

# Sandhurst *KINSHIP WITH THE EARTH* – Unit Outlines

**Level:** 3  
**Title:** *Ecology at Work*  
**Strand:** **Understanding Sustainability**

- Teaching & Learning
- School Operations & Processes
- Management of Resources
- Community Engagement & Partnerships
- Story & Celebration

**Suggested Duration:** 2 Weeks

## Unit Focus

In this unit students will focus on the interdependence of all life forms in the environment.

## Unit Outcomes

By the end of this unit students should be able to:

- identify the characteristics of an ecosystem
- understand the local ecosystems in which they live
- identify and investigate one local ecosystem

## Key Understandings for Students

- Ecosystems are diverse, living environments where all elements are reliant on each other to survive.
- Biodiversity is the varied array of flora and fauna found in ecosystems.
- There are numerous ecosystems all with different characteristics e.g. woodlands, grasslands, deserts, rivers and oceans.
- Each ecosystem has unique plant (flora) and animals (fauna) life.

## Curriculum Links - VELS

DOMAIN	DOMAIN	KEY ELEMENTS FROM STANDARDS
<b>Science</b>	<ul style="list-style-type: none"> <li>• Scientific understanding</li> <li>• Science as human endeavour</li> </ul>	... describe structural features common to living things and describe the relationships that assist the survival of all living things
<b>Humanities</b>	<ul style="list-style-type: none"> <li>• Humanities knowledge and understanding</li> </ul>	Not applicable

**Background for Teachers**

Teachers will be required to:

- Develop an understanding of what an Eco System is and how all living elements of that system rely on each other.
- Understand what biodiversity means and what their local flora and fauna is.
- Develop an understanding of the types of ecosystems in Australia and their individual characteristics.
- Be able to describe and develop basic food chains with students.

**Major Assessment Task****Who Am I?**

Research a plant or animal from the local natural environment.

Present your research using ICT. Also present an oral report to the class.

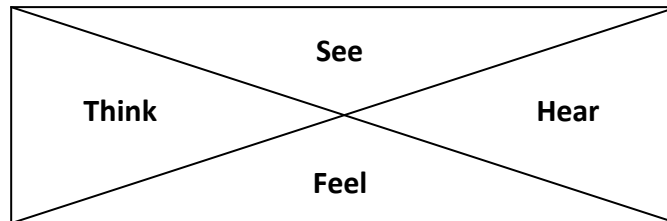
It is important to include details about what the plant or animal needs to survive, as well as how other plants/animals depend on it

	<b>Well Above Expected Level</b>	<b>Above Expected Level</b>	<b>At Expected Level</b>	<b>Below Expected Level</b>
<b>Science</b>				
<b>Humanities</b>				
<b>Thinking Processes</b>				
<b>ICT</b>				
<b>Oral Language</b>				

## Focusing Activity

Symbiotic Harmony: Watch the following clip:  
[http://www.youtube.com/watch?GNfv\\_7M-R8c](http://www.youtube.com/watch?GNfv_7M-R8c)

Use an 'x' chart: What could you see, hear, think, feel after watching this video.



- Discuss Interdependence (refer back to the Youtube clip).  
In pairs, students brainstorm a definition for Interdependence. Pairs form groups of four and share their definitions. The group of four then decides on a definition. Display students' work.
- What would happen if one thing is removed? Or the environment is changed in some way?
- Show students images of a variety of natural environments. Discuss and record what students observe with each image.
- Create a glossary of different classifications of natural environments: woodlands, grasslands, rivers, deserts, forests and oceans. Describe their key attributes.
- Read: *The Tree of Life* by Rochelle Strauss.  
Explain what biodiversity is. Explain what a habitat is.
- Guest Speaker: Invite a member from a local Field Naturalists' Club, local nursery person (or similar flora/fauna expert) – have students conduct a quick interview with the guest to enquire about their concerns, thoughts and aspirations for local natural preservation/conservation. When returning to class – ask student to discuss these responses in pairs. Write up a list of key messages gained from the interview.
- Discuss food chains and interdependence. The following websites may be helpful:  
Interactive *Food Web* site:  
[http://www.gould.edu.au/foodwebs/kids\\_web.htm](http://www.gould.edu.au/foodwebs/kids_web.htm)  
*Food web of Yarra River*  
[http://www.landlearn.net.au/curriculum/classroom\\_activities/food\\_web.htm](http://www.landlearn.net.au/curriculum/classroom_activities/food_web.htm)
- What is the main natural environment classification in your local area?  
What are its key attributes?  
Students should visit one local natural environment and investigate the environment – make notes, take photos, record sounds etc. Back at school, students collate the collected data and display their learning in a collaboratively formulated format.
- Investigate the animals and plants that are indigenous to this environment. Are any of these significant – culturally or environmentally? Why? Make a dossier of important flora and fauna. Conduct some web research to find out if any of these are endangered.

### Going Further...

Ecosystems beyond the local environment.

- Investigate a plant and animal from a far away environment e.g. Antarctica, a desert, Amazon Rainforest.
- Create a 'talk' or podcast given by this plant or animal, explaining how it lives and why it couldn't live anywhere else (food, habitat, climate, animal attributes... i.e. fur, feathers, size).
- Add to newsletter (one or two items per week), a Who Am I? Building up knowledge in the school community about local plants and animals. Answers could be placed in a box in the office and a winner drawn at the end of the week!

## Resources

Australian Sustainable Schools Initiative-ACT 'Biodiversity'

<http://www.sustainableschools.act.gov.au/biodiversity>

ResourceSmart AuSSI Vic Biodiversity module.

<http://www.sustainability.vic.gov.au/services-and-advice/schools>

CSIRO

<http://www.csiro.au/Organisation-Structure/Divisions/Ecosystem-Sciences.aspx>

What is an ecosystem <http://www.kidcyber.com.au/topics/ecosystem.htm>

Climate Science for Australia's Future <http://www.acecrc.org.au/Research/Ecosystems%20Impacts>

Parks Victoria. Victorian ecosystems

[http://parkweb.vic.gov.au/?\\_sm\\_au\\_=iVVtkf6RvLSstHtq](http://parkweb.vic.gov.au/?_sm_au_=iVVtkf6RvLSstHtq)

What is an ecosystem? <https://www.youtube.com/watch?v=JPHqUxxyLsY>

Science Bob. [http://www.sciencebob.com/questions/q-food\\_chain\\_web.php](http://www.sciencebob.com/questions/q-food_chain_web.php)

Cool Australia ecosystems Resources

<http://coolaustralia.org/curriculum-materials/#body-wrapper>