example, he put a Muslim governor from the west in charge of Yunnan in the east, and a Tibetan officer from the far west in charge of temple renovation in Hangzhou on the east coast. He also gave a number of official posts to the European traveller and writer Marco Polo (see Source 10.30).



Source 10.26 This engraving of the coronation of Kublai Khan first appeared in the 13th-century French book *Fleur des Histoires de la Terre d'Orient* and shows a very European interpretation of the event.

Crushing opposition

Despite many laws and new policies introduced to govern China and protect his power, Kablai Khan still faced opposition – both from the Chinese and from rival Mongol warlords keen to overthrow him.

In 1287, a Mongol warlord by the name of Nayan rose up against Kublai Khan in a great battle known as the Rebellion of Nayan. The battle was fought on the grasslands of Mongolia in north-eastern China. Nayan was a warlord and ruler of an administrative region within the Mongol Empire. He challenged Kublai Khan's rule and demanded greater independence from the laws and bureaucracy governing the empire.

Kublai Khan, now in his seventies, personally led his troops into battle against Nayan. He was so overweight that he was no longer able to ride. Instead, he travelled in a mobile fort carried by four elephants – known as a palanquin.

Both armies were made up of Mongol horsemen and Chinese foot soldiers. Marco Polo accompanied Kublai Khan and his army and wrote what he saw. According to his records, hundreds of thousands of troops fought on both sides.

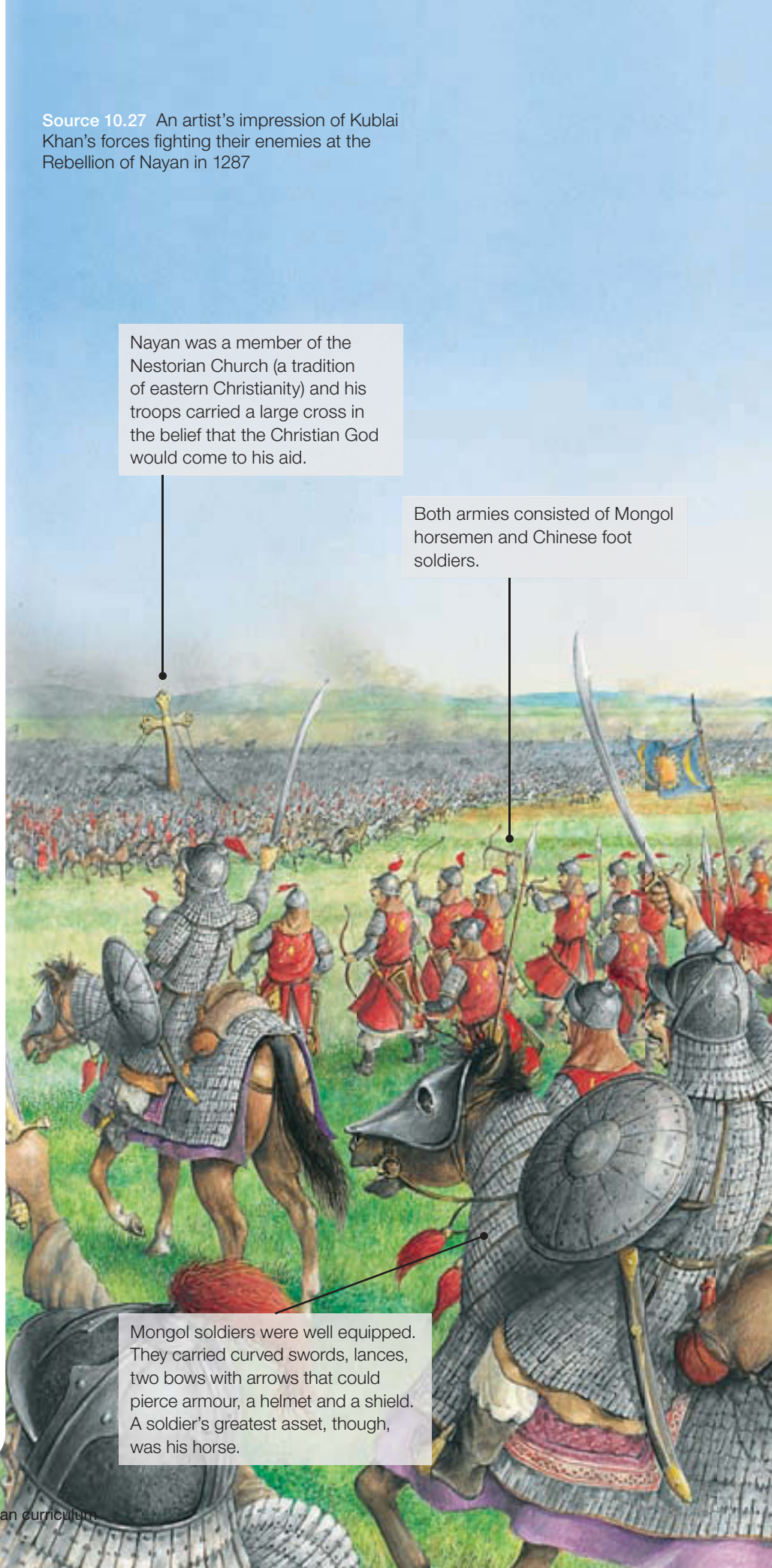
Nayan's army was defeated and Nayan was put to death. According to Mongol law, however, it was illegal for the blood of a Mongol prince to touch the ground. In accordance with this law, Nayan was wrapped in a carpet and trampled to death.

Check your learning 10.8

Remember and understand

1. What image was on Kublai Khan's imperial standard?
2. Why did Nayan's troops carry a giant crucifix with them?
3. Why was the defeated Nayan rolled up in a carpet and trampled to death?

Source 10.27 An artist's impression of Kublai Khan's forces fighting their enemies at the Rebellion of Nayan in 1287




Kublai Khan's imperial standard (banner) carried an image of the Sun and the Moon.
Kublai Khan travelled in a moving fort known as a palanquin. The fort was carried by four battle elephants and protected by Mongol archers and crossbowmen. Kublai Khan sat in the middle of the fort.

End of Mongol rule in Asia



Source 10.28 A 13th-century Japanese painting showing Japanese samurai boarding a Yuan ship in 1281

Failed expansion into Japan

One of the effects of shifting the Mongol centre of power from the old capital of Karakorum to the new capital in Dadu, China, was that regions of Central Asia became more difficult to oversee. These areas gradually slipped from Kublai's direct control. At this time, Kublai was more intent on spreading Mongol influence further into South-East Asia, with hopes of even controlling the wealthy trading island Java (a part of modern-day Indonesia, however this was not to be).

Kublai's campaigns against the Song Dynasty had introduced him to ships. Now with ships of their own, the Mongols launched two attacks on Japan, one in 1274 and another in 1281 (see Source 10.28). Both attempts to conquer Japan were disastrous, largely because of bad storms at sea. The Japanese named the stormy typhoon winds that ended the larger Mongol invasion of 1281 the **kamikaze** ('divine wind') because they believed the gods had sent these winds to protest and defend them.



Source 10.29 This portrait of Kublai Khan was painted by Nepalese artist Anige in 1294, shortly after Kublai Khan's death. It is painted using a Chinese portrait style popular at the time.

End of Mongol rule in China

Kublai Khan died in 1294. After his death, Mongol control over China was weakened. A series of natural disasters contributed to the problems facing the Mongols in China, including extensive flooding of the Yellow River and outbreaks of disease. In fact, the outbreak of disease in 1353–54, which killed huge numbers of people in the region, was probably **bubonic plague**. Many scholars believe Mongol traders then carried this disease across Asia into parts of Africa and Europe, leading to the deadly **pandemic** known as the Black Death.

key**concept:** evidence

The writings of William of Rubruck and Marco Polo

Much of what Western historians know about the Mongol Empire and some of its significant people comes from evidence provided by two written works:

- a journal written by William of Rubruck
- a book written by Marco Polo called *The Travels of Marco Polo*.

William of Rubruck (*c.* 1210–1270) was a Franciscan monk. He had heard about the Mongols while fighting in the Crusades with King Louis IX of France. He wanted to gain the support of the Mongols in fighting the Muslims in the **Holy Land**, so he undertook a three-year journey to the Mongol capital of Karakorum, travelling through the lands of the Golden Horde to get there. His detailed account provided information not only about the lands he crossed, but also great detail about the people and customs of the regions he visited and the layout of the cities in which he stayed.

Marco Polo (1254–1324) was a Venetian traveller and merchant who, at 17 years of age, first accompanied his father and uncle on a trip through Asia. He returned 24 years later. Five years after leaving Venice he was in Dadu, where he met Kublai Khan in 1276. He described what he saw and did (including the diplomatic duties he carried out for Kublai Khan) in his book *The Travels of Marco Polo*.

Both of these historical sources provide a great deal of information and evidence about the Mongol Empire and the ways in which their society functioned. Much of what we know today has been attributed to them. Unlike the work of William of Rubruck, the accuracy of Marco Polo's accounts are being questioned by some historians today. For example, English historian Frances Wood argues that the lack of detail about Chinese culture and customs in Marco Polo's book indicates that he never even reached China – instead using information from merchants and travellers he met closer to home.

For more information on the key concept of evidence, refer to section HT.1 of 'The historian's toolkit'.



Source 10.30 An artist's impression of Marco Polo (along with his father and uncle) meeting Kublai Khan

Check your learning 10.9

Remember and understand

1 What are some of the primary sources of evidence that Western historians have relating to the life and times of Kublai Khan?

Apply and analyse

2 Kublai Khan and Marco Polo came from quite different cultures. Conduct some additional research using your school library or the Internet and complete the following activities.
   - a What do you think might have been the reaction (and thoughts) of Marco Polo on meeting Kublai Khan?
   - b What might have been the reaction (and thoughts) of Kublai Khan on meeting Marco Polo and his family members?

Evaluate and create

3 Draw a concept map to reflect on some of the factors that helped to end Mongol rule in China.

4 Look closely at the images of Kublai Khan in Sources 10.26 and 10.29.
   - a Describe the different ways in which Kublai Khan is presented in each of the artworks.
   - b How accurate do you think each of these portrayals of Kublai Khan are?
   - c How useful are each of these primary sources to a historian?

10.2 big**ideas:** rich task

The changing nature of Mongol warfare

The Mongols created their empire by invading and conquering the peoples and lands surrounding their traditional homelands. The speed, skill and discipline of the Mongol army, along with the way in which they treated the enemies they defeated, made them a truly terrifying force. Their traditional tactics and weapons, however, were not always effective against the armies and fortified cities they encountered as they ventured south and west. The Mongols' ability to adapt their fighting methods to new challenges and technologies was a significant factor in their success.

Source 10.31

As the Mongols chalked up victory after victory, they readily adapted any weapon or method of attack which was an improvement on their own. The catapult and the cataphract (a heavily armoured catapult) are two examples of this. The use of flaming naphtha (a flammable liquid) hurled into a walled city is another.

The art of the siege was unknown to the Mongols when Genghis Khan was forming his empire. His warriors quickly learned it when they invaded China. They also used prisoners of war, forcing their captives to lead parties storming the walls of a besieged city. In the capture of Nishapur in Khurasan, the heart of Muslim power in the east, the Mongols made effective use of prisoners taken in preceding battles. The prisoners were forced to build siege engines at the walls of the city under heavy fire from the city's defenders. Then these same captives were driven ahead of the Mongols, assaulting the city's walls. Nishapur fell to the Mongols in less than a month.

Extract from *Genghis Khan: Conqueror of the Medieval World* by Robert Webb.



Source 10.32 Manuscript illustration of Mongols besieging a city using a catapult. The round objects in the bottom left corner are most likely ceramic bombs containing naphtha.

skill**drill**

Generating historical inquiry questions

One of the first and most important steps in conducting a historical inquiry is to generate or pose key questions. The questions that you generate will frame or direct the research that you then undertake.

Usually, historians generate one broad, overarching question for their inquiry, for example: 'How did Mongol warfare change over time?' After that, you need to generate more specific questions that are related to your overall inquiry question. You will need to generate a mixture of:

- closed or simple questions (e.g. '*When* did event X occur?')
- open or probing questions (e.g. '*Why* did event X occur?')
- 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 dot-point form in one column. In the second column, use each dot point in the first column to 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

Apply the skill

1 Use the process described above to generate a range of questions related to the overarching historical inquiry question: 'How did Mongol warfare change over time?' Copy the following table into your notebook.
First, identify what you already know as a result of reading Source 10.31 and examining Source 10.32. List these ideas in dot points in the first column.
Then, in the second column, generate related questions that help to deepen or build your understanding. The first few have been done for you.

Overarching inquiry question: 'How did Mongol warfare change over time?'	
What I already know	**Questions to help me deepen or build my understanding**
Mongols readily adapted any weapon or method of attack which they saw as an improvement.	• What were the Mongols' traditional weapons and tactics? (Simple or closed question) • What new weapons did they discover and where did they come from? (Open or probing question)
Mongols soon became experts at siege warfare.	• Why did the Mongols have to change some of their tactics and weapons as they expanded? (Open or probing question)

Extend your understanding

1 Compare the warfare tactics of the Mongols with those of another civilisation you have studied (either this year or last year).
   a Create a Venn diagram or use another type of graphic organiser to help you evaluate the tactics employed by the different armies.
2 Which civilisation do you think had the most 'successful' army? Provide reasons for your opinion.

10.3 What were the consequences of Mongol expansion?

The impact of expansion on traditional Mongol life

The expansion of the Mongol Empire brought about massive changes – not only to the societies that it conquered, but also to Mongol **society** itself. The traditional nomadic lives of many Mongol people changed significantly as the **empire** grew, cities were established and government regulations (in the form of laws and taxes) were introduced.

The creation of a single legal system

Before Genghis Khan united the Mongol clans and formed the empire, there was no single set of laws. To resolve this, Genghis created a legal system that would apply across all the lands he controlled. This system was known as the *Yasa*.

The introduction of the census

With the creation of the Mongol Empire also came the **census**. All existing and new territories had to submit to a census in order to provide the administration with an idea of the size and number of people living in various parts of the empire. This ensured that the **khan** knew details of the population and value of his empire. For an empire with a strong army, it was important to know where the money and other important holdings were if they had to be secured quickly for the defence of the state.



Source 10.34 A painting of a *darugha* (a Mongol tax collector) in a Russian city

Laws under the rule of Genghis Khan
All children were considered legitimate, whether born to a wife or a concubine (mistress)
It was illegal to buy or sell a woman, or kidnap a woman to marry
No Mongol could enslave another Mongol
Hunting was forbidden during the animal breeding season (March to October)
Livestock theft was punishable by death
Hunters could kill only what was needed for food

Source 10.33 Some of the laws imposed under Genghis Khan's rule

The introduction of taxation

After his defeat of the Jin Dynasty in China, Genghis Khan selected a former Jin minister as one of his key advisors. This minister created an effective and efficient administration system that included a taxation scheme for everyone living in the empire.

Whenever new territory was taken over, a *darugha* (a person in charge of taxes and administration of a province within the empire) was appointed. A *darugha* had authority over any previous local rulers, and could charge taxes as he saw fit. A *darugha* would usually impose taxes of 1 per cent on herds, and up to 5 per cent on commercial transactions. Before the formation of the Mongol Empire, no members of Mongol tribal groups were required to pay taxes to the khan, so this was a significant change to traditional society.

The introduction of a communication system

Genghis Khan and the rulers who followed him developed a complex communications system that covered the whole Mongol Empire. It was known as the *yam*. The *yam* operated by setting up a series of staging posts across the empire. Each post was 40 kilometres from the next – this is the distance a good horse could cover at a gallop without needing to stop. Each post was guarded by at least 10 men and contained food, shelter and horses. The *yam* was capable of carrying messages from one side of the empire to the other at the rate of nearly 200 kilometres a day.

The army was responsible for ensuring the security of the system and its messengers. Over time, the guarded paths of the khan's couriers became commercial routes for travelling merchants, and the staging posts safe overnight shelters. When the first European ambassadors and merchants travelled to the east to the court of the khan, they reported that unescorted travellers were safer in the Mongol Empire than in any other kingdom on Earth.



Source 10.35 A Mongolian horse like those that would have been used for the *yam*

key concept: cause and effect

Religious tolerance in the Mongol Empire

Cause and effect is a concept used by historians to identify why certain events took place (causes) and analyse the outcomes (effects). The acceptance of different religions during the Mongol Empire's expansion is an interesting topic to think about in terms of cause and effect. As you read the information below, think about the events you consider to be causes, and those you consider to be effects.

When Mongol forces conquered and invaded new territories, Mongol rulers encouraged religious freedom. Kublai Khan, for instance, never proclaimed his belief in any one religion. Such an approach helped to ensure the support of many different religious groups in his empire.

In addition, many of the invading Mongols themselves adopted the religious beliefs and practices of the people they conquered. For instance, in the eastern khanates Buddhism flourished; in the western khanates Islam became the dominant religion.

For more information on the key concept of cause and effect, refer to section HT.1 of 'The historian's toolkit'.

Check your learning 10.10

Remember and understand

1 Why would the *yam* have been a vital part of the Mongol Empire?

Apply and analyse

2 In the Mongol Empire, religious leaders (of all faiths) were exempt from taxation and did not have to carry out any public service. Successive khans allowed places of worship to be built for many different religions. How would this religious tolerance have benefited the Mongol Empire?

3 Look at Source 10.33. Why do you think each of these laws would have helped to secure peace and security?

The impact of Mongol expansion on other societies

As the Mongol Empire grew in size, so too did the consequences for the people and societies that were conquered.

New dynasties

One significant impact of Mongol expansion was the creation of new dynasties. Genghis Khan and his successors founded **dynasties** in several other parts of the world. Kublai Khan's Yuan Dynasty in China also lasted for 100 years.

Impact on China

The initial consequences of Mongol expansion on China were negative. Mongols raided Chinese settlements, looting and murdering as they went. Chinese soldiers were sent off to die in Mongol wars, and the citizens had to submit to foreign officials. But these foreigners also brought enriching ideas and technologies from Arabia, western Asia and Mongolia.

Perhaps the most positive impact that Mongol expansion had on China was the reunification of northern and southern China under the Yuan Dynasty of Kublai Khan during the 1270s.

Impact on Russia

Between the 9th and 13th centuries, there was a region in eastern Europe known as Rus. It covered western parts of modern-day Russia, Ukraine and Belarus. In numerous raids during the 1230s, the Mongols defeated individual princes of Rus, causing many negative changes in Rus society. But it resulted in a united territory ruled by regional administrators.

After the fall of the Mongol Empire, the rulers in Rus continued to conduct a census every two to three years. This would not be introduced in other parts of Europe for another 120 years. A regular census strengthened the idea of firm and strong central government in Rus. The Mongols' efficient communication system – the *yam* – was also continued, and later developed into a postal system, something that a large territory like Rus greatly needed.

Rise of Moscow

The rise of Moscow was perhaps one of the greatest effects of the Mongols in Rus. The Moscovite princes cooperated with the Mongols, even helping to prevent an uprising against the Mongol army in 1327. As a reward, Moscow was given the right to raise and collect taxes for the khan, which lifted the city's wealth and power. As Mongol rule declined, the power of Moscow grew and spread over neighbouring cities and principalities.

About 250 years after Rus was conquered, it was able to overthrow Mongol control. Rus, like China, ended as a more unified country with a strong political and administrative centre.

Impact on Europe

European interaction with the growing Mongol Empire brought Europe out of its isolated view of the world. Travellers such as Marco Polo and William of Rubruck developed an interest in the learning and wealth of the east. The safety of the trade routes established by the Mongols attracted Europeans to build trade and political contacts. Europe's knowledge of the world was greatly increased by the information brought back by ambassadors and merchants.

The development of paper currency came about in Europe because of the influence of the Mongols. Paper money was used by merchants to lighten their load on their long travels along trade routes such as the **Silk Road**.



Source 10.36 A copy of a banknote first issued by Kublai Khan in China

MONGOL TRADE ROUTES



Source 10.37

Source: Oxford University Press

Impact on trade

The Mongols established, enhanced and protected trade routes stretching from the Chinese coast to the fringes of Europe. They encouraged trade, which helped to spread knowledge in the medieval world. As the empire expanded, the Mongols developed many trade and political contacts. Trade grew rapidly – particularly given the tight controls that the Mongols had introduced to create safe and profitable trading routes. Under the rule of Genghis Khan, all traders were assured of their safety while on the road. Genghis Khan valued them as sources of information from outside the empire. He also used some as diplomats.

The Black Death

An unfortunate legacy of the Mongol Empire for the rest of the known world was the spreading of the **bubonic plague**. Many historians believe that it originated in the Gobi desert and spread through China, India and then into Europe and the Middle East along the established trade routes of the Mongol Empire. The Black Death – the terrifying **pandemic** of bubonic plague that spread across Asia and Europe in the Middle Ages – was carried by fleas and the rats on which they fed. It severely reduced the populations of all societies with which it came into contact. In Europe alone about one-third of the population died.

Check your learning 10.11

Remember and understand

1. In what ways did the Mongol Empire open European eyes to the rest of the world?
2. List some of the benefits of Mongol rule in China.
3. Why did Moscow grow in importance under the Mongols?
4. Why is the spread of the Black Death blamed on the Mongol Empire?

Apply and analyse

5. Conduct some research into the development of money. How did the Mongol adoption of paper money in China affect the rest of the world?

10.3 big**ideas:** rich task

Life in China under Mongol rule

As you have learned, the Mongols had a big influence on the regions they ruled and did much more for the countries they conquered than simply pillage and destroy. But what sort of rulers were the Mongols really? What were the positives for those living under Mongol rule and what were the negatives? Much can be learned about this by looking at Mongol rule in China.

Mongols created their own hierarchy in China with themselves at the top as the rulers. They held onto their own culture fiercely and took many steps to preserve the rituals and ceremonies of traditional Mongol life. In this way, they set themselves apart from the Chinese.

Directly below the Mongols were other foreigners, mostly Muslims that were brought to China by the Mongols to help them rule. These two groups filled the vast majority of government positions. After that were the northern Chinese and at the very bottom were the southern Chinese.

The Chinese that had previously formed the ruling class were at a massive disadvantage under the Mongols. For other groups within Chinese society, however, their status improved.

The status of peasants, merchants and artisans improved under the Mongols. Under the Chinese, these groups were all seen as having low status in society but the Mongols thought that their contributions to society were valuable and gave them a higher status accordingly.

The Mongols also brought in changes to support these groups in their enterprises. Peasants were encouraged to organise themselves into cooperative rural groups comprising of about 50 households under a village leader. They were also expected to pay a fixed tax rate, which meant that they would know how much of their crops they would have to live on. For merchants they increased the availability of paper money



Source 10.38 A Yuan Dynasty watercolour of peasants harvesting rice

and reduced some of the tariffs which encouraged a large increase in trading activity. For the artisans, the Mongols reduced taxes and made them exempt from any labour obligations. The Mongols were great cultural **patrons**, and theatre, painting, pottery and textiles all flourished under Mongol rule.

On top of this, the Mongols were tolerant of different religious beliefs and people were free to practise the religion of their choice.

Despite these improvements, the Chinese were given few rights under the Mongols and were punished harshly if they did not fulfil their obligations to the Mongol rulers. One of these obligations was to provide free labour for public works projects, such as building a new capital city in Daidu (present-day Beijing). Most of this labour was provided by the peasant class and this was deeply resented by them.



skill**drill**

Using the Internet to find relevant, credible 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 and credibility of the information you find.

Use the following steps to apply this skill:

Step 1 Identify keywords 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:

- **a** Who is the author or creator? If it is an individual, do they have credentials listed (e.g. a degree, title)? If it is an organisation, is it a reputable organisation like 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?

Apply the skill

1. Conduct an Internet search to find relevant, credible and reliable source material about Mongol rule in Yuan China using the steps outlined above.
2. From the credible information sources you have found, prepare a table for completion of the pros (positives) and cons (negatives) of living under Mongol rule in Yuan China. Source 10.39 is an example of the sort of table you will need to set up. Remember to record the URLs of the sites you have found in the fourth column of the table.

Pros (positives)	Cons (negatives)	Neither positive or negative	Information source

Source 10.39 Positives and negatives of Mongol rule in China

Extend your understanding

1. From the information you have gathered in the exercise above, make an assessment of the positives and negatives and see if you can come to a point of view of whether Mongol rule was positive for China overall or negative for China. Once you have decided on your point of view, write a short essay explaining your response.

depth study – option

The Black Death in Asia, Europe and Africa



During the 14th century, a deadly outbreak of plague known as the Black Death spread across Asia, Europe and Africa. Scientists and historians now believe that merchants returning home from the East introduced the disease to Europe in 1347. Within three years, it had spread across most of Asia, Europe and into north Africa. A lack of medical knowledge, filthy living conditions, superstitions and fear helped the disease to spread quickly. In Europe alone, 25 million people – one-third of the population – died.

11.1

How was society organised at the time of the Black Death?

1 Living conditions in towns in the early 14th century were filthy and crowded, and people had poor diets. How do you think these two factors might have made people more susceptible to diseases such as the Black Death?

11.2

What were the causes of the Black Death and how did it spread?

1 By the time the Black Death pandemic began, numerous land and sea trade routes had been established all over Europe, Asia and Africa. How do you think these trade routes might have enabled the rapid spread of the Black Death?



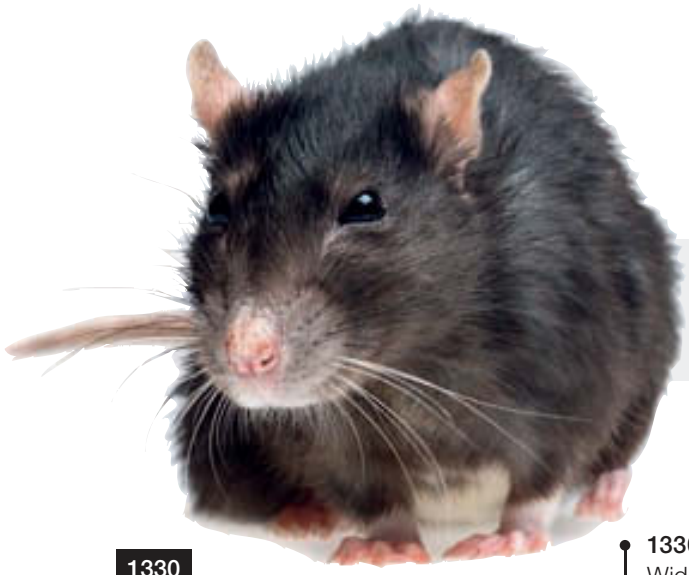
Source 11.1 *The Dance of Death*, painted by Johannes de Castuo *c.* 1490, shows victims of the Black Death being escorted to an open coffin by skeletons.

11.3

What were the effects of the Black Death?

1 The Black Death caused a huge drop in the population, which meant there were far fewer peasants available to work. In what ways do you think this might have led to a decrease in the power of landowners and the wealthy over the peasant class?

The Black Death: a timeline



It is thought that the plague initially infected rodents like this black rat.

The hand of a victim of septicemic plague, the rarest (and deadliest) form of the plague



1330 CE

1330s
Widespread famine and plague breaks out in north-eastern China

1340

1346
Plague reaches the trading city of Kaffa on the Black Sea; Genoan merchants return to Sicily, spreading the disease

Source 11.2 A timeline of some key events and developments related to the medieval Black Death pandemic





The plague struck down people of all ages and from all walks of life.



Leader of the Peasants' Revolt, Wat Tyler, was wounded during a meeting between peasants and the English king, Richard II. Later, Tyler was beheaded.

1347
Genoan merchants on their return journey to Sicily spread the plague to Constantinople, Cyprus and then into modern-day Italy; it reaches Venice as well as Alexandria in Egypt

1348
Plague reaches the French cities of Marseilles and Paris, then moves to England; it moves along the Rhine River and into modern-day Belgium, the Netherlands and Luxembourg; outbreaks occur in Tunis, Cairo and Gaza; the flagellant movement gains popularity; serious persecution of Jews starts

1349
Widespread persecution of Jews, with thousands burned to death; plague reaches Aswan in Egypt and the entire Islamic world is now affected

1350
Plague has largely run its course in the countries around the Mediterranean Sea

1351
The Statute of Labourers is introduced, making it illegal for employers to increase workers' wages; plague reaches Russia

1353
Some 35 million deaths from the plague recorded in China since the 1330s

1360

1380

1381
The Peasants' Revolt breaks out in England



People known as **flagellants** who believed the plague was God's punishment flogged themselves until they bled, in the hope of obtaining God's forgiveness.

Check your learning 11.1

Remember and understand

1 In what year did the plague reach Sicily?

2 In what year did serious persecution of the Jews begin?

Apply and analyse

3 Using the timeline, calculate how long the medieval plague epidemic lasted in Europe.

Evaluate and create

4 Conduct some Internet research to find out the years in which the Black Death reached Scandinavia. Add this to your own version of the timeline.



11.1 How was society organised at the time of the Black Death?

Life in Asia, Europe and Africa before the Black Death

In order to understand how and why the Black Death spread across Asia, Europe and Africa, it is necessary to look at how **societies** in these parts of the world were organised at the time, and what living and working conditions were like for the people there.

The information provided below is designed to provide a brief outline of what conditions were like across Asia, Europe and Africa before the first outbreaks of the Black Death.

Societies in Asia

The expansion of the Mongol Empire across Asia between the early 13th century and mid 14th century had significant impacts on the societies that it conquered. The Mongols introduced positive changes such as religious freedom, and also expanded trading routes (like the **Silk Road**) that increased contact and trade with the West. Not all elements of Mongol rule in Asia were quite so positive though. Their conquests of new regions often resulted in the deaths of many people and disrupted vital activities such as farming and food production. In addition to this, a series of civil wars and natural disasters across Asia led to crop failures in the early 1330s. This in turn caused widespread famine across the region. Weakened and malnourished, many people were no match for the plague outbreak that followed.

Societies in Africa

Most of what we know about social and economic conditions in Africa during the 14th century relates to North Africa and Egypt. This period saw the dominance of a number of powerful Islamic nations – in particular the Mamluk Sultanate of Egypt and the Marinid, Zayanid and Hafsid Dynasties across North Africa (covering modern-day Morocco, Algeria, Tunisia and Libya). Over many years, each of these Islamic nations struggled for control over different parts of the region. Despite many ongoing conflicts, sea trade and commerce thrived. Port cities along the coast of North Africa, such as Tunis and Tripoli, traded extensively with European societies, particularly those on the Italian Peninsula. There were also busy trade routes between Alexandria in Egypt and Constantinople, as well as other ports around the Black Sea. When the plague broke out, all of these trade routes and centres became gateways for the Black Death **pandemic**.



Source 11.3 A medieval illustration of serfs harvesting grain in a lord's manor fields



Source 11.4 An artist's impression of a typical medieval town in Italy during the 14th century

Societies in Europe

In contrast to societies in Asia and Africa, there is a great deal of evidence relating to the outbreak of plague in Europe. From the 10th century onwards, the system of **feudalism** that had organised society and provided protection and stability across the continent began to weaken. There were a number of reasons for this, but most historians agree that the changes brought about by a series of Holy Wars (known as the **Crusades**) had a lot to do with this. New ideas, products and wealth brought back to Europe from these wars led to a time of great economic success between the 10th and 12th centuries. Trade with societies across Asia and Africa increased and towns and cities grew rapidly. This prosperity led to a huge increase in the birth rate. As more and more people moved to the cities, conditions became difficult. Many cities became extremely overcrowded and living conditions were unhygienic. As a result, the diet, housing and general hygiene of the average city dweller was very poor.

Despite the population explosion across Europe, farming methods had remained inefficient and farmers struggled to grow enough food to feed the population. In addition to this, from around 1250 onwards the weather also became unusually cold and wet, causing a series of crop failures. All of these factors led to a number of famines across Europe and many died from starvation. Just like those living in Asia and Africa, the people of Europe were not prepared for what they were to face with the first outbreak of the Black Death.

Historical evidence relating to the Black Death

One of the difficulties associated with studying the spread of the Black Death across Asia and Africa during the 14th century is that very few detailed sources of evidence are currently available. There are a number of different reasons for this. Although societies there were often quite advanced, the records they kept have either been lost over time or have not yet been analysed by historians in the West. Despite this, there are some general sources available that outline the path taken as the disease spread and who was affected.

By contrast, many sources of evidence relating to Europe are available, and Western historians have spent considerable time analysing them. In countries such as England and Italy, local authorities and members of the church kept written records (such as birth and death notices, illuminated **manuscripts**, population surveys and **census** information). All across Europe, artists, poets and writers also recorded their experiences for future generations.

Given that much more research and analysis has been carried out on the effects of the Black Death across Europe, this chapter will largely focus on the experiences of the people there.

Check your learning 11.2

Remember and understand

1 What were the positive and negative effects of Mongol conquest in Asia?
2 What were some of the trading routes between north Africa and Europe?
3 What was feudalism? How did it help to organise medieval societies?
4 Which group of people became the new middle class in medieval cities? Explain why.

Apply and analyse

5 Why do you think medieval peasants, working under systems such as feudalism, might have been attracted to town life?

Evaluate and create

6 With a partner, write a script for a conversation a peasant farmer might have had with his wife to persuade her to leave the manor and go with him to live in a nearby town.

Growth of trade and cities

From the middle of the 11th century, European explorers such as Marco Polo (1254–1324) opened up the 'world of the East' to Europe. Marco Polo spent many years travelling in China and Mongolia, among other parts of Asia. The luxury goods that he and other merchants brought back included spices, semi-precious stones and silks. Wealthy Europeans were eager for more – and eager for knowledge about this part of the world that had been unknown to them.

Trade was also beginning to boom between European towns and places such as Constantinople, Damascus, Moscow and north Africa's Alexandria. Goods were carried back and forth along a network of land and sea trade routes (see Source 11.5), often to be sold in huge open-air markets.

Growing trade routes

Much early medieval trade between West and East took place along the **Silk Road**. By the mid 1200s, this network of dirt tracks – stretching from China in the east, westwards to the Mediterranean Sea – was controlled by the Mongol Empire. Mongol protection meant safer passage and more reliable delivery of goods.

But this reliance on the Silk Road for trade would not last. New ways to reach markets faster and more cheaply would be sought. This would eventually change the balance of power between the East and West and weaken the authority of the Mongols.

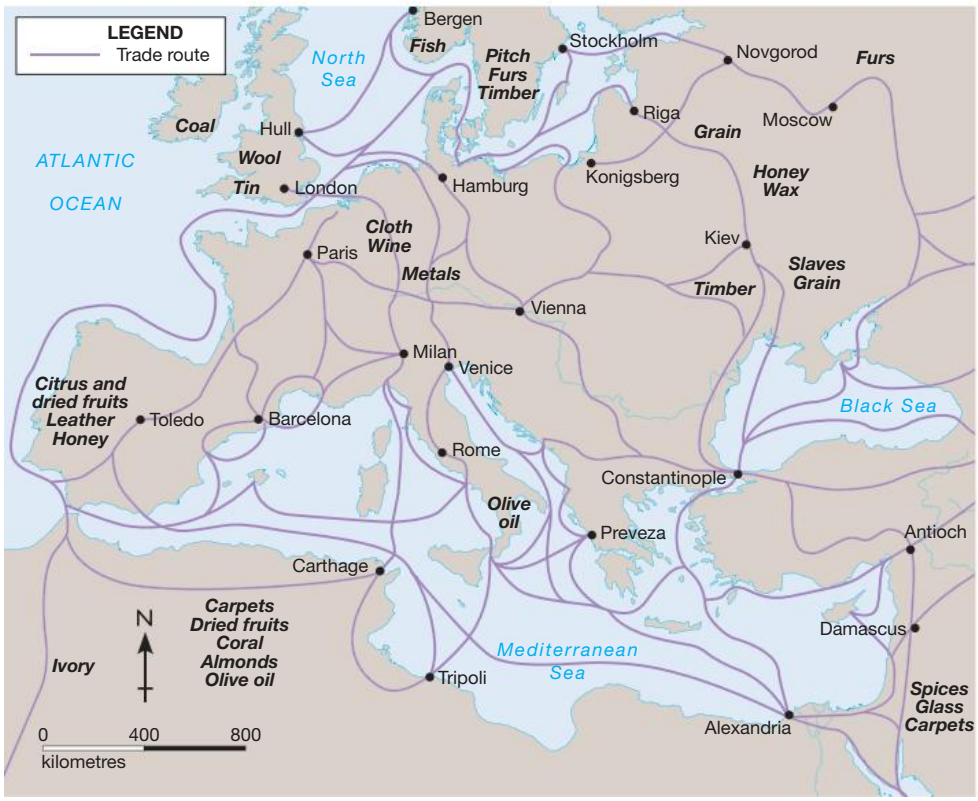
New sea routes

Countries such as Portugal and Spain led the push in Europe to discover new sea routes to eastern markets – and to claim lands in the **New World** (the Americas). They were most likely motivated by a combination of curiosity and a desire to impose their culture on others they thought of as primitive. Most of all, they had a desire for wealth.

The European sailors of the late 1400s and beyond pushed further and further into unknown waters. Many sailors died at sea looking for new lands and trading partners, but eventually new lands in the East and elsewhere were reached by sea. This opened the door for the exchange of many new products that significantly changed societies.

Not only were these new sea routes faster than land travel they also made it possible to transport greater volumes of cargo. There were many risks, including being shipwrecked on rocks, facing wild storms at sea and being attacked by pirates. However, as ship design improved and navigational skills strengthened, some risks were reduced.

KEY MEDIEVAL TRADE ROUTES AND GOODS TRADED



Source 11.5 Source: Oxford University Press

New towns and cities

During the early part of the medieval period, societies and economies of Europe were based around agriculture and land ownership. These various kingdoms were largely divided into feudal estates and manors, owned by nobles and farmed by peasants. For centuries, this system was successful because these peasants needed the protection of these nobles and their knights against attacks from **barbarians**; however, from about 900 CE on, these attacks began to ease. This meant that common people no longer needed the protection from their lords and the system of feudalism began to weaken. Slowly, people began moving to, and living in, towns.

A number of different types of town began to pop up. Many grew up around castles or manor houses that had been established for hundreds of years, while others were newly settled close to ports, rivers and roads that were important for trade and transport. As trade increased, so did the size and populations of these towns. To begin with, the populations of these towns across Europe were largely made up of people who had left manor estates. Many of the peasants that resettled there went on to earn their living as skilled craftspeople, labourers or merchants.

Over the next few centuries, a number of other events further weakened feudalism and fuelled the growth of towns. The Crusades, in particular, played an important role. Before heading off to fight, some lords sold their estates; others never returned at all. Those who did return brought new ideas, new customs and new products to trade. As trade increased, so too did the number of towns. Over time, many of these towns grew into cities. By 1200, there were about 600 cities in Europe, three times as many as there had been 50 years earlier. Because of this rapid growth, conditions in these towns and cities were often cramped and unhygienic.



Source 11.6 A 15th-century illuminated manuscript showing Marco Polo sailing from Venice in 1271, on his way to the East

Check your learning 11.3

Remember and understand

1 Explain why Marco Polo's adventures created such interest in Europe on his return.

2 How did the discovery of new sea routes improve trade in medieval times?

Apply and analyse

3 Many medieval people took great risks in the interests of trade, even exploring unknown seas.
   a Why do you think they were prepared to do this?
   b Do you think that people today also take risks for the same reasons? Justify your view.

4 Give three reasons why towns and cities began popping up across Europe from about the 10th century. Which of these reasons do you think is the most important?

Living conditions

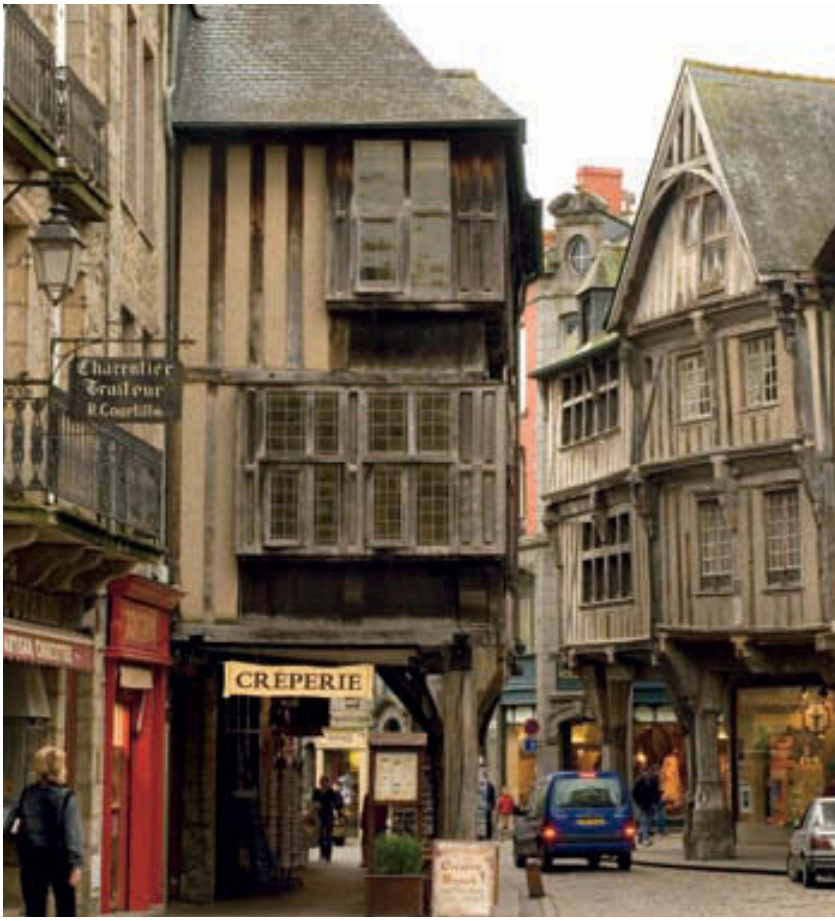
Living conditions across Europe during the 12th century were often very harsh. A population boom in the 11th century led to a surge in the number of people living in towns and cities and competition for food and accommodation was tough.

Living conditions in towns

People living in medieval towns and cities included both the very wealthy and the very poor. Rich people might live in castles or manor houses on the outskirts of towns, or in tall, impressive homes in the town centre.

Source 11.7

> The city was well laid out within, and constructed with many beautiful houses … Buildings were improved to make them comfortable and elegant, and fine examples of all sorts of improvements were sought from outside the city.
>
> An extract from the writings of Florence-based writer and banker Giovanni Villani (*c.* 1275–1348) describing his city in the early 1300s



Source 11.8 Part of a medieval European town, still standing today, with some modern additions

The poor part of town

Homes for the poor in medieval towns were often just one or two rooms in one of the shabby multi-storeyed buildings clustered around a market area. Many of these buildings were joined together in a similar way to modern apartment blocks. Family businesses were typically run from the ground floor (which often had a dirt floor). Floors on upper levels were often covered with straw. Over time, this floor covering became a stinking squashed mat of rotting food, bones, bodily wastes and grease. Bathing was not seen as a daily routine in those days. In fact, some people thought that washing was bad for their health! The poor and rich alike lived with lice and fleas and scurrying rats.



Source 11.9 A modern artist's impression of a medieval European town around the mid 1400s. Note the busy marketplace.



The dirty streets

Town centres were dirty and smelly. Rotting food scraps and sewage typically blocked the drains. Each day, household rubbish and the contents of chamber pots (used for going to the toilet) were tossed out of windows. It was common to see animals such as pigs and chickens roaming the streets and alleyways. The smell of animal manure and human waste was constant, and the streets were a thriving environment for rats and other vermin.

Narrow stone or dirt streets separated the rows of what were, at first, mostly wooden buildings with thatched or shingled roofs. Such flammable materials made these buildings major fire risks.

Market activity

Medieval towns and cities were noisy, crowded places. At the centre of many towns there was a marketplace where goods were bought and sold. Festivals were also held there. One might hear animals bleating, the clatter of cart wheels, the cries of merchants as they carried out their trade, the songs and music of wandering **minstrels**, and the yells of running children.

Living conditions in the country

People living in the country also faced very difficult conditions. Houses were small with dirt floors covered in straw. These houses were usually dirty, smelly and dark, and were often shared with animals such as chickens and pigs. Windows were narrow openings that could be boarded up in winter. The toilet was a hole in the ground outside.

Peasants living in the country worked long hours to produce their food, and were often undernourished. This made them susceptible to many different kinds of illnesses.

Life expectancy

Life expectancy during the 11th and 12th centuries was very low compared to today. Infant mortality (death) rates were very high, and if an infant survived, on average they could only expect to live to be about 35 years old if they were male, and about 31 years if they were female. Many women died during childbirth, whereas many more males died as children before the age of 10.

Life expectancy in medieval Europe became worse from about 1300 (even before the Black Death) as a result of famine and the dirty, overcrowded living conditions in cities.

Check your learning 11.4

Remember and understand

1 Why were towns and cities – especially the poorer parts – such fertile areas for the spread of the plague?
2 What was the average life expectancy for a male living in medieval Europe?
3 What was the average life expectancy for a female living in medieval Europe?
4 Why do you think the average life expectancy was lower for women than men?

Apply and analyse

5 Divisions in medieval societies helped to create living conditions in some towns and cities that were a breeding ground for disease. Think about the town or city in which your school is located. With a partner, answer the following questions:
   a How are social differences reflected in the layout and appearance of your town or city?
   b What health risks and social problems might be created by some areas of your town or city? Why?
   c What steps have already been taken to improve this situation? Can you suggest others?

Evaluate and create

6 With a partner, draw a concept map exploring some of the hardships you think that those living in early medieval towns might have faced. Think how these hardships might have affected family life, health, lifestyle, employment and life span.

11.1 big**ideas:** rich task

Medieval London – a dirty old town

How people lived in medieval London is very different from how we live in cities today. When we think of medieval London we tend to think of a chaotic, dirty city.

In medieval London, the streets and roads were still bare earth and the ground was covered with the excrement of people and animals, as well as animal entrails and rotting food. A popular image of medieval London is of people emptying their chamber pots out their windows, carelessly throwing the contents on to unsuspecting victims below. In reality, it was illegal to empty chamber pots out of windows in medieval London, but this did not stop some people.

From our point of view today, it seems hard to believe that people were happy to live in these conditions. Were no attempts made in the 14th century to control the filth in the streets of London? The following extracts provide evidence of early moves to clean up London.

Source 11.10

Concerning dung

No-one is to throw straw, dust, dung, sawdust, nor any other unpleasant material into the streets or lanes. Rather they are to have them removed by the rakers or others to places designated for the dumping of such dirt, under penalty of 2s. [for default, payable] to the Chamber.

Concerning rakers

There are to be [appointed] rakers capable of cleaning refuse [garbage] out of the various wards [areas]. They ordain that the constables and the beadle [officials] are to help them collect their salary from ward residents.



Source 11.11 A 20th-century illustrator's impression of the busy streets in medieval London

Concerning pigs and cows

No-one is to raise pigs, bulls, or cows within their houses, under penalty of seizure of the same to the Chamber.

Extract from Corporation of London Records Office, Liber Albus, f.213, c. early 13th century, translated and reproduced in Henry Thomas Riley, ed. Liber Albus, Rolls Series, no.12, vol.1 (1859), 335.

Source 11.12

Next case heard by the wardmen of the city of London: the lane called Ebbegate was a right of way for all men until it was blocked by Thomas at Wytte and William de Hockele, who got together and built latrines [toilets] which stuck out from the walls of the houses. From these latrines human filth falls on the heads of the passers-by.

Extract from the *Book of Customs* (1321) which recorded court cases brought against people in London in the Middle Ages



Source 11.13

> Almost all the floors are made of clay and rushes from the marshes, so carelessly removed that the bottom layers sometimes remain for 20 years, keeping there below spittle and vomit and urine of dogs and men, beer that has been thrown down, leftovers of fishes and filth unimaginable ... It would help also if people made the council keep the streets less dirty from filth and urine.
>
> A letter from the Dutch scholar Erasmus to an English doctor (1524), with his ideas to stop plagues.

skill**drill**

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. Another aspect is 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.

Apply the skill

1. For each of the three written sources, name the main reason why they were produced.
2. What do these sources reveal about the state of London streets in medieval times?
3. How reliable do you think each of these sources are?
4. For each of the sources, consider whether there is any possible bias shown and why this might be the case.

Extend your understanding

1. Write a brief dialogue from the point of view of one of the following people living in medeival London:
   - a raker talking about his job with his employer
   - a member of parliament giving a speech for re-election
   - a local butcher who is raising pigs to slaughter in his home.
2. Read Source 11.13 – taken from a letter by Erasmus to an English doctor. Put yourself in the position of the English doctor. Do some research on the Internet to try to find out what English doctors at the time thought of the filth in the streets and in people's houses. Find out whether they thought this increased the risk of disease. Would the English doctor have agreed with Erasmus or have had another point of view? Write a short response to the letter from the English doctor's point of view.

11.2 What was the Black Death and how did it spread?

Causes and symptoms of the Black Death

Causes of the Black Death

The Black Death was a plague **pandemic** that broke out in parts of Asia, Africa and Europe between the early 1330s and 1350s.

A pandemic is an infectious disease that spreads through human populations across a large region, or even worldwide, in a short period of time. This particular pandemic did not become known as the Black Death until many years later. It was given this name because of the black lumps, or **buboes**, that appeared on the victim's skin.

There had been outbreaks of the plague in previous centuries, but the outbreak that occurred in the 14th century was far more deadly than previous ones. By the time it ran its course, it is estimated that more than a third of the population in Europe had died from it.

The Black Death is now believed to have been a combination of three types of plague – **bubonic plague**, pneumonic plague and septicemic plague. Bubonic plague is transmitted by infected fleas carried by rats. Rats were very common in the dirty, crowded conditions of medieval Europe. When the rat carrying the flea died from the plague, the flea would jump onto a person to feed from their blood. The person bitten by the flea would then be infected. Bubonic plague was the most common form of plague.

Source 11.14 Medieval artist's impression of merchants conducting their trade. It was medieval traders, many say, who were responsible for spreading the pandemic.



Pneumonic plague was the second most common form of plague. It attacked a person's respiratory system and was spread through the air by a victim's cough. It was far more contagious and deadly than the bubonic plague.

Septicemic plague was the rarest and deadliest form of the Black Death. It was also spread by infected fleas, but moves directly into the bloodstream and becomes life threatening even before buboes have had time to form on the skin. Septicemic plague killed almost 100 per cent of victims.

Medieval societies were significantly changed by the Black Death. Town populations were devastated, trade virtually stopped and many manor lands and businesses were ruined. Family and social relationships were also ruined, for both the rich and the poor.

Symptoms of the Black Death

For most sufferers, the first sign of the Black Death was large bulges or lumps that appeared on the skin, usually in the groin, in the armpits or on the neck. These lumps were known as buboes, and initially appeared as a red colour, before turning purple, and then finally black. These buboes would spread all over the body. The victim would also get a fever and headaches. Over the next few days, the victim would lose motor control, so that they could not speak or walk properly. They would suffer much pain and vomiting, and become delirious.

The average time of death from the first symptom was between three and seven days. It is believed that between 50 and 75 per cent of those who caught the disease died.

Source 11.15 This detail, called 'Suffering man', from a painting by Matthias Grünewald (*c.* 1480–1528) provides evidence of why this terrible disease caused such fear and horror.





Source 11.16 *Yersinia pestis* bacteria – the bacteria that lived in the stomach of fleas and that caused the bubonic plague



Source 11.17 The black rat helped spread the bubonic plague throughout medieval Asia, Africa and Europe.

Check your learning 11.5

Remember and understand

1 What is a pandemic?
2 What were the three types of plague that became known as the Black Death?
3 Why did the disease become known as the Black Death?

Evaluate and create

4 Conduct some research into the bacterium *Yersinia pestis*. Find out:
   a who discovered it as the real cause of the Black Death, and when
   b who discovered the first effective treatment for the Black Death, and when.

   Write a short report to show your findings.

The spread of the Black Death

From around 1330 to 1351, the Black Death swept through Asia, Europe, north Africa and the Middle East, killing an estimated 100 million people.

Origins of the Black Death

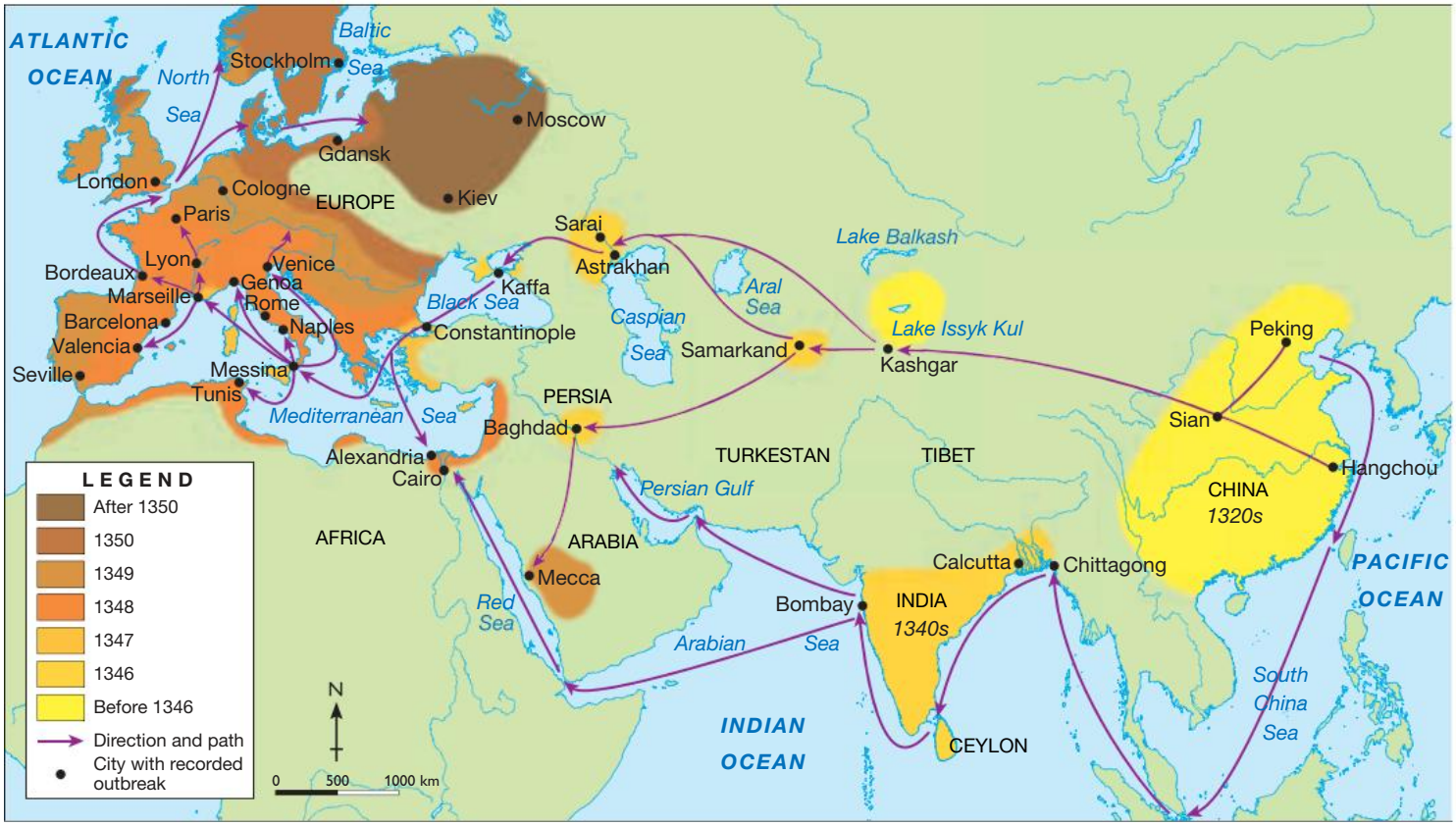
Most scientists and historians believe that an especially lethal strain of the plague broke out in China in the early 1330s, following a devastating famine. This area was then known as the Yuan Empire (covering most of present-day China and Mongolia), which had been under Mongol rule since 1279. Some think that the disease was first carried westwards by Mongols travelling along the **Silk Road**.

In 1346, the **pandemic** eventually reached a trading city on the Black Sea called Kaffa that was controlled by Genoan (Italian) merchants (see Source 11.18). At that time, Muslim Turks (called **Tatars**) were attacking Kaffa.

The attacking forces of Tartars were infected with the plague. A 14th-century Italian writer, Gabriele de' Mussi, described how the Tatars 'ordered dead corpses [of their men] to be placed in **catapults** and lobbed [thrown] into the city in the hope that the intolerable stench would kill everyone inside. What seemed like mountains of dead were thrown'. The Tatar attack began to break down as the disease spread rapidly among their troops, killing all but a few. The Genoan merchants in Kaffa took the opportunity to flee to their boats.

The Genoans, however, were now also carrying the disease. On the way home, they infected those they came in contact with, including merchants in Constantinople (who, in turn, carried the plague further east). When the ships reached their home port back in Italy, crowds flocked to greet them. These survivors unknowingly introduced the disease to their homeland via their own infection and the rats on board (who jumped to land).

ORIGINS AND SPREAD OF THE BLACK DEATH



Source 11.18

Source: Oxford University Press



Source 11.19 The tower of a 14th–19th century Genoese fortress in Kaffa (modern-day Feodosiya in Ukraine)

The rapid spread of the Black Death

The spread across Europe

Once the Black Death had moved westwards from Asia, it raced through Europe (see Source 11.18). By the end of 1347, most Mediterranean islands were infected. Many Mediterranean seaports were also infected. By 1348, the Black Death was in Marseilles and, then, other cities in the south of France. From there, it moved into Spain and further into Italy.

Later in 1348 the plague was carried across to England by sea. In 1349, the plague spread across the rest of the British Isles and then across the North Sea into Norway. It also continued its spread across mainland Europe, reaching Germany. By 1350 the plague had further spread into eastern Europe, Russia and the rest of Scandinavia. By 1352 the plague was widespread across Europe.

The spread into Egypt and north Africa

Europe was not the only area devastated by the Black Death. By 1347, it reached Alexandria in north Africa, carried by infected travellers on ships. An Arab writer described the arrival there of a slave ship that had set out to sea from Constantinople with over 330 people on board. By the time it arrived in Alexandria, there were only three survivors.

By early 1348, up to 1000 people were dying per day in Alexandria. In fact, Alexandria's population did not return to what it was before the plague until hundreds of years later.

In other villages of the Nile delta, the death rate was so high that towns were abandoned, fishing almost stopped and law courts were closed. In the town of Bilbeis, for example, bodies were reported to be piled up in mosques and shops. Roads were littered with rotting corpses, which were eaten by dogs and rats.

The southward spread of the plague from Alexandria saw it travel up the Nile Valley (again, mostly through infected boat passengers). About 200 000 people died in Cairo alone – 37 per cent of the city's population. By February 1349, the Black Death had reached Aswan, 1000 kilometres south of Cairo.

To the west of Egypt, the plague's advance followed the north African coastline. It reached Tunis in April 1348 – most likely through trading links with Sicily. From there it pushed into today's Algeria and Morocco. Interestingly, **nomadic** Arabs (who lived in tents, moving from place to place) were not struck down by the plague.

The spread into the Middle East

The Black Death spread to Yemen in the east by 1351. The king of Yemen, and his attendants and courtiers, carried the disease to their home country after their release from a Cairo prison.

Three years earlier, in April 1348, the plague had already reached Gaza. From there it spread to Palestine and Syria. Less than a year later, it had killed 50 000 people in Damascus – roughly half the population. Eventually, the whole of the Islamic world was affected, especially those living in towns or cities.

Check your learning 11.6

Remember and understand

1 Where was the initial outbreak of the Black Death believed to have occurred?

2 Describe the impact of the Black Death on Egypt during 1348 and 1349.

Apply and analyse

3 Write a paragraph outlining the role that trade and trade routes played in the rapid spread of the Black Death.

4 Why do you think it is that nomadic Arabs were able to escape the Black Death?

Evaluate and create

5 Create a timeline that lists key events in the spread of the pandemic from east to west. Include key dates for Asia, the Middle East, Africa and Europe.

Medicine at the time of the Black Death

Today we know far more about many health conditions and diseases than medieval people did. Those suffering from the Black Death in the 14th century had no idea why they were dying. They knew nothing about germs or bacteria. The cause – the bacterium *Yersinia pestis* (see Source 11.16) – was not discovered until the late 1800s.

Beliefs about the causes of the Black Death

When the Black Death broke out, some people looked to the skies for answers. In medieval times, astronomical events to do with the planets, the Sun and the Moon were often believed to trigger events on Earth. One such event occurred on 20 March 1345, when the planets of Jupiter, Saturn and Mars were aligned closely in the night sky. This unusual event was considered by certain people to have caused a toxic cloud to form over India. As this cloud drifted on, it was said to infect people below with the plague.

At this time, bad smells were also commonly considered to be the cause of disease. To counteract the odours, people carried small bunches of flowers or parcels filled with fragrant herbs, spices or flowers. Green wood (such as from the rosemary plant) was burned in the home to give off a fragrant smoke. People were encouraged by doctors not to sleep on their backs because it was believed that bad smells could slip too easily up their nostrils.

Medical care at the time of the Black Death

By today's standards, medieval medical care was very primitive. There were some university-trained doctors in Europe, but only the wealthiest people in society could afford to visit them. One of these doctors would diagnose the problem, prescribe a treatment and then possibly refer the patient to a surgeon. Poor people received medical attention from monks or nuns, or healers in their community. Often, healers were older women, respected for their knowledge of illness and herbal treatments.

key concept: evidence

Plague doctors

Plague doctors were specialist physicians hired by towns and cities to fight the Black Death, but they were not always well trained. Most could do little for victims, except separate them from people who had not yet contracted the plague and burn their clothing. They also prayed for them.

Source 11.20 provides evidence of how plague physicians typically dressed. Heavy floor-length coats extended up the back of the head. They also wore a hat, and a bird-like beak, which was filled with strong-smelling items such as mint, spices, garlic, flowers or vinegar. This, it was hoped, would protect them from contracting the plague and from coming into contact with its associated bad smells.

For more information on the key concept of evidence, refer to section HT.1 of 'The historian's toolkit'.



Source 11.20 A 17th-century illustration of a typical plague doctor. Earlier medieval plague doctors were similarly dressed.

Medical treatments

Besides taking or using herbs, one of the most common medical treatments was **blood letting**. Blood letting was believed to cure illness and prevent diseases such as the Black Death by removing 'dirty' blood. Leeches were sometimes used to suck out blood, or a person's vein was cut and a set volume of blood was collected in a dish. Often this procedure was done in a barber's shop – and the person who did it was the barber.

Other medical procedures included forcing a patient to vomit, or bringing on severe sweating or diarrhoea. Some doctors treated the **buboes** of plague victims by cutting them open to release blood. Then a mixture made from crushed dried toads and dried human faeces was spread over the open, pus-filled wound.

Surgeons

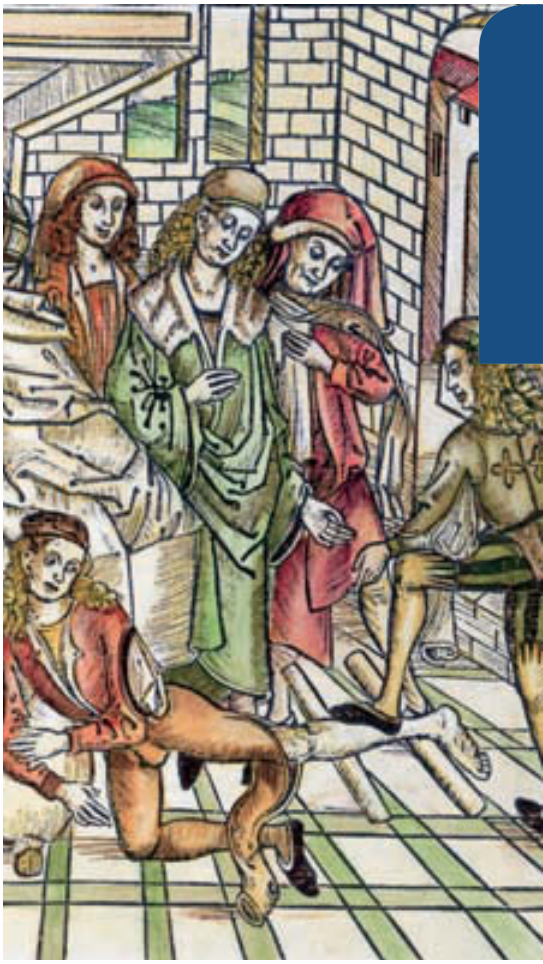
As discussed, there was a very limited understanding of human anatomy across medieval Europe and surgical treatments were very crude (see Source 11.22). In general, surgeons knew very little of what lay below the skin, despite the fact that some were university educated.

Medieval operating tools included saws, knives, hot irons and sharp instruments for blood letting. None of these were sterilised, and operations were often carried out in the open – even major procedures such as amputations. The success rates for major surgery were, unsurprisingly, very low.

Anaesthetics did not exist in medieval Europe, so the pain of surgery or other treatment had to be endured. Poor people might be given a piece of wood to bite on. More wealthy people were sometimes given a sedating drug like alcohol mixed with opium. Another sedative called 'dwale' was often used but it was deadly if given in the wrong amounts. Besides opium and dwale, lettuce juice, vinegar and the bile of a castrated wild pig were also used to relieve the pain of surgery.



Source 11.21 A 15th-century illustration of blood letting



Source 11.22 Artist's depiction of a medieval surgeon treating a broken leg; the pain of such treatments simply had to be endured.

Check your learning 11.7

Remember and understand

1. Medieval people did not know what caused the plague, but they did have some ideas. Describe two possible explanations put forward.
2. Who might the very wealthy go to see about a medical condition? Who might the very poor go to see? Why?
3. What types of tools did medieval surgeons use?

Apply and analyse

4. Describe two different methods used by medieval surgeons to control pain during surgery. How effective do you think each might have been?

Evaluate and create

5. Design and make a mask that meets the requirements of a medieval plague doctor. Share your creations with the class, explaining how you made them.

11.2 big**ideas:** rich task

Medieval medicine

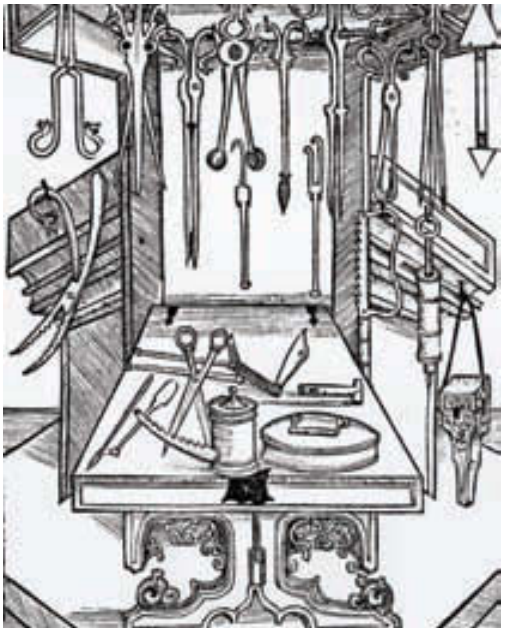
Doctors in medieval Europe had little knowledge, skills or resources to deal with serious diseases and health conditions. Physicians believed that illness was a result of the body's 'humours' being out of balance. Popular treatments used by physicians to restore balance included blood letting, which involved draining an amount of blood from the patient as a cure or alternatively attaching leeches to a patient's skin to suck blood from the patient. Other treatments involved herbal remedies. Some of these remedies were dangerous as they could contain poisons, but other herbs are still used today to help treat some health conditions.

Herb	Ailment
Aloe	hair loss, wounds
Anise	bad breath, bee stings
Basil	stomach upset, tumours
Caraway	gas, indigestion
Chamomile	indigestion, headache
Comfrey	broken bones, breathing difficulty
Coriander	cramps, plague
Dandelion	boils, itching
Dill	gas, hiccups
Fennel	insanity, body odour
Garlic	colds, heart problems
Ginger	flu, stomach upset
Liquorice	asthma, stomach upset
Oregano	indigestion, cramps
Parsley	epilepsy, arthritis
Pepper	depression, pain
Rosemary	paralysis, dandruff
Sage	worms, wounds
St John's wort	snakebite, burns
Thyme	worms, depression
Valerian	sleeplessness, pain

Source 11.24 Some of the herbs used in medieval times and a selection of medical conditions for which they were prescribed



Source 11.23 *The Leech's Chamber* shows sick people going to the doctor to have blood extracted using leeches, c. 16th century.



Source 11.25 This woodcut print shows assorted medical tools from the medieval period, c. 15th century

Source 11.26

> If a depression caused by various fever attacks causes a person headaches, he should take mallow and twice that amount of sage, crush these into a pulp in a mortar and pour a bit of olive oil on it … He should then apply it over the skull from the forehead to the neck and wrap a cloth over it.

An extract from *Liber Compositae Medicinae* by Hildegard of Bingen (1098–1179)

skill**drill**

Comparing, selecting and using information from a range of sources as evidence

When conducting a historical inquiry, it is important to locate, compare, select and use information from a range of sources. By doing this, you can be sure that the evidence you gather from these sources is fair, balanced and accurate, rather than biased – that is, only based on the point of view of one person.

There are a number of different methods you can use to compare and select information for your sources; one of the simplest and most effective is to use an organisation chart. Organisation charts can be very simple to create, but will help you quickly and easily decide which sources provide the most useful, relevant and reliable evidence. To create a simple organisation chart, follow these steps:

Step 1 Create a table that is four columns wide and has as many rows as required – this will vary depending on how many sources you are using.

Step 2 List your inquiry question at the top of the table, as well as any possible hypotheses you may have developed during your research.

Step 3 In column 1, list the name of the source and where you found it.

In column 2, list all of the positive things (pros) and negative things (cons) about the source. For example, the source may have been written by a very reputable historian (pro); but it may only be very short and not include all the details you need (con).

In column 3, list the type of source it is – primary or secondary.

In column 4, list the details of where you found it, such as Internet address or book title and author details.

Step 4 Once you have completed your organisation chart you will be in a good position to make some decisions about which sources provide reliable evidence and which do not. This will then help you answer your inquiry question.

Apply the skill

1 Compare, select and use information from Sources 11.23, 11.24, 11.25 and 11.26 by creating an organisation chart as described. For an example of an organisation chart, refer to section HT.2 of 'The historian's toolkit'.

2 Based on your analysis of the available information, answer the following inquiry questions:

- **a** Which sources do you believe present the most reliable evidence of what medieval medicine was like? Why?
- **b** Which sources do you believe present the most unreliable or biased evidence of what medieval medicine was really like? Why?
- **c** Which of the treatments described or shown in the sources do you think may have been effective and which do you think may have been dangerous?
- **d** Which ailments are likely to have been treated effectively during the medieval period and which do you think would have been treated ineffectively?

Extend your understanding

Medieval medicine seems very strange to many people these days, but even today there are many forms of 'medicine' that seem strange to people accustomed to mainstream medical care. Some of these alternative medicines are very effective, and many are not. Despite these failings, people continue to seek treatment from alternative sources.

1 Research an 'alternative' form of medicine, or an alternative treatment for a particular disease. You may look at some types of homeopathy, Chinese medicine, or other treatments. Find out what this form of medicine has in common with Western medicine, and what is different.

2 Why do you think this form of health care exists and why do people seek such treatments?

11.3 What were the effects of the Black Death?

Seeking a cause or cure

Nobody in medieval times understood the real cause of the Black Death, but this did not stop them looking for reasons why this terrible disease was devastating their world. Many thought that it was a punishment sent from God for their sins. These people became more and more concerned with seeking religious salvation by confessing their sins and praying for forgiveness. Others started looking for someone to blame.

Those seeking a cause

Persecution of the Jews

Societies in medieval Europe were dominated by Christian beliefs, so the Jews formed only a small minority of the population. Despite their small numbers, they were often looked down upon because of the Christian belief that Jewish people were responsible for the crucifixion of Jesus Christ. With the spread of the Black Death, many people were looking for someone to blame for their suffering, and the Jews were a common target.



Source 11.27 A procession of flagellants, painted by the Spanish artist Goya between 1815 and 1819

Massacres of Jews began in the spring and summer of 1348, starting in France. Persecution grew more intense after a Jewish doctor in Switzerland confessed to poisoning the drinking water, thus causing the Black Death. However, he was tortured to obtain his 'confession'. That month all Jews in the town of Basel (in today's Switzerland) were rounded up and burned alive.

Jewish persecution began in Germany in November 1348 and continued for the next nine months. Some Jews managed to escape to Poland where they were offered protection by King Casimir III. Many then moved on to Russia where large Jewish communities were established.

The flagellants

The **flagellants** were groups of radical Christians who roamed through Europe, wearing red crosses on their clothing. Organised in groups of up to 300 people led by a master, flagellants would walk into towns and villages and form a circle to conduct their flagellation rituals. They were known as flagellants because they would flagellate, or whip, themselves believing that this would help them gain God's forgiveness for their sins.

Each person carried a heavy whip tipped with metal studs. After forming a circle, they would strip off the top half of their clothing and the master would walk around, whipping them. Then, they would whip themselves until they drew blood. As they did this, they would cry out to God to forgive them for their sins and to stop the Black Death.

The flagellants also believed that Jewish people were responsible for the Black Death, and encouraged attacks on the Jewish populations in the towns they visited.



Source 11.28 A section of a medieval painting called *Danse Macabre* (or *Dance of Death)*

The sinners

Some people in medieval Europe became so depressed and disillusioned by what was happening during the Black Death that they gave up caring about religion entirely.

Without the strict moral guidance and teaching of the Church, some people began to show wild and careless behaviour. Spending all day drinking, laughing, singing and dancing took people's minds off their fear, and eased some of their pain. This mix of emotions (fear and celebration) is well captured in medieval artworks such as the *Danse Macabre*, or *Dance of Death* (see Source 11.28).

Those seeking a cure

The effect on medicine and public health

The failure of medieval medicine to cure or prevent the spread of the Black Death led to changes in medical practices immediately following the plague. Frustrated with diagnoses and treatments that revolved around astrology and superstition, doctors and scholars began focusing more on clinical medicine and seeking to increase their knowledge of the physical world. This approach led to an increase in autopsies and dissections of human corpses in a desire to learn more about anatomy. This in turn led to a greater understanding of the workings of the human body and new medical texts and treatments. Hospitals developed into places of treatment rather than being places where the sick were sent to die.

After the plague had passed, some towns and villages slowly began to set up local health boards to develop and enforce sanitation procedures. These remained very simple but included such moves as regulations to restrict the dumping of waste and the employment of street sweepers.

Check your learning 11.8

Remember and understand

1 Describe the rituals that the flagellants would perform when they entered towns and villages.

2 Why and how did Jewish people get persecuted during the time of the Black Death?

Apply and analyse

3 Analyse Source 11.28. What evidence does the detail from this painting reveal about how medieval people were thinking at the time of the plague?

Evaluate and create

4 Write or compose a chant or song that might have been suitable for flagellants to call out as they walked around whipping themselves.

Short-term impacts of the Black Death

Many of the immediate impacts of the Black Death on **society** were the result of death on a massive scale. People from all walks of life, all trades and professions were affected, as were all types of families.

Depopulation

It is difficult to give an exact figure for the number of people who died from the Black Death. Many medieval authors made claims about the number of deaths that occurred in particular areas, but these sources have proven unreliable. Church records also provide us with details about births and deaths in their particular region, but these records also contain many gaps and inaccuracies, and are therefore also unreliable. Many of the **primary sources** that exist do not distinguish between deaths caused by the Black Death and deaths that occurred because of other factors, such as old age or other diseases.

The effects of the Black Death on Eastern societies are not understood as well as they are in Europe. It is believed that in China alone the population dropped from 125 million to 90 million. It is known that the plague spread into other regions of Asia besides China, including the Khmer region and India. A writer from the period is reported as saying: 'India was depopulated; Tartary, Mesopotamia, Syria, Armenia were covered with dead bodies; the Kurds fled in vain to the mountains. In Caramaria and Caesaria [in modern-day Turkey] none were left alive.'

The most recent estimates suggest the following approximate number of deaths as a result of the Black Death:

- 33 to 40 per cent of the population of Europe, with higher rates of death in rural areas
- 35 million people in China
- one-third of populations in the Middle East
- 40 per cent of Egypt's population.

The effect on towns

Rubbish and raw sewage in the streets of medieval towns was a common sight, even before the plague, but once the plague struck, this filthy situation became even worse. Abandoned houses were left dirty and untended, and muck in the streets piled up. There were few people to tend to the disrepair, even if they had wanted to. Tradesmen and craftsmen died along with cleaners, magistrates and officials.

Impact on religion

Many monks, nuns and priests died as a result of the Black Death. Some others in the general population saw this as proof that the lifestyles of these religious people had displeased God. A few religious centres, such as monasteries, were accused of improper conduct and greed, rather than being



Source 11.29 An illustration from the Toggenburg Bible (1411) showing a couple covered in buboes, symptoms of the Black Death

places devoted to God. Some priests and other religious figures fled, abandoning their parishioners because they feared becoming infected. Those who replaced them were often poorly trained. Some did not even live in the parishes they were meant to oversee. This added to the disappointment and anger of many ordinary people toward the Church and weakened its position in society.

Burial of the dead

People were dying so quickly, and in such large numbers, that there was no time for proper burials or religious ceremonies. In fact, some Christian priests began refusing to bury victims for fear of contracting the disease. Mass burials became common, with corpses shovelled into large pits and covered with earth.



Source 11.30 This medieval painting shows nuns caring for the sick at the Hôtel-Dieu (Hospital of God) in Paris. Many nuns and monks contracted the plague by helping others.

key**concept:** evidence

The Decameron

One of the most significant primary sources of evidence for an insight into how the Black Death affected societies in Europe is *The Decameron*. It was written by Giovanni Boccaccio in the 1350s. Although it was written as entertainment (it consists of a number of lively stories told by young people who flee Florence to escape the plague), it provides key information about life in plague-affected communities.

Source 11.31

> Some thought that moderate living and the avoidance of all superfluity [excesses] would preserve them from the epidemic … they shut themselves up in houses where there were no sick, eating the finest food and drinking the best wine very temperately [moderately], avoiding all excess, allowing no news or discussion of death and sickness … others thought just the opposite. They thought the sure cure for the plague was to drink and be merry, to go about singing and amusing themselves, satisfying every appetite they could, laughing and jesting [joking] …
>
> Many others adopted a course of life midway … they did not shut themselves up, but went about, carrying flowers or scented herbs or perfumes in their hands, in the belief that it was an excellent thing to comfort the brain with such odours; for the whole air was infected with the smell of dead bodies, of sick persons and medicines.
>
> … brother abandoned brother, and the uncle his nephew, and the sister her brother, and very often the wife her husband. What is even worse and nearly incredible is that fathers and mothers refused to see and tend their children.
>
> A translated extract from *The Decameron* by Giovanni Boccaccio (1313–1375)

For more information on the key concept of evidence, refer to section HT.1 of 'The historian's toolkit'.

Check your learning 11.9

Remember and understand

1 Why is it so difficult to give an exact figure for the number of deaths resulting from the Black Death?
2 Explain how the plague led to a loss of confidence in the Church for some medieval Christians.

Evaluate and create

3 Carefully read Source 11.31. In dot points, summarise some of the major effects of the Black Death on people's lives in plague-affected communities as described in this source.

The end of the world…

This labelled illustration presents some of the short-term impacts of the Black Death on medieval society.

The Black Death caused a huge labour shortage in towns and on the farms. Many feudal manors were largely deserted, either because workers had died or run away.



Source 11.32 A modern artist's impression of the impact of the plague on a medieval town

Check your learning 11.10

Remember and understand

1 Using Source 11.32, identity five short-term impacts of the Black Death that have hit this medieval town.

Plague doctors wore full-body cloaks, and masks with long beaks filled with sweet-smelling substances. Sick female patients began to allow male doctors to examine all parts of their bodies, which was not common before.

Believing the plague was God's punishment for wrongdoing, people known as flagellants began walking the streets whipping themselves in a bid to repent for their sins and ask forgiveness from God.

Doctors suggested unusual cures, such as telling people to sniff herbs or lemon leaves, or even their own faeces. Sometimes leeches were attached to the skin to remove blood believed to be causing an imbalance in the body.

Some people adopted an 'eat, drink and be merry, for tomorrow we die' attitude, celebrating in drinking houses as they waited to die.

People began to avoid others for fear of catching the disease; some ran away. Many victims were abandoned even by their own family and were left to suffer and die alone.

People did not know then about the health dangers associated with mice and rats, nor did they know that disease could be transferred by coughing and sneezing.

Long-term impacts of the Black Death

It is often only with the passage of time that the long-term impacts of devastating events become clear, and the Black Death was no exception. The Black Death reduced the populations of towns, villages, cities and manors dramatically. In some cases the populations of whole towns were wiped out, leaving the countryside empty. Europe would not recover until the 1500s.

Weakening of feudalism

The massive drop in population drastically affected trade, manufacturing, and the production of food from the land. Skilled labourers and craftsmen were now in short supply. Survivors who had been trained in different trades were highly valued by employers. They had more bargaining power and, hence, more social status.

In time, this situation helped to break down the already weakened system of **feudalism**. Instead of providing their labour free in return for a lord's protection and support, knights and manor workers could now demand money for their services. In towns, workers could demand higher wages.

The wealth available to survivors of the Black Death is believed to have been at least five times more than it was before the plague struck. Spending increased in towns and cities, increasing the power and social position of surviving members of the middle class. Prices also began to increase in some areas.

Peasant unrest

Concerned by the increase in wages being demanded (and paid), some rulers tried to introduce new laws to keep wages low. They also tried to stop the rising cost of food, then being forced up by black market trading and piracy.

In England, the Statute of Labourers was introduced in 1351. This law made it illegal for employers to increase workers' wages to attract new workers. It also made it illegal for workers to travel to other areas for better wages. This law upset many peasant workers. Indeed, it created some of the unrest that led to the Peasants' Revolt of 1381.

key concept: cause and effect

The Peasants' Revolt

The Peasants' Revolt took place in England in 1381. This revolt, which involved separate but related uprisings by peasants, eventually led to the end of feudalism in England.

The lower classes under feudalism were often badly treated. They lived in complete poverty and were enslaved to their lords. Despite their poverty, peasants in England at this time were required to pay taxes to support the King.

By then, the Black Death had severely reduced the population of England, but the King passed a law to ensure that workers could not ask for better employment terms (such as higher wages or freedom to travel). When some peasants refused to pay these taxes, they were fined or put in the stocks as punishment. But the discontent was felt in many places, and an uprising swelled across England. The leader of the revolt, Wat Tyler, was eventually killed by the mayor of London.

Although the demands for better working and living conditions were not immediately met, the upper classes began to realise that they could not rule over the peasants in the same ways they had in the past. They also realised that large groups of workers could be a significant political force to reckon with, and that changes had to be made.

For more information on the key concept of cause and effect, refer to section HT.1 of 'The historian's toolkit'.



Source 11.33 An illustration of Wat Tyler being killed during the Peasants' Revolt



Source 11.34 A detail from the ceiling of the Sistine Chapel in the Vatican City in Rome, painted by Michelangelo (1475–1564) – one of the more significant works of art from Renaissance Europe

Weakening of the Church

The inability of religious leaders to limit the terrible effects of the plague, as well as the deaths of so many monks, nuns and priests, led to a lessening of many peoples's faith in the Church. In the aftermath of the Black Death, people began to question the influence and power that the Church had over society and to openly criticise some of its practices.

In time this would lead to a strengthening of power of the state over the Church and to movements such as the **Reformation** that would see the establishment of alternative Christian faiths.

Foundations of the Renaissance

After the Black Death had passed, many wealthy survivors in Europe chose to invest in art or literature as a means of expressing their gratitude for being left alive. Some became **patrons**. They funded talented individuals to create paintings, build churches and other public buildings, and to write literature. Some encouraged scientific research, hoping that answers might one day be found to what caused the Black Death. These developments added to the cultural rebirth in Europe at the time. This would later become known as the **Renaissance** (which means 'rebirth' in French).

The start of the slave trade

One long-term effect on African society was the start of the slave trade. The first Africans brought to Europe as slaves were captured by Portuguese captains Antão Gonçalves and Nuno Tristão in Cabo Branco (modern Mauritania) in 1441. From this point the Portuguese established a steady trade in African slaves. Just over 10 years later, the Spanish also entered the slave trade. Initially established to provide labour in Europe, as European nations began to establish colonies from the 16th century onwards the slave trade increased as labour was needed in these new lands. Africans from the Sahara region began to be taken as slaves in the 14th century, at first to boost Europe's greatly reduced labour force.

Check your learning 11.11

Remember and understand

1 The Statute of Labourers was introduced in 1351.
   a How did it change conditions for workers in England?
   b What did this law have to do with the plague?
2 How did some survivors of the plague help the spread of Renaissance thinking in Europe?
3 How can the plague be seen as a factor that led to the start of the African slave trade?

Apply and analyse

4 What evidence is there to suggest that the plague had a devastating effect on the population of India at the time?

Evaluate and create

5 Write an essay of 500 words explaining what you believe was the most important change in the society of medieval Europe as a result of the repeated outbursts of the 14th-century plague.
6 In small groups, role-play for the class an interchange between survivors of the Black Death and either their former lord of the manor or their former employer in a medieval town. Your conversation will focus on how things have changed (for both parties concerned) and will reflect the values and knowledge of the times.

11.3 big**ideas:** rich task

The consequences of population loss

The Black Death had far-reaching effects around the world. One of the most obvious and immediate consequences was the massive loss of life, which affected all aspects of society, culture and the economy.

Source 11.35 shows one of the consequences of the plague. Of course, this was not the only response to the crisis; in fact the consequences were complex and far-reaching.

Source 11.35

> It was thought that the people … having seen the extermination of their neighbours and of all the nations of the world … would become better, humble and virtuous and catholic, avoiding iniquities and sins and overflowing with love and charity for one another … The opposite happened. Men, finding themselves few and rich by inheritances and successions of earthly things, forgetting the past as if it never was, gave themselves to more disordered and sordid behaviour than ever before.

Observations written in the 14th century by the chronicler Matteo Villani, son of a respected merchant family in Florence

skilldrill

Creating a concept map

Graphic organisers are very useful tools for historians because they can help to compare a range of sources and identify connections between events. One of the simplest and most effective ways to explore connections between events and the consequences of them is to create a concept map. Concept maps are very simple to create, but will help you organise your thoughts and more easily identify the causes and effects of different events. To create a concept map, follow these steps:

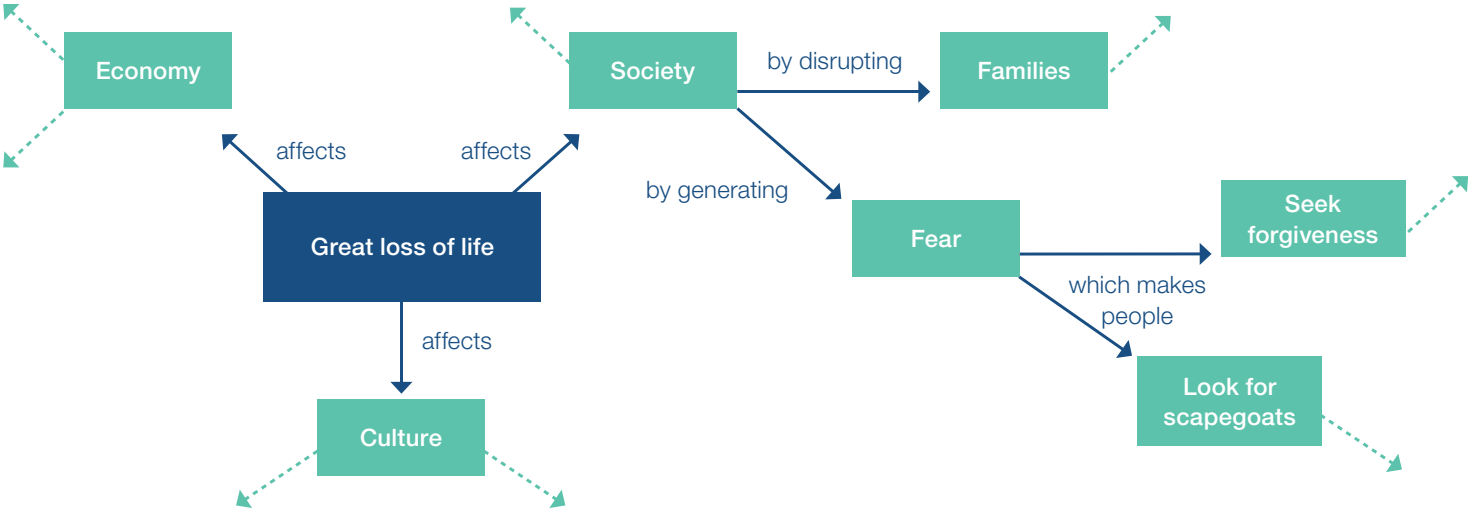
Step 1 Identify the topic or event that you are interested in exploring.

Step 2 In the centre of a large sheet of paper, write down this topic and draw a circle around it.

Step 3 Brainstorm the main ideas that relate to the topic and write them around the central idea. Draw circles around each of these ideas and connect them to the main topic. Keep the concepts as concise as possible.

Step 4 Continue to brainstorm more ideas, and connect them to relevant topics. More important ideas should be put nearer to the centre and less important ones closer to the edges. Identify the relationship between the concept groups by using a range of different colours. You can also make different connections clear by using arrows or dotted lines.

Source 11.35 An example of a concept map



Step 5 After you have finished work on your concept map, look carefully at the way it is organised. Check to see that nothing is missing, and that each group of connected ideas is organised logically.

Apply the skill

1 Copy the concept map that has been started for you in Source 11.35. Complete it in your notebook, or on a computer using a mind-mapping or drawing program.

As you create your map:

- think of all the logical consequences of each idea
- draw arrows to a new concept bubble, and put words on the arrow that make a sentence (e.g. Great loss of life – *affects* – society – *by creating* – fear)
- draw arrows between concepts on different parts of the map if you see a link
- use colours to categorise your concept bubbles into sensible groupings once you finish
- create a key to explain what the colours mean.

To generate ideas, you will need to use your own knowledge and information from this chapter. Make the concept map as big as you can, then compare it with a classmate to see what further ideas you can add. Your final map will give you a clearer picture of the many consequences brought about by population loss.



Source 11.36 A painting of life on a manor soon after the plague ended

Extend your understanding

The consequences of such a large proportion of the population dying were profound.

1 Imagine you are a medieval peasant who has survived the Black Death. Many in your village were not so lucky. The churchyard is full of new graves, houses are empty, and hungry animals roam the roads and fields. No-one is working, and the crops need to be harvested or will soon begin to rot. For the first time, you see how important you and your work are. Without your labour and farming knowledge, the lord and his family will not have food to eat.

Prepare a speech to deliver to your lord, requesting better conditions and pay. Consider the following:

- what you will ask for and why
- the evidence you will use to convince your lord to agree
- the tone you will use – for example, will you choose to present your demands reasonably or use threats to get what you want?

glossary: geography

A

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

arch a natural feature, usually formed from rock, that forms a bridge-like arc as a result of erosion

B

backwash the backwards movement of sea water down a beach after a wave has broken

bar graph a graph that shows information as a series of horizontal bars

blowout dune a horse-shoe shaped disturbance in a sand dune system

BOLTSS a mnemonic (memory device) for remembering the essentials of a map: border, orientation, legend, title, scale and source

breakwater a wall that is built out into the sea to help prevent erosion

C

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

cave a hollow space along the coast produced by the action of the waves

census a 'head count' or audit of the number of people living in a particular place at a particular time; information collected during a census can often include age, occupation, income, etc.

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 (e.g. light green to dark green) or different colours to show variation

climate graph a combination bar 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 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

constructive wave a gentle wave that deposits material and builds up beaches

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

CSIRO Commonwealth Scientific and Industrial Research Organisation; Australia's national science agency

D

decentralisation the process of encouraging population growth and job creation in suburbs and smaller regional towns or cities rather than in central areas of major cities

deposition the laying down of solid material which has been eroded and transported from another part of the Earth's crust

destructive wave a strong wave that wears away coasts and removes material

direction a way of orienting a map, usually shown by the use of compass points, such as north

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

ecosystem a term used to describe the way in which the living organisms (such as plants and animals) in a particular area interact with the non-living organisms in that area (such as water, rocks and climate)

environment a key concept in geography: a specific place on Earth and all the things, both animate and inanimate, that are there

erosion the wearing away of the Earth's surface by wind, water or ice

ethnicity the background, nationality or culture of a person or group of people

exurb an area beyond an urban centre and its suburbs, usually separated by areas of farmland

F

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

flow map a map that shows movement (such as people or goods) from one place to another

forced migration the forced movement of people from one place to another because of war, famine or violence

G

ghost net an abandoned fishing net that floats free in the ocean and is a danger to wildlife

GIS Geographic Information System; a software application designed to capture, store, manipulate, analyse, manage and present all kinds of geographcal information

globalisation the growth in the amount of interconnectedness in trade and communication between countries

groyne a man-made barrier that juts out from a beach into the water, made to prevent erosion of the beach from the power of destructive waves and longshore drift

H

headland a steep cliff jutting out into the sea

hot spot a point not on a plate boundary where there is tectonic activity

I

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 animate and inanimate, and all processes, both natural and human

internal migration the movement of people within a region or country

internally displaced person (IDP) a person who has been forced to relocate within his or her own country

international migration the movement of people between countries

L

lagoon a shallow stretch of water which is partly or completely separated from the sea by a narrow strip of land

landform a natural geographical feature or shape that appears on the Earth's surface (e.g. dune, hill, valley, beach and cave)

landscape a section of the Earth's surface made up of a variety of geographical features (known as landforms) that define and characterise it; landscapes can be natural (e.g. coastal landscapes and mountain landscapes) or built (e.g. neighbourhoods and cities)

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

lava the molten material that flows from a volcano

line graph a graph that displays data as a line

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

longshore drift the process which moves sediment in a zigzag pattern along a beach by wash and backwash of waves approaching the shore at an angle

M

magma the hot liquid (molten) rock beneath the surface of the Earth

magnetic north the physical place on Earth, near the North Pole, to which a magnetised needle points

mantle the soft layer of hot rock between the crust and the core of the Earth

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

megacity a city with a population of more than 10 million people

megalopolis a collection of large cities that are close together and are connected by a network of roads and train lines, effectively forming one continuous urban centre

N

northings the gridlines that run horizontally on a topographical map

O

orbit (waves) the circular movement of water beneath the surface, creating waves

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 graph that displays data in the form of a pie divided into slices

place a key concept in geography: a part of the Earth's surface that is identified and given meaning by people

political map a map that shows the locations and names of built features of the Earth, such as cities, roads, dams and railways

population density a measurement 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

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)

pyroclastic flow a fast-moving and dangerous mixture of hot gas and rock that is ejected from a volcano

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

rain shadow an area of low rainfall on the lee (inland) side of a mountain range

refugee a person who moves to another country because of a natural disaster or to avoid persecution

rip current a strong, narrow flow of surface water, away from the shore, that returns water brought ashore by waves

rural a term used to describe an area located outside cities and towns, such as farming or agricultural areas

S

sand dune a hill or mound of sand formed by wind deposition on the landward side of a beach

scale a key concept in geography: the level at which a geographical inquiry takes place – personal, local, regional, national or global

scale (mapping) a line that indicates the distances on a map as represented in the real world

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)

sea wall a wall built close to or along a shoreline to prevent erosion or damage by destructive waves

shield volcano a volcano characterised by gentle eruptions that emit runny lava over a wide area

space a key concept in geography: the way things are arranged on the Earth's surface

spit a curved build-up of eroded material that forms at the mouth of a river

subduction the process whereby a denser oceanic plate meets and is pushed down below a lighter continental plate

suburb an area beyond a city centre, with medium-density housing

suburbanisation the process of growing cities outwards by building new housing estates and businesses away from the central business district

sustainability a key concept in geography: the ongoing capacity of Earth to maintain all life

swash the movement of water up the face of a beach after it has broken

T

tectonic plate one of the immense, slowly moving pieces that make up the Earth's surface (or crust) that carry the continents and oceans

thematic map a map that shows details about a particular topic, such as land use or the distribution of resources

tombolo a deposit of sand linking an island to the mainland (or to another island), formed by longshore drift

topographic map a map that shows the shape of the land, its relief and landforms

training wall a wall built to force water into a specific channel, usually built at a river's entrance into a large body of water

tsunami a giant ocean wave caused by an underwater earthquake

U

urban a term used to describe a built-up area such as a city or town

urban renewal the process of taking areas of land in a city that are no longer being used and redeveloping them

urban sprawl the growth of a city onto productive farming land on the city fringes

urbanisation the process of social and economic change that takes place as increasing numbers of people move from rural areas (e.g. farms) to urban areas (e.g. cities)

V

voluntary migration the movement of people from one place to another of their own free will

vulcanologist a scientist who specialises in the study of volcanoes

W

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

Anglo-Saxon a term describing a Germanic people who settled in Great Britain in the 400s CE; they drove the local Celtic people to the land's extremities

artefact an object, small or large, made or changed by people

B

baray a reservoir of water (such as a pool or artificial lake)

barbarian a term first used by ancient Romans to describe someone living outside their borders; an uncivilised person

barter an exchange of goods or services between people (typical of trade before the use of money) where both parties agreed that what was exchanged was of roughly equal value

bias a pre-set view about someone or something that is not altered by the presentation of facts and opinions to the contrary

blood letting the deliberate cutting of someone to cause bleeding; this medieval practice, often performed by barbers, was seen as a treatment and cure for illness

buboes the blackened, swollen, pus-filled lymph nodes evident on the body of someone with the bubonic plague

bubonic plague an infectious disease caused by a bacterium carried by the fleas of rats and mice, and which quickly kills those who contract it; visible symptoms include buboes

***bushido* (pronounced bu•SHEE•doh)** the code of behaviour of the Japanese samurai warrior that required honour, loyalty (even to death), good living, thrift and martial arts skill

C

caste system a social system in which people are born into a social group (or caste); the caste system is generally associated with the Hindu religion

catapult a weapon that worked like a giant slingshot; it hurled large rocks and sometimes the infected bodies of people and animals over the wall of a city an army might be laying siege to

cause and effect a key concept in history: the link between what causes an action, or what motivates someone to act a certain way, and the outcome of that action

census a 'head count' or audit of the number of people living in a particular place at a particular time; information collected during a census can often include age, occupation, income, etc.

chain mail a form of armour (like a long T-shirt) made up of hundreds of interlinking metal rings

charter a formal document in which someone in authority (e.g. medieval lord) states that certain rights or responsibilities are granted to others

chronology a record of events in the order they took place

city-state an independent settlement made up of an inner fortified city, surrounded by houses; this built centre was surrounded by farmland that supported (e.g. with food) the urban centre

clan a group of people linked and united in their aims and behaviours by the knowledge (or a belief) that they share common ancestors

Code of Chivalry the code of practice for a medieval knight; he was expected to be honest, moral, courteous, brave, dignified, help others in distress, be generous to those less fortunate and uphold a lady's reputation

Confucianism a code of behaviour founded by the Chinese thinker K'ung Ch'iu (known as Confucius) in the early 5th century BCE; Confucius believed his ideas would help maintain order and respect within families, relationships and the society itself

conquistador (pronounced con•KEES•ta•dor) a Spanish word for a soldier or conqueror

contestability a key concept in history: the idea that an interpretation or hypothesis may be challenged or left open to debate because of a lack of evidence or different perspective

continuity and change a key concept in history: the recognition that while many things change over time (some quite drastically), other things continue (even if in modified forms)

Crusades a series of wars fought by Christians and Muslims between 1096 and 1291 CE over control of the Holy Land

D

***daimyo* (pronounced DIME•yo)** a Japanese warlord

Danelaw an area in north-east England (which includes the city of York) that the then king of the Kingdom of Wessex, King Alfred, gave to the Vikings in exchange for stopping their raids of the region

dynasty a period of rule by successive members of one extended family

E

empathy a key concept in history: the ability to understand what happened in the past from the perspective of the people living at the time

emperor someone who rules an empire; namely a group of countries and/or areas often speaking different languages and having different cultures, but centrally ruled

empire a group of countries and/or areas, often having different languages and cultures, ruled by a central power or leader

Enlightenment, the a school of French-inspired thinking that spread through Europe in the 18th century; its view was that reason, tolerance and equality should replace superstition, cruelty and injustice

evidence a key concept in history: the information or clues discovered by asking specific questions about a historical source

excommunication a religious punishment that involved cutting someone off from being part of the church community and all that this entailed from a spiritual point of view (e.g. being able to participate in communion, confession, gaining entry to heaven)

F

feudalism a set of legal and military customs that served to organise the society of medieval Europe; under feudalism, a lord gave a fief to a vassal in exchange for loyalty and support

fief (pronounced FEEF) usually a plot of land granted to a vassal by a lord in return for the vassal's loyal support

flagellants a group of radical Christians during the Black Death who whipped themselves to gain God's forgiveness for their sins

G

guild a group of people all working in the same trade (e.g. butchers, tailors, cobblers) who band together for their common interests

H

heresy doing or saying something regarded by the medieval Catholic Church (and by some other faiths) as being in serious conflict with its teachings

hierarchy a way of organising people or groups of things so that the most important is at the top, with the others ranked underneath in decreasing order of importance

Holy Land the territory in today's Middle East now mostly made up of Israel and parts of Palestine

Humanism a group of philophies centred on the importance of human beings, values and evidence, rather than religion, gods and supernatural matters

hypothesis a considered opinion, theory or statement, based on research and evidence, about something that has not been proven (hypotheses in plural)

J

jester a medieval comedian who joked and 'played the fool' at occasions such as banquets and fairs; he typically wore a multi-pronged floppy hat with bells on it

K

kamikaze (pronounced KA•mee•KA•zee) a Japanese term meaning 'divine wind'; a name given to the storms that saved the Japanese from Mongol invasions in the 13th century; during World War II, Japanese kamikaze pilots deliberately crashed their planes into Allied ships

khan (pronounced KARN) the title given to a leader of a Mongolian community (and during the 13th century, to the head of the Mongol Empire)

kingdom a region ruled by a king or queen

knight a medieval warrior of Europe, who typically pledged his services to a lord (sometimes the king) in exchange for a fief

L

longhouse a Viking house, characterised by its long shape; often built into mounds of earth (for insulation); it sheltered the extended family and their animals

longship a type of ship used by the Vikings to transport warriors on attack-and-raid missions; longships had shallow hulls, making them speedy and easy to manoeuvre; they were often decorated with mythical creatures

lord a wealthy monarch or noble; under feudalism, one who exchanged fiefs for the sworn loyalty of vassals

M

Magna Carta a document signed in 1215 by England's King John and his barons; they forced him to sign it as he was abusing his power towards his people; it meant that the king would thereafter be expected to rule according to feudal law

manuscript in the medieval sense, a document written by hand (usually by monks)

minstrel a medieval singer and musician who typically wandered around the countryside performing at events (often as part of a small group); unlike troubadours, minstrels did not necessarily create the music and songs they performed

moat a wide band of water surrounding a built structure such as a castle; it provided some protection in case of attack; access across the moat was via a drawbridge, which was drawn up in case of attack

monarchy a type of government ruled by a monarch (king or queen)

monastery a place where monks live, worship and work

N

New World a term that started being used by Europeans in the late 1400s for the new lands (the Americas) being discovered

nomads a society of people who do not live in a set place but wander around, usually in search of food and shelter and good pasture for their animals (adjective: nomadic)

P

pagan (pronounced PAY•gun) a term sometimes used by Christians, Muslims and Jews to describe those who do not share their beliefs

pandemic a term used to describe the spread of an infectious disease across an entire country, a large region, or even worldwide; an epidemic on a much larger scale

patron someone who devotes some of their wealth, time and interest to developing the skills of others (usually in the arts)

perspectives a key concept in history: the way that a person or particular people view some aspect of the past. Some perspectives will reflect one's prejudices, fears or uncertainties; others, their age, gender or education.

pilgrimage a journey made by someone who travels to a place of religious significance in the hope this will see prayers answered or sins forgiven

primary source a source of historical evidence that existed or was created at the time being studied

R

Reformation a movement that began in Europe in the 16th century when the scholar–monk Martin Luther publicly challenged the Catholic Church; it shifted the balance of power in Europe away from dominant control by the Church

regent a person who rules in place of the monarch who is temporarily absent from the country (maybe fighting a war), or who is too young or sick to rule

Renaissance a period in Europe's history between the late 12th and 16th centuries that saw a revival of culture and learning; a French term meaning 'rebirth'

S

saga a long story (sometimes mixed with poetry) about heroes (mainly from today's Scandinavia and central Europe) who achieved great things and fought noble battles; most were written soon after the Viking Age, in the language of Old Norse; they are often a mix of real events, legends and myths

***sakoku* (pronounced so•KO•koo)** the name given to Japan's foreign policy during the Tokugawa Shogunate (1633–1853) that forbade any Japanese person leaving Japan, or any foreigner entering it; the penalty for disobeying was death

samurai a Japanese medieval warrior

Sanskrit an ancient language of India and the language used in documenting the holy books of Hinduism

Scientific Revolution a change in thinking among 16th and 17th century European scholars that placed a new focus on the laws of the natural world (rather than on a world dominated by religious belief)

secondary source a source of historical evidence made or written after the time being studied

***seppuku* (pronounced SEP•oo•koo)** a ritual suicide common among Japanese samurai who felt they had been dishonoured; this involved self-disembowelling (cutting open the belly)

serf a medieval peasant who worked on the manor of a feudal lord

shogun (pronounced SHOW•gun) a title given to Japan's top military rulers between the 12th and 19th centuries CE

siege a military strategy used to weaken a castle, a town or city by cutting it off from the outside world

significance a key concept in history: something or someone who is either important to people in the past, or who deeply affected a large number of lives; it also describes something relevant discovered about someone or something that sheds new light on an issue

Silk Road a network of trade routes stretching west from China to the Mediterranean Sea; it was the main means by which silk was introduced to the West

society a group of people who organise themselves to best survive in their environment

source an item of historical evidence of any sort

steppe (pronounced STEP) an expansive stretch of grassland (without trees) typically found in places such as Siberia and Mongolia

T

Tatar (pronounced TAH•ter) a member of an ethnic group whose members can be found today in countries such as Turkey, Uzbekistan, Kazakhstan, Ukraine and Azerbaijan

timeline a graphical representation of events over a set period of time, arranged in the order in which they occurred

treason the act of betraying one's own country or ruler

troubadour a medieval musician and poet who both wrote and performed songs that were typically about romantic love

V

vassal under feudalism, a person who offered his loyalty and service to a lord in return for his protection and the granting of a fief

W

warlord someone who both rules a society (or local community) and heads up its military operations

Y

yurt a Mongolian circular tent, with a wooden frame and felt walls

index: geography

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