



## LEVELS 7 & 8: SCIENCE & GEOGRAPHY VICTORIAN CURRICULUM LINKS

Science	Victorian Curriculum Elaborations related to activity
Scientific knowledge and understanding of the world changes as new evidence becomes available; science knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science (VCSSU089)	<ul style="list-style-type: none"><li>investigating how land management practices of Aboriginal and Torres Strait Islander peoples can help inform sustainable management of the environment</li></ul>
Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090)	<ul style="list-style-type: none"><li>considering decisions made in relation to the recycling of greywater and blackwater</li><li>investigating strategies implemented to maintain part of the local environment, such as bushland, a beach, a lake, a desert or a shoreline</li></ul>
There are differences within and between groups of organisms; classification helps organise this diversity (VCSSU091)	<ul style="list-style-type: none"><li>grouping a variety of organisms on the basis of similarities and differences in particular features</li><li>classifying using hierarchical systems, for example, kingdom, phylum, class, order, family, genus, species</li><li>using scientific conventions for naming species</li><li>using provided keys to identify organisms surveyed in a local habitat</li></ul>
Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity (VCSSU093)	<ul style="list-style-type: none"><li>constructing and interpreting food chains and food webs to show relationships between organisms in an environment</li><li>recognising the role of microorganisms within food chains and food webs</li><li>researching examples of human impacts on specific ecosystems, for example, the use of fire by traditional Aboriginal people, the effects of palm oil harvesting, deforestation, agricultural practices or the introduction of new species</li></ul>
Some of Earth's resources are renewable, but others are non-renewable (VCSSU100)	<ul style="list-style-type: none"><li>considering what is meant by the term 'renewable' in relation to the Earth's resources</li><li>considering timescales for regeneration of resources</li></ul>
Water is an important resource that cycles through the environment (VCSSU101)	<ul style="list-style-type: none"><li>considering the water cycle in terms of changes of state of water</li><li>investigating factors that influence the water cycle in nature</li><li>exploring how human management of water impacts on the water cycle</li></ul>
Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (VCSSU102)	<ul style="list-style-type: none"><li>recognising that rocks are a collection of different minerals</li><li>considering the role of forces and energy in the formation of different types of rocks and minerals</li><li>identifying a range of common rock types using keys based on observable physical and chemical properties</li></ul>



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Explain processes that influence the characteristics of places (VCGGC099)	<ul style="list-style-type: none"><li>exploring the geomorphology of the land and how this affects the liveability of a place</li><li>contrasting the effects of geomorphic processes that lower the land surface (weathering and erosion) and those that raise the land surface (transportation and deposition)</li><li>discussing urbanisation as a shift in where, how and why people live where they do</li></ul>
Identify, analyse and explain spatial distributions and patterns and identify and explain their implications (VCGGC100)	<ul style="list-style-type: none"><li>interpreting the spatial distribution of rainfall in Australia and comparing it with that of other continents</li><li>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, shops, access to clean water, sanitation, education and health services</li><li>investigating the natural causes and spatial distribution of a geomorphological hazard. For example, volcanic eruptions, earthquakes, tsunamis, landslides and avalanches</li><li>exploring the arguments for and against a more balanced distribution of the urban population</li><li></li></ul>
Identify, analyse and explain interconnections within places and between places and identify and explain changes resulting from these interconnections (VCGGC101)	<ul style="list-style-type: none"><li>analysing the role of landforms and landscapes in tourism. For example, Uluru in Australia or the Grand Canyon in the USA</li><li>examining how urbanisation can affect environmental quality and analysing the effects of erosion and sedimentation produced by human activities on landscape quality</li></ul>
Collect and record relevant geographical data and information from useful primary and secondary sources, using ethical protocols (VCGGC102)	<ul style="list-style-type: none"><li>interpreting the spatial distribution of rainfall in Australia and comparing it with that of other continents</li><li>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, shops, access to clean water, sanitation, education and health services</li><li>investigating the natural causes and spatial distribution of a geomorphological hazard. For example, volcanic eruptions, earthquakes, tsunamis, landslides and avalanches</li><li>exploring the arguments for and against a more balanced distribution of the urban population</li></ul>
Classification of environmental resources and the forms that water takes as a resource (VCGGK105)	<ul style="list-style-type: none"><li>classifying resources into renewable/non-renewable and finite/infinite resources, and investigating examples of each type</li><li>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, water vapour or waste water, and using the concept of the water cycle to show the connections between the different forms</li></ul>



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Ways that flows of water connect places as they move through the environment and the ways this affects places (VCGGK106)	<ul style="list-style-type: none"><li>explaining how the movement of water through the environment connects places. For example, the melting of snow in spring feeding rivers and dams downstream</li><li>investigating the environmental, economic and social effects of water as it connects people and places. For example, the effects of water in the Snowy Mountains, or of upstream irrigation on downstream water quality</li></ul>
The spiritual, economic, cultural and aesthetic value of water for people, including Aboriginal and Torres Strait Islander peoples and peoples of the Asia region, that influence the significance of places (VCGGK109)	<ul style="list-style-type: none"><li>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</li><li>exploring the multilayered meanings (material, cultural and spiritual wellbeing) associated with rivers, waterholes, seas, lakes, soaks and springs for Aboriginal and Torres Strait Islander peoples</li><li>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</li><li>investigating the spiritual significance of water in an Asian culture</li></ul>
Factors that influence the decisions people make about where to live and their perceptions of the liveability of places (VCGGK111)	<ul style="list-style-type: none"><li>investigating their and others' interpretations of the concept of liveability and why what makes a place liveable may vary from person to person according to age, education, income, cultural background and other variables</li><li>comparing student access to and use of places and spaces in their local area and evaluating how this affects perceptions of liveability</li><li>discussing why many Aboriginal and Torres Strait Islander peoples live on their Country/Place or might prefer to if they had the choice</li></ul>
Influence of accessibility to services and facilities; and environmental quality, on the liveability of places (VCGGK112)	<ul style="list-style-type: none"><li>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, shops, access to clean water, sanitation, education and health services</li><li>examining the role transport plays in people's ability to access services and participate in activities in the local area</li><li>explaining the importance of water quality to the liveability of places</li><li>investigating the concept of environmental quality and surveying the environmental quality of their local area and its effect on liveability</li><li>exploring the geomorphology of the land and how this affects the liveability of a place</li></ul>



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Different types of landscapes and their distinctive landform features (VCGGK116)	<ul style="list-style-type: none"><li>• identifying different types of landscapes, such as coastal, riverine, arid, mountain and karst, and describing examples from around the world, including Antarctica</li><li>• identifying some iconic landforms in Australia and the world, and describing what makes them iconic</li><li>• exploring the names, meanings and significance of landform features from an Aboriginal or Torres Strait Islander perspective</li></ul>
Geomorphic processes that produce landforms, including a case study of at least one landform (VCGGK117)	<ul style="list-style-type: none"><li>• describing the influence of folding, faulting or volcanism on a chosen landform</li><li>• contrasting the effects of geomorphic processes that lower the land surface (weathering and erosion) and those that raise the land surface (transportation and deposition)</li></ul>
Human causes of landscape degradation, the effects on landscape quality and the implications for places (VCGGK119)	<ul style="list-style-type: none"><li>• analysing the effects of erosion and sedimentation produced by human activities on landscape quality, including farming and recreation</li><li>• examining the effects of mining and quarrying, and urban development, on landscape quality and how this affects places</li><li>• describing the effects of river regulation, including dams, locks, channel straightening and drains, on riverine and wetland landscape quality</li><li>• investigating the effects on coastal landscape quality of the built elements of places. For example, urban development, marinas and sea walls</li><li>• 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</li></ul>
Spiritual, cultural and aesthetic value of landscapes and landforms for people, including Aboriginal and Torres Strait Islander peoples, that influence the significance of places, and ways of protecting significant landscapes (VCGGK120)	<ul style="list-style-type: none"><li>• discussing the significance of landscapes in literature, song/music, film, art and identity</li><li>• analysing the role of landforms and landscapes in tourism. For example, Uluru in Australia or the Grand Canyon in the USA</li><li>• exploring the multilayered meanings (material, cultural and spiritual wellbeing) associated with landscapes and landforms by Aboriginal and Torres Strait Islander peoples</li><li>• identifying different views about the recreational, psychological, aesthetic and spiritual value of particular environments and about the nature and extent of their protection, and discussing how this links to ideas about environmental sustainability</li><li>• 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</li></ul>



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Causes of a geomorphological hazard and its impacts on places and human responses to it to minimise harmful effects on places in the future (VCGGK121)	<ul style="list-style-type: none"><li>• investigating the natural causes and spatial distribution of a geomorphological hazard. For example, volcanic eruptions, earthquakes, tsunamis, landslides and avalanches</li><li>• discussing the extent to which human alteration of environments has contributed to the occurrence of the geomorphological hazard</li><li>• 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</li><li>• researching how the application of principles of prevention, mitigation and preparedness minimises the harmful effects of geomorphological hazards</li><li>• investigating the negative and positive impacts of bushfires on Australian landscapes and ways of responding to the risk and events of bushfires</li></ul>
The challenges of managing and planning Australia's urban future (VCGGK126)	<ul style="list-style-type: none"><li>• 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</li><li>• investigating ways of managing the projected growth of Australia's cities and regional urban centres</li><li>• exploring the arguments for and against a more balanced distribution of the urban population</li><li>• examining how Canberra can be used as an example of urban decentralisation</li><li>• proposing action to respond to geographical issues related to urbanisation</li></ul>