

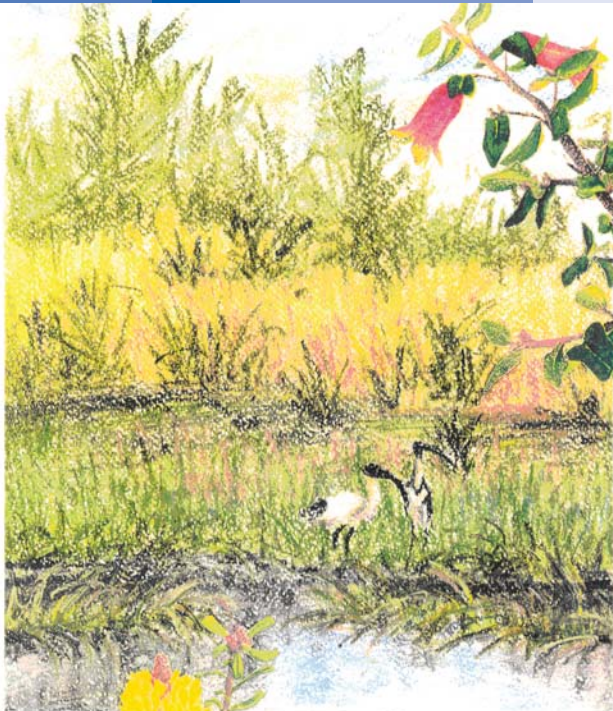


**PORTLAND
ALUMINIUM**

Partnering Stronger Communities

wetland wonders

Portland Aluminium Environmental Education



wetland wonders

Helping you protect our environment



UNIT SUMMARY:

This unit of work focuses on an exploration of wetland habitats. The suggested activity sequence incorporates an interactive approach to teaching, whereby students are encouraged to explore, pose questions, conduct investigations and report findings. This unit can be linked to other units within the 'Environmental Education in the South West Resource Kit'.

LEARNING OBJECTIVES / FOCUS AREAS:

Students will be able to:

- Describe the characteristics of a wetland habitat.
- Identify the types of living and non-living things which can be found in a wetland habitat.
- Describe the features of a wetland habitat.
- Use equipment such as a thermometer and dip net effectively.
- Collect, record and interpret data related to the wetland study.
- Understand the importance of preserving our wetland areas.

RESOURCES ATTACHED:

- Suggested Teaching Sequence
- Activity Sheet 1 (Exploring the Wetland)
- Activity Sheet 2 (Pond life ID Sheet)
- Activity Sheet 3 (Specimen Collection)

SPECIALIST MATERIAL:

- Wetland Wonders Teachers Booklet available from Portland Aluminium.
- www.gould.edu.au/2002_programs/ponding
- Genelg Hopkins CMA, Critters, Creeks & Catchments Resource Kit

LEARNING OUTCOMES:

Relevant outcomes from the Victorian Essential Learning Standards:
Science – Level 2

- Describe how body structures assist plants and animals to survive in their environment.

Science – Level 3

- Describe relationships between living things in a particular habitat.
- Classify living things in a variety of ways.
- Investigate the similarity and diversity of characteristics within and between living things.



TEACHING SEQUENCE OUTLINES

Pre-visit (~2 lessons)

- What is a habitat?
- Describe and draw a wetland habitat.
- Prepare for a visit to a wetland habitat (how to collect data, construction of dip nets, equipment familiarisation, list of questions students wish to investigate)

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

- Wetland Wonders Activity Sheets (Relevant to year levels)
- Data Collection (water temperature, levels, plants & animals)
- Students ID collected specimens
- View specimens under microscopes

Post-Visit (2-3 lessons)

- Students report and discuss data collected at the wetland.
- Continue research about particular plants and animals found there. Eg. life cycles, food sources, food chains.
- Create a class database.

Further Study Suggestions

- Refer to other units represented in the Habitat section of the "Environmental Education in the South West Resource Kit".

ACTIVITY INFORMATION

During the visit to Portland Aluminium's wetlands, 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
- Spend time at 3-4 stations relevant to Wetland Topic (eg. Hop To It)
- Complete activity sheets relevant to year levels
- Collect & study specimens
- Collect data relevant to wetland habitats
- Use equipment

MATERIALS REQUIRED

Schools:

- Thermometers, shallow trays or ice-cream containers, dip-nets (made by students at school), magnifying glasses or hand lenses, gum-boots, sun-hats, sun-screen

Portland Aluminium:

- Guides, activity sheets, books and ID charts

BACKGROUND INFORMATION

Description

Wetland is a term used to describe areas that are permanently or temporarily covered with brackish or fresh water of a depth of up to 2m. Wetlands include lakes, lagoons, rivers, swamps and seasonal flood plains. Wetlands have many types of flowering plants with nearly all plant groups, excepting gymnosperms, being represented.

In Australia most wetlands are temporary. Some dry out annually, while others may be dry for years. Some may be waterlogged for extended periods of time.

Wetlands can be classified according to their structure and species. There are 8 general classifications:

Swamp Forest	Usually dominated by the melaleuca species, normally waterlogged and experience seasonal flooding.
Swamp Woodland	Usually associated with paperbarks species around inland salt lakes or coastal areas.
Swamp Scrubs	Dominant plant species of melaleuca & leptospermum, covered by a few centimetres of water for part of the year.
Swamp Heaths	Defining character being waterlogged sandy acid or peaty soils. Usually inundated for part of the year and are floristically very rich.
Swamp Shrub lands	Usually found inland on varied flooded areas.
Sedge lands	Associated with other types of wetlands. Also occurring in coastal dune swales.
Swamp Grasslands	In our area they occur on coastal floodplains and tablelands.
Swamp Herb lands	These include floating species and are widely distributed throughout Australia

Distribution

Wetlands are found throughout most of Australia, with the Great Sandy Desert and the Nullarbor Plain the exceptions. Wetlands are located on river floodplains, coastal sand country (in the internal drainage basins) and in the low-lying tableland areas.

Status

Wetlands in Australia have suffered from human impact, by being drained, filled or polluted. In recent times there has been a change of attitude to wetlands because of their importance as bird /animal habitat, food storage areas, areas to remove nutrients from polluted waters and for recreational uses.

General Information

Wetlands can be divided into zones. These zones are decided by depth and degree of waterlogging.

Zone 1 - hydrophytes (floating),

Zone 2 - submerged hydrophytes;

Zone 3 - helophytes (plants that grow in the mud with shoots above the water);

Zone 3a - sedge land on the landward side of reeds, made up of helophytes & herbs;

Zone 4 - scrub, woodland or forest.

EXPLORING THE WETLAND

Activity Sheet 1

Circle the words that best describe a wetland:

Pond

Lake

Billabong

Puddle

Swamp

Desert

Swimming Pool

River

Dam

Fill in the gaps:

It is important to protect our _____ habitats, because they provide _____
& _____ for the birds & animals.

Wetland

Trees

Food

Playgrounds

Shelter

Education

Transport

Water

Where in the wetland do the plants & animals below live?

1. Around the Wetland
2. On the surface
3. Under the water
4. On the bottom

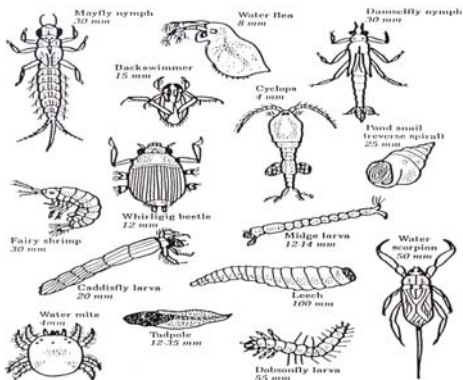
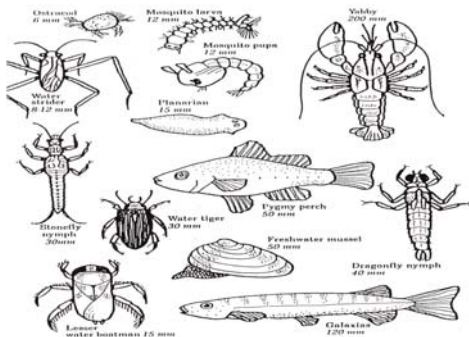




SPECIMEN COLLECTION

Activity Sheet 2

Circle what you found:



SPECIMEN COLLECTION

Activity Sheet 3

A great way to find out if a wetland is healthy is to count how many freshwater animals live in and around it.

Use your dip net to scoop a figure 8 in the water. Tip the contents of your dip-net into a container of water.

Complete the following activities, then, return the contents of your container back to the wetland.

DRAW AND DESCRIBE (2) SPECIMENS:

WE FOUND:

Name:

Size:

Shape:

Colour:

Number:

DRAW:

WE FOUND:

Name:

Size:

Shape:

Colour:

Number:

DRAW: