Learning about Sustainability

Sustainability addresses the ongoing capacity of Earth to maintain all life.

Sustainable patterns of living meet the needs of the present without compromising the ability of future generations to meet their needs. Actions to improve sustainability are both individual and collective endeavours shared across local and global communities. They necessitate a renewed and balanced approach to the way humans interact with each other and the environment.

Education for sustainability develops the knowledge, skills, values and world views necessary for people to act in ways that contribute to more sustainable patterns of living. It enables individuals and communities to reflect on ways of interpreting and engaging with the world. Sustainability education is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence.

The Sustainability priority has been developed around the three key concepts of systems, world views and futures. These three organising ideas reflect the essential knowledge, understandings and skills for the Sustainability priority.

Organising Ideas

Systems - explores the interdependent and dynamic nature of systems that support all life on Earth and our collective wellbeing

- The biosphere is a dynamic system providing conditions that sustain life on Earth.

- All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.

- Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.

World views - enables a diversity of world views on ecosystems, values and social justice to be discussed and recognised when determining individual and community actions for sustainability

- World views that recognise the dependence of living things on healthy ecosystems, and value diversity and social justice are essential for achieving sustainability.

- World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.

Futures - aimed at building capacities for thinking and acting in ways that are necessary to create a more sustainable future

- The sustainability of ecological, social and economic systems is achieved through informed individual and community action that values local and global equity and fairness across generations into the future.

- Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.

- Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgments based on projected future economic, social and environmental impacts.

- Promoting reflective thinking processes in young people and empower them to design action that will lead to more a more equitable and sustainable future

- Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.

All learning areas within the Victorian Curriculum F-10 have a potential to contribute to the Sustainability cross-curriculum priority. Sustainability is included in each area in ways that are consistent with the content and purpose of the learning area. Each learning area contributes differently to the Sustainability cross-curriculum priority, its key knowledge, concepts and skills. For example, some have content that enables students to work with ecological and human systems and to appreciate their interdependence. Others contribute to the development of world views necessary for students to act to create a more socially and ecologically just world. There are others that provide content that challenges students to consider sustainable futures and to design and take action that recognises projected future economic, social and environmental impacts. While some areas do not address sustainability directly in their content descriptions, they may still contribute to learning that is essential for understanding sustainability issues by providing the analytical, measurement and persuasive skills needed to advocate effectively for sustainability. Refer to Appendix 1 Learning Area Contribution Overview.

The capabilities within the Victorian Curriculum F-10 can also play a significant role in addressing Sustainability as a cross curriculum priority. The four capabilities; Critical and Creative Thinking, Intercultural, Personal and Social, and Ethical Capability include a set of discrete knowledge and skills that can and should be taught explicitly in and through the learning areas, but are not fully defined by any of the learning areas or disciplines. When developing the teaching and learning program, schools need to give the same consideration to the capabilities as they do for the learning areas. For example, exploring possibilities, interrogating points of view, becoming socially aware and applying ethical principles are part of the knowledge and skills of the capabilities and these clearly contribute to creating a more sustainable future.

The curriculum content is set out in the content descriptions and is therefore mandatory for schools to include in their teaching and learning programs. Within the curriculum schools are also provided with elaborations to support their planning. These elaborations give guidance about further opportunities to incorporate Sustainability into teaching and learning programs.

The following table provides a summary of learning about sustainability contained within the content descriptions in the Victorian Curriculum F-10. The direct links to the content descriptions are included. By following these content description links the elaborations can be easily accessed.

Victorian Curriculum: Sustainability related content descriptions

	Foundation to Level 2	Levels 3 and 4	Levels 5 and 6	Levels 7 and 8	Levels 9 and 10
History	The history of a significant person, building, site or part of the natural environment in the local community and what it reveals about the past (VCHHK063) Differences and similarities between students' daily lives and perspectives of life during their parents' and grandparents' childhoods, including family traditions, leisure time and communications (VCHHK061)	A significant example of change and a significant example of continuity over time in the local community, region or state/territory (VCHHK073) The diversity and longevity of Australia's first peoples and the significant ways Aboriginal and Torres Strait Islander peoples are connected to Country and Place (land, sea, waterways and skies) and the effects on their daily lives (VCHHK078)	The nature of convict or colonial presence, including the factors that influenced changing patterns of development, how the environment changed, and aspects of the daily life of the inhabitants, including Aboriginal and Torres Strait Islander peoples. (VCHHK089) Significant contributions of individuals and groups, including Aboriginal and Torres Strait Islander peoples and migrants, to changing Australian society (VCHHK096)	One significant challenge and one development faced by the society that caused progress or decline (VCHHK120) Identify and explain patterns of continuity and change in society to the way of life (VCHHC102) How physical or geographical features influenced the development of Aboriginal and Torres Strait Islander peoples' communities, foundational stories and land management practices (VCHHK105)	Analyse and evaluate the broad patterns of change over the period 1750–present (VCHHC122) Changing social, cultural, historical, economic, environmental, political and technological conditions on a major global influence in Australia (VCHHK159) Analyse the long term causes, short term triggers and the intended and unintended effects of significant events and developments (VCHHC127)
Science	Earth's resources are used in a variety of ways (VCSSU047) Observable changes occur in the sky and landscape; daily and seasonal changes affect everyday life (VCSSU046) Living things have a variety of external features and live in different places where their basic needs, including food, water and shelter, are met (VCSSU042)	Science knowledge helps people to understand the effects of their actions (VCSSU056) Earth's surface changes over time as a result of natural processes and human activity (VCSSU062) Different living things have different life cycles and depend on each other and the environment to survive (VCSSU058)	Sudden geological changes or extreme weather conditions can affect Earth's surface (VCSSU079) The growth and survival of living things are affected by the physical conditions of their environment (VCSSU075) Living things have structural features and adaptations that help them to survive in the environment (VCSSU074) Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) Energy from a variety of sources can be used to generate electricity, electric circuits enable this energy to be transferred to another place and then transformed into another form of energy (VCSSU081)	Some of Earth's resources are renewable, but others are non-renewable (VCSSU100) Water is an important resource that cycles through the environment (VCSSU101) Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity (VCSSU093) 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) Scientific knowledge and understanding of the word changes as new evidence becomes available. Scientific knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science. (VCSSU089)	Global systems, including the carbon cycle, rely on interactions involving the atmosphere, biosphere, hydrosphere and lithosphere (VCSSU128) Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (VCSSU121) The values and needs of contemporary society can influence the focus of scientific research. (VCSSU116) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (VCSSU115)

Geography					
	Weather and seasons and the ways in which different cultural groups including Aboriginal and Torres Strait Islander peoples, describe them. (VCGGK067)	Collect and record relevant geographical data and information from the field and other sources (VCGGC074) The many Countries/Places of Aboriginal and Torres Strait Islander peoples throughout Australia, and the custodial responsibility they have for Country/Place, and how this influences views about sustainability (VCGGK080) Types of natural vegetation and the significance of vegetation to the environment, the importance of environments to animals and people, and different views on how they can be protected; the use and management of natural resources and waste, and different views on how to do this sustainably (VCGGK082) Main climates of the world and the similarities and differences between the climates of different places. (VCGGK081) Similarities and differences in individuals' and groups' feelings and perception about places and how they influence views about the protection of these places. (VCGGK083)	Influence of people, including the influence of Aboriginal and Torres Strait Islander peoples, on the environmental characteristics of Australian places (VCGGK094) Impacts of bushfires or floods on environments and communities, and how people can respond (VCGGK095) Environmental and human influences on the location and characteristics of places and the management of spaces within them (VCGGK096) Differences in the demographic, economic, social and cultural characteristics of countries across the world. (VCGGK093)	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) Human causes of land degradation, the effects on landscape quality and the implications for places. (VCGGK119) Causes of a geomorphological hazard and its impacts on places and human responses to minimise harmful effects on places in the future (VCGGK121) The challenges of managing and planning Australia's urban future (VCGGK126) Strategies used to enhance the liveability of places, especially for young people, including examples from Australia and Europe (VCGGK115) Environmental, economic and social measures used to evaluate places for their liveability; comparing two places. (VCGGK113) Factors that influence the decisions people make about where to live and their perceptions of the liveability of places. (VCGGK111) Influence of accessibility to services and facilities; and environmental quality on the liveability of places. (VCGGK112)	Land and resource management strategies used by Aboriginal or Torres Strait Islander peoples to achieve food security over time (VCGGK137) Human alteration of biomes to produce food, industrial materials and fibres and the environmental effects of these alterations (VCGGK136) Causes and consequences of an environmental change, comparing examples from Australia and at least one other country (VCGGK147) The interconnection between food production and land and water degradation; shortage of fresh water; competing land uses; and climate change, for Australia and other areas of the world (VCGGK135) Challenges in feeding the current and projected populations of Australia and the world, and responses to these challenges (VCGGK138) Environmental worldviews of people and their implications for environmental management (VCGGK146) Aboriginal and Torres Strait Islander peoples' approaches to custodial responsibility and environmental management in different regions of Australia (VCGGK148) Application of environmental economic and social criteria in evaluating management responses to an environmental change, and the predicted outcomes and further consequences of management responses on the environment and places, comparing examples from Australia and at least one other country (VCGGK149) Effects of people's travel, recreational, cultural or leisure choices on places and the implications for the future of these places. (VCGGK143) Role of initiatives by international and national government and non-government organisations to improve human wellbeing in Australia and other countries. (VCGGK154)

Economics and Business			Explore the concept of opportunity cost and explain how it involves choices about the alternative use of limited resources and the need to consider trade-offs. (VCEBR002) Identify the types of resources (natural, human and capital) and explore the ways societies use them in order to satisfy the needs and wants of present and future generations. (VCEBR003) Consider the effect that consumer and financial decisions of individuals may have in themselves, their family, the broader community and the natural, economic and business environment. (VCEBC005)	Explore and observe the characteristics of entrepreneurs and successful businesses (VCEBB015) Identify relationships and trends, and generate a range of alternatives for an economic business issue or event, evaluating the potential cost and benefits of each alternative and the consequences of proposed actions. (VCEBE019)	Explore the nature of innovation and discuss how businesses seek to create and maintain a competitive advantage in the market, including the global market (VCEBB024) Research the way the work environment is changing in contemporary Australia and analyse the implications for current and future work (VCEBW025) Identify and explain the indicators of economic performance and examine how Australia's economy is performing (VCEBR021)
Civics and Citizenship		Investigate why and how people participate within communities and cultural and social groups (VCCCC006)	Examine the concept of global citizenship (VCCCC017) Identify who can be an Australian citizen and describe the rights, responsibilities and shared values of Australian citizenship and explore ways citizens can participate in its society (VCCCC014) Identify different points of view on a contemporary issue relating to democracy and citizenship (VCCCC015) Investigate how people with shared beliefs and values work together to achieve their goals and plan for action. (VCCCC016)	Identify how values can promote cohesion within Australian society, including the values of freedom, respect, inclusion, civility, responsibility, compassion, equality and a 'fair go' (VCCCC025) Explain how citizens can participate in Australia's democracy, including use of the electoral system, contact with their elected representatives, use of lobby groups, interest groups and direct action (VCCCG020)	Examine the influence of a range of media, including social media, in shaping identities and attitudes to diversity and how ideas about Australian identity may be influenced by global events (VCCCC038) Analyse contemporary examples and issues relating to Australian democracy and global connections, including key aspects of citizenship in a pluralist society. (VCCCC035) Discuss how and why groups, including religious groups, participate in civic life (VCCCC037)
Digital Technologies			Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs (VCDTCD034	Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints (VCDTCD040) Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability (VCDTCD044)	Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation (VCDTCD054) Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation (VCDTCD054)

Design and Technologies				
Identify how people create familiar designed solutions and consider sustainability to meet personal and local community needs (VCDSTS013) Explore needs or opportunities for designing, and the technologies needed to realise designed solutions (VCDSCD018)	Recognise the role of people in design and technologies occupations and explore factors, including sustainability, that impact on the design of solutions to meet community needs (VCDSTS023) Investigate the suitability of materials, systems, components, tools and equipment for a range of purposes (VCDSTC027) Evaluate design ideas, processes and solutions based on criteria for success developed with guidance and including care for the environment and communities (VCDSCD031) Critique needs or opportunities for designing and explore and test a variety of materials, components, tools and equipment and the techniques needed to create designed solutions (VCDSCD028)	Investigate how people in design and technologies occupations address competing considerations, including sustainability, in the design of solutions for current and future use (VCDSTS033) Investigate how and why food and fibre are produced in managed environments (VCDSTC035) Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use (VCDSTC037) Negotiate criteria for success that include consideration of environmental and social sustainability to evaluate design ideas, processes and solutions (VCDSCD041) Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (VCDSCD039)	Examine and prioritise competing factors including social, ethical, economic and sustainability considerations in the development of technologies and designed solutions to meet community needs for preferred futures (VCDSTS043) Effectively and safely use a broad range of materials, components, tools, equipment and techniques to produce designed solutions (VCDSCD051) Investigate the ways in which designed solutions evolve locally, nationally, regionally and globally through the creativity, innovation and enterprise of individuals and groups (VCDSTS044) Independently develop criteria for success to evaluate design ideas, processes and solutions and their sustainability (VCDSCD052) Analyse how food and fibre are produced when creating managed environments and how these can become more sustainable (VCDSTC046) Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas (VCDSCD049) Analyse ways to create designed solutions through selecting and combining characteristics and properties of materials, systems, components, tools and equipment (VCDSTC048)	Critically analyse factors, including social, ethical and sustainability considerations, that impact on designed solutions for global preferred futures and the complex design and production processes involved (VCDSTS054) Explain how designed solutions evolve with consideration of preferred futures and the impact of emerging technologies on design decisions (VCDSTS055) Investigate and make judgements on the ethical and sustainable production and marketing of food and fibre (VCDSTC057) Critique needs or opportunities to develop design briefs and investigate and select an increasingly sophisticated range of materials, systems, components, tools and equipment to develop design ideas (VCDSCD060) Develop project plans to plan and manage projects individually and collaboratively taking into consideration time, cost, risk and production processes (VCDSCD064) Evaluate design ideas, processes and solutions against comprehensive criteria for success recognising the need for sustainability (VCDSCD063) Work flexibly to safely test, select, justify and use appropriate technologies and processes to make designed solutions (VCDSCD062)

Ethical Capability		Explore the extent to which particular acts might be regarded by different people as good or bad, right or wrong, better or worse, and explain why (VCECU005) Discuss the ways to identify ethical considerations in a range of problems (VCECU006)	Examine how problems may contain more than one ethical issue (VCECU011) Explore the significance of 'means versus ends' by considering two ways to act when presented with a problem: one that privileges means and one ends. (VCECD012) Discuss how ethical principles can be used as the basis for action, considering the influence of cultural norms, religion, world views and philosophical thought on these principles. (VCECU010)	Investigate criteria for determining relative importance of matters of ethical concerns. (VCECU016) Explore the extent of ethical obligation and the implications for thinking about consequences and duties in decision-making and action (VCECD017)	Explore a range of ethical problems and examine the extent to which different positions are related to commonly held ethical concepts and principles, considering the influence of cultural norms, religion, world views and philosophical thought. (VCECU020) Distinguish between the ethical and non-ethical dimensions of complex issues, including the distinction between ethical and legal issues. (VCECU021) Discuss issues raised by thinking about consequences and duties, in approaches to decision-making and action, and arguments for and against these approaches (VCECD022)
Health and Physical	Explore actions that help make the classroom a healthy, safe and active place (VCHPEP078) Identify and explore natural and built environments in the local community where physical activity can take place (VCHPEP079) Participate in play that promotes engagement with outdoor settings including aquatic and the natural environment (VCHPEP063)	Describe strategies to make the classroom and playground healthy, safe and active spaces (VCHPEP095) Participate in outdoor games and activities to examine how participation promotes a connection between the community, natural and built environments, and health and wellbeing (VCHPEP096)	Explore how participation in outdoor activities supports personal and community health and wellbeing and creates connections to the natural and built environment (VCHPEP113)	Investigate and select strategies to promote health, safety and wellbeing (VCHPEP126) Plan and implement strategies for connecting to natural and built environments to promote the health and wellbeing of their communities (VCHPEP131) Plan and use health strategies and resources to enhance the health, safety and wellbeing of their communities (VCHPEP130)	Plan, implement and critique strategies to enhance the health, safety and wellbeing of their communities (VCHPEP149) Plan and evaluate new and creative interventions that promote their own and others' connection to community and natural and built environments (VCHPEP150)

Note: List is not exhaustive

Learning Area Contribution Overview

English - develops the skills necessary to investigate, analyse and communicate ideas and information related to sustainability, and to advocate, generate and evaluate actions for sustainable futures. The content in the language, literature and literacy strands is key to developing and sharing knowledge about social, economic and ecological systems and world views that promote social justice. In this learning area, students may interrogate a range of texts to shape their decision-making in relation to sustainability. They develop the understanding and skills necessary to act responsibly and create texts that inform and persuade others to take action for sustainable futures.

Mathematics - develops the skills for the exploration of sustainability issues and their solutions. Students apply spatial reasoning, measurement, estimation, calculation and comparison to gauge local ecosystem health and can cost proposed actions for sustainability. Mathematical understandings and skills are necessary to measure, monitor and quantify change in social, economic and ecological systems over time and statistical analysis enables the prediction of probable futures based on findings and helps inform decision-making and actions that will lead to preferred futures.

Science - the Sustainability priority provides contexts for investigating and understanding chemical, biological, physical and Earth and space systems. Students explore a wide range of systems that operate at different time and spatial scales. By investigating the relationships between systems and system components and how systems respond to change, students develop an appreciation for the interconnectedness of Earth's biosphere, geosphere, hydrosphere and atmosphere. Relationships including cycles and cause and effect are explored, and students develop observation and analysis skills to examine these relationships in the world around them. In this learning area, students appreciate that science provides the basis for decision-making in many areas of society and that these decisions can impact on the Earth system. They understand the importance of using science to predict possible effects of human and other activity and to develop management plans or alternative technologies that minimise these effects.

Humanities – supports students to respond to the challenges of sustainability requiring an understanding of the key historical, geographical, political, economic and societal factors involved, and how these different factors interrelate. The learning area provides content that supports the development of students' world views, particularly in relation to judgements about past social and economic systems, and access to and use of Earth's resources. It gives students opportunities to integrate their study of biophysical processes with investigations of the attitudinal, demographic, social, economic and political influences on human use and management of the environment. The curriculum prepares students to be informed consumers, to act in enterprising and innovative ways and to perceive business opportunities in changing local, regional and global economic environments. Students explore contemporary issues of sustainability and develop action plans and possible solutions to local, national and global issues which have social, economic and environmental perspectives.

The Arts - provides engaging and thought-provoking contexts in which to explore the nature of art making and responding. It enables the exploration of the role of The Arts in maintaining and transforming cultural practices, social systems and the relationships of people to their environment. Through making and responding in The Arts, students consider issues of sustainability in relation to resource use and traditions in each of The Arts disciplines. The Arts provides opportunities for students to express and develop world views, and to appreciate the need for collaboration within and between communities to implement more sustainable patterns of living. In this learning area, students use the exploratory and creative platform of The Arts to advocate effective action for sustainability.

Technologies - enables consideration of preferred futures. When students identify and critique a problem, need or opportunity; generate ideas and concepts; and create solutions, they give prime consideration to sustainability by anticipating and balancing economic, environmental and social impacts. The curriculum focuses on the knowledge, understanding and skills necessary to design for effective sustainability action taking into account issues such as resource depletion and climate change. Technologies give students opportunities to explore their own and competing viewpoints, values and interests. Understanding systems enables students to work with

complexity, uncertainty and risk; make connections between disparate ideas and concepts; self-critique; and propose creative solutions that enhance sustainability. Students reflect on past and current practices, and assess new and emerging technologies from a sustainability perspective.

Health and Physical Education - explores how people connect and interact with natural, managed and built environments, and with people in different social groups within their social networks and wider communities. They consider how these connections and interactions within systems play an important role in promoting, supporting and sustaining the wellbeing of individuals, the community and the environment as a whole, now and into the future. Students develop their world view by exploring concepts of diversity, social justice and consumerism as these relate to the promotion and maintenance of health and wellbeing. Through movement experiences, students are provided with opportunities to develop a connection in and with environments and to gain an appreciation of the interdependence of the health of people and that of environments.

Languages - contributes to students' capabilities to investigate, analyse and communicate concepts and understandings related to sustainability in broad contexts, and to advocate, generate and evaluate actions for sustainable futures. Within each language, students engage with a range of texts focused on concepts related to sustainability. In this way, students develop knowledge and understanding about sustainability within particular cultural contexts. This is crucial in the context of national and international concerns about, for example, climate change, food shortages and alternative ways of caring for land and agriculture. Through developing a capability to interact with others, negotiating meaning and mutual understanding respectfully and reflecting on communication, students learn to live and work in ways that are productive and sustainable.