

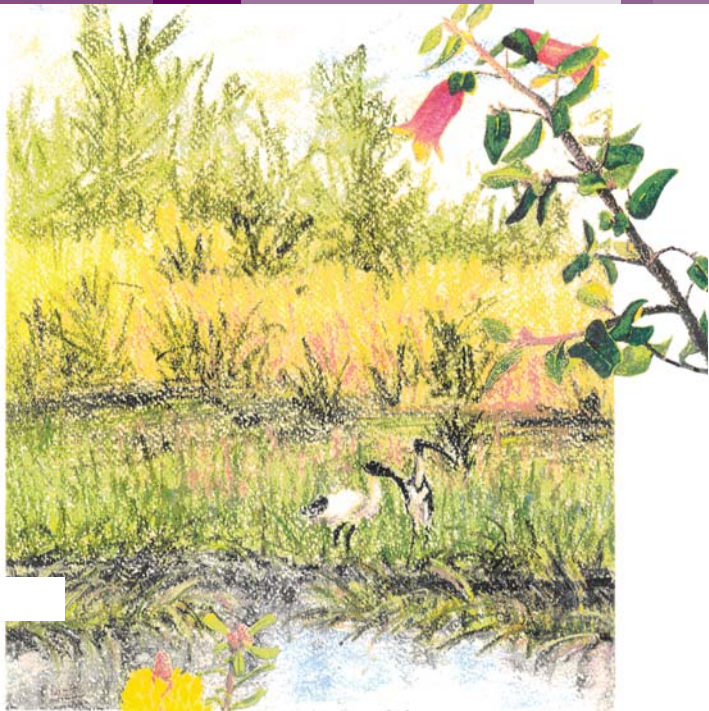


**PORTLAND
ALUMINIUM**

Partnering Stronger Communities

creature connections

Portland Aluminium Environmental Education



Helping you protect our environment

creature connections



UNIT SUMMARY

This unit of work focuses on the study of various creatures and their habitats, both within specific areas of Portland Aluminium Smelter and in the local environment. The proposed activity sequence incorporates elements of an interactive approach to teaching, whereby students use their prior knowledge, explore topics, pose their own questions and report their findings. This unit can be linked to other units within the "Biodiversity" section of the 'Environmental Education in the South West Resource Kit'.

LEARNING OBJECTIVES / FOCUS AREAS

Students will be able to:

- Identify the variety of habitats in the local environment.
- Discover what lives (plants & animals) in particular habitats and why.
- Study the food supply and shelter animals require for survival.
- Understand the threats and competition plants and animals experience.
- Learn ways they can help enhance the environment.

RESOURCES ATTACHED

- Suggested Teaching Sequence
- Activity Sheet 1 (Home Sweet Home)
- Activity Sheet 2 (Animal Research)
- Activity Sheet 3 (Food Chains)
- Animal Signs & Scats identification chart

SPECIALIST MATERIAL

- Endangered Species Teachers Book, Gould League, 1996
- www.gould.edu.com.au
- Activities in, for and about the environment, Gould League, 1994
- Outdoor Environmental Games, Gould League and VAAE, 1998
- Biodiversity, Dept. Natural Resources & Environment.

LEARNING OUTCOMES

Relevant outcomes from the Victorian Essential Learning Standards:

SCIENCE: Life and Living- Level 3-5

- Map relationships between living things in a habitat.
- Identify living and non-living things that affect the survival of organisms in an ecosystem.
- Explain the effects of various environmental change on living things within a ecosystem.

TEACHING SEQUENCE OUTLINES

Pre-visit (~2 lessons)

- Preparing to find out (List what students know about different habitats)
- Explore the features of different habitats (eg. wetlands, grasslands, woodlands)

The Visit (1/2 Day at Portland Aluminium Wetlands)

- As a group students, discuss the four habitats represented at Portland Aluminium.
- Activity Sheet 1 (Home Sweet Home)
- In pairs, students choose an animal to study. Activity Sheet 2 (Animal Research)
- Group discussion to share information
- Activity Sheet 3 (Food Chains)
- Food Chain Relay Race
- Guided walk through Vermin Proof Enclosure (Activity Sheet 4 - What's About)

Post Visit (~3 lessons)

- Make a classroom mural depicting various habitats, with pictures of plants and animals pasted on it.
- Create a habitat at your school for a special animal.

Further Study Suggestions:

- Refer to other units represented in the "Environmental Education in the South West Resource Kit"

ACTIVITY INFORMATION

During the visit to Portland Aluminium's education centre, students will be:

- Briefed on safety
- Given a background talk about Portland Aluminium's 'Smelter in the Park'
- Divided into small groups of 8-10
- Allocated time at 3-4 stations relevant to the Creature Connections Unit
- Discussing, discovering and sharing information about habitats
- Completing activity sheets relevant to their year level
- Competing in a food chain relay race
- Walking through and experiencing 4 different habitats
- Discovering different ways to find signs of various animals

MATERIALS

School

- Clipboards, pencils, appropriate clothing, drink

Portland Aluminium

- Guide, activity sheets, ID charts



BACKGROUND INFORMATION

All organisms need a habitat in which to live. Below are some examples of different habitats:

GRASSLANDS – The distribution of grasslands, like many other vegetation communities, is not dependant on rainfall. Grasslands are found in such diverse places as the interior of Australia to cold, wet mountain regions. The distribution is caused by the absence of trees and shrubs. This is usually due to environmental factors such as the salt and wind of coastal areas preventing the growth of trees and shrubs. In Victoria grasslands are threatened. Many grassland areas have been destroyed through agricultural practises. Remnant grasslands are dominated by introduced grass species. Throughout Australia, new grasslands have been created by the clearing of woodlands and scrublands. The Aboriginal people in many parts of the country are thought to have created grasslands by fire management practises. Fire is important to the viability and regeneration of grasslands.

HEATHLANDS – Heathlands are the most floristically rich plant communities in Australia. Heathlands comprise of low shrubs, less than 2m in height. Some common heathland families include Proteaceae (Banksia, Hakea), Myrtaceae (Tea-trees, Melaleucas, Fabaceae (Dillwynia, Bossiea), Epacridaceae (Flame Heath). Heathlands are found in the humid and sub-humid areas of the country. SW Australia has the greatest diversity of species. The major factor causing the distribution of heathlands are low levels of nutrients in the soil. Heathlands are well represented in conservation areas of Australia. They are fragile communities where water balance, fertiliser use, fires, pathogen invasion and litter can upset the balance and destroy them. Ants are important in the dispersal of seeds in some heathland species.

WOODLANDS – The main characteristic of woodlands is woody plants over 2m tall with a foliage cover between 1% and 10%. Almost 25% of Australia could support woodlands. Dominant species in woodlands include eucalyptus, acacias and casuarinas. Very little woodland type vegetation is intact in Australia. Large amounts have been cleared for agriculture. Grazing has impacted the understorey vegetation. There are few woodland conservation areas. Many animals rely on woodland habitats to survive.

WETLANDS – Wetland is a term used to describe areas that are permanently or temporarily covered with brackish or fresh water. Wetlands include lakes, lagoons, rivers, swamps and seasonal flood areas. Wetlands have many types of flowering plants with nearly all plant groups represented. In Australia, most wetlands are temporary. Some may be water logged for extended periods of time. Wetlands are found throughout most of Australia. Wetlands have suffered from human impact, having been drained, filled or polluted. In recent times there has been a change of attitude towards wetlands because of their vital importance as bird and animal habitats, food storage areas, areas to remove nutrients from polluted waters and for recreational uses.

Reference: Australia: Island Continent – Teachers guide, Melbourne Zoo Education

HOME SWEET HOME ...

Activity Sheet 1

JOIN THE ANIMALS BELOW TO THEIR HABITAT:



Feral Cat



Frog



Koala



Possum



Kangaroo

WETLAND

HEATHLAND

GRASSLAND

WOODLAND



Heath Rat



Magpie



Ground
Parrots



Spoonbill



Bandicoot

Which one doesn't belong? _____

ANIMAL RESEARCH

Activity Sheet 2

Choose an animal from Activity Sheet 1, then, fill in the details below:

Animal Name: _____

Habitat: _____

Draw its home:

Draw its food:



How and where is the food found in the habitat?

How does the animal get shelter in its habitat?

What predators live in the habitat?

How does the animal protect itself?

FOOD CHAINS...

Activity Sheet 3

Make a food chain out of these living things:

Tadpole, Water scorpion, Pondweed, Turtle

_____>..._____>..._____>..._____

Rotting plants, Dingo, Platypus, Yabbies

_____>..._____>..._____>..._____

Heath rat, grub, Kookaburra, Snake

_____>..._____>..._____>..._____

Can you make up your own food chain?

_____>..._____>..._____>..._____

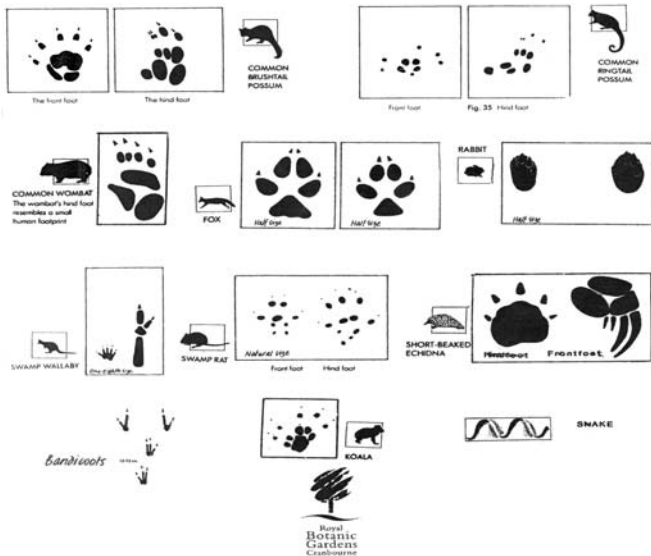
WHAT'S ABOUT?

Activity Sheet 4

Whilst walking through the enclosure, see if you can find any evidence of animals by using the chart below:

Animal signs: tracks, scats and diggings!

Animal tracks: (Circle the tracks you find today)



COMMON BRUSHTAIL POSSUM
The front foot The hind foot

COMMON RINGTAIL POSSUM
Front foot Fig. 35: Hind foot

COMMON WOMBAT
The wombat's hand foot resembles a small human footprint

FOX
Half size Half size

RABBIT
Half size Half size

SWAMP WALLABY
One of a pair

SWAMP RAT
Natural size Front foot Hind foot

SHORT-BEAKED ECHIDNA
Hindfoot Frontfoot

BANDICOOTS

KOALA

SNAKE

Royal Botanic Gardens Cranbourne

Animal scats: (Circle the scats you find today)



Common Brush-tail Possum



Common Ring-tail Possum



Koala



Southern Brown Bandicoot



Common Wombat



Swamp Rat



Fox

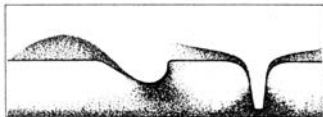


Swamp Wallaby



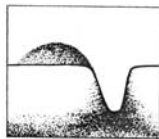
European Rabbit

Animal diggings: (Circle the diggings you find today)



Rabbit

Echidna's



bandicoot