



Curriculum Links Level 7&8

A guide to linking sustainability into the Victorian curriculum



**ResourceSmart
Schools**

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October 2018



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Authorised and published by
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50 Lonsdale Street Melbourne
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Accessibility

This document is available in PDF
and Word format on the internet at
www.resourcesmartschools.vic.gov.au

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ResourceSmart Schools Curriculum Links – Levels 7&8

ResourceSmart Schools encourages schools to build sustainability into everything they do. ResourceSmart Schools Curriculum Links 7-8 has been developed as a tool that will assist teachers to build sustainability into their teaching for Levels 7 & 8.

ResourceSmart Schools Curriculum Links 7-8 provides suggested learning activities that link sustainability into the following learning areas and capabilities:

1 Learning areas:

- | | |
|--------------|----------------------------|
| a. Science | e. The Arts |
| b. Geography | f. Design and technologies |
| c. History | g. Digital technologies |
| d. English | |

2 Capabilities:

- | | |
|-----------------------------------|------------------------|
| a. Critical and creative thinking | c. Intercultural |
| b. Ethical | d. Personal and social |

It is anticipated that through the links made between the Victorian Curriculum and ResourceSmart Schools, schools will be able to deliver a more comprehensive and integrated approach to education for sustainability. This will assist schools to:

- ▶ Meet the cross-curriculum priority of sustainability in the Victorian Curriculum F-10 and the Australian Curriculum; and
- ▶ Meet the requirements of ResourceSmart Schools by including teaching about the resource areas of water, waste, biodiversity and energy.

Four units of work have been developed to address a big question / enquiry that will be explored by students:

1 The living Earth is not ours to exploit

Big question / enquiry: We are all dependent on the Earth for our very existence. How does the exploitation of natural resources impact on the quality of life in both rural and urban environments?

Rationale: As resources become scarce, we become incapable of sustaining quality of life. Pollution, water shortages, climate change, global poverty, loss of species and breakdown of human societies are realities well known to environmentalists. Respect for the land, its processes and species calls for changes in cultural values.

2 Environment through time and beyond boundaries

Big question / enquiry: Why does the challenge of protecting the environment require that we look beyond national, cultural and other human boundaries to work for the common good of all? What/how can we learn from Australia's Aboriginal and Torres Strait Islander people and the civilisations of the past?

Rationale: In this unit, students develop an understanding of the past and present experiences of Aboriginal and Torres Strait Islander people, their identity, and the continuing contribution and value of their culture to caring for the environment. An awareness of history is an essential characteristic of any society, and historical knowledge is fundamental to understanding ourselves and others. It helps students appreciate how the world and its people have changed, as well as the significant continuities that exist to the present day. It is interpretative by nature, promotes debate and encourages thinking about human values, including present and future challenges (Victorian Curriculum). Through historical study we can explore, learn about and understand the importance of caring for our environment.

3 At what cost?

Big question / enquiry: Care for the environment is fundamentally an act of stewardship. This raises the question of how humanity has an impact on the Earth. How can science knowledge be used to generate solutions to contemporary environmental issues? If humans withhold stewardship of the environment, what cost is this to humanity: economically, socially, ethically and ecologically?

Rationale: Biodiversity encompasses a variety of living organisms which are interconnected. It makes human life on earth possible, however human use of resources puts pressure on the natural world. Care for nature is part of a lifestyle which includes the capacity for living together, as we are part of nature, included in it and therefore in constant interaction with it. We humans have the capacity and means to work together to maintain, through respectful relationships with all living things, this unique and vulnerable Earth.

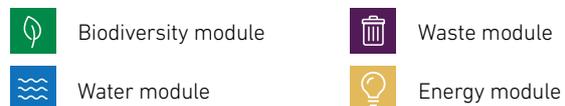
4 Stewardship through creativity

Big question / enquiry: As an artiste, how are we attentive to environmental concerns and how can we seek to promote care for the Earth and its resources?

Rationale: We must all respect, care for and share the resources of the Earth, which are vital for the common good of people. Care for plants, animals and the environment is a shared and universal duty, and the ecological problems call for a change of mentality and the adoption of new lifestyles.

How to use this guide

For ResourceSmart Schools, each action includes module icons to show which resource module they fit with best. The icons that are used are:



If your school is working on one of these resource modules, search through the document for activities that include the relevant icon.

For more information about ResourceSmart Schools and the resource modules, visit the Resources page of www.sustainability.vic.gov.au/school

Unit:

The living Earth is not ours to exploit

Level:

Seven and Eight – Geography

Big Question/Inquiry:

We are all dependent on the earth for our very existence. How does the exploitation of natural resources impact on the quality of life in both rural and urban environments?

Rationale:

As resources become scarce, we become incapable of sustaining a quality life. Pollution, water shortages, climate change, global poverty, loss of species and breakdown of human societies are realities well known to environmentalists. Respect for the land, its processes and species calls for changes in cultural values.

Geography

Geography as a discipline helps students learn to question why the world is the way it is, reflect on their relationships with and responsibility for that world and propose actions designed to shape a socially just and sustainable future.

The concept of place develops students' curiosity and wonder about the diversity of the world's places, peoples, cultures and environments. Students examine why places have particular environmental and human characteristics and investigate their meanings and significance to people. They examine how places are managed and changed.

Students use the concept of space to investigate the effects of location. Through the concept of environment students learn about the role of the environment in supporting the physical and emotional aspects of human life, the important interrelationships between people and environments, and the range of views about these interrelationships.

Through the concept of sustainability students explore how the environmental functions that support their life and wellbeing can be sustained. (Victorian Curriculum)

GEOGRAPHICAL CONCEPTS AND SKILLS:

Place, space and interconnection

Explain processes that influence the characteristics of places.

Data and information:

Collect and record relevant data and information from useful primary and secondary sources, using ethical protocols.

Represent the location of places and other types of geographical data and information in different forms including diagrams, field sketches and large-scale and small-scale maps that conform to cartographic conventions of border, scale, legend, title, north point and source; using digital and spatial technologies as appropriate.

GEOGRAPHICAL KNOWLEDGE

Water in the World:

Ways that flows of water connect places as they move through the environment and the ways this affects places.

Causes of an atmospheric or hydrological hazard and its impacts on places and human responses to it, to minimise harmful effects on places in the future.

Land forms and Landscapes:

Human causes of landscape degradation, the effects on landscape quality and the implications for places.

Place and Liveability

Environmental, economic and social measures used to evaluate places for their liveability, comparing two different places.

Strategies used to enhance the liveability of places especially for young people.

Changing Nations

The challenges of managing and planning Australia's urban future.

Learning Experiences may include:

Does land help form people?

Population growth affecting eco-system change in modern times, is a hot debate in Australia as it can cause biodiversity loss and increased pollution through the exploitation of our natural resources. An example of this is the Murray-Darling River Basin a large geological area in the interior of south eastern Australia, one seventh of the Australian land mass. The mainly flat basin receives limited rainfall and depends on flows from mountains in its eastern rim. Its rich soils helped sustain Aboriginal Peoples over the ages and foreign settlers established many agricultural based towns. However, current river flows and towns are under environmental stress from excessive use of water by industrial scale farming and the mining sector.

(Columban Mission Institute 2016)

Students explore the geomorphology of the Murray-Darling Basin, modern agricultural practices and its impact on the liveability of the area. How has misuse (exploitation) of the land and its resources caused some of the following issues - salinity, erosion, rising water table and deforestation? How did the building of roads, housing, fencing, damming of rivers effect the natural geomorphology of the area?

Students discuss why people originally settled in these areas and the longevity of these settlements. They further investigate 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. They could further explain how the movement of water through the environment connects places. For example, the melting of snow in spring feeding rivers and dams downstream.

What impact does the production of electricity in the Snowy Mountains River hydro electricity scheme have on the local environment? Did the perceived need for electricity to improve our quality of life overshadow the respect for land and its species? Use primary and secondary sources to investigate and support your theory. If possible use before and after maps of the area to substantiate your thinking.



Students identify and investigate how significant natural events can effect places. For example, bushfires, floods or cyclones. They may explore the notion of building homes/towns in environmentally sensitive places e.g. bushland, floodplains They should utilise primary and secondary sources such as fieldwork, maps, plans, photographs, satellite images, statistical sources and reports, as they create a plan for rebuilding the home/town in an environmentally safe place.

Students develop a bushfire management plan mapping geographical data using spatial technologies, the location of recent bushfires in Australia, or information they have collected through fieldwork

Students annotate a map to show places and their features in Australia, they may pinpoint areas where environmental stress occurs. Following this activity, students suggest ways that they can reduce the impact of fire in their local area. What organisations can support the local community in becoming fire ready? What can the students do at home/school to ensure fire readiness?



THE STORY OF THE RIVER:

Cool Australia Website www.coolaustralia.org.

Students investigate what happens when people's activities result in water pollution. They may further explore and describe the effects of river regulation, including dams, locks, channel straightening and drains, on riverine and wetland landscape quality.

Students complete the ResourceSmart schools audit for biodiversity as they investigate the ways introduced plants of animals or activities such as mining, transportation infrastructure and/or urbanisation affect landscape quality.

Students discuss the impact of increasing housing density on the liveability of places, and on their environmental sustainability. In light of the four Resource Smart modules – bio diversity, energy, waste and water, students investigate and propose actions as to how their local council can respond to geographical issues related to urbanisation.



Students work in small groups allocating specific tasks based on managing the needs of the town e.g. waste management. Present proposal for a new town digitally, ensuring the inclusion of maps , plans, photographs and statistical sources.



Learning area ENGLISH

Reading and Viewing

Reading and Viewing involves students understanding, interpreting, critically analysing, reflecting upon, and enjoying written and visual, print and non-print texts. It encompasses reading and viewing a wide range of texts and media, including literary texts. Reading involves active engagement with texts and the development of knowledge about the relationship between them and the contexts in which they are created. It also involves the development of knowledge about a range of strategies for reading.

Writing

Writing involves students in the active process of conceiving, planning, composing, editing and publishing a range of texts. Writing involves using appropriate language for particular purposes or occasions, both formal and informal, to express and represent ideas and experiences, and to reflect on these aspects. It involves the development of knowledge about strategies for writing and the conventions of Standard Australian English.

Speaking and Listening

Speaking and Listening refers to the various formal and informal ways oral language is used to convey and receive meaning. It involves the development and demonstration of knowledge about the appropriate oral language for particular audiences and occasions, including body language and voice. It also involves the development of active-listening strategies and an understanding of the conventions of different spoken texts.

Learning Experiences may include:

Reading –

- Teachers and students are encouraged to read appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Writing –

- Students are encouraged to write appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Speaking and Listening –

- Students are encouraged to present both formal and informal presentations on environmental sustainability.
- Students are encouraged to listen and respond to a variety of formal and informal presentations on environmental sustainability.



These Language Modes are immersed throughout all learning experiences listed in varying degrees.

Digital technology skills can be developed through the English and Geography activities in this unit of work.

Learning area DIGITAL TECHNOLOGIES

Data and Information

Manage, create and communicate interactive ideas, information and projects collaboratively online, taking safety and social contexts into account.

The following capabilities can be developed through the Geography activities in this unit of work:

Capability CRITICAL AND CREATIVE THINKING

Questions and Possibilities

Synthesise information from multiple sources and use lateral thinking techniques to draw parallels between known and new solutions and ideas when creating original proposals and artefacts.

Reasoning

Examine how to select appropriate criteria and how criteria are used in clarifying and challenging arguments and ideas.

Meta Cognition

Examine a range of strategies and how to select strategies that best meet the requirements of the task.

Capability ETHICAL CAPABILITY

Understanding Concepts

Investigate criteria for determining the relative importance of matters of ethical concern.

Decision Making and Actions

Explore the extent of ethical obligation and the implications for thinking about consequences and duties in decision-making and action.

Capability INTERCULTURAL CAPABILITY

Cultural Practices

Analyse the dynamic nature of own and others cultural practices in a range of contexts.

Cultural Diversity

Evaluate the ways in which the community demonstrates the value it places on cultural diversity, and why this valuing of cultural diversity is important to the community.

Capability PERSONAL AND SOCIAL CAPABILITY

Self awareness and Management

Development of Resilience:

Discuss the range of strategies that could be used to cope with difficult tasks or changing solutions.

Social Awareness and Management

Relationships and diversity

Investigate human rights and discuss how these contribute to a cohesive community

Collaboration

Identify ways to be proactive in initiating strategies to prevent and/or accomplish positive resolutions to conflict

Unit:

Environment through time and beyond boundaries

Level:

Seven and Eight – History

Big Question/Inquiry:

Why does the challenge of protecting the environment require that we look beyond national, cultural and other human boundaries to work for the common good of all?

What/how can we learn from our own Aboriginal and Torres Strait Islander peoples and the civilisations of the past?

Rationale:

In this unit, students develop an understanding of the past and present experiences of Aboriginal and Torres Strait Islander peoples, their identity, and the continuing contribution and value of their culture to caring for the environment. An awareness of history is an essential characteristic of any society, and historical knowledge is fundamental to understanding ourselves and others. It helps students appreciate how the world and its people have changed, as well as the significant continuities that exist to the present day. It is interpretative by nature, promotes debate and encourages thinking about human values, including present and future challenges. (Victorian Curriculum). Through historical study we can explore, learn about and understand the importance of caring for our environment.

History

History is a disciplined process of investigation into the past that develops students' curiosity and imagination. It helps students appreciate how the world and its people have changed, as well as the significant continuities that exist to the present day. The study of history is based on evidence derived from remains of the past. It is interpretative by nature, promotes debate and encourages thinking about human values, including present and future challenges. It also provides opportunities to develop transferable skills of critical and creative thinking, such as the ability to explore questions, imagine possibilities and construct arguments.

Students are equipped for the world in which they live and their appreciation of Australian history is enhanced as they learn to appreciate Australia's distinctive path of social, economic and political development and Australia's in the world. (Victorian Curriculum).

HISTORICAL CONCEPTS AND SKILLS

Describe and explain the broad patterns of change over the period from the Ancient to the Modern World.

Historical Sources as evidence

Analyse and corroborate sources and ask questions about their accuracy, usefulness and reliability.

Identify and explain patterns of continuity and change in society to the way of life.

Knowledge:

Aboriginal and Torres Strait and Islander Peoples and Cultures

How physical or geographical features influenced the development of Aboriginal and Torres Strait Islander peoples' communities, foundational stories and land management practices.

The nature of sources of evidence about ancient Australia and what they reveal about Australia's ancient past, such as the use of resources.

Ancient world and early civilisations – 60 000 BC (BCE) – c.650 AD (CE)

How physical features influenced the development of the civilisation
Significant beliefs, values and practices with a particular emphasis on changes to everyday life, cause and effect of warfare, and perspectives of death and funerary customs.

Learning Experiences may include:

Students explore the meaning and use of fire.

Why did ancient Rome decide that fire was so important that it be kept in a temple?

How was fire used by Ancient civilisations and/or Indigenous Australians as a practical tool in hunting, cooking, warmth and managing the landscape?

Students analyse and evaluate the significance of different Indigenous sites – e.g. Lake Mungo as a site of importance for culture, ceremony, living, resources, community. Examine theories and hypotheses about the people who lived around Lake Mungo or Gariwerd (Grampians), Uluru, Great Gippsland Lakes, Lake Condah (Portland district). Did these communities have all they needed to maintain their own and future generations' way of living? If not – where and how did they obtain needed resources? Trade? Farming? Warfare?

Use Giovanni Caselli's painting Lake Mungo to discuss whether it depicts Indigenous Australians living sustainably. Are they only taking what they need from the land? How many fish have they caught? What other food sources are they utilising? Is this sustainable?

Students investigate historical interpretations of land management by Indigenous Australians. They may explore the laying out burn patterns as a method of converting land to grasslands.
(Resource: Dark Emu by Bruce Pascoe)

Students may wish to explore the current use of fire as a practical tool to manage the landscape.

How did Indigenous Australians predict plant growth, for maintenance of plants to attract animals for hunting and the prevention of larger uncontrollable destructive fires?

Students may use modern art works to support their understandings re Indigenous Australians land use, gained from consulting a number of primary and secondary sources.

Students compare and contrast management of resources by Ancient Romans (other ancient civilisations) with Indigenous Australians and modern society. This could include building of shelter, transport, clothing, food – storage, growth, water management, energy (fire), waste disposal, reuse of items. Use a graphic organiser to complete the activity.

As a result of your research which of these civilisations, do you believe, were truly resourceful and truly environmentally sustainable? Why?

Students investigate the building of roads and/or protective walls – both ancient and modern. (e.g. Hadrian's Wall – England).

What impact on nature did this building have –e.g. use of materials, clearing of existing vegetation, effect on local plant and animal life, diversion of natural waterways. Computer programs such as Minecraft may be used to model the construction of roads and walls.

Students may further explore the durability of these roadways. How do our modern roadways/walls compare to those of ancient civilisations?

Students explore and describe the methods used by Ancient Romans to manage resources, for example the water supply through aqueducts and plumbing systems. What impact did this have on the quality of water? Did this ensure safe, clean water for all?

They may compare the way indigenous Australians found/used water to these ancient civilisations.

Learning area GEOGRAPHY

GEOGRAPHICAL CONCEPTS AND SKILLS:

Place, space and interconnection

Identify, analyse and explain spatial distributions and patterns and identify and explain their implications.

Data and information:

Analyse maps and other geographical data and information using digital and spatial technologies as appropriate, to develop identifications, descriptions, explanations and conclusions that use geographical terminology.

GEOGRAPHICAL KNOWLEDGE

Water in the World:

- ▶ 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 influences the significance of places.

Land forms and Landscapes:

- ▶ The spiritual, cultural and aesthetic value of landscapes and landforms for people, including Aboriginal and Torres Strait Islander people, that influence the significance of places and ways of protecting significant landscapes.

Place and Liveability

- ▶ Factors that influence the decisions people make about where to live and their perceptions of the liveability of places

Learning Experiences may include:

<p>Students may investigate the map found at: www.abc.net.au/indigenous/map/</p> <p>What does it represent?</p> <p>How many straight lines can you see on this map?</p> <p>How many language groups are represented on this map?</p> <p>Overlay this language map on a topographical map of Australia to assist with identifying landforms and their features.</p> <p>List the natural features which may be seen as a boundary.</p> <p>How would an Aboriginal and Torres Strait Islander person know that they were encroaching on another nation's land?</p>	<p>Find a later map, circa 1850s, and determine how white settlement may have effected these boundaries.</p> <p>How many straight lines can be seen on the "squatters" maps? What may these lines represent? (Complete web search on Trove or national Library to find appropriate map for your location).</p> <p>Explore the multi-layered meanings of landforms and waterways in the spiritual and cultural lives of Aboriginal and Torres Strait Islanders and other ancient civilisations.</p>	<p>Choose a "spiritual" site e.g. Uluru or Twin Falls Kakadu (or site in own local area) of the Aboriginal and Torres Strait Islander people which is currently threatened by human activities (e.g. tourism, mining). Develop a proposal for the future of the landscape/site that takes in to account the views of the diverse groups including the traditional owners. This could take the form of a debate OR dramatic role play where individual characters are putting forward their arguments on why the land/site needs to be used in a particular way.</p>
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Learning area ENGLISH

Reading and Viewing

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Writing

Writing involves students in the active process of conceiving, planning, composing, editing and publishing a range of texts. Writing involves using appropriate language for particular purposes or occasions, both formal and informal, to express and represent ideas and experiences, and to reflect on these aspects. It involves the development of knowledge about strategies for writing and the conventions of Standard Australian English.

Speaking and Listening

Speaking and Listening refers to the various formal and informal ways oral language is used to convey and receive meaning. It involves the development and demonstration of knowledge about the appropriate oral language for particular audiences and occasions, including body language and voice. It also involves the development of active-listening strategies and an understanding of the conventions of different spoken texts.

Learning Experiences may include:

Reading –

- Teachers and students are encouraged to read appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Writing –

- Students are encouraged to write appropriate texts in the area of Education for Environmental Sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Speaking and Listening -

- Students are encouraged to present both formal and informal presentations on Education for Environmental Sustainability.
- Students are encouraged to listen and respond to a variety of formal and informal presentations on environmental sustainability.



These Language Modes are immersed throughout all learning experiences listed in varying degrees.

Learning area DESIGN TECHNOLOGIES

Technologies and Society -

- Investigate the ways in which designed solutions evolve locally, nationally, regionally and globally through the creativity, innovation and enterprise of individuals and groups.

Technologies Contexts -

Food and Fibre production:

- Analyse how food and fibre are produced when creating managed environments and how these can become more sustainable.

Materials and technologies specialisations:

- Analyse ways to create designed solutions through selecting and combining characteristics and properties of materials, systems, components, tools and equipment.

Learning Experiences may include:

Use resources such as

<http://www.astoneuponastone.com/>

to investigate the reasons why stone walls were built in areas such as the Corangamite District especially around Pomorneit, Derrinalum, Kolora and Terang. What was their purpose? Who made them? What materials did they need?

The ability to transport food great distances in refrigerated vehicles and store them for long periods of time means that we are able to have our favourite fruit and vegetables all year round. But how 'fresh' is the food that we eat really? Investigate how and why food and fibres are produced in managed environments, the distance that food travels before it reaches our plate. How does this compare to the way ancient civilisations farmed food? Did they have access to all types of food all year round?

Investigate the role of food preparation in maintaining good health and the importance of food safety and hygiene – compare the processes between an Ancient Civilisation, Australian and Torres Strait Islander people and current practices today.

The following capabilities can be developed through the history and geography activities in this unit of work

Capability CRITICAL AND CREATIVE THINKING

Questions and Possibilities

- › Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives.

Reasoning

- › Investigate the difference between a description, an explanation and a correlation and scepticism about cause and effect.

Meta Cognition

- › Consider a range of strategies to represent ideas and explain and justify thinking processes to others.

Capability ETHICAL CAPABILITY

Understanding Concepts

- › Investigate why ethical principles may differ between people and groups, considering the influence of cultural norms, religion, world views and philosophical thought.

Decision Making and Actions

- › Explore the extent of ethical obligation and the implications for thinking about consequences and duties in decision-making and action.

Capability INTERCULTURAL CAPABILITY

Cultural Practices

- › Analyse the dynamic nature of ones own and others cultural practices in a range of contexts.

Cultural Diversity

- › Evaluate the ways in which the community demonstrates the value it places on cultural diversity, and why this valuing of cultural diversity is important to the community.

Learning Experiences may include:

As carers of the environment, students explore the Dreaming Stories of their local Aboriginal people's area e.g. Bunjil, in light of the following quote:

"Aboriginal people over thousands of years have been such instruments. The Dreaming is testament to the concept as it makes tangible the links between the creator spirit and the people. Aboriginal people understand and have integrated this into our cultural practices" (Thelma Parker, 2015)

Compare these stories to creation stories of ancient civilisations.

Capability PERSONAL AND SOCIAL CAPABILITY

Self awareness and Management

Development of Resilience:

- › Discuss the range of strategies that could be used to cope with difficult tasks or changing situations.

Social Awareness and Management

Relationships and diversity:

- › Investigate human rights and discuss how these contribute to a cohesive community.

Collaboration

- › Identify ways to be proactive in initiating strategies to prevent and/or accomplish positive resolutions to conflict.

Learning Experiences may include:

Examine Pope Francis' statement ... "Once we start to think about the kind of world we are leaving to future generations, we look at things differently; we realise that the world is a gift which we have freely received and must share with others, Since the world has been given to us, we can no longer view reality in a purely utilitarian way, in which efficiency and productivity are entirely geared to our individual benefit. Intergenerational solidarity is not optional, but rather a basic question of justice, since the world we have received also belongs to those who will follow us" (*Pope Francis 2015*)

Students endeavour to answer the following questions:

How did the ancient tribes of Aboriginal and Torres Islander Strait people ensure that they left the land for future generations to utilise and enjoy?

How do current leaders ensure that "intergenerational solidarity is not optional"?

Unit:

At what cost?

Level:

Seven and Eight – Science

Big Question/Inquiry:

Care for the environment is fundamentally an act of stewardship and raises the question of how humanity impacts on the Earth. How can the use of science knowledge be applied to generate solutions to contemporary environmental issues? At what cost to humanity do we withhold stewardship of the environment – economically, socially, ethically and ecologically?

Rationale:

Biodiversity encompasses a variety of living organisms which are interconnected. It makes human life on earth possible, however the pressures of human use of resources impacts on the natural world. Care for nature is part of a lifestyle which includes the capacity for living together, as we are part of nature, included in it and therefore in constant interaction with it. We humans have the ability to work together to maintain, through respectful relationships with all living things, this unique and vulnerable Earth.

Science

Science provides an empirical way of answering interesting and important questions about the biological, physical and technological world. Science is a dynamic, collaborative and creative human endeavour arising from our desire to make sense of our world by exploring the unknown, investigating universal mysteries, making predictions and solving problems. Students can experience the joy of scientific discovery and nurture their natural curiosity about the world around them. In doing this, they develop critical and creative thinking skills and challenge themselves to identify questions, apply new knowledge, explain science phenomena and draw evidence-based conclusions using scientific methods. (Victorian Curriculum)

Science Understanding

Science as human endeavour

- › Scientific knowledge and understandings 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.
- › 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.

Biological sciences

- › Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity.

Earth and space sciences

- › Some of Earth's resources are renewable, but others are non-renewable.
- › Water is an important resource that cycles through the environment.

Physical sciences

- › Energy appears in different forms including movement (kinetic energy), heat, light, chemical energy and potential energy; devices can change energy from one form to another.

Science Inquiry Skills

Questioning and Predicting

- › Identify questions problems and claims that can be investigated scientifically and make predications based on scientific knowledge.

Planning and Conducting

- › Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed

Recording and Processing

- › Construct and use a range of representations, including graphs, keys and models to record and summarise data from students' own investigations and secondary sources to, represent and analyse patterns and relationships.

Analysing and Evaluating

- › Use scientific knowledge and findings from investigations to identify relationship, evaluate claims and draw conclusions.

Communicating

- › Communicate , ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language

Learning Experiences may include:

Habitat – at what cost?

Students choose two environments – either within the local school grounds or if possible within the local community. Students are invited to predict what they will find and which environment will be the healthiest and why.

They gather data such as species present, vegetation, pH and temperature of water, consider food chains and food webs. They assess for water quality and biodiversity, to compare and contrast two environments. (Use audit tools from ResourceSmart Schools).

Students evaluate the overall health of each ecosystem and suggest improvements for one, or both, of the environments. They determine whether their predications were accurate.

Students are encouraged to analyse results, develop possible explanations for collected data and justify these explanations.

“Rosy Dock” (Jeanie Baker)

After reading the picture story book “Rosy Dock”, students discuss the negative impact of introducing species not native to the environmental area. They may debate the pros and cons of removing these introduced species e.g. rabbits, camels, Salvation Jane/Patterson’s Curse. Can the damage caused by these introduced species be reversed? How?

Energy - at what cost? – in small groups, students investigate and prepare an oral presentation on one of the renewable energy sources listed below –

- › Wind turbines
- › Solar energy
- › Hydro electricity
- › Geo-thermal power
- › Wave energy
- › Bio fuels

This presentation could be in the format of PowerPoint; movie; photographic display

As a class, students brainstorm the use of non-renewable energy sources:

- › Coal/Peat
- › Gas
- › Oil

As a result of this activity students complete a PMI (Plus, Minus, Inquiry) chart, as preparation for designing an energy efficient item e.g. house, car, lighting. Information gained from the energy presentations should be utilised in these designs.

As part of the assessment of the energy efficient item, the teacher and students should create a rubric that includes collection, analysis and presentation of data; design processes including variables; final energy efficient elements within item; attained purpose and oral presentation techniques (this could also include digital technology usage).

Think Global – act local – at what cost?

What is the impact on a local environment that is used for tourism, sport and/or recreation purposes?

What is the cost to the environment socially, economically, ethically and ecologically when local waterways/forests/bushlands/beaches are utilised for a range of recreation activities?

Students work in small groups to respond to either of these questions. They may debate “for and against” of “locking” these areas from human use. What would be the outcome of humans not being permitted to visit the Great Barrier Reef, for example?

Students might consult Tourism Victoria/Australia (or local town) to find statistics on visitor numbers and from this, hypothesise the amount of water used, energy used, waste produced and effect on biodiversity.

Students may begin this hypothesis based on own personal daily experiences:

- › Length of time spent in shower = amount of water used
- › Food wastage
- › Other waste
- › Use of energy for lighting, digital technology, heating etc.
- › Use of water/energy for cleaning (clothes/home)
- › Use of home grown vegetables at meal time
- › Percentage of garden with native plants versus introduced plants.

The data collected and analysed should contribute to making predictions about waste produced by tourists and/or energy/water usage and/or importance of native plant life.

Students may investigate and determine the carbon footprint of individuals travelling to a tourist location from various parts of the world. As part of this activity, students are required to suggest ways of negating/balancing the footprint. They may create a poster to summarise their research and outline their suggestions for balancing the footprint.

Students create a management plan for the venue/site - this could include signage e.g. ‘Turning lights off’; “Take out what you take in”; separation of waste at the venue/site; recycling of water (where appropriate); use of solar heating for hot water. Students could create an advertising brochure for the venue/site, outlining the sustainable practices they suggested as a result of their research.

Excursions to places such as Melbourne Zoo; local botanical gardens; Sovereign Hill, Coal Creek, Narmbool or other such tourist attractions where sustainable tourist practices are being implemented, could be part of the research for activities mentioned above.



Learning area ENGLISH

Reading and Viewing

Reading and Viewing involves students understanding, interpreting, critically analysing, reflecting upon, and enjoying written and visual, print and non-print texts. It encompasses reading and viewing a wide range of texts and media, including literary texts. Reading involves active engagement with texts and the development of knowledge about the relationship between them and the contexts in which they are created. It also involves the development of knowledge about a range of strategies for reading.

Writing

Writing involves students in the active process of conceiving, planning, composing, editing and publishing a range of texts. Writing involves using appropriate language for particular purposes or occasions, both formal and informal, to express and represent ideas and experiences, and to reflect on these aspects. It involves the development of knowledge about strategies for writing and the conventions of Standard Australian English.

Speaking and Listening

Speaking and Listening refers to the various formal and informal ways oral language is used to convey and receive meaning. It involves the development and demonstration of knowledge about the appropriate oral language for particular audiences and occasions, including body language and voice. It also involves the development of active-listening strategies and an understanding of the conventions of different spoken texts.

Learning Experiences may include:

Reading –

- Teachers and students are encouraged to read appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres..



Writing –

- Students are encouraged to write appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Speaking and Listening –

- Students are encouraged to present both formal and informal presentations on environmental sustainability.
- Students are encouraged to listen and respond to a variety of formal and informal presentations on environmental sustainability.



These Language Modes are immersed throughout all learning experiences listed to varying degrees.

Learning area DESIGN AND TECHNOLOGIES

Technologies and Society -

- 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.

Technologies Contexts -

Food and fibre production

- Analyse how food and fibre are produced when creating managed environments and how these can become more sustainable.

Learning Experiences may include:

As per learning experiences in Science and Geography.

Learning area DIGITAL TECHNOLOGIES

Data and Information

- Acquire data from a range of sources and evaluate their authenticity, accuracy and timeliness.

*Analyse and visualise data using a range of software to create information and use structured data to model objects or events.

Creating Digital Solutions

Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints.

Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability.

Learning Experiences may include:

As per learning experiences in Science and Geography.

Learning area GEOGRAPHY

GEOGRAPHICAL CONCEPTS AND SKILLS

Place, space and interconnection:

Identify, analyse and explain interconnections with places and between places and identify and explain changes resulting from these interconnections.

Data and information

Collect and record relevant geographical data and information from useful primary and secondary sources, using ethical protocols.

GEOGRAPHICAL KNOWLEDGE

Water in the world:

Nature of water scarcity and the role of humans in creating and overcoming it, including studies from Australia.

Landforms and landscapes:

Human causes of landscape degradation, the effects on landscape quality and the implications for places.

Place and liveability:

Influence of accessibility to services and facilities; and environmental quality on the liveability of places.

Learning Experiences may include:

Water: want or waste - at what cost?

How do we ensure access to clean water for all?

Students investigate water restrictions/regulations in their local town. What are they? Are they reasonable, fair and just? Compare these restrictions to other locations – do they still seem reasonable, fair and just?

Teacher facilitates a class discussion about water restrictions and usage.

As a result of the class discussion, students create a movie to promote implementation of water restrictions, this may include use of recycled water.

Recycled water – would you drink it? Class debate. Students will need to research processes involved in treatment of recycled water.

Students investigate, design and/or build a filtration system to recycle storm water.

Design a home that can withstand extreme weather events.

Fire
Flood
Drought
Cyclones/Hurricanes
Earthquakes
Tornadoes

Students will review strength/design of building – determined by building materials and structure. Are they recyclable materials?

Water supply – amount, storage, accessibility (during weather event).

Drought resistant plants – needed to supply food for home dwellers.

Energy supplies – determines what would be needed if not linked to town supplies?

Solar/wind energy infrastructure which could be created and utilised during weather event.

Location of dwelling: Too close to water/too far away from water?

Planting of trees for wind breaks.

Students may explore such buildings from other countries/cultures to assist with their own design.

Students may explore Aboriginal and Torres Strait Islander Peoples dwelling designs; seasonal movement from one location to another; use of fire; finding water sources; appropriate and careful use of natural resources to assist with their own design.

The following capabilities can be developed through the Science and Geography activities in this unit of work:

Capability CRITICAL AND CREATIVE THINKING

Questions and Possibilities

- › Consider how to approach and use questions that have different elements, including factual, temporal and conceptual elements.
- › Synthesise information from multiple sources and use lateral thinking techniques to draw parallels between known and new solutions and ideas when creating original proposals and artefacts.

Reasoning

- › Consider how to settle matters of fact and matters of value and the degree of confidence in the conclusions.

Meta Cognition

- › Consider a range of strategies to represent ideas and explain and justify thinking processes to others.

Capability ETHICAL CAPABILITY

Understanding Concepts

- › Explore the contested meaning of concepts including freedom, justice and rights and responsibilities and the extent they are and should be valued by different individuals and groups.

Decision Making and Actions

- › Discuss the role of context and experience in ethical decision making and actions.

Capability INTERCULTURAL CAPABILITY

Cultural Practices

- › Examine how various cultural groups are represented, by whom they are represented and comment on the purpose and effect of these representations.

Cultural Diversity

- › Identify the challenges and benefits of living and working in a culturally diverse society.

Capability PERSONAL AND SOCIAL CAPABILITY

Self-awareness and Management

Recognition and expression of emotions

- › Describe how and why emotional responses may change in different contexts.

Development of resilience

- › Reflect on their effectiveness in working independently by identifying enablers and barriers to achieving goals.

Social awareness and Management

Relationships and diversity

- › Explore their personal values and beliefs and analyse how these values and beliefs might be different or similar to those of others.

Collaboration

- › Perform in a variety of team roles and accept responsibility as a team member and team leader, assessing how well they support other members of the team.

Unit:

Stewardship through creativity

Level:

Seven and Eight – The Arts

Big Question/Inquiry:

As an artiste, how are we attentive to environmental concerns and how can we seek to promote care for the earth and its resources?

Rationale:

We must all respect, care for and share the resources of the earth, which are vital for the common good of people. Care for plants, animals and the environment is a shared and universal duty, and the ecological problems call for a change of mentality and the adoption of new lifestyles.

The Arts

The Arts enable students to develop their creative and expressive capacities by learning about the different practices, disciplines and traditions that have shaped the expression of culture locally, nationally and globally.

The Arts present ideas that are dynamic and rich in tradition. Through engaging in The Arts students are entertained, challenged and provoked to respond to questions and assumptions about individual and community identity, taking into account different histories and cultures. The Arts contributes to the development of confident and creative individuals and enriches Australian society. Students express, represent and communicate ideas in contemporary, traditional and emerging arts forms. (Victorian Curriculum)

Learning area DANCE

Students choreograph and perform dances to communicate ideas and intentions.

Learning Experiences may include:

All of us can co-operate for the care of creation, each according to his or her own culture, experience, involvement and talents, and through dance we can further promote care for the Earth and its resources. (Columban Mission Institute 2016)

Students create a dance interpreting the above statement. They are encouraged to utilise dance strategies and vocabulary as shown below:

- › Students experiment with realistic, everyday movements e.g. collecting rubbish in the playground, turning off light switch or water tap and blur this into abstract movements to assist with creating a dance which will communicate their belief in the importance of waste reduction and saving energy/water in environmental sustainability.

- › Students communicate a specific idea e.g. water usage, by developing a recurring movement, idea or motif.
- › Through use of technical competences such as articulation, control, coordination, accuracy, alignment, balance, flexibility, strength and endurance they will enhance the dance they have created regarding environmental sustainability.
- › Students respond to feedback by changing aspects of the dance to enhance communication of their ideas about conservation of energy.

- › Students use collaborative planning, selection and evaluation process to structure group dance about the contemporary issue of environmental sustainability.
- › Students may explore Aboriginal and Torres Strait Islander dances and the stories they tell of caring for land and animals.



Learning area DRAMA

Students devise, interpret and perform drama. They manipulate the elements of drama, narrative and structure to control and communicate meaning.

Learning Experiences may include:

Each person must act in any way possible to protect creation: reducing energy usage, limiting waste, choosing carpooling or biking and walking more, and buying less. (Pope Francis 2015)

- › Using a variety of drama strategies students create a performance to explore and highlight the importance of the above quote. The performance must engage the audience and communicate how each person has a responsibility to protect creation. This could be performed at the school assembly or local community gathering.
- › Students use their own observations of human behaviour, emotions and empathy to convey roles and characters in the drama piece they are creating. This may be a scripted play, a mime or a piece of puppetry.

- › Students may plan, organise and rehearse dramatic action as they prepare to present a performance of a scripted play that they have created to explore how they can promote care for creation. They will develop and refine vocal qualities of audibility, clarity and contrast through control of pace, pitch, dynamics and use of pause and silence. Students perform their roles with commitment to the underlying dramatic structure.
- › Students endeavour to evaluate their peers' responses to questions about an issue or image which they have devised as part of their presentation on care for creation.

- › An important part of the student presentation of the dramatic piece is to ensure audience engagement. This could be through responses to questions in the actual play – or post performance discussion.
- › Students describe the role of drama in different cultures and use this information when planning their own drama piece. E.g. the use of shadow puppets in Indonesia.



Learning area MEDIA

Students produce representations of social values and viewpoints in media artworks for particular audiences. They use production processes, equipment and technologies to achieve their intentions.

Learning Experiences may include:

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| <ul style="list-style-type: none"> ▶ Unless we are willing to encourage our children to reconnect with and appreciate the natural world, we can't expect them to help protect and care for it (David Suzuki). ▶ Students are invited to create an advertisement that will encourage young people to protect and care for the world. ▶ Students create their own media artwork that fulfils audience expectations through story structure, as they include a point of conflict, build characters and achieve a resolution to the issue of stewardship of creation. This should include the importance of caring for and sharing the resources of the earth. | <ul style="list-style-type: none"> ▶ Students experiment with the use of images, sounds and text and selected conventions to challenge the existing stereotype of a "greenie" in society. ▶ Students may investigate different viewpoints and make decisions about how they will represent a theme, concept or idea in the area of the ecological problems which call for a change of mentality and the adoption of new lifestyles. These could be about energy, water, waste or biodiversity concerns. Students will consider media conventions and genres which will best represent their ideas. | <ul style="list-style-type: none"> ▶ Students view and investigate the series: War on Waste. They explore how this was devised and created and how it accomplished such a successful response. They may use some of the production ideas to create their own advertisement about caring for the earth.  |
|---|--|---|

Learning area MUSIC

Students manipulate the elements of music and stylistic conventions to improvise, compose and perform music. They evaluate musical choices they and others have made to communicate ideas and intentions.

Learning Experiences may include:

- | | | |
|--|---|--|
| <p>The Lorax
(Dr Seuss, 2012, Harper Collins)</p> <p>Dr Seuss has created an exceptional story about the negative impact economic growth, consumerism and greed can have on the environment. With the help of the Once-ler, the guardian of the trees, readers are able to see the impact of deforestation and how the beliefs of one little boy can have a huge impact on the natural world.</p> | <ul style="list-style-type: none"> ▶ Students – utilising instruments created from recycled materials, compose a soundscape which can be played as parts of the story (The Lorax) are being read to a younger group of students (possibly from the local primary school). The instruments could be made from poly pipe, tin containers filled with pebbles/rice etc, large containers to be utilised as drums, various sized pieces of wood to be struck, glass jars which could be 'blown' across. They manipulate sound quality by exploring how sounds are produced by the different "created" instruments for example, manipulating timbre, dynamics or by trialling different methods of 'playing' the instrument. ▶ Students experiment with different ways of staging a performance, using these instruments to communicate ideas and intentions to an audience. | <ul style="list-style-type: none"> ▶ Using the elements of writing 'rap songs', students retell the main message from the story of the Lorax. Students explore and manipulate the elements of music within given parameters to create a personal interpretation, for example, 'what is the social or cultural context of this piece, for whom would it be performed, and how might this influence the performance? What features of the music indicate it is from a particular time or location?' ▶ Students create a jingle for an advertisement about caring for creation. They may manipulate their voices and/or instruments through timbre and expressive techniques to convey intended style, considering safety, correct posture and technique.  |
|--|---|--|

Learning area VISUAL ART

Students demonstrate the use of materials, techniques, processes, visual conventions and technologies to express ideas and convey meaning in their artworks.

Learning Experiences may include:

You can make a lot of speeches, but the real thing is when you dig a hole, plant a tree, give it water, and make it survive. That's what makes the difference (Wangari Maathai).

- ▶ Students are encouraged to bring and decorate a recycled plastic pot, milk carton, orange juice container or other container with broken tiles (reducing waste). They must develop a pattern for the mosaic, including the use of colour. They should choose a plant/tree appropriate for the pot they have created and for the person who may be receiving this as a gift. This activity supports the idea that the planting of trees helps with creating a cleaner atmosphere.
- ▶ Students create new illustrations for story book "The Tiny Seed" by Eric Carle (1991) [or picture story book of own choice]. These illustrations could be based on Australian scenes/concepts. Students must justify why they selected this particular book for representing environmental sustainability and their choices for display or presentation of ideas in artworks or designs appropriate for a particular audience, e.g. a children's book.
- ▶ Students are given the opportunity to view "A Bugs Life" (Pixar/Disney 1996). They need to apply ethical, environmental and sustainable choices when deciding on a variety of techniques and recycled materials to use in order to create a 'mini-beast.' These could be based on insects they know or could be 'creative critters'. Students need to describe the adaptations of their creature that enable it to survive in its given habitat. How does it fight/protect itself? What does it eat? How big does it grow? Does it need to be camouflaged? At the end of the activity, a gallery walk can be undertaken where students examine each other's work.
- ▶ Students will utilise their problem-solving skills with increasing confidence to expand their repertoire of visual arts practices and skills, for example, designing a mural for a local space depicting care for the environment and developing and refining technical skills when designing and making visual arts images and objects, employing safe and sustainable practices.
- ▶ Students may further research and investigate art forms to find information about visual arts skills, use of materials, traditional and contemporary styles, display options, and sources for ideas when developing their own artwork about caring for creation.
- ▶ Through discussion of known artworks and sculptures in the local community, students recognize how different factors contribute to the ways in which visual artworks are judged to be meaningful by an audience. How do sculptures and artworks enhance an environment? Why are they in the locations they are in? Exploring social relationships as subject matter within artworks and how the display of these artworks reflects, challenges or extends the relationships between the artist and the audience.
- ▶ Students construct a "see through" box (Perspex) and place in a central location in the school. Each day students collect any paper/plastic litter (no food scraps) left around the grounds and place it in the installation. A photo is taken at the end of each day. At the end of the week these photos are displayed as an art work – or emailed to the community via the weekly newsletter thus highlighting the amount of litter found in the school ground.



Learning area VISUAL COMMUNICATION DESIGN

Students select and use appropriate drawing conventions, methods, materials, media, design elements and design principles to create effective visual communications.

Learning Experiences may include:

- ▶ Students create a series of posters utilising appropriate drawing conventions, which will be displayed around the schools. The themes for these posters should be based on the concept of respect, care for and sharing the resources of the earth, which are vital for the common good of people. They should include such ideas as turning off taps and/or lights; creating less waste and looking after plants and animals. They should apply ethical, environmental and sustainable choices when creating their posters for example, the use of materials that suit audience needs, interests and values.
- ▶ Students should identify the use of design elements and principles in a range of visual communications and how these are used to effectively communicate ideas and engage the target audience when designing and creating their posters. Methods used to communicate ideas in visual communications should also be based on ethical, sustainable and environmental decisions, for example, which methods suit the style of the visual communication and the intended audience?



Learning area ENGLISH

Reading and Viewing

Reading and Viewing involves students understanding, interpreting, critically analysing, reflecting upon, and enjoying written and visual, print and non-print texts. It encompasses reading and viewing a wide range of texts and media, including literary texts. Reading involves active engagement with texts and the development of knowledge about the relationship between them and the contexts in which they are created. It also involves the development of knowledge about a range of strategies for reading.

Writing

Writing involves students in the active process of conceiving, planning, composing, editing and publishing a range of texts. Writing involves using appropriate language for particular purposes or occasions, both formal and informal, to express and represent ideas and experiences, and to reflect on these aspects. It involves the development of knowledge about strategies for writing and the conventions of Standard Australian English.

Speaking and Listening

Speaking and Listening refers to the various formal and informal ways oral language is used to convey and receive meaning. It involves the development and demonstration of knowledge about the appropriate oral language for particular audiences and occasions, including body language and voice. It also involves the development of active-listening strategies and an understanding of the conventions of different spoken texts.

Learning Experiences may include:

Reading –

- Teachers and students are encouraged to read appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Writing –

- Students are encouraged to write appropriate texts in the area of environmental sustainability. These can include both fiction and non-fiction texts in a variety of genres.



Speaking and Listening –

- Students are encouraged to present both formal and informal presentations on environmental sustainability.
- Students are encouraged to listen and respond to a variety of formal and informal presentations on environmental sustainability.



These Language Modes are immersed throughout all learning experiences listed in varying degrees.

Learning area DIGITAL TECHNOLOGIES

Data and Information

- Acquire data from a range of sources and evaluate their authenticity, accuracy and timeliness.
- Analyse and visualise data using a range of software to create information and use structured data to model objects or events.

Creating Digital Solutions

Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints.

Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability.

Learning Experiences may include:

As per learning experiences in the Arts.

The following capabilities can be developed through the Arts activities in this unit of work

Capability CRITICAL AND CREATIVE THINKING

Questions and Possibilities –

- › Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives.

Reasoning –

- › Investigate when counter examples might be used in expressing a point of view.

Meta Cognition –

- › Consider how problems can be segmented into discrete stages, new knowledge synthesised during problem-solving and criteria used to assess emerging ideas and proposals.

Capability ETHICAL CAPABILITY

Understanding Concepts

- › Explore the contested meaning of concepts including freedom, justice and rights and responsibilities and the extent they are and should be valued by different individuals and groups.

Decision Making and Actions

- › Discuss the role of context and experience in ethical decision-making and actions.

Learning Experiences may include:

As per learning experiences in the Arts.

Capability INTERCULTURAL CAPABILITY

Cultural Practices

- › Examine how various cultural groups are represented, by whom they are represented, and comment on the purpose and effect of these representations.

Cultural Diversity

- › Identify the challenges and benefits of living and working in a culturally diverse society.

Learning Experiences may include:

As per learning experiences in the Arts.

Capability PERSONAL AND SOCIAL CAPABILITY

Self-awareness and Management

Development of resilience

- › Assess personal strengths using feedback from peers, teachers and others and prioritise areas for improvement.

Social awareness and Management

Relationships and diversity

- › Recognise the impact of personal boundaries, intimacy, distribution of power and social and cultural norms and mores on the ways relationships are expressed.

Collaboration

- › Perform in a variety of team roles and accept responsibility as a team member and team leader, assessing how well they support other members of the team.

Learning Experiences may include:

As per learning experiences in the Arts.

Capability DESIGN AND TECHNOLOGIES

Data and Information

- › Manage, create and communicate interactive ideas, information and projects collaboratively online, taking safety and social contexts into account.

Learning Experiences may include:

As per learning experiences in the Arts.

Suggested Resources Years 7 & 8

These are only a few of many resources which could be used in education for a sustainable future learning experiences.

TEACHER SUPPORT MATERIALS				
Title	Author	Year	Publisher	Synopsis
ResourceSmart Schools www.sustianability.vic.gov.au/services-and-advice/schools	N/A	Current	Australian Sustainable Schools Initiative Sustainability Victoria	Through the ResourceSmart Schools program, schools can take action to minimise waste, save energy and water, promote biodiversity and reduce greenhouse gas emissions. ResourceSmart Schools also helps Victorian school students and teachers show leadership in climate change through practical and achievable actions.
Victorian Curriculum http://victoriancurriculum.vic.edu.au	N/A	2016	Victorian Curriculum and Assessment Authority (VCAA)	The Victorian Curriculum Foundation to 10 (F-10) establishes what every student should be learning from Foundation to Year Ten. The curriculum has been established as a step towards lifelong learning, social development and active and informed citizenship and is the common set of knowledge and skills essential for all students.
How to succeed with Education for Sustainability Little Books of Big Ideas	Josephine Lang	2007	Curriculum Corporation	This resource is written for teachers to help them develop skills and knowledge within themselves, their students and the school community in an endeavour to create an environmentally sustainable school community. It links social justice, cultural diversity and good governance to education for sustainability.
Education for a Sustainable Future: A National Environmental Education Statement for Australian Schools		2005	The Australian Government Department of The Environment and Heritage	Education for sustainability is a concept which should be implemented throughout all schools. This resource offers some ideas to assist teachers, schools and school communities in this task.
Sustainability Curriculum Framework: A Guide for Curriculum Developers and Policy Makers		2010	The Australian Government Department of The Environment, Heritage and the Arts	Education for sustainability should be implemented from Foundation to Year 10. This resource offers information and guidance to school communities and teachers on how to structure a developmental program for students.
Kitchen Table Sustainably	Wendy Sarkissian	2009	Earth Scan Publication: London	This book looks at education for sustainability through the lens of community engagement. The heart of the book approaches sustainability from the 'bottom up', with the community engaging through components of Education, Action, Trust, Inclusion, Nourishment and Governance – EATING.
Global Perspectives A statement for global education for Australian schools		2002	Curriculum Corporation	This book presents a practical and succinct guide to themes and aims of global education as developed for Australian schools.

TEACHER SUPPORT MATERIALS

Title	Author	Year	Publisher	Synopsis
Drama Australia: Aboriginal and Torres Strait Islander Guidelines for Drama/Theatre Education www.dramaaustralia.org.au/assets/filesATSIg		2007	Drama Australia	Approaching Indigenous and Torres Strait Islander understandings and issues can often be a challenging and difficult task for teachers. This resource offers a variety of ways of approaching texts created by Indigenous Australians.
Dark Emu		2014	Magabala Books	Bruce Pascoe puts forward an alternative view on the lifestyle of Indigenous Australians before the arrival of Europeans. Using colonialists journals, Pascoe outlines evidence that Aboriginal people were sowing, irrigating, harvesting and storing crops throughout Australia.
Lake Mungo	Giovanni Caselli	1974	Saatchi Art www.saatchiart.com/art/-lake-mungo-people/73455/313097/view	The painting could lead to discussion as to whether or not this depicts Indigenous Australians using resources sustainably. Are they only taking from the land what they need?
Laudato Si: on care for our Common Home	Pope Francis	2015		Pope Francis' book Laudato Si, appeals urgently for a new conversation about how we are caring for and shaping the future of our planet Earth. It is particularly directed at those few who pollute and consume much of the Earth's resources.
David Suzuki Quotes https://davidsuzuki.org/our-work/				David Suzuki was born in 1936 in Canada. He is an award winning scientist, environmentalist and writer. The David Suzuki Foundation formed in 1990, aims to empower people to take action in their communities on the environmental challenges we collectively face.
Wangari Maathai http://wangarimaathai.org/about-wangari/				Wangari Maathai was born in Kenya in 1940. She was the first African woman to receive the Nobel Peace Prize and founded the Green Belt Movement, an environmental non-governmental organization focused on the planting of trees and environmental conservation.

PICTURE STORY BOOKS

Title	Author	Year	Publisher	Synopsis
Where the Forest meets the Sea	Jeannie Baker	1990	Walker Books	When visiting a tropical rainforest, a young boy imagines that he is living in a time of extinct and unique animals. He pretends that aboriginal children are playing there and wonders how much longer the rainforest might survive?
The Giving Tree	Shel Silverstein	1964	Harper & Row	This book describes the friendship between a boy and a tree. It tells us of the boy's growth and development from childhood to old age and how the tree supports him through all the major events in the boy's life.
The Tiny Seed	Eric Carle	1991	Ashton Scholastic	This book tells the story of a small seed that is carried by the autumn wind to places new. We hear of other seeds that are dropped into the sea, burned by the sun or eaten by birds. Many seeds are stepped upon or picked, but this seed survives and grows into a beautiful flower that in turn creates new seeds which are carried off by the wind.
The Story of Rosy Dock	Jeannie Baker	1995	Greenwillow	The author of this story wants readers to become aware of what can happen when introduced plants are allowed to grow and spread throughout the land and endanger the native plants and animals of the country.
Lester and Clyde	James H Reece	1991	Ashton Scholastic	This rhyming story tells the story of young Lester the frog who has been sent away by his older friend Clyde to find a new home. However, his travels take him to places that are full of garbage, and ponds that are gooey, slimy and sticky. He decides to return home to their peaceful pond surrounded by fresh air and treat his older friend with more respect. The colorful vocabulary gives young readers an interesting lesson on conservation.
Lester and Clyde Running Scared	James H Reece	1995	Ashton Scholastic	This second story in the Lester and Clyde series tells us of their beautiful pond being destroyed by machines and the journey which follows as they search for a new home.
Window	Jeannie Baker	1991	Greenwillow	This book has no words, yet explores the concept of change through the eyes of Sam and the changing view as seen through a window. The original outlook of sky and wilderness changes to one of a growing city and finally to a scene showing a sign advertising housing blocks for sale.
Belonging	Jeannie Baker	2004	Walker Books	Belonging is a wordless picture book and companion to Window. This book explores the rescuing of a city street as seen through Tracy's window. It not only explores the re-greening of a city, but the role of the community as it is empowered to take on the responsibility of changing the environment.

PICTURE STORY BOOKS

Title	Author	Year	Publisher	Synopsis
The Lorax	Dr Seuss	1971	Random House	Dr Seuss has captured the imaginations of both young and young at heart with this exceptional tale of the negative impact economic growth, consumerism and greed can have on the environment. With the help of the Once-ler, the guardian of the trees, we are able to see the impact of deforestation and how the beliefs of one little boy can have a huge impact on the natural world.
		2012	Harper Collins	

VIDEO CLIPS/FILMS

Title	Music	Year	Length	Synopsis
NB At no time should these following videos be used in full – as most require parent permission. It is important for teachers to use only 'snippets' of the film to demonstrate an aspect of learning. Often you can find appropriate segments of the film as You Tube clips.				
A Bugs Life (Pixar Animation Studios Walt Disney Pictures)	Randy Newman	1998	1hr 35 mins	Wanting to save his ant colony from destruction by grasshoppers, an ant enlists what he thinks are warrior bugs, but in fact are members of a circus troupe.
The Lorax by Dr Seuss (Universal Studios)	John Powell	2012	1hr 35 mins	In his endeavour to win the heart of Audrey, twelve year old Ted must investigate the story of the Lorax. Living in a town – Thneedville – which is lacking in trees and flowers, it will be difficult to find what Audrey most desires – a Truffula tree. This lack of nature has been caused by the greed of the Onceler, who no longer cares about nature or the environment.
Finding Nemo (Pixar, Walt Disney Pictures & Disney Enterprise)	Thomas Newman	2003	1hr 40 mins	Marlin is exceedingly vigilant with his son Nemo – both clown fishes living in the sea. Nemo wants to prove to his father that he is able to care for himself and swims too close to the surface – where he is captured by a diver. On his travels to free Nemo, Marlin meets Dory who, despite having a short memory, agrees to help him in his search. On the way they face many dangers including sharks and jelly fish as they endeavour to free Nemo from a dentist's fish tank.
Antz (DreamWorks Animation)	John Powell and Harry Gregson-Williams	1998	83 minutes	Z-4195, is a worker ant, who wants to be noticed by princess Bala. He changes roles with his friend Weaver, a soldier ant, hoping to see Bala during a parade. Regrettably war breaks out, helping Z to become a hero, and thus he starts to spread the idea of individuality in the hive.
The Bee Movie (DreamWorks Animation & Paramount Pictures)	Rupert Gregson-Williams	2007	91 minutes	When Barry B Benson graduates from "bee college", he is disappointed at his only career choice: making honey. One day as her travels outside the hive, Vanessa (a florist) saves Barry's Life. They become friends and Barry finds that people actually eat honey and he decides to take them to court.

VIDEO CLIPS/FILMS

Title	Music	Year	Length	Synopsis
An Inconvenient Truth – Al Gore	Michael Brook	2006	96 minutes	This documentary is about former US Vice President Al Gore's campaign to educate people about global warming. It comprises a comprehensive slide show and has been credited for raising awareness of global warming and the need for environmental sustainability.
An Inconvenient Sequel – Truth to Power	John Shenk and Bonnie Cohen	2017	100 minutes	Al Gore continues his tireless fight traveling around the world training to persuade government leaders to invest in renewable energy.
Wild Kitchen with Clayton Donovan: ABC TV	N/A	2016	- series -	This TV series shadows Indigenous chef Clayton Donovan as he journeys through the Indigenous nations of the region, visiting farms and providers to obtain the freshest ingredients for his appetising recipes.
Tasty bush tucker by ABC Gardening Australia http://splash.abc.net.au/home#!/media/30798/understanding-bush-foods	N/A	2010	4:14	Clarence Stockee explores the Royal Botanic Gardens in Sydney discovering plants used by Indigenous Australians. Find out about these native Australian bush foods and how to prepare them safely.
Food Safari – A Look at Bush Tucker SBS http://www.sbs.com.au/food/video/20651587800/Food-Safari-A-Look-At-Bush-Tucker	N/A	2013	- series -	Maeve O'Meara, host of Food Safari is given a tour of Neville's "supermarket" and "chemist", out in the bush.

VIDEO CLIPS / MUSIC

Title	Composer	Year	Accessed from
Kakadu	Peter Sculthorpe	1988	https://www.youtube.com/watch?v=N2qqj1_ILyA
Mangrove	Peter Sculthorpe	1979	https://www.youtube.com/watch?v=ucgYOMS7Kro
Antarctica	Josh Wynter		https://www.youtube.com/watch?v=zn0vQFR6SCs
Theme from Antarctica	Vangelis		https://www.youtube.com/watch?v=GOwunilgYXM
The 3 R's from Sing-A-Longs and Lullabies for the Film Curious George	Jack Johnston	2006	https://www.youtube.com/watch?v=dqUdl4AIDF0&list=PL36CFBB3ACFF7917E
Earth Song	Michael Jackson		https://www.bing.com/search?q=michael+jackson+earth+song&form=PRAUEN&httpsmsn=1&refig=9a36e5abf4a44d6ca18f4f2f389eca71&sp=1&q=SC&pq=michael+jackson+earth+song&sc=8-25&cvid=9a36e5abf4a44d6ca18f4f2f389eca71
From little things, big things grow	Paul Kelly and Kev Carmody	2014	https://www.youtube.com/watch?v=dAONlfoNVuY
From little things, big things grow	John Butler, Dan Sultan & Missy Higgins	2009	https://www.youtube.com/watch?v=QbaQ6h10Elk

Appropriate sound tracks from various videos/films as required

WEB SITES

<p>Cool Australia http://www.coolaustralia.org/curriculum-materials/?gclid=CK6emPCh6coCFQslvQodVf4BRQ#body-wrapper</p>	<p>Based around common sustainability themes, including Energy, Water, Waste and Biodiveristy, Cool Australia is a one stop shop for teacher's wishing to bring sustainability into their curriculum. From learning activities to units of work, Cool Australia provides detailed, up to date curriculum materials for both teachers and students. Cool Australia also offers AuSSI audits, which are most helpful when conducting audits for ResourceSmart Schools. A brilliant interactive website that is user friendly and ever changing.</p>
<p>Sustainability Victoria http://www.sustainability.vic.gov.au/</p>	<p>Sustainability Victoria's statutory objective is to facilitate and promote environmental sustainability in the use of resources. Established under the Sustainability Victoria Act 2005, SV is a statutory authority with a board appointed by the Minister for Environment and Climate Change.</p>
<p>CERES – Community Environment Park http://ceres.org.au/</p>	<p>CERES education offers a wide range of services to assist teachers with education for sustainability – in particular it is a place to visit and explore sustainability projects and procedures.</p>
<p>Living Sustainably: the Australian Government's National Action Plan for Education for Sustainability http://www.environment.gov.au/sustainability/education/publications/living-sustainably-national-action-plan</p>	<p>Launched in April 2009, Living Sustainably: the Australian Government's National Action Plan for Education for Sustainability, was designed to provide all Australians with the knowledge and skills required to live sustainably. The plan, which was designed and prepared by the National Council on Education for Sustainability by the Australian Government Department of the Environment, Water, Heritage and the Arts, is available to download from the website.</p>
<p>Kids teaching kids www.kidsteachingkids.com.au</p>	<p>Kids Teaching Kids aims to inspire future environmental leaders by empowering students to become confident, caring and informed citizens. Whilst raising awareness of both local and global environmental issues and driving action for change, the Kids Teaching Kids Program motes positive wellbeing and helps build resilience in young people. Starting in the classroom and extending into the community through the Kids Teaching Kids Learning Model and Program, students are prepared to take up the challenges of saving our environment while responsibly managing their own learning through the Kids Teaching Kids Learning Model.</p>
<p>Landlearn www.landlearn.net.au/index.html</p>	<p>A state-wide educational program supported by the Department of Primary Industries, LandLearn provides both structure and support for schools to incorporate sustainable land practices into the school curriculum. Based upon the studies of sustainable agriculture and natural resource management, LandLearn provides support for teachers and school communities, engages students in active, experiential learning, and promotes partnerships between school and community groups.</p>
<p>Zoos Victoria www.zoo.org.au/education</p>	<p>The Zoo's schools' programs present students with opportunities to connect with wildlife, build upon their understanding of authentic conservation issues and be inspired to take action and help save wildlife. Zoos Victoria is the world's first zoo to achieve carbon neutral certification, so what a great place for students to visit to see just how achievable being carbon neutral can be. Their sustainable practices include waste management, carbon management, energy efficiency, water saving and environmental management, in addition to their efforts to help save endangered wildlife species.</p>
<p>Sheppard Software http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/producersconsumers.htm</p>	<p>This website offers hundreds of free, online, educational games for kids, with numerous levels, games and activities for learners of any age. The main curriculum areas covered in this website are geography, mathematics and science.</p>
<p>Geography for 2016 & Beyond http://www.geographypods.com/24-rainforests--deserts.html</p>	<p>With extensive experience as a science teacher/lecturer in France and the UK, Matt Podburry has pulled together his vast knowledge and expertise in the curriculum area of geography in this user friendly website where he offers free classroom resources aimed specifically for students aged 11-18 years of age in the area of geography and/or science.</p>
<p>Melbourne Water http://education.melbournewater.com.au</p>	<p>Focused on the urban water cycle, this website allows students to explore water as a resource and the biodiversity of our Victorian waterways, while helping them build their understanding of current water use issues and empower them to make positive change.</p>
<p>UNESCO www.unesco.org/education/tlsf/</p>	<p>All learning activities are in line with the Victorian Curriculum areas of science and geography and the water and biodiversity modules in ResourceSmart Schools.</p>
<p>Planet Ark www.planetark.org</p>	<p>Planet Ark Environmental Foundation is an Australian not-for-profit organisation with a vision of a world where people live in balance with nature. Established in 1992, Planet Ark focuses on working collaboratively and positively to bring about a more sustainable future for all to enjoy. This website offers many positive environmental actions that you and your school can take up to help combat current environmental issues.</p>

WEB SITES

<p>Global Education Australia www.globaleducation.edu.au</p>	<p>If you are wish to enable your students to live actively as global citizens by participating in and shaping a better, shared future for the world, then this website is a must for you. Global Education Australia promotes understanding of sustainable futures and the importance of developing skills of critical and creative thinking and ethical understanding. It promotes open mindedness and a willingness to take action for change, respecting and valuing diversity, and being active in the development of a peaceful, just and sustainable world.</p>
<p>Scootle http://www.scootle.edu.au/ec/p/home</p>	<p>Aligned to the new Australian Curriculum this site holds a number of digital resources to assist teachers with implementing the central concepts and skills of the curriculum This website requires a login so check that you are able to have access through your school system. It would definitely be worth it as the digital learning resources are very comprehensive.</p>
<p>Earth Charter Australia www.earthcharter.org.au/home</p>	<p>The Earth Charter strives to motivate people to develop an understanding of global interdependence and to share responsibility for the care of the Earth and the wellbeing of the human family. It is a declaration of hope, as it outlines principles for building a just, peaceful and sustainable world in the 21st century.</p>
<p>Learnsapes (Australia) www.learnsapes.org/</p>	<p>This website represents an organisation that is working towards empowering and supporting school communities to achieve their visions and create stimulating learning and play environments.</p>
<p>Gyre Sailors http://www.5gyres.org</p>	<p>5Gyres is a community that fights ocean plastic pollution through education, science and activism.</p>
<p>FoodMiles.com http://www.foodmiles.com/</p>	<p>Food miles are a way of attempting to measure how far food has travelled before it reaches the consumer. It is a means to explore the environmental impact of foods and includes how food actually gets from the place where it is grown/produced to your table. And then what about the waste? How far does this travel to the landfill area? You can find a user friendly food mile calculator tool on this site.</p>
<p>Australian Academy of Technology and Engineering www.stelr.org.au</p>	<p>Provides links to STELR Renewable energy program STELR (Science and Technology Education Leveraging Relevance) is a national initiative of the Australian Academy of Technology and Engineering (ATSE).</p>
<p>Tourism Australia http://www.tourism.australia.com/en/markets-and-research/tourism-statistics.html</p>	<p>Provides data and statistics on tourist numbers in Australia.</p>
<p>WaterWatch Victoria</p>	<p>WaterWatch provides educational resources and support to schools looking to monitor waterways in their local area. Equipment to carry out monitoring can be borrowed from WaterWatch so the school does not have to purchase.</p>
<p>West Gippsland Catchment Management Authority http://www.wgcma.vic.gov.au/wp-content/uploads/2015/07/Waterwatch-Habitat-Assessment.pdf</p>	<p>This link is to a sample habitat assessment that could be adapted to suit data collection by students.</p>
<p>Corangamite Arts – A stone upon a stone http://www.astoneuponastone.com/coranga.html</p>	<p>This website provides details and history of the dry stone walls throughout the district.</p>
<p>Other useful websites http://www.educationforsustainability.com.au/resources/useful-websites</p>	<p>This site has a number of links to other useful websites. It is the Australian Government's National Action Plan for education for sustainability and aims to prepare all Australians with the skills and knowledge they need to live in an environmentally sustainable way.</p>
<p>Minecraft https://education.minecraft.net/</p>	<p>The Minecraft Education Edition allows students to build their own towns and they can also work together on one project. Some lesson plans are provided, including one that gets students to make a roller coaster and explore the similarities and differences of various types of fuel used to power it.</p>
<p>War on Waste http://iview.abc.net.au/collection/war-on-waste/</p>	<p>Craig Reucassel is on a mission to uncover how much waste we produce as a nation and to learn how, together, we can all do something about it. Watch episodes of War on Waste and additional programming that provides tips on how to reduce your impact. (Accessed 01.02.2018)</p>

WEB SITES – Aboriginal and Torres Strait Islander

<p>Australian Curriculum Lessons – Dreamtime Stories www.ausraliancurriculumlessons.com.au/2013/11/09/aboriginal-dreamtime-stories-unit-year-3-4/</p>	<p>Traditional Aboriginal Dreamtime Stories can be explored and analysed using the lesson plans provided on this site.</p>
<p>Dust Echoes www.abc.net.au/dustechoes/dustEchoesFlash.htm</p>	<p>This website offers a great resource for Indigenous Australian dream time stories. It includes, Vocabulary/Glossary and study guides.</p>
<p>Story Cove by August House http://www.youtube.com/watch?v=itszep0duwl</p>	<p>How the Koala got his stumpy tail is just one of the dreamtime stories you can find on this site.</p>
<p>Map of Aboriginal Tribal territories and languages in Victoria https://commons.wikimedia.org/wiki/File:Map_Victoria_Aboriginal_tribes_(colourmap).jpg</p>	<p>This map of Aboriginal Tribal territories and languages in Victoria, is coloured to easily identify different tribal areas. <i>2008, Author Tirin aka Takver</i></p>
<p>Ngurumderi – Dreaming of the Ngarrindjeri People Murray River (Discover Murray – Australia’s Great River) www.murrayriver.com.au/about-the-murray/ponde-dreamtime/</p>	<p>The dreamtime story of the Ngarrindjeri People of the Murray River can be explored on this site. Read the story to reveal the timeline of The Murray area, dating back 40,000 years. Discover other local Australian Indigenous stories and important information though the hyperlinks provided.</p>

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Published by Sustainability Victoria.
ResourceSmart Schools Curriculum Links
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