

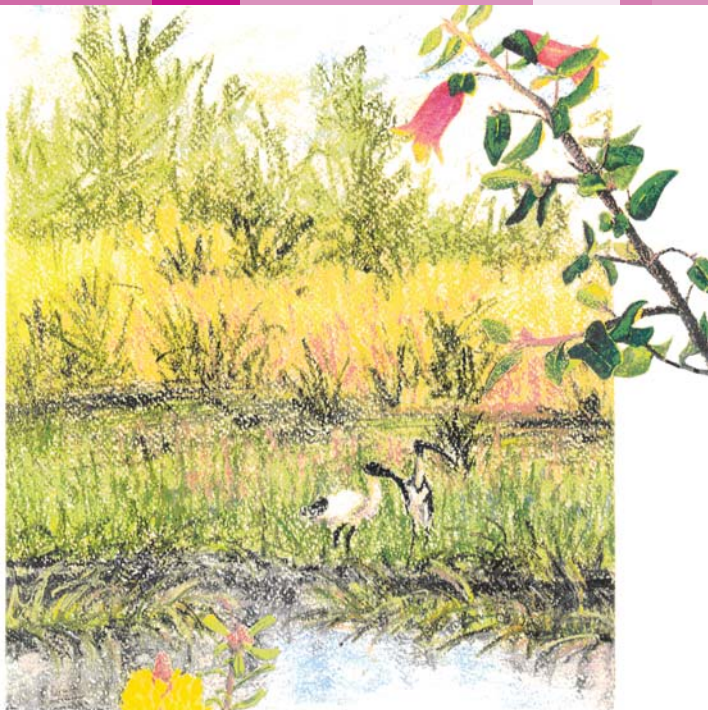


**PORTLAND
ALUMINIUM**

Partnering Stronger Communities

tree-mendous

Portland Aluminium Environmental Education



tree-mendous

Helping you protect our environment



UNIT SUMMARY

This unit of work focuses on the study of trees, 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 'Environmental Education for the South West Resource Kit'.

LEARNING OBJECTIVES / FOCUS AREAS

Students will be able to:

- Understand that tree species are very diverse in structure.
- Understand that a number of living things are dependant on trees for food and shelter.
- Understand that people have a range of uses and involvements with trees.
- Collect and interpret information.

RESOURCES ATTACHED

- Suggested Teaching Sequence
- Activity Sheet 1 (My Tree)
- Activity Sheet 2 (What are plants used for?)
- Activity Sheet 3 (Parts of a tree)

SPECIALIST MATERIALS

- Arbour Week Activities Book 2, Ministry of Education and Training, 1991.
- www.gould.edu.com.au
- Activities in, for and about the environment, Gould League, 1994
- Trees, Gould League and VAAE, 1998

LEARNING OUTCOMES

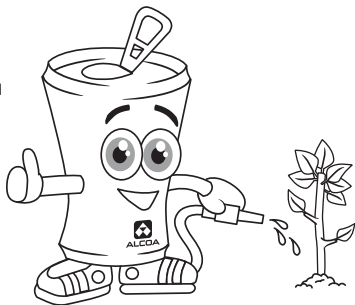
Relevant outcomes from the Victorian Essential Learning Standards:

SOSE: Place & Space/Resources - Level 2

- Explain choices people make in the use of places. Eg: revegetation.
- Explore ways of managing resources. Eg; Use of trees, attracting wildlife, revegetation.

SCIENCE: Living Together / Structure and Function - Level 2

- Describe the types of relationships that exist between living things.
- Identify and link observable features to their functions in living things. Eg: features of trees.



TEACHING SEQUENCE OUTLINES:

Pre-visit (~2 lessons)

- Preparing to find out (List what students know about trees and what they would like to learn about trees)
- Explore the features of a tree (eg: leaves, flowers, fruit, seeds)

The Visit (1/2 Day at Portland Aluminium's Smelter in the Park')

- In pairs, students study a different tree species using mystery boxes.
- Students meet at seating area to share information, discuss and question. (Relevant activity sheets completed)
- Brief discussion about how trees grow.
- Students join in with a seed collecting activity.

Post Visit (~1 lessons)

- What can we do to help the decline of trees?
- Class activity sprouting plants or planting trees at school

Further Study Suggestions

- Refer to other units represented in the "Environmental Education for 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
- Spend time at 3-4 stations relevant to the Tree-mendous Unit (eg: Leaf it to Us)
- In pairs, study a different species of tree
- Discuss & discover and share information about trees
- Complete activity sheets relevant to year level
- Join in with a seed collecting activity

MATERIALS

Schools:

- Clipboards, pencils, walking shoes, jacket, sunscreen, hat, drinks

Portland Aluminium:

- Guides, activity sheets, ID charts & guide books



BACKGROUND INFORMATION

Leaves	<p>Leaves are usually green. The green compound in leaves (chlorophyll) allows plants to make their own food from sunlight, air, water and minerals from the ground.</p> <p>Animals and people can use a plant's food for themselves by eating its leaves. The trees protect their leaves by making them taste bad or even making them poisonous. Most leaves are toxic or taste bad to humans, but different animals can eat other kinds of leaves, for example possums and koalas can eat gum leaves, which are inedible for humans. Caterpillars usually can eat only a few special kinds of leaf.</p> <p>When leaves fall to the ground they provide food for mini-beasts, such as worms, slugs and slaters. They eventually rot down and become part of the soil. Many kinds of trees, introduced from cooler countries, lose their leaves in winter, and some Australian plants lose their leaves in summer.</p> <p>When you look at a leaf you can see the veins that carry water and minerals to the leaf and carry the food back to the plant.</p>
Flowers	<p>The incredible beauty and scent of flowers are very attractive to people, but they were not designed for us. Flowers are designed to advertise the presence of sweet nectar to birds and insects. The nectar attracts them and flowers are designed so that when the animals are getting nectar they get pollen stuck to them. The animals then transfer the pollen from one plant to the other, fertilising cells within the female part of the flower that will grow to become seeds.</p> <p>People have bred some flowers, like roses, to be more spectacular, or to increase the range of colours available, but tree flowers are largely as nature created them. Some plants, including some trees, use wind to spread their pollen and so do not need fancy flowers.</p>
Seeds/Fruit	<p>Once a flower has been fertilised the flower parts will wither and a seed or seeds will begin to develop. Most tree seeds have some way of being carried away from their tree, so that they can find a new place to grow where there is more room. The seeds may be enclosed in pods, nuts or fruits, or may be designed to blow away in the wind. Fruits are designed so that animals will eat them and carry the seed in their digestive system to another place. Some plants produce lots of very tiny seeds, while others produce fewer, larger seeds.</p>
Roots	<p>Roots have three jobs: They hold the tree in the ground so that it doesn't fall over, they allow water from the soil to get into the tree and they gather nutrients from the soil. We cannot see much of the root system from above the ground but it is sure to be very large. Some trees have very deep roots to get water when the top of the soil is dry.</p>
Bark	<p>Bark covers the outer layer of a tree. It protects the tree from damage and fire. Bark comes in an incredible variety of textures and colours. The patterns on the bark of gum trees are particularly interesting.</p>
Trees	<p>All trees are different. No tree is the same as the other, even if it is the same kind. There are many thousands of kinds of trees and there may be hundreds of kinds in your area. Some trees grow very well in wet areas, for example willows, others like dry soil. Some like shade, while others need full sun. Some trees, usually those from cooler countries, lose their leaves in autumn, the leaves becoming beautiful gold and red colours. Many gum trees shed their bark. Some trees are tall and thin, other are short. Some, like fig trees can be huge and spreading.</p> <p>When gardens are planned, gardeners often plant very different trees near each other to make pretty patterns. In natural forests usually there are fewer kinds of trees than in gardens.</p> <p>We use trees for lots of reasons. Eg. Shade, attract birds, dry up a damp site, cover a fence, privacy, windbreak, flowers, food, firewood, etc.</p>

MY TREE

Activity Sheet 1

Draw any seeds, pods or flowers.

Draw one of the leaves.

Draw the tree that you studied.

List 4 words to describe it.

What colours are the following:

Leaves -

Bark -

Branches -

WHAT ARE PLANTS USED FOR

Activity Sheet 2

Draw some things that are made from plants:

Food

Medicine

Furniture

Shelter

Clothing

Other

PARTS OF A PLANT:

Activity Sheet 3

Connect the words to the parts of the plant.

Leaves

Fruits

Flowers

Branches

Twigs

Bark

Trunk

Roots

Tap Roots

