

The Australian Curriculum

Subjects	7–10 Geography
Year levels	Year 7, Year 8, Year 9 and Year 10
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Table of Contents

Humanities and Social Sciences	3
Overview	4
Introduction	4
Key ideas	4
Who we are, who came before us, and traditions and values that have shaped societies	5
How societies and economics operate and how they are changing over time	6
The ways people, places, ideas and events are perceived and connected	6
How people exercise their responsibilities, participate in society and make informed decisions	7
Structure	7
PDF documents	8
7–10 Geography	9
Overview	10
Rationale	10
Aims	10
Structure	10
PDF documents	14
Curriculum F-10	14
Year 7	15
Year 8	23
Year 9	32
Year 10	40
Glossary	49

The Australian Curriculum Humanities and Social Sciences

Humanities and Social Sciences

Overview

Introduction

The humanities and social sciences are the study of human behaviour and interaction in social, cultural, environmental, economic and political contexts. The humanities and social sciences have a historical and contemporary focus, from personal to global contexts, and consider challenges for the future.

In the Australian Curriculum, the Humanities and Social Sciences learning area includes a study of history, geography, civics and citizenship and economics and business.

Through studying Humanities and Social Sciences, students will develop the ability to question, think critically, solve problems, communicate effectively, make decisions and adapt to change. Thinking about and responding to issues requires an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate.

The Humanities and Social Science subjects in the Australian Curriculum provide a broad understanding of the world in which we live, and how people can participate as active and informed citizens with high-level skills needed for the 21st century.

Key ideas

Through their learning in each subject or sub-strand, students develop knowledge and understanding relating to broader enduring ideas that underpin the Humanities and Social Sciences in the Australian Curriculum, which are represented in varying ways across the subjects. The key ideas are outlined below:

Who we are, who came before us, and traditions and values that have shaped societies

Students explore their own identity, Australia's heritage and cultural diversity, and Australia's identity as a nation in the world. They examine the significance of traditions and shared values within society.

How societies and economies operate and how they are changing over time

Students learn about Australian society and other societies in the world, both past and present; and how they function socially, culturally, economically and politically. Students examine developments that have resulted in or are bringing about change.

The ways people, places, ideas and events are perceived and connected

Students are provided with opportunities to explore different perceptions of people, places, ideas and events. They develop an understanding of the interdependent nature of the world and the interrelationships within and between the natural environment, human communities and economies. They explore how people, ideas and events are connected over time and increasingly interconnected across local, national, regional and global contexts.

How people exercise their responsibilities, participate in society and make informed decisions

Students examine how individuals and groups have participated in and contributed to society past and present. They examine the rights and responsibilities of individuals and groups over time and in different contexts. They develop an understanding of the need to make decisions, the importance of ethical considerations and being informed when making decisions, the processes for decision-making and the implications of decisions that are made for individuals, society, the economy and the environment.

Click on a segment of the diagram to access subject- or sub-strand-specific illustrations.

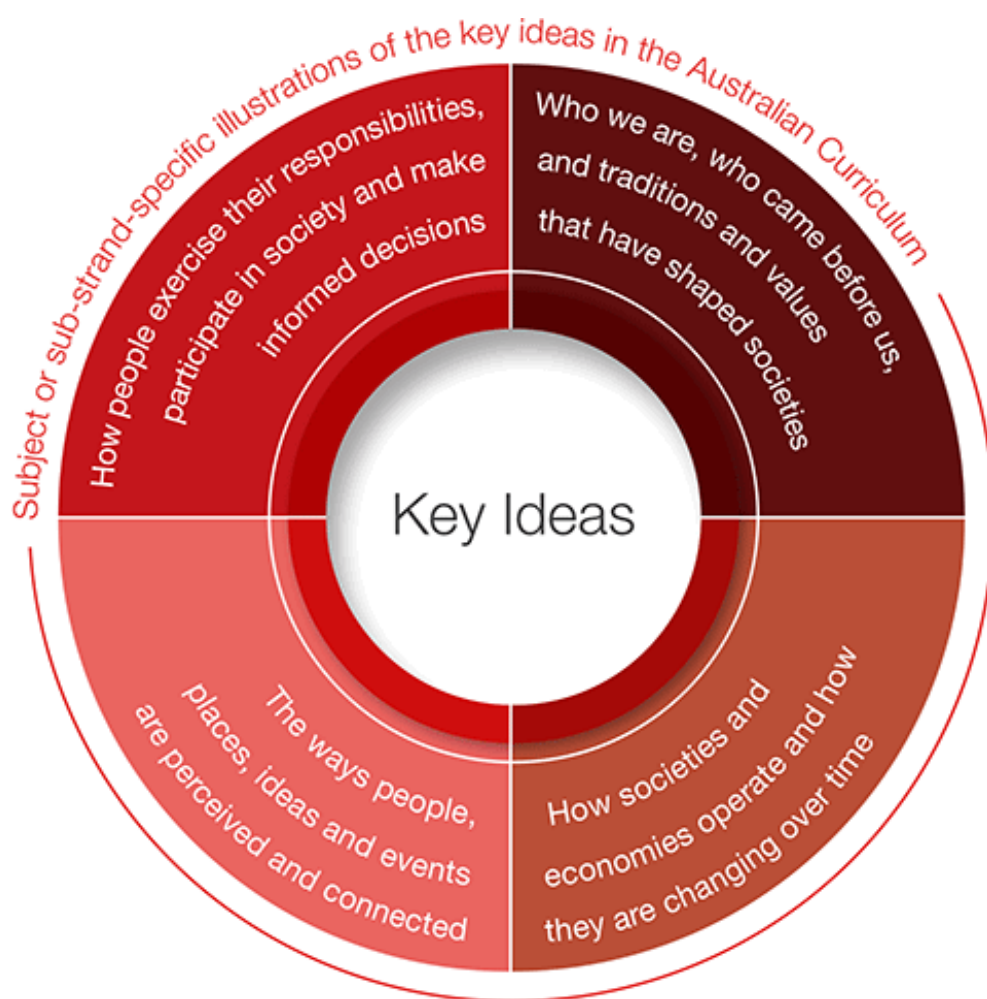


Figure 1: Subject or sub-strand-specific illustrations of the key ideas in the Humanities and Social Sciences curriculum

Who we are, who came before us, and traditions and values that have shaped societies

History

- Family, local and Australian history; and celebrations and commemoration
- The longevity of Aboriginal and Torres Strait Islander Peoples' histories and cultures
- The legacy of Ancient Greece and Ancient Rome

Geography

- The influence of culture on the organisation of places, and their representations
- Aboriginal and Torres Strait Islander Peoples' special connections to Country/Place
- The role of people's environmental worldviews in shaping societies

Civics and Citizenship

- The influence of social media in shaping identities and attitudes to diversity
- The shared values of Australian Citizenship
- The values that underpin Australia's system of government (including British and American influences and a Christian heritage)

Economics and Business

- The contribution of work to people's sense of identity
- The 'market system' as a defining feature of Australia's economy
- Influences on consumer and financial choices

How societies and economics operate and how they are changing over time

History

- The social structure of ancient societies and their legacy
- The impact of the significant periods on societies (Industrial Revolution, Renaissance, Scientific Revolution, Enlightenment, British imperialism, nationalism and globalisation)
- The development of democracy in Australia

Geography

- The human alteration of environments
- The role of government and non-government organisations in improving human wellbeing and planning for sustainable futures
- Migration and the increasing concentration of people in urban areas

Civics and Citizenship

- The operation of the three levels of government and Australia's legal system in Australia
- The development of self-government in Australia
- How governments respond to social and economic change

Economics and Business

- The influence of government on the ways markets operate in Australia
- The shifting importance of different sectors in the Australian economy
- How societies use limited resources for changing needs and wants now and in the future

The ways people, places, ideas and events are perceived and connected

History

- Different perspectives on the arrival of the First Fleet and the colonial presence
- The causes of and relationship between events such as World War I, World War II and the Cold War
- Global influences on Australian culture

Geography

- People's perceptions of places and how these influence their connections to different places
- How human and natural systems are connected and interdependent
- How places in Australia are connected to other places across the world

Civics and Citizenship

- How groups within society perceive each other and relate to one another
- The influence of global connectedness and mobility on Australian identity
- Australian's rights and responsibilities towards each other and Australia's international obligations

Economics and Business

- The performance of the Australian economy and how this is perceived by different groups
- How participants in the global economy are interdependent
- Different ways that entrepreneurs and businesses succeed

How people exercise their responsibilities, participate in society and make informed decisions

History

- The development of rights in Australia for women, children, Aboriginal and Torres Strait islander Peoples and other groups
- The participation of people in human rights and environmental campaigns in Australia
- The contributions and achievements of individuals and groups to Australia's development

Geography

- Strategies used to enhance the liveability of places
- World views about sustainability and environments and how they are expressed
- The management and planning of Australia's urban future

Civics and Citizenship

- The role of the electoral and representative systems of government
- The participation of groups in civic life, such as social, cultural, political and religious groups
- The importance of active and informed citizenship in decision-making and the use of democratic processes

Economics and Business

- The responsibilities of employers and employees in the workplace
- How individuals and businesses plan to achieve short- and long-term financial objectives
- The concept of opportunity cost as a means of making informed decisions about alternative uses of resources

Structure

In the Australian Curriculum, the Humanities and Social Sciences learning area comprises five subjects: F–6/7 Humanities and Social Sciences, and Years 7–10 History, Geography, Civics and Citizenship and Economics and Business. In all five subjects, the curriculum is organised into two broad interrelated strands: knowledge and understanding, and inquiry and skills

In the F–6/7 Humanities and Social Sciences curriculum, history, geography, civics and citizenship and economics and business are presented as sub-strands of the knowledge and understanding strand. In these years, students are introduced to history and geography from Foundation Year, civics and citizenship in Year 3 and economics and business in Year 5. In Years 7–10, the curriculum is organised by subject. In Years 9 and 10, student access to Geography, Civics and Citizenship and Economics and Business will be determined by school authorities or individual schools.

Table 1: Humanities and Social Sciences in the Years F-10 curriculum

	Foundation – Year 2	Years 3–4	Years 5–6/7	Years 7–10
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History	Humanities and Social Sciences	Humanities and Social Sciences	Humanities and Social Sciences	History
Geography				Geography
Civics and Citizenship	N/A			Civics and Citizenship
Economics and Business	N/A	N/A		Economics and Business

PDF documents

Resources and support materials for the Australian Curriculum: Humanities and Social Sciences are available as PDF documents.

F-10 HASS Key ideas - Subject sub-strand illustrations

The Australian Curriculum Humanities and Social Sciences - 7–10 Geography

7–10 Geography

Overview

Rationale

In a world of increasing global integration and international mobility, it is critical to the wellbeing and sustainability of the environment and society that young Australians develop a holistic understanding of the world. This requires deep knowledge and understanding of why the world is the way it is and the interconnections between people, places and environments over place and time.

The Australian Curriculum: Geography empowers students to shape change for a socially just and sustainable future. Geography inspires curiosity and wonder about the diversity of the world's places, peoples, cultures and environments. Through a structured way of exploring, analysing and understanding the characteristics of the places that make up our world, Geography enables students to question why the world is the way it is, and reflect on their relationships with and responsibilities for that world.

Geography teaches students to respond to questions in a geographically distinctive way; plan inquiries; collect, evaluate, analyse and interpret information; and suggest responses to what they have learnt. Geography provides students with opportunities to develop a wide range of general skills, capabilities and dispositions that can be applied in everyday life and at work. The subject helps students to develop information and communication technology skills; an appreciation and respect for social, cultural and religious diversity and different perspectives; an understanding of ethical research principles; a capacity for teamwork; and an ability to solve problems and to think critically and creatively.

Geography helps students to be regional and global citizens capable of active and ethical participation.

Aims

The Australian Curriculum: Geography aims to ensure that students develop:

- a sense of wonder, curiosity and respect about places, people, cultures and environments throughout the world
- a deep geographical knowledge of their own locality, Australia, the Asia region and the world
- the ability to think geographically, using geographical concepts
- the capacity to be competent, critical and creative users of geographical inquiry methods and skills
- as informed, responsible and active citizens who can contribute to the development of an environmentally and economically sustainable, and socially just world.

Structure

The Australian Curriculum: Geography is organised in two related strands: geographical knowledge and understanding, and geographical inquiry and skills.

Geographical knowledge and understanding strand

Geographical knowledge refers to the facts, generalisations, principles, theories and models developed in Geography. This knowledge is dynamic and its interpretation can be contested, with opinions and conclusions supported by evidence and logical argument.

Geographical understanding is the ability to see the relationships between aspects of knowledge and construct explanatory frameworks to illustrate these relationships. It is also the ability to apply this knowledge to new situations or to solve new problems.

Concepts for developing geographical understanding

The Australian Curriculum: Geography identifies the concepts of place, space, environment, interconnection, sustainability, scale and change, as integral to the development of geographical understanding. These are high-level ideas or ways of thinking that can be applied across the subject to identify a question, guide an investigation, organise information, suggest an explanation or assist decision-making.

In Years 7–10, students build on their understanding of place, space, environment, interconnection, sustainability and change and apply this understanding to a wide range of places and environments at the full range of scales, from local to global, and in a range of locations. These concepts are the key ideas involved in teaching students to think geographically in the Australian Curriculum: Geography and are developed in the following ways:

Place

The concept of place is about the significance of places and what they are like:

- Places are parts of Earth's surface that are identified and given meaning by people. They may be perceived, experienced, understood and valued differently. They range in size from a part of a room or garden to a major world region. They can be described by their location, shape, boundaries, features and environmental and human characteristics. Some characteristics are tangible, for example landforms and people, while others are intangible, for example scenic quality and culture.
- Places are important to our security, identity and sense of belonging, and they provide us with the services and facilities needed to support and enhance our lives. Where people live can influence their wellbeing and opportunities.
- The environmental characteristics of a place are influenced by human actions and the actions of environmental processes over short to long time periods.
- The human characteristics of a place are influenced by its environmental characteristics and resources, relative location, connections with other places, the culture of its population, the economy of a country, and the decisions and actions of people and organisations over time and at different scales.
- The places in which we live are created, changed and managed by people.
- Each place is unique in its characteristics. As a consequence, the outcomes of similar environmental and socioeconomic processes vary in different places, and similar problems may require different strategies in different places.
- The sustainability of places may be threatened by a range of factors, for example natural hazards; climate change; economic, social and technological change; government decisions; conflict; exhaustion of a resource and environmental degradation.

Space

The concept of space is about the significance of location and spatial distribution, and ways people organise and manage the spaces that we live in:

- The environmental and human characteristics of places are influenced by their location, but the effects of location and distance from other places on people are being reduced, though unequally, by improvements in transport and communication technologies.
- The individual characteristics of places form spatial distributions, and the analysis of these distributions contributes to geographical understanding. The distributions also have environmental, economic, social and political consequences.
- Spaces are perceived, structured, organised and managed by people, and can be designed and redesigned, to achieve particular purposes.

Environment

The concept of environment is about the significance of the environment in human life, and the important interrelationships between humans and the environment:

- The environment is the product of geological, atmospheric, hydrological, geomorphic, edaphic (soil), biotic and human processes.
- The environment supports and enriches human and other life by providing raw materials and food, absorbing and recycling wastes, maintaining a safe habitat and being a source of enjoyment and inspiration. It presents both opportunities for, and constraints on, human settlement and economic development. The constraints can be reduced but not eliminated by technology and human organisation.
- Culture, population density, type of economy, level of technology, values and environmental world views influence the different ways in which people perceive, adapt to and use similar environments.
- Management of human-induced environmental change requires an understanding of the causes and consequences of change, and involves the application of geographical concepts and techniques to identify appropriate strategies.
- Each type of environment has its specific hazards. The impact of these hazards on people is determined by both natural and human factors, and can be reduced but not eliminated by prevention, mitigation and preparedness.

Interconnection

The concept of interconnection emphasises that no object of geographical study can be viewed in isolation:

- Places and the people and organisations in them are interconnected with other places in a variety of ways. These interconnections have significant influences on the characteristics of places and on changes in these characteristics.
- Environmental and human processes, for example, the water cycle, urbanisation or human-induced environmental change, are sets of cause-and-effect interconnections that can operate between and within places. They can sometimes be organised as systems involving networks of interconnections through flows of matter, energy, information and actions.
- Holistic thinking is about seeing the interconnections between phenomena and processes within and between places.

Sustainability

The concept of sustainability is about the capacity of the environment to continue to support our lives and the lives of other living creatures into the future:

- Sustainability is both a goal and a way of thinking about how to progress towards that goal.
- Progress towards environmental sustainability depends on the maintenance or restoration of the environmental functions that sustain all life and human wellbeing (economic and social).
- An understanding of the causes of unsustainability requires a study of the environmental processes producing the degradation of an environmental function; the human actions that have initiated these processes; and the attitudinal, demographic, social, economic and political causes of these human actions. These can be analysed through the framework of human–environment systems.
- There are a variety of contested views on how progress towards sustainability should be achieved and these are often informed by world views such as stewardship.

Scale

The concept of scale is about the way that geographical phenomena and problems can be examined at different spatial levels:

- Generalisations made and relationships found at one level of scale may be different at a higher or lower level. For example, in studies of vegetation, climate is the main factor at the global scale but soil and drainage may be the main factors at the local scale.
- Cause-and-effect relationships cross scales from the local to the global and from the global to the local. For example, local events can have global outcomes, such as the effects of local vegetation removal on global climate.

Change

The concept of change is about explaining geographical phenomena by investigating how they have developed over time:

- Environmental change can occur over both short and long time frames, and both timescales have interrelationships with human activities.
- Environmental, economic, social and technological change is spatially uneven, and affects places differently.
- An understanding of the current processes of change can be used to predict change in the future and to identify what would be needed to achieve preferred and more sustainable futures.

Geographical inquiry and skills strand

Geographical inquiry is a process by which students learn about and deepen their holistic understanding of their world. It involves individual or group investigations that start with geographical questions and proceed through the collection, evaluation, analysis and interpretation of information to the development of conclusions and proposals for actions. Inquiries may vary in scale and geographical context.

Geographical skills are the techniques that geographers use in their investigations, both in fieldwork and in the classroom. Students learn to think critically about the methods used to obtain, represent, analyse and interpret information and communicate findings. Key skills developed through Geography in the Australian Curriculum include formulating a question and research plan, recording and data representation skills, using a variety of spatial technologies and communicating using appropriate geographical vocabulary and texts.

Geographical skills are described in the curriculum under five subheadings representing the stages of a complete investigation. Over each two-year stage, students should learn the methods and skills specified for that stage, but it is not intended that they should always be learnt in the context of a complete inquiry. Teachers could, for example, provide students with data to represent or analyse rather than have them collect the information themselves. Inquiry does not always require the collection and processing of information: the starting point could be a concept or an ethical or aesthetic issue that can be explored orally. Many inquiries should start from the observations, questions and curiosity of students. Inquiry will progressively move from more teacher-centred to more student-centred as students develop cognitive abilities and gain experience with the process and methods across the years of schooling.

The stages of an investigation are:

Observing, questioning and planning: Identifying an issue or problem and developing geographical questions to investigate the issue or find an answer to the problem.

Collecting, recording, evaluating and representing: Collecting information from primary and/or secondary sources, recording the information, evaluating it for reliability and bias, and representing it in a variety of forms.

Interpreting analysing and concluding: Making sense of information gathered by identifying order, diversity, patterns, distributions, trends, anomalies, generalisations and cause-and-effect relationships, using quantitative and qualitative methods appropriate to the type of inquiry and developing conclusions. It also involves interpreting the results of this analysis and developing conclusions.

Communicating: Communicating the results of investigations using combinations of methods (written, oral, audio, physical, graphical, visual and mapping) appropriate to the subject matter, purpose and audience.

Reflecting and responding: Evaluating findings of an investigation to reflect on what has been learnt and the process and effectiveness of the inquiry; to propose actions that consider environmental, economic and social factors; and to reflect on implications of proposed or realised actions.

Relationship between the strands

The two strands are integrated in the development of a teaching and learning program. The geographical knowledge and understanding strand is developed year by year and provides the contexts through which particular skills are developed. The geographical inquiry and skills strand has common content descriptions for each two-year band of schooling, but with elaborations specific to each year to support the changing content of the geographical knowledge and understanding strand.

Key inquiry questions

Each year level includes key inquiry questions that provide a framework for developing students' geographical knowledge and understanding, and inquiry and skills.

PDF documents

Resources and support materials for the Australian Curriculum: Geography are available as PDF documents.

Geography: Sequence of content 7-10

Geography: Sequence of achievement 7-10

7–10 Geography

Year 7

There are two units of study in the Year 7 curriculum for Geography: 'Water in the world' and 'Place and liveability'.

'Water in the world' focuses on water as an example of a renewable environmental resource. This unit examines the many uses of water, the ways it is perceived and valued, its different forms as a resource, the ways it connects places as it moves through the environment, its varying availability in time and across space, and its scarcity. 'Water in the world' develops students' understanding of the concept of environment, including the ideas that the environment is the product of a variety of processes, that it supports and enriches human and other life, that people value the environment in different ways and that the environment has its specific hazards. Water is investigated using studies drawn from Australia, countries of the Asia region, and countries from West Asia and/or North Africa.

'Place and liveability' focuses on the concept of place through an investigation of liveability. This unit examines factors that influence liveability and how it is perceived, the idea that places provide us with the services and facilities needed to support and enhance our lives, and that spaces are planned and managed by people. It develops students' ability to evaluate the liveability of their own place and to investigate whether it can be improved through planning. The liveability of places is investigated using studies drawn from Australia and Europe.

The content of this year level is organised into two strands: geographical knowledge and understanding, and geographical inquiry and skills. These strands are interrelated and have been developed to be taught in an integrated manner, and in ways that are appropriate to specific local contexts. The order and detail in which they are taught are programming decisions.

Key inquiry questions




A framework for developing students' geographical knowledge, understanding and skills is provided through the inclusion of inquiry questions and specific inquiry skills, including the use and interpretation of maps, photographs and other representations of geographical data.

The key inquiry questions for Year 7 are:

- How do people's reliance on places and environments influence their perception of them?
- What effect does the uneven distribution of resources and services have on the lives of people?
- What approaches can be used to improve the availability of resources and access to services?

Year 7 Content Descriptions

Geographical Knowledge and Understanding

Unit 1: Water in the world	Elaborations
Classification of environmental resources and the forms that water takes as a resource (ACHGK037) 	<ul style="list-style-type: none">• classifying resources into renewable, non-renewable and continuous resources, and investigating examples of each type • describing how water is an available resource when it is groundwater, soil moisture (green water), and surface water in dams, rivers and lakes (blue water), and a potential resource when it exists as salt water, ice or water vapour 

The way that flows of water connects places as it moves through the environment and the way this affects places (ACHGK038)



- explaining how the movement of water through the environment connects places (for example, the melting of snow in spring feeding rivers and dams downstream)



- investigating the environmental, economic and social uses of water and the effects of water as it connects people and places (for example, the effects of water diversion in the Snowy Mountains)



- investigating the importance of environmental flows



The quantity and variability of Australia's water resources compared with other continents (ACHGK039)



- investigating the main causes of rainfall and applying their knowledge to explain the seasonal rainfall patterns in their own place and in a place with either significantly higher or lower rainfall



- interpreting the spatial distribution of rainfall in Australia and comparing it with the distribution of that of other continents



- using the concept of the water balance to compare the effects of rainfall, run-off and evaporation on the availability of water in Australia and other continents



The nature of water scarcity and ways of overcoming it, including studies drawn from Australia and West Asia and/or North Africa (ACHGK040)



- investigating the causes of water scarcity (for example, an absolute shortage of water (physical), inadequate development of water resources (economic), or the ways water is used)



- discussing the advantages and disadvantages of strategies to overcome water scarcity (for example, recycling ('grey water'), stormwater harvesting and re-use, desalination, inter-regional transfer of water and trade in virtual water, and reducing water consumption)



- examining why water is a difficult resource to manage and sustain (for example, because of its shared and competing uses and variability of supply over time and space)



- investigating whether the use of water in their place is sustainable



- investigating land use management practices that have adversely affected water supply, such as land clearing and some farming practices



Economic, cultural, spiritual and aesthetic value of water for people, including Aboriginal and Torres Strait Islander Peoples and peoples of the Asia region (ACHGK041)



- examining and comparing places in Australia and countries of the Asia region that have economies and communities based on irrigation (for example, rice production in the Murrumbidgee Irrigation Area in NSW and the Mekong Delta in Vietnam)



- exploring the multilayered meanings (material, cultural and spiritual wellbeing) associated with rivers, waterways, waterholes, seas, lakes, soaks and springs for Aboriginal and Torres Strait Islander Peoples



- examining bays, rivers, waterfalls or lakes in Australia and in countries of the Asia region that have been listed as either World Heritage sites or national parks for their aesthetic and cultural value



- investigating the spiritual significance of water in an Asian culture



Causes, impacts and responses to an atmospheric or hydrological hazard (ACHGK042)



- explaining the physical causes and the temporal and spatial patterns of an atmospheric or hydrological hazard through a study of either droughts, storms, tropical cyclones or floods



- explaining the economic, environmental and social impacts of a selected atmospheric or hydrological hazard on people and places, and describing community responses to the hazard



Unit 2: Place and liveability

Elaborations

Factors that influence the decisions people make about where to live and their perceptions of the liveability of places (ACHGK043)



- investigating their and others' interpretations of the concept of liveability and choices about where to live (for example, connections to cultural groups, adolescent 'bright lights' attraction, retiree tree change and families with children locating near schools, and other facilities)



- discussing the concept of liveability and the ways it is measured and comparing objective measures such as transportation infrastructure with subjective measures such as people's perceptions



- comparing student access to and use of places and spaces in their local area and evaluating how this affects perceptions of liveability



- discussing that many Aboriginal and Torres Strait Islander Peoples choose to live on their Country/Place or might prefer to if they had the choice



The influence of accessibility to services and facilities on the liveability of places (ACHGK044)



- comparing accessibility to and availability of a range of services and facilities between different types of settlements (urban, rural and remote) in Australia and other countries (for example, access to clean water, sanitation, education and health services)



- examining the role transport plays in people's ability to access services and participate in activities in the local area



- comparing transportation and accessibility in Australian cities with cities in countries of the Asia region or Europe



The influence of environmental quality on the liveability of places (ACHGK045)



- researching the effects of air pollution on the liveability of cities



- explaining the importance of water quality to the liveability of places, now and into the future



- investigating the concept of environmental quality and surveying the environmental quality of their local area and its effect on liveability



The influence of social connectedness and community identity on the liveability of place (ACHGK046)



- discussing the different types of places where people can feel included or excluded, safe or threatened, and evaluating how this affects perceptions about liveability of places



- investigating the extent to which people in their place are socially connected or socially isolated and its effect on liveability



Strategies used to enhance the liveability of places, especially for young people, including examples from Australia and Europe (ACHGK047)



- researching methods implemented in Australia and Europe to improve the liveability of a place, and evaluating their applicability to their own locality



- developing a specific proposal to improve an aspect of the liveability of their place, taking into account the needs of diverse groups in the community, including young people (for example, through fieldwork in the local recreation area) or traditional owners (for example, developing bilingual signage or Indigenous garden projects in the local area)



- discussing the impact of housing density on the liveability of places



- examining whether liveability and environmental sustainability can be enhanced at the same time



Geographical Inquiry and Skills

Observing, questioning and planning

Develop geographically significant questions and plan an inquiry, using appropriate geographical methodologies and concepts (ACHGS047)



Elaborations

- developing questions about an area of focus in the geographical knowledge and understanding strand (for example, the causes of water scarcity or factors affecting the liveability of a place)



- developing questions to investigate patterns of spatial distribution of rainfall in Australia and other places



- using a range of methods, including digital technologies, to plan and conduct an information search about the quantity and variability of water in Australia and another country from another continent



Collecting, recording, evaluating and representing

Elaborations

Evaluate sources for their reliability and usefulness and select, collect and record relevant geographical data and information, using ethical protocols, from appropriate primary and secondary sources (ACHGS048)



- gathering relevant data from a range of primary sources (for example, from observation and annotated field sketches, surveys and interviews, or photographs) about the impacts of and responses to a hydrological hazard, or the factors influencing decisions people make about where to live



- collecting geographical information from secondary sources (for example, thematic maps, weather maps, climate graphs, compound column graphs and population pyramids, reports, census data and the media)



- applying ethical research methods, including the use of protocols for consultation with Aboriginal and Torres Strait Islander communities



- considering the reliability of primary and secondary data by finding out how and when it was collected, by whom and for what purpose



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 (ACHGS049)



- constructing tables, graphs, maps and diagrams to represent the data collected about water scarcity and liveability of places



- creating an annotated diagram to show: how water flows through the environment and connects places; or the influence of environmental quality on the liveability of places



Represent 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 (ACHGS050)



- creating a map to show the spatial distribution and patterns of liveability, using computer mapping software



- developing a map to show the spatial distribution of measures of the liveability of their own place, or a selected hydrological hazard in Australia and another region of the world



Interpreting, analysing and concluding

Elaborations

Interpret 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 (ACHGS051)



- using aerial images of contrasting places to identify differences in housing density
- using graphs, weather maps and satellite images to examine the temporal and spatial patterns of a selected hydrological hazard in Australia and another region of the world (for example, countries of the Asia region or of the Pacific region)



- interpreting various types of maps (for example, weather, isopleth, topographic, political, thematic, diagrammatic)
- using digital maps and overlays of an area to observe, describe and contrast the spatial associations of geographical phenomena (for example, the relationship between economic activities and river systems and the availability of surface water)



Apply geographical concepts to draw conclusions based on the analysis of the data and information collected (ACHGS052)



- reviewing the results of an analysis to propose an answer to an inquiry question, using as an organiser at least one of the concepts of place, space, environment, interconnection, sustainability, scale or change



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 (ACHGS053)



Elaborations

- presenting a report, supported by graphic representations, to communicate a reasoned argument (for example, to propose actions to ensure future water security)



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 (ACHGS054)



Elaborations

- reflecting on personal values and attitudes and how these influence responses to an issue (for example, the effect of perceptions of crime on liveability)
- proposing actions to respond to geographical issues related to environmental and economic sustainability (for example, ensuring a sustainable supply of water, after considering the possible outcomes for different groups)



7–10 Geography

Year 7 Achievement Standard

By the end of Year 7, students describe geographical processes that influence the characteristics of places and how the characteristics of places are perceived and valued differently. They explain interconnections between people and places and environments and describe how these interconnections change places and environments. They describe alternative strategies to a geographical challenge referring to environmental, economic and social factors.

Students identify geographically significant questions to frame an inquiry. They evaluate a range of primary and secondary sources to locate useful information and data. They record and represent data and the location and distribution of geographical phenomena in a range of forms, including large-scale and small-scale maps that conform to cartographic conventions. They interpret and analyse geographical maps, data and other information to propose simple explanations for spatial distributions, patterns, trends and relationships, and draw conclusions. Students present findings and arguments using relevant geographical terminology and digital technologies in a range of communication forms. They propose action in response to a geographical challenge, taking account of environmental, economic and social factors, and describe the expected effects of their proposal.

7–10 Geography

Year 8

There are two units of study in the Year 8 curriculum for Geography: 'Landforms and landscapes' 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.

The content of this year level is organised into two strands: geographical knowledge and understanding, and geographical inquiry and skills. These strands are interrelated and have been developed to be taught in an integrated manner, and in ways that are appropriate to specific local contexts. The order and detail in which they are taught are programming decisions.

Key inquiry questions

A framework for developing students' geographical knowledge, understanding and skills is provided through the inclusion of inquiry questions and specific inquiry skills, including the use and interpretation of maps, photographs and other representations of geographical data.

The key inquiry questions for Year 8 are:

- 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?

Year 8 Content Descriptions

Geographical Knowledge and Understanding

Unit 1: Landforms and landscapes

Elaborations

Different types of landscapes and their distinctive landform features (ACHGK048)



- identifying different types of landscapes (for example, coastal, riverine, arid, mountain and karst) and describing examples from around the world, including Antarctica



- identifying some iconic landscapes in Australia and the world, and describing what makes them iconic



- describing some of the different types of landforms within a landscape



- exploring the names, meanings and significance of landform features from an Aboriginal or Torres Strait Islander perspective



Spiritual, aesthetic and cultural value of landscapes and landforms for people, including Aboriginal and Torres Strait Islander Peoples (ACHGK049)



- discussing the representation of landscapes in literature, song/music, film and art



- analysing the role of geomorphic landforms and landscapes in tourism (for example, the Grand Canyon in the USA or Uluru in Australia)



- exploring the multilayered meanings (material, cultural and spiritual wellbeing) associated with landscapes and landforms by Aboriginal and Torres Strait Islander Peoples



- investigating Aboriginal Dreaming stories and Legends of the Torres Strait concerning the formation, meaning and interconnection of landforms



- discussing the significance of landforms for people, including Aboriginal and Torres Strait Islander Peoples



Geomorphic processes that produce landforms, including a case study of at least one landform (ACHGK050)



- describing the influence of folding, faulting or volcanism on a chosen landform



- researching the effects of rock type, weathering, erosion by water and wind, and transportation and deposition on the chosen landform



Human causes and effects of landscape degradation (ACHGK051)



- analysing the effects of erosion and sedimentation produced by human activities, including farming and recreation, on landscape quality
- examining the effects of mining and quarrying, and urban development, on landscape quality
- describing the effects of river regulation including dams, locks, channel straightening and drains, on riverine and wetland landscape quality
- investigating the effects of the built elements of environments (for example, urban development, marinas and sea walls) on coastal landscape quality
- investigating the ways introduced plants or animals or activities such as mining affect landscape quality and examining the effects on Aboriginal and Torres Strait Islander communities



Ways of protecting significant landscapes (ACHGK052)



- identifying different views about the value of particular environments (for example, recreational, psychological, aesthetic and spiritual), and about the nature and extent of their protection, and discussing how this links to ideas about environmental sustainability
- investigating a significant landscape that is threatened by human activities and developing a proposal for the future of the landscape that takes account of the views of the diverse groups, including traditional owners, with an interest in its use or protection
- identifying the contribution of Aboriginal and Torres Strait Islander knowledge to the use and management of landforms and landscapes
- investigating the negative and positive impacts of bushfires on Australian landscapes and ways of responding to the risk and events of bushfires



Causes, impacts and responses to a geomorphological hazard (ACHGK053)



- investigating the natural causes and spatial distribution of a geomorphological hazard (for example, volcanic eruption, earthquake, tsunami, landslide, avalanche)



- discussing the extent to which human alteration of environments has contributed to the occurrence of the geomorphological hazard



- describing how the effects caused by geomorphological hazards are influenced by social, cultural and economic factors (for example, where people choose to live, poverty, and lack of infrastructure and resources to prepare and respond)



- researching how the application of principles of prevention, mitigation and preparedness minimises the harmful effects of geomorphological hazards or bushfires



Unit 2: Changing nations

Elaborations

Causes and consequences of urbanisation, drawing on a study from Indonesia, or another country of the Asia region (ACHGK054)



- discussing urbanisation as a shift in where, how and why people live where they do



- exploring the connections between urbanisation and economic and social opportunities



- examining how urbanisation can positively or negatively affect environmental quality (for example, carbon emissions and water consumption)



Differences in urban concentration and urban settlement patterns between Australia and the United States of America, and their causes and consequences (ACHGK055)



- researching the causes of urban concentration in Australia and the United States of America (for example, the history of European settlement, migration, the export orientation of the economy, the centralisation of state governments, environmental constraints and the shape of transportation networks)
























- investigating the relationship between population density and proximity to urban centres
















Reasons for, and effects of, internal migration in both Australia and China (ACHGK056)



- identifying and explaining the main types, patterns and trends of internal migration in Australia (for example, employment, lifestyle and retirement migration)
   
- examining the effects of resource development on employment growth in both the resource regions and the cities, and on internal migration in Australia
  
- investigating the effects of the 'fly-in fly-out' phenomenon on resource-development places
  
- explaining that Aboriginal and Torres Strait Islander Peoples' population mobility reflects attachment to a number of places through family, Country/Place, dispossession, relocation and employment
      
- identifying and explaining the patterns of temporary and permanent internal migration in China and the effects on the places of origin and destination

- examining the role of labour migration in the urban development of China (for example, the growth of Shenzhen, Guangdong Province)

- exploring the issues relating to China's 'floating population'

- examining the environmental problems of China's megacities (for example, air pollution in Beijing)






Reasons for, and effects of, international migration in Australia (ACHGK058)



- identifying and explaining the main types and patterns of international migration (for example, permanent migration, temporary labour migration, student migration, forced migration (including refugees) and family reunion)
   
 - investigating where and why international migrants settle in Australia and how this may reinforce urban concentration
   
 - exploring the changing cultural diversity of the Australian population
    
-

Management and planning of Australia's urban future
(ACHGK059)



- examining the forecasts for the size of Australia's major cities and regional urban centres, and discussing the implications for their environmental sustainability and liveability

- investigating ways of managing the projected growth of Australia's cities and regional urban centres

- exploring the arguments for and against a more balanced distribution of the urban population

- generating ideas on how to decentralise Australia's urban population using Canberra as an example






Geographical Inquiry and Skills

Observing, questioning and planning

Develop geographically significant questions and plan an inquiry using appropriate geographical methodologies and concepts (ACHGS055)



Elaborations

- developing questions on an area of focus in the geographical knowledge and understanding strand (for example, about types of landforms or reasons for urban settlements)

- developing questions about the significance of a spatial distribution (for example, the positive and negative effects of the spatial concentration of population in Australia)

- planning an investigation of the processes responsible for the geographical phenomenon being studied, at a range of scales (for example, the causes and consequences of urbanisation)

- using a range of methods including digital technologies to plan and conduct an information search about reasons for and effects of internal migration in Australia


Collecting, recording, evaluating and representing

Elaborations

Evaluate sources for their reliability and usefulness and select, collect and record relevant geographical data and information, using ethical protocols, from appropriate primary and secondary sources (ACHGS056)



- gathering relevant data from a range of primary sources (for example, from observation and annotated field sketches, surveys and interviews, or photographs) about the ways to protect significant landscapes



- collecting geographical information from secondary sources (for example, topographic maps, thematic maps, compound column graphs and population pyramids, reports, census data, digital images and the media)



- conducting ethical research methods, including the use of protocols for consultation with Aboriginal and Torres Strait Islander communities



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 (ACHGS057)



- constructing tables and graphs of demographic or economic data for Australia or China



- creating annotated diagrams to show a landscape and its landforms



Represent 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 (ACHGS058)



- developing a statistical map to show demographic or economic data for Australia or China, or show the cultural and demographic diversity of Aboriginal and Torres Strait Islander Peoples using mapping software



- creating a map showing geomorphological features by using data from Geoscience Australia, or demographic statistics from census data, using a spatial technologies application



- using the Global Positioning System (GPS) to make a map of the features of a landform



- creating a map showing geomorphological features, incorporating traditional Aboriginal and Torres Strait Islander names for these where known



Interpreting, analysing and concluding

Elaborations

Interpret 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 (ACHGS059)



- analysing spatial distributions to infer relationships and suggest possible causes and effects



- using digital mapping tools to map the cultural and demographic diversity of Aboriginal and Torres Strait Islander Peoples



- interpreting topographic maps and digital terrain models, cross-sections or block diagrams to investigate landforms and their features



- analysing trends in internal migration in Australia and China



Apply geographical concepts to draw conclusions based on the analysis of data and information collected (ACHGS060)



- reviewing the results of an analysis to propose and defend answers to an inquiry question, emphasising at least one of the geographical concepts of place, space, environment, interconnection, sustainability, scale or change



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 (ACHGS061)



Elaborations

- presenting a report, supported by spatial technologies, to communicate a reasoned argument (for example, to advocate for actions to ensure that landscapes and seascapes can be managed sustainably for use by future generations)



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 (ACHGS062)



Elaborations

- reflecting on the inquiry process and suggesting questions that would be suitable for further investigation



- reflecting on personal values and attitudes and how these influence responses to an issue (for example, the protection of landscapes)



- proposing actions to respond to geographical issues related to environmental and economic sustainability (for example, urbanisation)



7–10 Geography

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 compare alternative strategies to a geographical challenge, taking into account environmental, economic and social factors.

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

7–10 Geography

Year 9

There are two units of study in the Year 9 curriculum for Geography: 'Biomes and food security' and 'Geographies of interconnections'.

'Biomes and food security' focuses on investigating the role of the biotic environment and its role in food and fibre production. This unit examines the biomes of the world, their alteration and significance as a source of food and fibre, and the environmental challenges of and constraints on expanding food production in the future. These distinctive aspects of biomes, food production and food security are investigated using studies drawn from Australia and across the world.

'Geographies of interconnections' focuses on investigating how people, through their choices and actions, are connected to places throughout the world in a wide variety of ways, and how these connections help to make and change places and their environments. This unit examines the interconnections between people and places through the products people buy and the effects of their production on the places that make them. Students examine the ways that transport and information and communication technologies have made it possible for an increasing range of services to be provided internationally, and for people in isolated rural areas to connect to information, services and people in other places. These distinctive aspects of interconnection are investigated using studies drawn from Australia and across the world.

The content of this year level is organised into two strands: geographical knowledge and understanding, and geographical inquiry and skills. These strands are interrelated and have been developed to be taught in an integrated manner, and in ways that are appropriate to specific local contexts. The order and detail in which they are taught are programming decisions.

Key inquiry questions








A framework for developing students' geographical knowledge, understanding and skills is provided through the inclusion of inquiry questions and specific inquiry skills, including the use and interpretation of maps, photographs and other representations of geographical data.

The key inquiry questions for Year 9 are:

- What are the causes and consequences of change in places and environments and how can this change be managed?
- What are the future implications of changes to places and environments?
- Why are interconnections and interdependencies important for the future of places and environments?

Year 9 Content Descriptions

Geographical Knowledge and Understanding

Unit 1: Biomes and food security	Elaborations
Distribution and characteristics of biomes as regions with distinctive climates, soils, vegetation and productivity (ACHGK060) 	<ul style="list-style-type: none">• identifying and describing the major aquatic and terrestrial biomes of Australia and the world, and their spatial distribution   • examining the influence of climate on biomass production (as measured by net primary productivity) in different biomes   

Human alteration of biomes to produce food, industrial materials and fibres, and the use of systems thinking to analyse the environmental effects of these alterations (ACHGK061)



- identifying the biomes in Australia and overseas that produce some of the foods and plant material people consume



- investigating ways that the production of food and fibre has altered some biomes (for example, through vegetation clearance, introduction of exotic species, drainage, terracing and irrigation)



- identifying the differences between natural and agricultural ecosystems in flows of nutrients and water, and in biodiversity



Environmental, economic and technological factors that influence crop yields in Australia and across the world (ACHGK062)



- describing how environmental factors (for example, climate, soil, landform and water), can support higher crop yields and investigating the environmental constraints on agricultural production in Australia (for example, soil moisture, water resources and soils)



- investigating how high crop yields (for example, from wheat, rice and maize) around the world are related to factors such as irrigation, accessibility, labour supply, landforms and agricultural technologies (for example, high-yielding varieties)



- evaluating the ways that agricultural innovations have changed some of the environmental limitations on and impacts of food production in Australia



Challenges to food production, including land and water degradation, shortage of fresh water, competing land uses, and climate change, for Australia and other areas of the world (ACHGK063)



- exploring environmental challenges to food production from land degradation (soil erosion, salinity, desertification), industrial pollution, water scarcity and climate change



- identifying the impacts on food production from competing land uses (for example, sacred sites, urban and industrial uses, mining, production of food crops for biofuels, production of food crops for livestock, and recreation (such as golf courses))



- evaluating whether some ways of increasing food production could threaten sustainability







- investigating the impacts of alterations of biomes on the productivity and availability of staple resources for Aboriginal and Torres Strait Islander Peoples (for example, murnong or yam daisy in Victoria)



The capacity of the world's environments to sustainably feed the projected future global population (ACHGK064)




- examining the effects of anticipated future population growth on global food production and security, and its implications for agriculture and agricultural innovation

- researching the potential of agricultural production in northern Australia

- identifying how poverty, food wastage, government policies or trade barriers could affect future food security

- applying understanding of the functioning of natural and agricultural ecosystems to investigate ways of making Australian agriculture more sustainable


Unit 2: Geographies of interconnections

Elaborations



The perceptions people have of place, and how these influence their connections to different places (ACHGK065)



- comparing students' perceptions and use of places and spaces in their local area, particularly at different times of day, between males and females, different age groups, people with and without disability, and people from diverse cultures including Indigenous and non-Indigenous peoples, and reflecting on the differences

- investigating how people in places in other countries perceive, use and are connected to their place and space

The way transportation and information and communication technologies are used to connect people to services, information and people in other places (ACHGK066)



- describing the differences in people's access to the internet between and within countries and exploring how information and communication technologies are being used to connect people to information, services and people in other places (for example, in rural areas across Australia and the world, including selected countries of the Asia region)

- examining how information and communication technologies have made it possible for places (for example, in India and the Philippines) to provide a range of global business services

- exploring how transport and information networks operate to connect people to services, including how supply-chain logistics influence these connections

The ways that places and people are interconnected with other places through trade in goods and services, at all scales (ACHGK067)



- investigating how and why places are interconnected regionally, nationally and globally through trade in goods and services



- investigating some of the products and/or services that businesses in their town, city or rural region sell to other places



- examining tourism, students and retirees as sources of income for some places



The effects of the production and consumption of goods on places and environments throughout the world and including a country from North-East Asia (ACHGK068)



- exploring the environmental impacts of the consumer product on the places that produce the raw materials, make the product, and receive the wastes at the end of its life



- identifying the effects of international trade in consumer products on Australian places



- evaluating the effects of international demand for food products on biodiversity throughout the world, in the places of their production



The effects of people's travel, recreational, cultural or leisure choices on places, and the implications for the future of these places (ACHGK069)



- investigating the global growth of tourism and its likely effects on the future of places



- discussing the effects of people's cultural and leisure choices on towns and cities (for example, predicting how changing choices may affect these and other places in the future)



Geographical Inquiry and Skills

Observing, questioning and planning

Elaborations

Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts (ACHGS063)



- developing questions of geographical significance about an area of focus in the geographical knowledge and understanding strand (for example, questions about the importance of food security or types of interconnections)



- planning an investigation of the processes responsible for the geographical phenomenon being studied, at a range of scales (for example, the connections between people and places)



- using a range of methods including digital technologies to plan and conduct an information search about human alteration to biomes in Australia and another country



Collecting, recording, evaluating and representing

Evaluate sources for their reliability, bias and usefulness and select, collect, record and organise relevant geographical data and information, using ethical protocols, from a range of appropriate primary and secondary sources (ACHGS064)



Elaborations

- gathering relevant data from a range of primary sources (for example, from observation and annotated field sketches, conducting surveys and interviews and experiments, or taking photographs) about challenges to food production or the effects of people's travel, recreational, cultural or leisure choices on places



- collecting geographical information from secondary sources (for example, topographic maps, thematic maps, choropleth maps, weather maps, climate graphs, compound column graphs and population pyramids, scatter plots, tables, satellite images and aerial photographs, reports, census data and the media)



- collecting quantitative and qualitative data using ethical research methods, including the use of protocols for consultation with Aboriginal and Torres Strait Islander communities



Represent multi-variable data in a range of appropriate forms, for example scatter plots, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies (ACHGS065)



- creating a diagram to illustrate the flows of nutrients and energy within a biome, and the alterations to these flows produced by agriculture



- developing a table to show the types of challenges to food production in Australia compared to other areas of the world, or the ways that places and people are interconnected through trade



Represent spatial distribution of geographical phenomena by constructing special purpose maps that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS066)



- creating a map to show the relationship between biomes and world food production, using a spatial technologies application



Interpreting, analysing and concluding

Interpret and analyse multi-variable data and other geographical information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to make generalisations and inferences, propose explanations for patterns, trends, relationships and anomalies, and predict outcomes (ACHGS067)



Elaborations

- constructing a graph to show the relationship between growth in world population and world food production
- comparing maps showing transport networks with survey responses on personal mobility
- analysing maps of world internet traffic and proposing explanations about the pattern and distribution of connections



Apply geographical concepts to synthesise information from various sources and draw conclusions based on the analysis of data and information, taking into account alternative points of view (ACHGS068)



- testing conclusions by considering alternative points of view about an area of inquiry and providing a response using as organisers at least two of the concepts of place, space, environment, interconnection, sustainability, scale and change



Identify how geographical information systems (GIS) might be used to analyse geographical data and make predictions (ACHGS069)



- identifying the relevant layers of a geographical information system and using them to investigate how they can portray and analyse demographic, economic and environmental data



Communicating

Present findings, arguments and explanations in a range of appropriate communication forms, selected for their effectiveness and to suit audience and purpose; using relevant geographical terminology, and digital technologies as appropriate (ACHGS070)



Elaborations

- presenting an oral response, supported by visual aids including maps, to communicate a reasoned argument about a contemporary geographical issue, and responding to questions



Reflecting and responding

Elaborations

Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal (ACHGS071)



- explaining how the application of geographical concepts and methods has contributed to deep understanding of the causes of and solutions to issues related to biomes, food production and security, interconnections or spatial change



- examining the environmental, economic and social factors that need to be considered in an investigation of a contemporary geographical issue such as ways of increasing Australian or global food production or the effects of information and communications technologies on the location of manufacturing or services and debating alternative responses that consider environmental, economic and social factors



7–10 Geography

Year 9 Achievement Standard

By the end of Year 9, students explain how geographical processes change the characteristics of places. They analyse interconnections between people, places and environments and explain how these interconnections influence people, and change places and environments. They predict changes in the characteristics of places over time and identify the possible implications of change for the future. Students analyse alternative strategies to a geographical challenge using environmental, social and economic criteria.

Students use initial research to identify geographically significant questions to frame an inquiry. They evaluate a range of primary and secondary sources to select and collect relevant and reliable geographical information and data. They record and represent multi-variable data in a range of appropriate digital and non-digital forms, including a range of maps that comply with cartographic conventions. They use a range of methods and digital technologies to interpret and analyse maps, data and other information to propose explanations for patterns, trends, relationships and anomalies across time and space, and to predict outcomes. Students synthesise data and information to draw reasoned conclusions. They present findings, arguments and explanations using relevant geographical terminology and digital representations in a range of appropriate communication forms. Students propose action in response to a geographical challenge, taking account of environmental, economic and social factors, and predict the outcomes and consequences of their proposal.

7–10 Geography

Year 10

There are two units of study in the Year 10 curriculum for Geography: 'Environmental change and management' and 'Geographies of human wellbeing'.

'Environmental change and management' focuses on investigating environmental geography through an in-depth study of a specific environment. The unit begins with an overview of the environmental functions that support all life, the major challenges to their sustainability, and the environmental world views – including those of Aboriginal and Torres Strait Islander Peoples – that influence how people perceive and respond to these challenges. Students investigate a specific type of environment and environmental change in Australia and one other country. They apply human–environment systems thinking to understand the causes and consequences of the change and geographical concepts and methods to evaluate and select strategies to manage the change.

'Geographies of human wellbeing' focuses on investigating global, national and local differences in human wellbeing between places. This unit examines the different concepts and measures of human wellbeing, and the causes of global differences in these measures between countries. Students explore spatial differences in wellbeing within and between countries, and evaluate the differences from a variety of perspectives. They explore programs designed to reduce the gap between differences in wellbeing. These distinctive aspects of human wellbeing are investigated using studies drawn from Australia, India and across the world as appropriate.

The content of this year level is organised into two strands: geographical knowledge and understanding, and geographical inquiry and skills. These strands are interrelated and have been developed to be taught in an integrated manner, and in ways that are appropriate to specific local contexts. The order and detail in which they are taught are programming decisions.

Key inquiry questions

A framework for developing students' geographical knowledge, understanding and skills is provided through the inclusion of inquiry questions and specific inquiry skills, including the use and interpretation of maps, photographs and other representations of geographical data.

The key inquiry questions for Year 10 are:

- How can the spatial variation between places and changes in environments be explained?
- What management options exist for sustaining human and natural systems into the future?
- How do world views influence decisions on how to manage environmental and social change?

Year 10 Content Descriptions

Geographical Knowledge and Understanding

Unit 1: Environmental change and management

Elaborations

Human-induced environmental changes that challenge sustainability (ACHGK070)



- discussing the concept of sustainability in relation to environmental functions
- identifying human-induced environmental changes (for example, water and atmospheric pollution; loss of biodiversity; degradation of land, inland and coastal aquatic environments) and discussing the challenges they pose for sustainability



- evaluating the concept of ecosystem services and the importance of these services for sustainability of biodiversity



Environmental world views of people and their implications for environmental management (ACHGK071)



- describing the role of people's environmental world views (for example, human-centred and earth-centred) in producing different attitudes and approaches towards environmental management



- comparing the differences in people's views about the causes of environmental issues in Australia and across the world



- discussing whether environmental change is necessarily a problem that should be managed and explaining people's choices of methods for managing or responding to environmental changes



The Aboriginal and Torres Strait Islander Peoples' approaches to custodial responsibility and environmental management in different regions of Australia (ACHGK072)



- researching the role of Aboriginal and Torres Strait Islander Peoples in environmental management



- explaining Aboriginal and Torres Strait Islander models of sustainability that contribute to broader conservation practices



Select ONE of the following types of environment as the context for study: land (e.g. forests, deserts, grasslands, farmland), inland water, coast, marine or urban. A comparative study of examples selected from Australia and at least one other country should be included

The application of systems thinking to understanding the causes and likely consequences of the environmental change being investigated (ACHGK073)



- describing the nature of the environmental change and its effect on the sustainability of environmental functions



- examining the interconnections between biophysical processes and human actions that generate environmental change, together with the consequences of these changes



The application of geographical concepts and methods to the management of the environmental change being investigated (ACHGK074)



- discussing the influence of people's world views on programs for the management of the environmental change being investigated



- proposing geographical management strategies for the environmental change being investigated (for example, establishing reserves and corridors to preserve biodiversity (a spatial strategy), ecosystem-based management (an environmental strategy), urban planning to reduce energy consumption (a spatial strategy), and addressing underlying as well as immediate causes of environmental change (holistic thinking))



- comparing strategies in Australia and another country to manage the environmental change being investigated



- exploring the variety of solutions to similar environmental changes in different places



- discussing how land management agencies are increasingly working with traditional owners to manage environmental change and challenges



The application of environmental economic and social criteria in evaluating management responses to the change (ACHGK075)



- explaining how communities and governments attempt to balance environmental, economic and social criteria in decisions on environmental programs, and the extent to which there can be trade-offs between them



- discussing the extent to which achieving sustainability in one place should take account of the effects on environmental conditions in other places in the context of the environmental change being investigated



- debating the practical and ethical dilemmas of national and international conservation programs aimed at the environmental change being investigated



Unit 2: Geographies of human wellbeing

Elaborations

Different ways of measuring and mapping human wellbeing and development, and how these can be applied to measure differences between places (ACHGK076)



- examining and comparing different perceptions of human wellbeing (for example, by comparing student rankings of selected indicators)



- identifying and evaluating different ways of measuring wellbeing (for example, per capita income or the UN Human Development Index), and applying them to investigate spatial variations in human wellbeing and comparing the results from different measures



- examining the United Nations Millennium Development Goals and their relationship to human wellbeing



- identifying trends in human wellbeing in countries over time



Reasons for spatial variations between countries in selected indicators of human wellbeing (ACHGK077)



- investigating the economic, social, technological, political and or environmental causes of spatial inequality between countries



- examining differences in indicators by gender across countries and within selected countries



- investigating the interrelationships between the rate of population growth and human wellbeing in countries



- examining how access to natural resources (for example, minerals and water) can affect wellbeing and be a source of conflict



Issues affecting development of places and their impact on human wellbeing, drawing on a study from a developing country or region in Africa, South America or the Pacific Islands (ACHGK078)



- investigating development issues (for example, access to clean water, sanitation, health services and adequate food and shelter) and their potential impact on human wellbeing



- identifying the trends in gross domestic product (GDP) and GDP per capita over time in the selected country or region and their relationship with trends in measures of wellbeing



Reasons for, and consequences of, spatial variations in human wellbeing on a regional scale within India or another country of the Asia region (ACHGK079)



- examining spatial data on human wellbeing in India to identify the regions of India with high and low levels of wellbeing, discussing identified patterns and explaining the differences



- examining how a person's wellbeing is influenced by where they live, with reference to at least two different regions in a country of the Asia region



Reasons for, and consequences of, spatial variations in human wellbeing in Australia at the local scale (ACHGK080)



- researching spatial differences in the wellbeing of the Aboriginal and Torres Strait Islander population across Australia, and the extent to which these differences depend on how wellbeing is measured



- examining how a person's wellbeing is influenced by where they live, with reference to at least two different places in Australia



The role of international and national government and non-government organisations' initiatives in improving human wellbeing in Australia and other countries (ACHGK081)



- examining a national, state or community program to reduce regional inequalities in wellbeing in a country (for example, India)



- discussing the objectives and outcomes of an Australian Government overseas economic and social development program or a non-government overseas aid program in a specific country or region within a country



- identifying ways to improve the wellbeing of remote Aboriginal or Torres Strait Islander communities, including ways proposed by the communities



Geographical Inquiry and Skills

Observing, questioning and planning

Elaborations

Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts (ACHGS072)



- developing questions of geographical significance about an area of focus in the geographical knowledge and understanding strand (for example, questions related to the causes of environmental change or the extent of variation in global wellbeing)



- planning an investigation of the processes responsible for the geographical phenomenon being studied, at a range of scales (for example, the reasons for and types of variation in human wellbeing in one country)



- planning methods of data collection to answer inquiry questions and evaluating questions for their geographical significance



- using a range of methods including digital technologies to plan and conduct an information search about the causes and consequences of change to environments



Collecting, recording, evaluating and representing

Evaluate sources for their reliability, bias and usefulness and select, collect, record and organise relevant geographical data and information, using ethical protocols, from a range of appropriate primary and secondary sources (ACHGS073)



Elaborations

- gathering relevant data from a range of primary sources (for example, from observation and annotated field sketches, conducting surveys, interviews and experiments, or taking photographs) about human-induced environmental changes



- collecting geographical information from secondary sources (for example, topographic maps, thematic maps, choropleth maps, weather maps, climate graphs, compound column graphs and population pyramids, scatter plots, tables, satellite images and aerial photographs, reports, census data and the media)



- collecting quantitative and qualitative data using ethical research methods, including the use of protocols for consultation with Aboriginal and Torres Strait Islander communities



- using Gapminder or United Nations statistics to collect data on countries to answer an inquiry question



Represent multi-variable data in a range of appropriate forms, for example scatter plots, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies (ACHGS074)



- developing a table to show the responses to environmental change in a particular environment



- using scatter plots of data for countries or smaller areas to investigate the relationship between two variables (for example, per capita income and life expectancy for countries) and to identify anomalies



- using digital technologies such as Gapminder to support the illustration and analysis of geographical variables

Represent spatial distribution of geographical phenomena by constructing special purpose maps that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS075)



- constructing and interpreting choropleth maps to show patterns of human wellbeing at a local scale



- creating a map to show measures of environmental change, using a spatial technologies application



Interpreting, analysing and concluding

Elaborations

Interpret and analyse multi-variable data and other geographical information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to make generalisations and inferences, propose explanations for patterns, trends, relationships and anomalies, and predict outcomes (ACHGS076)



- analysing environmental change (for example, the clearance of vegetation or a plan for a vegetation corridor) using topographic maps and satellite images



- constructing computer-generated tables, graphs, maps and diagrams to analyse data on human wellbeing



- critically analysing text and images for their meaning and significance



Apply geographical concepts to synthesise information from various sources and draw conclusions based on the analysis of data and information, taking into account alternative points of view (ACHGS077)



- synthesising information from several sources through using as organisers at least two of the concepts of place, space, environment, interconnection, sustainability, scale and change



Identify how geographical information systems (GIS) might be used to analyse geographical data and make predictions (ACHGS078)



- outlining how geographical information systems (GIS) are used in environmental management or in analysing spatial patterns of human wellbeing



- investigating the use of geographic information systems (GIS) by Indigenous peoples in Australia and elsewhere for managing conservation



Communicating

Elaborations

Present findings, arguments and explanations in a range of appropriate communication forms, selected for their effectiveness and to suit audience and purpose; using relevant geographical terminology, and digital technologies as appropriate (ACHGS079)



- constructing a logical argument, supported by evidence (for example, accounting for observed patterns in wellbeing at the local, national and global scales), and responding to questions



Reflecting and responding

Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal (ACHGS080)



Elaborations

- reflecting on the role of personal values and attitudes in influencing their responses to situations including goals (for example, environmental protection)
- explaining how the application of geographical concepts and methods has contributed to deep understanding of the causes of and solutions to issues related to environmental change, human wellbeing or development



7–10 Geography

Year 10 Achievement Standard

By the end of Year 10, students explain how interactions between geographical processes at different scales change the characteristics of places. Students identify, analyse and explain significant interconnections between people, places and environments and explain changes that result from these interconnections and their consequences. They predict changes in the characteristics of places and environments over time, across space and at different scales and explain the predicted consequences of change. They evaluate alternative views on a geographical challenge and alternative strategies to address this challenge using environmental, economic, political and social criteria and draw a reasoned conclusion.

Students use initial research to develop and modify geographically significant questions to frame an inquiry. They critically evaluate a range of primary and secondary sources to select and collect relevant, reliable and unbiased geographical information and data. Students record and represent multi-variable data in of the most appropriate digital and non-digital forms, including a range of graphs and maps that use suitable scales and comply with cartographic conventions. They use a range of methods and digital technologies to interpret and analyse maps, data and other information to make generalisations and inferences, propose explanations for significant patterns, trends, relationships and anomalies across time and space and at different scales, and predict outcomes. They analyse and synthesise data and other information to draw reasoned conclusions, taking into account alternative perspectives. Students present findings, arguments and explanations using relevant geographical terminology and graphic representations and digital technologies in a range of selected and appropriate communication forms. They evaluate their findings and propose action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations. They explain the predicted outcomes and consequences of their proposal.

7–10 Geography

Glossary

absolute location

Location measured by the coordinates of latitude and longitude. Also see *relative location*.

aerial photograph

A photograph taken from the air, which can be oblique (taken at an angle) or vertical (taken from straight above the ground); the former being easier for young students to interpret.

anomaly

(Termed outlier in mathematics). A *data* value that appears to stand out from other members of the data set by being unusually high or low. The most effective way of identifying an *anomaly* in a data set is to graph the data. In geographical data, classified by *place*, anomalies will identify *places* that do not fit a general *pattern*, which make them of particular interest to study.

attachment to place

People's emotional feelings about and identification with *places*, which can contribute to their personal wellbeing and sense of identity.

biodiversity

A variety of living organisms and *ecosystems* they form. *Biodiversity* has direct value as consumable or useful commodities, indirect value through the provision of *ecosystem services*, and intrinsic value independent of its utility to humans.

biomass

Total mass of living organic matter in a particular area.

biome

A major terrestrial vegetation community, for example, a tropical forest, a temperate grassland or a desert. Similar *biomes* are found around the world in similar *climatic zones*, but may have different species of plants and animals.

biophysical process

Interconnected sequence of cause-and-effect relationships within *environments*, for example, a hydrological (water) cycle; *geomorphic* processes of weathering, erosion, transportation and deposition; soil-forming processes; land degradation; fluvial processes; and *nutrient cycling*.

blue water

In geography, fresh water in rivers, lakes and dams.

cartography

A study of and a practice of map-making, including construction of projections, design, compilation, drafting and reproduction, which aims to model reality in ways that communicate spatial information effectively.

characteristics of places

Include people, *climate*, production, *landforms*, built elements of the environment, soils, vegetation, communities, water resources, *cultures*, mineral resources and *landscape*. Some characteristics are tangible, for example, rivers and buildings. Others are intangible, for example, scenic quality and socioeconomic status.

choropleth map

A thematic map in which areas are shaded to show higher and lower values.

climate

A long-term average (minimum 30 years) of weather conditions at a *place*. For example, some *climates* are hot and wet all year (Singapore); some have hot, wet summers and warm, dry winters (Darwin); and some have warm, dry summers and cool, wet winters (Adelaide and Perth). Climates can be classified into distinctive types, such as equatorial, tropical, temperate, Mediterranean, semi-arid and arid. These types are found in similar locations around the world.

climate graph

A graph showing average monthly temperature (by a line) and rainfall (by columns) for a location.

climatic zones

Areas of the earth that have similar climatic conditions. The major zones are hot, temperate and polar and are roughly demarcated by lines of latitude.

comparative place analysis

A comparison of *places*. It may be used to identify the effects of factors such as climate, *relative location*, technology, *culture* and government on the characteristics of a *place*.

conservation and preservation

Conservation is careful management of the *environment* and natural *resources*, acknowledging that they may be changed in order to affect a better future for humankind, but not if the impacts on them are too great. Alternatively, *preservation* is an act of maintaining the existing condition of environmental areas as yet untouched by humans.

continuous resources

Those *resources*, such as solar or wind energy, whose availability is unaffected by their use by humans. Also see *environmental resources*.

Country/Place

In the Australian Curriculum, *Country* in this instance refers to a *space* mapped out by physical or intangible boundaries that individuals or groups of Aboriginal Peoples occupy and regard as their own. It is a *space* with varying degrees of spirituality.

Place (as it pertains in *Country/Place*) is a *space* mapped out by physical or intangible boundaries that individuals or groups of Torres Strait Islander Peoples occupy and regard as their own. It is a space with varying degrees of spirituality.

culture

A body of beliefs, attitudes, skills and tools by which communities structure their lives and interact with their *environments*. custodial responsibility

An obligation that Aboriginal and Torres Strait Islander Peoples have to care for the *Country/Place* on which they live, even if they are not traditional owners of that Country/Place. Traditional owners have primary responsibility for Country/Place.

data

Information that is directly recorded, which can be quantitative or qualitative.

development

Economic, social and political changes that improve the wellbeing of people.

digital mapping tools

Software programs that create maps.

digital terrain model

A digital model of a land surface in which vegetation, buildings and other objects have been removed.

distribution

Natural arrangement of items in a particular *place*, for example, distribution of population in a country, distribution of forests across the world.

ecosystem

A functioning unit of nature defined by a complex set of relationships among its living organisms (such as microorganisms, plants, animals, humans) and its non-living components (such as water, minerals, soil, air), where all organisms and components are interdependent through *nutrient cycles* and *energy flows*. Every unit can be explored at macro levels (such as the planet) or as specific limited areas.

ecosystem services

Services provided by *ecosystems*, which support life without requiring human action or payment, for example, climatic stability, hydrological regulation, *nutrient cycling*, pollination, pest control, soil formation and protection from ultraviolet radiation.

ecosystem-based management

Management based on improving health of an *ecosystem* producing commodities rather than on maximising production of individual commodities, for example, by increasing *biodiversity*, restoring *hydrological systems*, protecting marine breeding areas or rebuilding soil structure and fertility.

energy flow

A flow of energy through a biological food chain; a movement of energy around an *ecosystem* through biotic and abiotic means. Also referred to as ecology.

environment

A setting and conditions of an area in which activity occurs, and where features may be natural, managed or constructed.

environmental functions

Functions of the *environment* that support human life and economic activity, which are:

- production of raw materials from the natural *resources* of soil, water, forests, minerals and marine life (the earth's *source* function).
 - safe absorption (through breakdown, recycling or storage) of wastes and pollution produced by production and human life (the earth's sink function).
 - provision of environmental or *ecosystem services* that support life without requiring human action, for example, climatic stability, *biodiversity*, *ecosystem* integrity and protection from ultraviolet radiation (the earth's *service* function).
 - intrinsic recreational, psychological, aesthetic and spiritual value of *environments* (the earth's spiritual function).
-

environmental quality

Characteristics of a local *environment* that affect human physical and mental health and quality of life, for example, an extent of air and water pollution, noise, access to open space, traffic volumes, and visual effects of buildings and roads.

environmental resources

Resources sourced from an *environment*, which can be classified as *renewable*, *non-renewable* and *continuous*.

environmental world view

A person's view of the relationship between humans and nature. This ranges from human-centred (in which humans are separate from nature, and any environmental problems can be solved by technology) to earth-centred (in which humans are a part of and dependent on nature and have to work with nature).

ethical protocols

Involves an application of fundamental ethical principles when undertaking research and collecting information from *primarysources* and *secondarysources*, for example, confidentiality, informed consent, citation and integrity of data.

export industries

Industries that sell a service to customers who come from other places to obtain the service, as in tourism and education of students from overseas. Both industries bring income into a place.

features of places

Visible elements of a *place* or *landscape*, classified as natural, managed and constructed. This term is used in early primary education, but is later replaced by the term '*characteristics*', which includes both visible and invisible elements of a *place*.

fieldwork

Any activity involving observation and recording of information outside a classroom. It could be within the school grounds, around neighbouring areas or in more distant locations.

geographic information system (GIS)

A system for storing, managing, analysing and portraying spatial *data*. It has been described as a combination of database management, *cartography* and statistical analysis.

geographical concentration

Advantages people and businesses gain from clustering together, for example, greater access to information, greater variety of goods and services, better transport and communication services, and more varied employment opportunities. These advantages help to explain continuing growth of cities.

geographical inquiry methodology

A process of gathering information from *primary sources* and *secondary sources* as part of the geographical inquiry process. Geographical inquiry methodologies involve skills needed to formulate questions and initiating, planning and implementing an inquiry relevant to a geographical issue, process or phenomenon.

geographical processes

Physical and human forces that work in combination to form and transform the world, for example, erosion, hydrological (water) cycle, migration or *urbanisation*. Geographical processes can operate within and between *places*.

geographical significance

Why a question is worth investigating.

geomorphic

Relating to a form, shape, structure or surface of the earth or its topography.

geomorphic hazard

A hazard originating from the *lithosphere*, including volcanic eruption, earthquake, tsunami and mass movement (landslide or avalanche).

geomorphic landscape

An area defined by a distinctive set of *landforms* produced by a distinctive set of *geomorphic* processes, for example, a riverine, arid or coastal landscape.

green water

Water available for plant growth as soil moisture. Almost all of the world's *natural vegetation*, and most of its agriculture, depends on soil moisture.

hazard

When forces of nature combine to become destructive and have potential to damage the *environment* and endanger communities.

housing density

A number of dwellings per hectare. *Data* required to calculate this measure can be obtained from Australian Bureau of Statistics 2011 Census QuickStats and community profiles.

human wellbeing

Quality of life of a population. This can be measured by objective indicators, for example, life expectancy, educational attainment and income, or by subjective measures of how people perceive the quality of their life, as revealed by surveys of happiness.

human–environment systems thinking

A method of analysing complex interactions between an *environment* and people, which is able to integrate environmental with attitudinal, demographic, social, economic, technological and political factors. Systems thinking seeks to understand the whole rather than its parts, and see patterns of change over time rather than just as a snapshot in time. The drivers–pressures–state–impact–response (DPSIR) model used in the *Australian State of the Environment* report (SoE 2011) is an example of a human–environment system. Systems can be extended to include elements, for example, values and beliefs.

hydrological system

Systems of water movement on, above and below the surface of the earth.

immediate and underlying causes

Immediate causes of environmental change are biophysical processes such as vegetation clearance, cropping and urban development, while *underlying causes* are influences such as population growth, government policies, market demand, economic growth, technology, values and attitudes. These causes can be combined in a human–environment system.

internal migration

Movement of people from living in one defined area to living in another within a country, for example, movement from cities to non-metropolitan coastal locations, or between states and territories.

inter-regional transfer of water

Transfer of water from one river basin to another, for example, the transfer of water from the Snowy River to the Murray and Murrumbidgee rivers in the Snowy Mountains Scheme.

isoline/isopleth map

A map of a geographical variable showing its *spatial distribution* by lines joining *places* with the same value, for example, a rainfall map.

land and water degradation

Degradation of the health of land and water *resources* through human actions in ways that threaten an ability of the resources to maintain their *environmental functions*. Degradation includes salinity, accelerated soil erosion, soil fertility decline, soil acidification, spread of weeds, loss of *biodiversity* and habitats, and water pollution.

landform

Individual surface features of the earth identified by their shape, for example, dunes, plateaus, canyons, beaches, plains, hills, rivers and valleys.

landscape

Visible appearance of an area, created by a combination of geological, geomorphological, biological and cultural layers that have evolved over time, and as perceived, portrayed and valued by people. A geomorphic *landscape* is the landscape without the biological and cultural layers.

lithosphere

The solid portion or crust and upper mantle of the earth, also called the geosphere, which is distinguished from atmosphere and hydrosphere.

liveability

An assessment of what a *place* is like to live in, using particular criteria, for example, environmental quality, crime and safety, education and health provision, access to shops and services, recreational facilities and cultural activities.

local area

An area around a student's home or school that can be explored in a few hours. The local level of *scale* refers to all areas of similar size.

natural vegetation

Vegetation that has evolved in an area over time.

net primary productivity (NPP)

Plant biomass gain measured in tonnes of carbon per hectare per year, as a product of the energy gained through photosynthesis minus the energy lost through respiration. It is an indicator of the natural agricultural productivity of an area, based on its *climate*.

non-renewable resources

Resources that cannot be renewed, for example, minerals. Soils that have been degraded can only be renewed over long timescales. Also see *environmental resources*.

nutrient cycle

Recycling of plant nutrients like phosphorus and nitrogen, whether by natural means or human intervention.

outline map

A map that only gives very basic information so that more detail can be added, for example, a map showing the borders of a country.

pattern

A regularity in *data* portrayed in graphs or maps, for example, a decline in population density or rainfall in Australia with increasing distance from the coast.

perception

People's subjective assessment of *places* and *environments*.

place

A part of the earth's surface that is identified and given meaning by people, which may be perceived, experienced, understood and valued differently.

population pyramid/profile

A graph showing age and sex composition of a population.

preservation and conservation

Preservation is an act of maintaining the existing condition of environmental areas as yet untouched by humans. Alternatively, *conservation* is a careful management of an environment and natural *resources*, acknowledging that they may be changed in order to affect a better future for humankind, but not if the impacts on them are too great.

prevention, mitigation and preparedness

Actions taken in advance to decrease or eliminate the impact of a hazardous event on people, communities and the *environment*, by actions including, for example, lessening the hazard and reducing the vulnerability of a community. Preparedness refers to actions taken to create and maintain a capacity of communities to respond to, and recover from, natural disasters, through measures like planning, community education, information management, communications and warning systems.

primary sources

Unprocessed, original materials collected by a student, for example, field notes from observations, measurements taken from experiments, or responses received from a survey or questionnaire.

qualitative methods

Explanatory and interpretive methods, for example, participant observation, focus group discussion or interviews, which are used to gather qualitative *data* (that is, information that can only be described, such as people's perceptions of environmental quality).

quantitative methods

Statistical and other methods used to analyse quantitative *data* (that is, information that can be expressed in numbers, for example, crime rates for local government areas).

region

An area in which various parts have something in common, which distinguishes them from neighbouring regions. Regions can be divisions of a nation, for example, the Wheatbelt of Western Australia; or larger than a nation, for example, South-East Asia or a climatic zone. The latter are called 'world regions' in the Australian Curriculum.

relative location

A location relative to other places, for example, the distance to a town from other towns. *Relative location* has a stronger influence on human *characteristics* of places than *absolute location*, as demonstrated by advantages of closeness to suppliers, finance, information and markets for businesses, and to education and employment opportunities for individuals. Also see *absolute location*.

remote

Distant, far away, for example, a place distant from major population and economic centres.

renewable resources

Resources that are or can be renewed within a relatively short time, for example, water through a hydrological (water) cycle; and plants, animals and marine life through reproduction. However, overuse of a renewable *resource* can lead to its disappearance, as with overexploitation of a fishery or over-extraction of groundwater. Also see *environmental resources*.

representation

Demonstrating geographical information in a visual form, for example, a graph, map, image, field sketch or a multilayered map.

satellite image

A digital image captured by satellites above the earth's surface, for example, those combined in Google Earth. It can be processed to measure-specific aspects of the land surface, for example, areas of water or farmland.

scale

- A way that geographical phenomena and problems can be examined at different spatial levels, such as local *scale*, and global scale (spatial scale)
 - A relationship between a distance on the ground and a corresponding distance on a map, with the *scale* coded on the map as a ratio, for example '1 cm : 1 km' (map scale).
-

scatter plots / scatter graphs

Graphs that plot a relationship between two variables, for example, population density and distance of a place from the centre of a city, or rainfall and height above sea level. The method can be used to identify anomalies for closer study.

scattergram graphic organiser

A graphic organiser to record collected *data* to reveal correlations, for example, dates and ages of death collected from a scan of a cemetery.

seasonal calendar

A classification of weeks or months of a year into seasons. The standard classification is spring, summer, autumn and winter, but this is a temperate zone concept imported from Europe. In northern Australia, the seasons are commonly described as the wet and the dry. Aboriginal cultures have much more complex classifications, and these vary considerably from region to region across Australia because they are finely tuned to local *climates* and changing availability of food and other *resources*.

secondary sources

Sources of information that have been collected, processed, interpreted and published by others, for example, census *data*, newspaper articles, and images or information in a published report.

settlement pattern

A *spatial distribution* of different types of human settlement, from isolated dwellings to villages and outstations, towns, regional centres and large cities. Smaller settlements typically form spatial patterns around larger settlements.

social connectedness

A measure of a number and strength of people's social relationships with other people. These relationships or connections may be with people in the same place or in other places, and they can be face-to-face connections or electronic. An opposite of good social connections is social isolation or loneliness.

social justice

A concept that all people have the right to fair treatment and equal access to the benefits of society.

space

A three-dimensional surface of the earth on which everything is located and across which people, goods and information move.

spatial association

Similarity in *spatial distributions* of two or more phenomena. A *spatial association* suggests that there may be a relationship between the phenomena, which can then be explained through an operation of atmospheric, hydrologic, *geomorphic*, biological, socioeconomic or political processes.

spatial distribution

An arrangement of particular phenomena or activities across the surface of the earth.

spatial technologies

Any software or hardware that interacts with real-world locations. A use of *spatial technologies* forms the basis of many geographers' work practice. The Global Positioning System (GPS), Google Earth, geographic information systems (GIS) and satellite images are the most commonly used spatial technologies to visualise, manipulate, analyse, display and record spatial data.

spatial variations

A difference or variation (in terms of population, population density, *gross domestic product (GDP)*, life expectancy) over an area of the earth's surface.

stewardship

One of the many world views that informs ways of achieving *sustainability*. When applied to the *environment*, *stewardship* is an ethical position that supports careful management of *environmental resources* for the benefit of present and future generations. Stewards do not own *resources*; they only manage them.

sustainability

An ongoing capacity of an *environment* to maintain all life, whereby the needs of the present are met without compromising the ability of future generations to meet their needs.

system

A group of interacting objects, materials or processes that form an integrated whole. Biophysical *systems* include humans and their activities and impacts.

thematic map

A map that portrays a specific type of information, for example, rainfall, transport routes, *climatic zones* or population *distribution*.

topographic map

A detailed, large-scale map of part of the earth's surface, which illustrates the shape of the land and selected natural and human *features* from the surrounding *environment*.

trend

A *pattern* in change over time in a set of *data*.

urban concentration

A percentage of the urban population of a country or region living in the largest city.

urbanisation

A process of economic and social change in which an increasing proportion of the population of a country or region live in urban areas.

vegetation corridor

Strips of vegetation that connect larger but isolated vegetated areas. They enable movement of animals and plants between places, reduce ecological effects of habitat fragmentation and help protect *biodiversity*.

water scarcity

A lack of sufficient available water resources to meet the demands of water usage within a place. It can result from an absolute shortage of water (physical water scarcity), lack of money to utilise an adequate source of water (economic water scarcity) or the unequal *distribution* of water resources due to political or ethnic conflict.

West Asia (Middle East)

The countries of Georgia, Armenia, Azerbaijan, Turkey, Cyprus, Lebanon, Syria, Israel, Palestine, Jordan, Egypt, Saudi Arabia, Yemen, Oman, United Arab Emirates, Qatar, Bahrain, Iraq and Iran. Afghanistan is sometimes included in the region or in Central Asia. 'West Asia' is also known as the 'Middle East'.

world region

Biophysical, geographical, economic or political regions larger than a nation, for example, the Sahara Desert, Sub-Saharan Africa, the Global North and the Association of Southeast Asian Nations (ASEAN).
