Narmbool
Environmental Discovery Camps

ENVIRONMENT
DISCOVERY
SCIENCE
BIODIVERSITY
OBJECTIVE

On completion of this module, students will be able to effectively evaluate the quality of water at Narmbool using a variety of tools to test salt content, temperature, turbidity, pH levels, health of the habitat and the type of aquatic invertebrates present in the water. In doing so, they will be able to draw conclusions about the biodiversity and sustainability of the waterways and dams on Narmbool.

OVERVIEW

‘All Life Depends on Water!’ Throughout this activity, students will use water testing kits to evaluate the quality of water in important biodiversity areas.

ACTIVITIES INCLUDE

- Aquatic invertebrate sampling
- Water testing
- Sustainability Quest – water quality
OBJECTIVE

On completion of this module, students will have expanded their knowledge of the significance of Narmbool for Indigenous people, and Indigenous ways of seeing and living on Narmbool.

OVERVIEW

Students will participate in a discussion of the Indigenous history of Narmbool and how it relates to the Indigenous history of the region, including the consequences of European colonisation of Narmbool. Students will examine Indigenous artwork and learn about its significance in telling stories of Indigenous cultures. They will also discover how games were used to teach Indigenous children and the skills required for their roles and responsibilities within their community.

ACTIVITIES INCLUDE

- Cultural presentation and artefact talk by external providers (extra cost)
- Indigenous games
Narmbool
Environmental Discovery Camps

MODULE 3
NARMBOOL ORIENTATION, FAMILIARISATION AND HEALTH AND SAFETY (COMPULSORY)

OBJECTIVE

‘Health and Safety on the Farm and in the Bush’ is a compulsory activity designed to enable visiting students and teachers to operate safely and confidently at Narmbool.

OVERVIEW

Students and staff will learn orientation skills and safety procedures in the field. All participants are involved in a short discussion to learn how to identify risks and how to avoid them. Students and staff are instructed in basic first aid techniques and the correct use of whistles and UHF radios whilst walking through the property.

ACTIVITIES INCLUDE

- Orientation with Narmbool Site Manager
- Narmbool Health and Safety Discussion with Education Officers
- ‘Narmbool Challenge – Discovering Narmbool’
OBJECTIVE

On completion of this module, students will have developed an appreciation of the beauty and wonder of Narmbool’s night sky. They will be able to use the night sky to estimate time and direction, recognise objects and their movement in the night sky, and recognise and measure the effect of light pollution on the sky show.

OVERVIEW

Narmbool’s brilliant, unpolluted night skies are ideal for viewing the Southern Cross, the Milky Way and the Moon and its phases. Using a planisphere, students will be amazed by the number of constellations they can find in the bush at night. They may even see a shooting star! Telescopes, binoculars and iPads are available so that students can take a closer look at the stars and planets, and increase their understanding of our universe. The evening activity is provided by volunteers from the Ballarat Observatory. An indoor presentation will take place if the weather is unsuitable for night sky viewing. (extra cost)

ACTIVITIES INCLUDE

• View night sky with binoculars and telescopes

Sky viewing is weather dependent. An indoor presentation will occur if weather is unsuitable.
OBJECTIVE

On completion of this module, students will be competent in using safe, non-lethal trapping techniques to sample the insect populations on Narmbool so that they can gather, identify and classify aquatic, terrestrial and airborne invertebrates. The specimens that they collect will help them learn about the importance of insects in Narmbool’s biodiversity.

OVERVIEW

The ‘Narmbool Bug Blitz™’ is a unique opportunity to solve real environmental problems and create new knowledge in collaborative ways.

The ‘Narmbool Bug Blitz™’ will immerse students in nature and the scientific processes involved in finding out about our natural environment. This module brings together the Arts and Science, helping students develop the skills to be effective advocates for the environment and to articulate a view on a sustainable future. These skills are highly portable and can be confidently applied in other formal and informal learning environments.

There is an incredible variety of insects in the ground, on the ground, in the air and on plants and grasses at Narmbool. Teams of students will search for their habitats, identifying the best sites to trap and collect bugs, and then constructing the different types of traps designed to collect crawling, walking and flying bugs. Students will then use a video microscope to uncover the diversity of evolutionary features that help make insects such a complex and successful group of organisms on Earth.

ACTIVITIES INCLUDE

- Pitfall Trapping for Terrestrial Insects
- Aquatic Sampling for Aquatic Insects
- Malaise Trapping for Flying Insects
- ‘Create a Critter’ or ‘The Ultimate Bug’ (Science/Art Activity)
OBJECTIVE

The ‘Narmbool Biodiversity’ module has been created to help students develop their knowledge of biodiversity and sustainability at Narmbool. Whilst completing this module, students are reminded that as visitors to Narmbool, they must limit their impact on the Narmbool environment and respect the flora and fauna that lives within it. This will be done through a variety of activities including ‘Predator Prey’ where students develop an understanding of the complex interactions between different organisms through a fun and interactive game.

OVERVIEW

On completion of this module, students will be able to assess the diversity of life on Narmbool and discover the adaptations which help the flora and fauna on Narmbool to survive. Living things have basic needs that force them to interact with the environment around them, helping form the links within a food web. Using this knowledge, students will design their own ‘Critter’ that is best suited to surviving in a specific habitat on Narmbool.

ACTIVITIES INCLUDE

- Sustainability Quest
- Biodiversity Audit
- ‘Narmbool Bug Blitz’ Module
- ‘Plant Bingo’
- ‘Create a Critter’
- ‘Looking at Leaves’
- ‘Meet the Beaks’ with Martin Scuffins
MODULE 7
MEET THE BEAKS – BIRDS OF PREY AT NARMBOOL

OBJECTIVE
On completion of this module, students will have an understanding of the importance of birds of prey to the biodiversity and sustainability of the Narmbool environment. They will develop an understanding of food webs and the fundamental inter-relatedness of all living and non-living things in the Narmbool ecosystem.

OVERVIEW
Students participate in an informative presentation with a bird of prey handled by a local raptor expert and avian artist, Martin Scuffins. The presentation tells the story of a raptor’s life, the challenges it faces in surviving, its specialised skills and adaptations, its habitat and its food. Students also learn about strategies for sustaining the rich native bird life in the Australian bush. (extra cost)

Schools may select from the following programs:

Meet the Beaks
Meet an awe-inspiring bird of prey from the Leigh Valley Hawk and Owl Sanctuary, face to beak! We will introduce you to the fascinating world of birds of prey, the threats they face and how we can help them to survive.

Full Raptor Experience
Meet 2-4 birds of prey ranging in size from a Nankeen Kestrel to Australia’s largest bird of prey, the Wedge-tailed Eagle, in our dramatic raptor presentation which focuses on exhibiting their natural behaviour. Learn about the adaptations these remarkable creatures utilise in their predatory way of life.
Display Format: Available from mid-April every year.

Those Outstanding Owls
This activity is available during the day or (for full impact) as an evening presentation. We take you into the mysterious nocturnal world of owls. Feel what it’s like to be the prey of a Barn Owl or Southern Boobook as it swoops silently through the air.
OBJECTIVE
By undertaking a biodiversity audit and completing the ‘Narmbool Sustainability Quest’, students will gain an understanding of Narmbool’s environmentally and ecologically sustainable features, and how they can be adapted for home or school. This enquiry-based module develops student’s skills in investigating and evaluating sustainability and biodiversity.

OVERVIEW
The ‘Narmbool Sustainability Quest’ involves students locating and investigating the sustainable design features of Narmbool’s buildings and natural environment. Each station is uniquely themed on an aspect of sustainability and provides clues to help complete a picture of environmentally sustainable living practices. Themes include water use and monitoring water quality, waste recycling and composting, energy efficiency, building design and looking at forms of renewable. Knowledge gained will assist students in developing and implementing their own sustainable living practices at school and at home.

ACTIVITIES INCLUDE
• ‘Narmbool Sustainability Quest’
• Renewable Energy Walk
OBJECTIVE

Students will gain an understanding of Narmbool’s history through a number of stories told across the property. What can we learn from the past that will help us to provide a healthy environment in the future?

OVERVIEW

Narmbool began as a pastoral property in 1839, but its origins are well before that date. The Indigenous people, the Wadawurrung, used this land for many thousands of years before the Europeans began farming. The site is rich in the history of both cultures, and visitors will be able to see the ruins of homes occupied by European farmers and significant sites used by the Wadawurrung to make tools.

ACTIVITIES INCLUDE

- Narmbool Homestead Garden and Interpretation Centre Tour
- Walk to the Archaeological Dig Site
OBJECTIVE
Students will gain knowledge of positive things they can do to ensure the longevity of the environment’s resources for future generations.

OVERVIEW
The notion of Climate Change can be overwhelming for students and teachers alike. At Narmbool, students will see, first-hand, the example that Robin and Andrew Ferry have put in place to ensure students leave with a positive message about the future of our environment.

ACTIVITIES INCLUDE
• Narmbool Homestead Garden and Interpretation Centre Tour
• ‘Narmbool Sustainability Quest’
OBJECTIVE

This module has been created to allow students to investigate and assess the diversity of life after a bushfire. Students will also gain an understanding of how fire was used by Indigenous people to manage the land and to help both plants and animals survive.

OVERVIEW

On completion of this module students will be able to:

- Find examples of Indigenous flora and fauna at Narmbool and discover their adaptations which help them to regenerate after fire
- Examine Indigenous artwork and learn about its significance of how Indigenous people used fire to manage, protect and survive in the bush

ACTIVITIES INCLUDE

- Aquatic sampling at Narmbool Lodge dams
- Soil and water testing at Echidna and Narmbool Lodge dams
- Change over time – quadrant surveys compared with photo point gallery
- Visit Indigenous Garden (Homestead Garden Tour)
- Wildlife Monitoring Program – set up infra-red motion detection cameras
- Interpretation of Indigenous artwork
- Narmbool Construction Challenge – students experience first hand the process involved in rebuilding after fire
# Narmbool Environmental Discovery Camps

## Camp Modules

| Module 1: All Life Depends on Water! | Activities include water testing and aquatic invertebrate sampling. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 2: Indigenous Culture & Perspectives | Indigenous artwork, Indigenous ways of seeing and living off the land, and the significance of Narmbool for Indigenous people. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 3: Narmbool Orientation, Familiarisation & Health and Safety (Compulsory) | ‘Health and Safety on the Farm and in the Bush’ is a compulsory activity designed to enable visiting students and teachers to operate safely and confidently at Narmbool. | 4-9 | ✓ | ✓ |
| Module 4: Astronomy | Students will develop an appreciation of the beauty and wonder of the night sky using binoculars, telescopes and/or a computer software program called ‘Starry Night Pro’ to take a closer look at our universe. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 5: ‘Narmbool Bug Blitz™’ | Student teams will set traps and collect and identify insects using safe, non-lethal techniques to help them learn about the importance of insects in Narmbool’s biodiversity. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 6: Biodiversity | Students will identify and assess the diversity of life on Narmbool, discovering the adaptations which help the flora and fauna on Narmbool to survive. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 7: ‘Meet the Beaks’ – Birds of Prey Presentation | Students participate in an informative presentation with a Little Eagle or a Nankeen Kestrel handled by local raptor expert and avian artist, Martin Scuffins. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 8: Sustainability | Students will gain an understanding of Narmbool’s environmentally and ecologically sustainable features, and how they can be adapted for home or school. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 9: The Legacy of Narmbool | Students will gain an understanding of Narmbool’s history through a number of stories told across the property. What can we learn from the past that will help us to provide a healthy environment in the future? | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 10: Climate Care | Students develop an understanding of the complex interactions between different organisms in the Narmbool food web. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Module 11: Fire – A New Beginning! | Students will investigate and assess the diversity of life after a bushfire. They will also gain an understanding of how fire was used by Aboriginal people to manage the land and to help both plants and animals survive. | 4-9 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## NARMBOOL VICTORIAN CURRICULUM GRID 2016

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