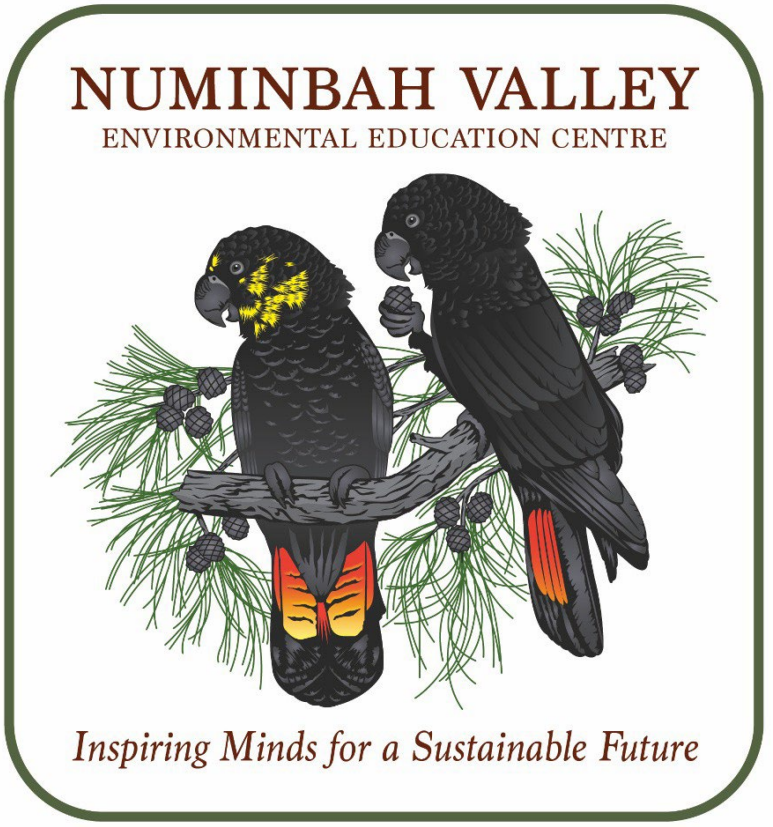

Senior Primary Curriculum Links

Introduction

To promote inclusion and the concepts of sustainability, Numinbah Valley Environmental Education Centre (NVEEC) has made the following list of programs available as incursions to schools otherwise unable to visit the centre, on location, in Numinbah Valley. They provide a snapshot of some of the activities run at the centre, with modifications to enable their delivery at schools. The incursions are not an exhaustive list of our programs and it is highly recommended that, where possible, schools visit the environmental education centre to maximise student learning opportunities.

About the Centre

NVEEC is located on the south-western edge of Hinze Dam, situated in Springbrook National Park, part of the Gold Coast hinterland. It caters for Pre-Prep to Year 12 students, from state and private schools across South-East Qld. Students come to the centre for day visits as well as 1-4 day camps. We focus on an array of Australian Curriculum areas to meet the visiting school's educational needs and to help support classroom learning goals. Our programs have specific environmental and sustainability themes embedded, which are then tailored for each visiting group. When visiting, students are guided through the 'Numinbah Way,' which showcases sustainability in action across the site and is interactively woven into centre activities.

Curriculum Links

All activities are linked to one or more key learning areas of the Australian Curriculum. The focus learning intent/outcome is specified for each activity and links to the General Capabilities and Cross Curriculum Priorities are identified. We recognise that the programs have links to other curriculum areas and encourage teachers to use the activities as a platform from which to address these. However, we have chosen to only specify the learning intent which we feel have strong links and can explicitly address.

Further Information

Visit the website or contact our friendly staff at:

Numinbah Valley Environmental Education Centre
www.numinbahvalleyeec.eq.edu.au
1721 Nerang-Murwillumbah Rd, Numinbah Valley
4211
07 5548 0333 /
admin@numinbahvalleyeec.eq.edu.au

NUMINBAH VALLEY
ENVIRONMENTAL EDUCATION CENTRE
Inspiring Minds for a Sustainable Future

Forest Walk

Purpose: Students will step outside the classroom to further develop their knowledge about the living things around them and gain a deeper understanding of people, places and environments in their area. Through exploration of school gardens and bushland, they will describe the importance of these places to animals and people, while recognising living and non-living things make up these places. By taking time to observe and interact with the natural areas of their school, the human influences on these environments are explored and identified, as are the life cycles of living things found there. The unique environmental conditions found in Australia are investigated and students will identify and describe the adaptations needed by living things to survive here.

Key Concepts: *Living/Non-living, places, animals, plants, environment, life cycles, management, conditions, change, growth*

3	4	5
Science Living things can be grouped on the basis of observable features and can be distinguished from non-living things. (ACSSU044) Science knowledge helps people to understand the effect of their actions. (ACSHE051) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)	**Science** Living things have life cycles. (ACSSU072) **HASS** The importance of environments, including natural vegetation, to animals and people. (ACHASSK088) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)	**Science** Living things have structural features and adaptations that help them to survive in their environment. (ACSSU043) **HASS** The environmental and human influences on the location and characteristics of a place and the management of spaces within them. (ACHASSK113) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

Traditional Indigenous Games			
Purpose: Students will develop a greater understanding and appreciation of Indigenous culture — the way it was many thousands of years ago and still is today. They will participate in, examine and investigate games and activities from different Indigenous cultures across Australia, with many of these games offering insight into traditional ways of life and living. As each game is introduced, the cultural information about the traditional version of the game is shared. Play then begins using modern sporting equipment in place of traditional equipment for safety and inclusion purposes. **Key Concepts:** *Indigenous, games, activity, physical, traditional language/culture, way of living, place*			
3	**4**	**5**	**6**
Health and Physical Education Participate in physical activities from their own and other cultures. (ACPMP108) **General Capabilities & Cross Curriculum Priorities** Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing. (OI.5) 	**Health and Physical Education** Participate in physical activities from their own and other cultures. (ACPMP108) **General Capabilities & Cross Curriculum Priorities** Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing. (OI.5) 	**Health and Physical Education** Participate in physical activities from their own and others' cultures, and examine how involvement creates community connections and intercultural understanding. (ACPMP066) **General Capabilities & Cross Curriculum Priorities** Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing. (OI.5) 	**Health and Physical Education** Participate in physical activities from their own and others' cultures, and examine how involvement creates community connections and intercultural understanding. (ACPMP066) **General Capabilities & Cross Curriculum Priorities** Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing. (OI.5) 

Soil Life

Purpose: Students will learn about food waste, how it is typically disposed of, and ways it can be turned into a valuable resource. Through exploration of a worm farm, they identify the physical conditions of a compost environment and describe the requirements of the living things that exist there. The use of scientific equipment, like magnifying glasses and microscopes, allows students to observe, describe and identify the diverse range of organisms that call a compost environment home. The life cycle of a worm is investigated with students, as are the steps to start recycling their own waste to keep worms at home.

Key Concepts: *Waste, recycling, living things, environment, physical conditions, growth, survive, features, life cycles*

3

Science

Living things can be grouped on the basis of features and can be distinguished from nonliving things. (ACSSU044)

Science knowledge helps people to understand the effect of their actions. (ACSHE051)

Represent and communicate observations, ideas and findings using formal and informal representations. (ACSIS060)

General Capabilities & Cross Curriculum Priorities

All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

4

Science

Living things have life cycles. (ACSSU072)

Living things depend on each other and the environment to survive. (ACSSU073)

Represent and communicate observations, ideas and findings using formal and informal representations. (ACSIS071)

General Capabilities & Cross Curriculum Priorities

All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

5

Science

Living things have structural features and adaptations that help them to survive in their environment. (ACSSU043)

General Capabilities & Cross Curriculum Priorities

All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

6

Science

The growth and survival of living things are affected by physical conditions of their environment. (ACSSU094)

Changes to materials can be reversible or irreversible. (ACSSU095)

Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100)

General Capabilities & Cross Curriculum Priorities

All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

Creature Feature			
Purpose: Students will hold and touch a variety of native animals to gain a deeper understanding about the special wildlife we have in Australia. Through this interactive experience students will identify and begin to explain different types of reptiles based on their structural features. By taking time to explore each reptile in detail, students begin to hypothesise their evolutionary history and can describe the physical conditions these reptiles need for survival in Australia's unique environment. The life cycles of reptiles are investigated as are predator/prey relationships these reptiles have with other animals in their environment. **Key Concepts:** *Living things, physical Features, reptiles, needs, habitat, predator/prey, life cycles, classification, adaptations, evolution*			
3	**4**	**5**	**6**
Science Living things can be grouped on the basis of observable features and can be distinguished from non-living things. (ACSSU044) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)	**Science** Living things have life cycles. (ACSSU072) Living things depend on each other and the environment to survive. (ACSSU073) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)	**Science** Living things have structural features and adaptations that help them to survive in their environment. (ACSSU043) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)	**Science** The growth and survival of living things are affected by physical conditions of their environment. (ACSSU094) **General Capabilities & Cross Curriculum Priorities** All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

Blindfold Challenge

Purpose: In this very popular activity, students must navigate and guide themselves through a bushland obstacle course while blindfolded. The Blindfold Challenge will test the body and mind of students in a fun and safe way as they explore their own confidence levels and decision making skills. With minimal input from centre and visiting staff students must truly find and follow their own path by trusting their senses and applying creative thinking to reach the end.

Key Concepts: *Challenge, Personal Growth, Confidence, Trust, Problem Solving, Persistence, Safety*

3	4	5	6
HPE Explore how success, challenge and failure strengthen identities. (ACPPS033)	**HPE** Explore how success, challenge and failure strengthen identities. (ACPPS033)	**HPE** Apply critical and creative thinking processes in order to generate and assess solutions to movement challenges. (ACPMP068)	**HPE** Apply critical and creative thinking processes in order to generate and assess solutions to movement challenges. (ACPMP068)

General Capabilities & Cross Curriculum Priorities

Students develop a realistic sense of their personal abilities, qualities and strengths through knowing what they are feeling in the moment, and having a realistic assessment of their own abilities and a well-grounded sense of self-knowledge and self-confidence.

Students effectively regulate, manage and monitor their own emotional responses, and persist in completing tasks and overcoming obstacles.

Personal & Social Capability **Critical & Creative Thinking**

Bush Cooking	
Purpose: In this learning activity, students slow down in pace for a while to boil a billy, have a yarn and cook their own damper over an open fire. This activity provides a chance for students to experience what life was like yesteryear and try cooking methods and ingredients that may be new to them. The challenge of working around fire in a small group, while remaining safe and completing a set goal, is a chance to practice their Personal and Social capability skills, in particular the areas of Self Management and Social Management.	
Key Concepts: *Traditional ways of life, fire safety, following process, social interaction, self-management*	
General Capabilities	
Personal & Social Capability - Self Management Students effectively regulate, manage and monitor their own emotional responses, and persist in completing tasks and overcoming obstacles. Students develop the skills to work independently and to show initiative, learn to be conscientious, delay gratification and persevere in the face of setbacks and frustrations. In developing and acting with personal and social capability, students: • express emotions appropriately • develop self-discipline and set goals • work independently and show initiative • become confident, resilient and adaptable.	**Personal & Social Capability - Social Management** Students develop the ability to initiate and manage successful personal relationships, and participate in a range of social and communal activities. In developing and acting with personal and social capability, students: • communicate effectively • work collaboratively • make decisions • negotiate and resolve conflict • develop leadership skills.

Sustainability Challenge

Purpose: The Sustainability Challenge activity is a fun way for students to begin exploring and consolidating their understanding of sustainable attitudes and actions. Students use their map skills to explore our site and record examples of how our school is sustainable when it comes to waste, biodiversity, water and energy use. Students communicate their understanding to others and learn ways they can take sustainable action in their homes and school.

Key Concepts: *Sustainability, Renewable resources, Human impacts, Energy, Waste, Care for places*

4	5	6
Science Science knowledge helps people to understand the effect of their actions. (ACSHE051) **HASS** The importance of environments, including natural vegetation, to animals and people. (ACHASSK088) Reflect on learning to propose actions in response to an issue or challenge and consider possible effects of proposed actions. (ACHASSI081) The use and management of natural resources and waste, and the different views on how to do this sustainably. (ACHASSK090) **General Capabilities & Cross Curriculum Priorities** Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (OI.7)	**Science** Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE083) **HASS** Reflect on learning to propose personal and/or collective action in response to an issue or challenge, and predict the probable effects. (ACHASSI104) **General Capabilities & Cross Curriculum Priorities** World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability. (OI.5) Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (OI.7)	**Science** Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100) **HASS** Reflect on learning to propose personal and/or collective action in response to an issue or challenge, and predict the probable effects. (ACHASSI132) **General Capabilities & Cross Curriculum Priorities** Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgements based on projected future economic, social and environmental impacts. (OI.8) Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments. (OI.9)

Connecting to Country

Purpose: Through hands-on investigation, students will describe the importance of Country to First Nations peoples, linking to the traditional custodians of our centre's land. They will examine the ways traditional knowledge and the use of materials/resources link to sustainability concepts and practices. Students will identify the connection between First Nations peoples and Country/Place (land, sea, waterways), and the changing conditions and environment that is a characteristic of this relationship.

Key Concepts: *Seasons, Place, Environment, Plants, Animals, Changes, Traditional materials/resources, First Nations histories & cultures*

3

HASS

The representation of Australia as states and territories and as Countries/Places of Aboriginal and Torres Strait Islander Peoples; and major places in Australia, both natural and human. (ACHASSK066)

General Capabilities & Cross Curriculum Priorities

Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place. (OI.2)

4

HASS

The importance of Country/Place to Aboriginal and/or Torres Strait Islander Peoples who belong to a local area. (ACHASSK062)

The custodial responsibility Aboriginal and Torres Strait Islander Peoples have for Country/Place, and how this influences views about sustainability. (ACHASSK089)

The importance of environments, including natural vegetation, to animals and people. (ACHASSK088)

Science

Natural and processed materials have a range of physical properties that can influence their use. (ACSSU074)

General Capabilities & Cross Curriculum Priorities

Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place. (OI.2)

5

HASS

The diversity of Australia's first peoples and the long and continuous connection of Aboriginal and Torres Strait Islander Peoples to Country/Place (land, sea, waterways and skies). (ACHASSK083)

The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places. (ACHASSK112)

Science

The growth and survival of living things are affected by physical conditions of their Environment. (ACSSU094)

General Capabilities & Cross Curriculum Priorities

Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place. (OI.2)

Team Building Games	
Purpose: Students rotate through a variety of challenging activities in which their problem solving, creative thinking and teamwork abilities are put to the test. To solve each problem, students are required to show leadership, work collaboratively and communicate effectively. A range of solutions exist - can students work together effectively, combining their individual strengths, to find one before time runs out?	
Key Concepts: *Team, Collaboration, Communication, Leadership, Support, Compromise, Problem Solving,*	
4	**5 & 6**
General Capabilities & Cross Curriculum Priorities Identify communication skills that enhance relationships for particular groups and purposes. (Communicate effectively) Describe characteristics of cooperative behaviour and identify evidence of these in group activities. (Work collaboratively) Contribute to and predict the consequences of group decisions in a range of situations. (Make decisions) Identify a range of conflict resolution strategies to negotiate positive outcomes to problems. (Negotiate and resolve conflict) Discuss the concept of leadership and identify situations where it is appropriate to adopt this role. (Develop leadership skills) Students effectively regulate, manage and monitor their own emotional responses, and persist in completing tasks and overcoming obstacles. (Self-Management) Students learn to show respect for and understand others' perspectives, emotional states and needs. They learn to participate in positive, safe and respectful relationships, defining and accepting individual and group roles and responsibilities. (Social Awareness)	**General Capabilities & Cross Curriculum Priorities** Identify and explain factors that influence effective communication in a variety of situations. (Communicate effectively) Contribute to groups and teams, suggesting improvements in methods used for group investigations and projects. (Work collaboratively) Identify factors that influence decision making and consider the usefulness of these in making their own decisions. (Make decisions) Identify causes and effects of conflict, and practise different strategies to diffuse or resolve conflict situations. (Negotiate and resolve conflict) Students effectively regulate, manage and monitor their own emotional responses, and persist in completing tasks and overcoming obstacles. (Self-Management) Students learn to show respect for and understand others' perspectives, emotional states and needs. They learn to participate in positive, safe and respectful relationships, defining and accepting individual and group roles and responsibilities. (Social Awareness)

Freshwater Studies

Purpose: Students will explore a local creek or water sample to identify the water bugs (macroinvertebrates) living there and how they indicate water health in their catchment. The use of scientific equipment, such as magnifying glasses, microscopes and a "Magic Eye," allows students to observe them up close and identify the diverse range of organisms that call a freshwater environment home. They record their observations, describe the structural features they see and recognise how these aid survival. Students collaboratively determine the health of the waterway, discuss human behaviours which can impact water quality and propose actions they can take maintain its health.

Key Concepts: *Water quality, freshwater environment, invertebrates, physical features, basic needs, habitat, classification*

3	4	5	6
Science Living things can be grouped on the basis of observable features and can be distinguished from non-living things. (ACSSU044) Science knowledge helps people to understand the effect of their actions. (ACSHE051) **General Capabilities & Cross Curriculum Priorities** Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (OI.7)	**Science** Living things have life cycles. (ACSSU072) Living things depend on each other and the environment to survive. (ACSSU073) Science knowledge helps people to understand the effect of their actions. (ACSHE062) **General Capabilities & Cross Curriculum Priorities** Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (OI.7)	**Science** Living things have structural features and adaptations that help them to survive in their environment. (ACSSU043) Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE083) **General Capabilities & Cross Curriculum Priorities** Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (OI.7)	**Science** The growth and survival of living things are affected by physical conditions of their environment. (ACSSU094) Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100) **General Capabilities & Cross Curriculum Priorities** Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (OI.7)

Biodiversity

Purpose: Students will look at the biodiversity of their school grounds - focussing on invertebrates. They will collect and identify invertebrates around their school gardens. Dichotomous keys are used to identify the invertebrates through observation of their unique identifying characteristics. Through exploration of the gardens around, students identify the physical conditions of an environment and describe the requirements of the living things that exist there. The use of scientific equipment, like magnifying glasses, viewers and microscopes, allows students to observe, describe and identify the diverse range of organisms that call the garden/bushland environment home. As an extension, students may use professionally collected specimens and an age appropriate dichotomous key to identify them.

Key Concepts: *Biodiversity, invertebrates, living things, environment, physical conditions, growth, survive, features, life cycles*

3	4	5	6
Science Living things can be grouped on the basis of features and can be distinguished from nonliving things. (ACSSU044) Science knowledge helps people to understand the effect of their actions. (ACSHE051) Represent and communicate observations, ideas and findings using formal and informal representations. (ACSIS060)	**Science** Living things have life cycles. (ACSSU072) Living things depend on each other and the environment to survive. (ACSSU073) Represent and communicate observations, ideas and findings using formal and informal representations. (ACSIS071)	**Science** Living things have structural features and adaptations that help them to survive in their environment. (ACSSU043)	**Science** The growth and survival of living things are affected by physical conditions of their environment. (ACSSU094) Changes to materials can be reversible or irreversible. (ACSSU095) Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100)

General Capabilities & Cross Curriculum Priorities

All life forms are connected through ecosystems which they depend on for their survival. (OI.2)

Sustainability Personal & Social Capability

Numinbah 'Holding Tight' – A Day on Country		
Purpose: In this experiential day program, students will develop a greater appreciation and understanding of First Nations peoples' cultures, histories and ways of surviving and thriving on Country. They will participate in activities incorporating language and games; techniques for making shelter and fire; bush technologies, seasons and sourcing tucker; yarning, totems and cultural reflection. They will examine the ways traditional knowledge and the use of materials/resources link to sustainability concepts and practices. Students will explore the interconnectedness between people, animals and Country/Place. **Key Concepts:** *Country/Place, culture, environment, sustainability, innovation, materials/resources for survival, interconnectedness*		
3	**4**	**5**
HASS The representation of Australia as states and territories and as Countries/Places of Aboriginal and Torres Strait Islander Peoples; and major places in Australia, both natural and human. (ACHASSK066) The importance of Country/Place to Aboriginal and/or Torres Strait Islander Peoples who belong to a local area. (ACHASSK062)	**HASS** The custodial responsibility Aboriginal and Torres Strait Islander Peoples have for Country/Place, and how this influences views about sustainability. (ACHASSK089) The diversity of Australia's first peoples and the long and continuous connection of Aboriginal and Torres Strait Islander Peoples to Country/Place (land, sea, waterways and skies). (ACHASSK083) The importance of environments, including natural vegetation, to animals and people. (ACHASSK088) **Science** Living things depend on each other and the environment to survive. (ACSSU073)	**HASS** The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places. (ACHASSK112) The environmental and human influences on the location and characteristics of a place and the management of spaces within them. (ACHASSK113) **Science** Living things have structural features and adaptations that help them to survive in their environment.(ACSSU043)
General Capabilities & Cross Curriculum Priorities Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place. (OI.2) Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing. (OI.5) All life forms are connected through ecosystems which they depend on for their survival. (OI.2) **ATSI History & Culture** **Sustainability**		

E-Waste Technology and Innovation

Purpose: This interactive workshop will further develop students' knowledge and understanding of the local and global implications of managing electronic waste. They will explore how social enterprises are using technology and innovation to divert waste from landfill through extracting, recycling and repurposing valuable components from electronic devices. Students will safely use basic tools to dismantle, sort and retrieve useful electrical, metal and plastic parts from laptop computers, which will then be sent to an e-waste innovation hub to be upcycled and/or repurposed. They will critically examine technologies and explore ways to create sustainable designed solutions to reduce the environmental impacts of production and consumption.

Key Concepts: *Technology, innovation, production, consumption, waste, environment, sustainability*

6

Digital Technologies:

Examine the main components of common digital systems and how they may connect together to form networks to transmit data. (ACTDIK014)

Explain how student solutions and existing information systems are sustainable and meet current and future local community needs. (ACTDIP021)

Design and Technologies:

Examine how people in design and technologies occupations address competing considerations, including sustainability in the design of products, services, and environments for current and future use. (ACTDEK019)

Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions. (ACTDEP024)

Science:

Changes to materials can be reversible or irreversible. (ACSSU095)

Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100)

General Capabilities & Cross Curriculum Priorities

Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgements based on projected future economic, social and environmental impacts. (OI.8)

Energy Trailer
Purpose: This hands-on experience will further develop students' knowledge and understanding of energy- in particular electrical energy which our modern lives all depend on. The flow of energy, how it is transferred and transformed, is explored through observation and interaction with a range of learning resources, including turbines and solar technologies. Students investigate the predominant way electrical energy is generated in Australia currently and consider the impact non-renewable energy systems have on the environment and economy. The energy trailer is an engaging starting point for students to begin to compare and contrast different renewable energies and evaluate how these could be incorporated into our energy needs in Australia. **Key Concepts:** *Energy, electricity, transform, transfer, renewable, non-renewable, turbine, solar, coal power, environment*
6
Science: Changes to materials can be reversible or irreversible. (ACSSU095) Electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources. (ACSSU097) Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions. (ACSHE098) Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100) **General Capabilities & Cross Curriculum Priorities** Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgements based on projected future economic, social and environmental impacts. (OI.8)

Solar Boat Challenge
Purpose: The Solar Boat Challenge has been designed to allow students to develop their scientific inquiry skills whilst learning about a range of science concepts. Students build a boat, testing and altering a range of variables and investigating how changing one variable at a time enables them to scientifically improve their boat design. They explore the concepts of buoyancy, hydrodynamics, electrical wiring and solar energy whilst investigating the most effective parameters. A race off at the end of the day allows an analysis of student choices, with the most scientific team having the fastest boat. **Key Concepts:** Scientific testing, inquiry, forces, *energy, solar electricity, electrical circuits, buoyancy, hydrodynamics, propulsion*
6
Science: Electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources. (ACSSU097) Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions. (ACSHE098) Scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE100) Decide variables to be changed and measured in fair tests, and observe measure and record data with accuracy using digital technologies as appropriate. (ACSIS104) **General Capabilities & Cross Curriculum Priorities** Reflect on Thinking and Processes: Level 4: Students reflect on assumptions made, consider reasonable criticism and adjust their thinking if necessary. They identify and justify the thinking behind choices they have made.