

Middle Years

Years 7 - 10



Government of South Australia
Primary Industries and Resources SA

The Middle Years

An Introduction for Teachers

Welcome to the Middle Years teachers section of this resource.

In this section you will find everything you need to implement a successful unit of work on the topic of Forests and Forestry.

The Lesson Ideas and Activities are specifically designed for students from Years 7 to 10, and each has been designed to allow maximum flexibility in catering for different needs in the classroom. The Lesson Plans, Student Activity Sheets, Extension Ideas, and a comprehensive list of resources that are included in this section will make planning your unit of work both successful and enjoyable.

Lesson Ideas

These lesson ideas for each of the Key Learning Areas can be developed by the teacher into full lesson plans. They are designed to give teachers ideas for introducing and expanding upon the topic. Many of the lesson ideas in this section of the resource can also be adapted as extension tasks for early finishers, and as homework projects.

Lesson Plans

Each lesson plan is designed to be taught as a sequential component of the topic but can also be taught as a stand-alone lesson. Each lesson plan is specifically designed for Year 7 to Year 10 students.

Accompanying Activity Sheets

Each lesson plan has a correlating activity sheet on the page opposite. Teachers may photocopy these sheets for classroom use. The sheets are appealing to students and allow them to easily record their learning and experiences.

Book List

This section includes a list of resources that complement these units of work.

Extension Ideas

At the end of this section you will find a page entitled *Extension Activity Ideas*. These ideas can be used to extend fast workers and students with higher intellectual potential. The activities require little or no resources and preparation. The ideas and activities are designed so that students can work on them individually and independently. They may also be adapted and used as whole class activities should you wish to extend and build upon the lesson plans.

The extension ideas may also be helpful in composite classes.

Photo File

In the Photo File section of this resource you will find the photos referred to throughout the activities and lessons in the Middle Years section. The Photo File will prove valuable in prompting discussion and further increasing understanding among students. Black and white historical photographs follow the colour photographs and offer a unique perspective of the history of South Australia's forests.

Lesson Ideas in Key Learning Areas

English and Language

- 🌲 Write a play set in a forest.
- 🌲 Write a poem about forests.
- 🌲 Locate and read some newspaper and magazine articles about forests. Use this background reading to write your own article about a local forest.
- 🌲 Interview a forester or a forest ranger.
- 🌲 Write a three to five minute oral presentation on one of the following topics: Why are forests a vital resource? What are the uses of forests? Where do forest resources come from? How do forests contribute to the maintenance of life on earth? What is done in South Australia to ensure the sustainable management of forests?

Health and Physical Education

- 🌲 Brainstorm and list the different forms of physical recreation that take place in National Parks and forest reserves.
- 🌲 Take a walk to a local park or reserve and observe what is there. Find out how the area is cared for and managed. Take note of what kind of trees and plants are growing. What birds and animals can you see?

Mathematics

- 🌲 Investigate which countries we export timber products to and import timber products from. Present your findings as a chart.

Science and Technology

- 🌲 Investigate the contribution that scientific research and development have made to the sustainability of our forests.
- 🌲 Research the technologies and equipment that are used in forests.
- 🌲 Design an invention that will aid forest sustainability. Remember to write a short explanation and description of what your invention does.
- 🌲 Look at three of the photos on forestry. What technology is evident?

Studies of Society and the Environment

- 🌲 Brainstorm and list all the industries and jobs that depend directly or indirectly on forests and forestry.
- 🌲 Discuss the effect of tourism on a forest environment and the surrounding communities.
- 🌲 Aboriginal Studies – Research which types of tree and bark were used for constructing huts and shelters, tools and weapons. Which forest nuts and berries provided seasonal food sources?
- 🌲 Research what types of native trees are found in Australian forests.

The Arts

- 🌲 Write and create a television commercial promoting forests and the important role they play in our everyday lives.

Lesson Plan

Australian Native Trees and Plants

Task

- 🌳 Research and list the scientific names of some Australian native tree species.
- 🌳 Research some of the current and historical uses of Australian native plants.

Key Learning Areas

- 🌳 Studies of Society and the Environment.
- 🌳 Science and Technology.
- 🌳 English and Language.

Resources Needed

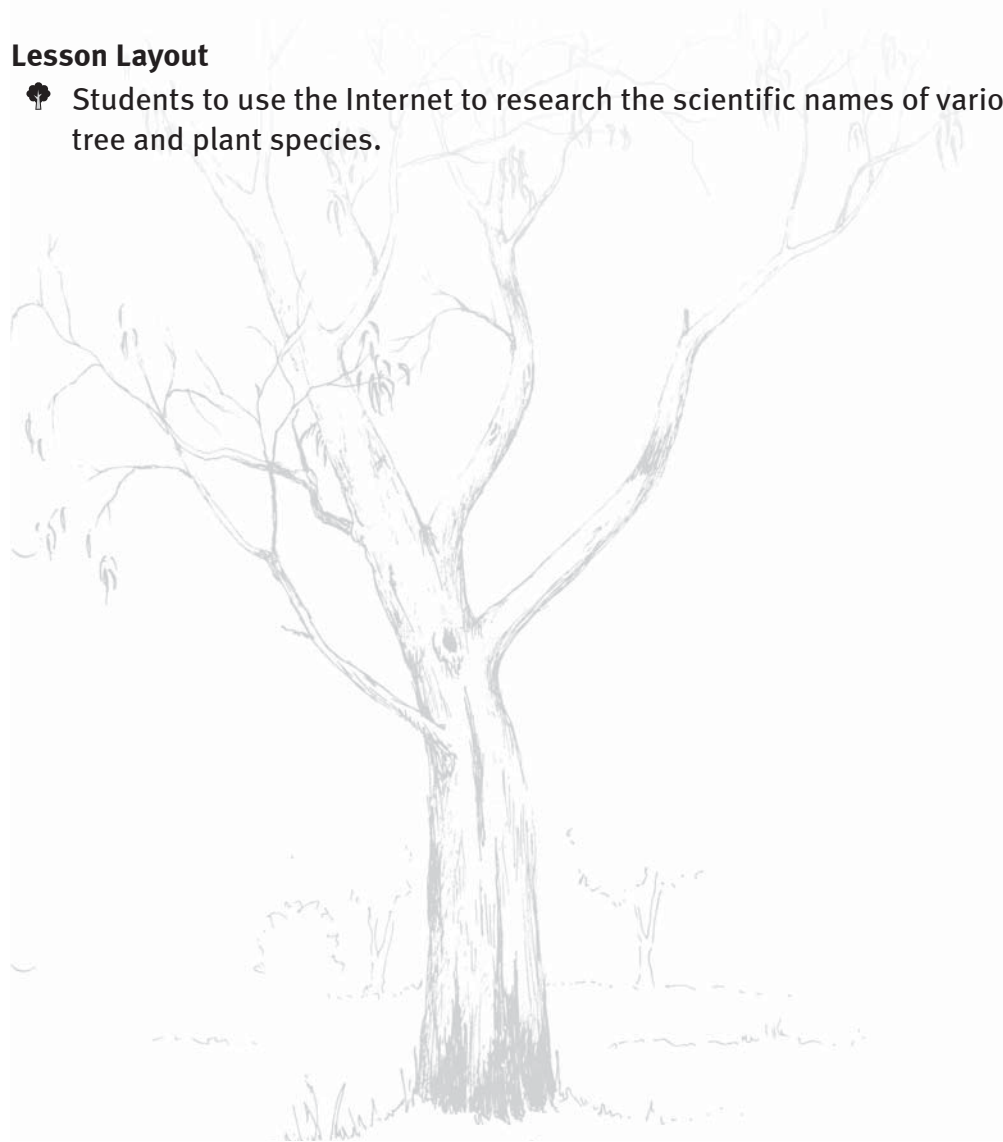
- 🌳 Internet access.
- 🌳 Forestry books.
- 🌳 Field guides to native trees and plants.

Learning Outcomes

- 🌳 Students will enhance their Internet research skills.
- 🌳 Students will become aware that trees can have both scientific and common names.

Lesson Layout

- 🌳 Students to use the Internet to research the scientific names of various Australian native tree and plant species.



Australian Native Trees and Plants

Fill in the scientific names of these native tree and plant species.

Scribbly Gum _____

Smooth Bark Kauri _____

Grass Tree or Yacca _____

Cabbage Palm _____

Pig Face _____

Sturt Desert Pea _____

Bottlebrush _____

Sugar Gum _____

Red Gum _____

Blue Gum _____

From your research label the following illustrations/diagrams.



Lesson Plan

What is a Tree?

Task

- 🌳 Identification of the different parts of a tree, both external and internal.

Key Learning Areas

- 🌳 Studies of Society and the Environment.
- 🌳 Science and Technology.
- 🌳 Biology.

Resources Needed

- 🌳 The Internet.
- 🌳 The 'Trees' fact sheet found in the Forestry Fact Sheets.

Learning Outcomes

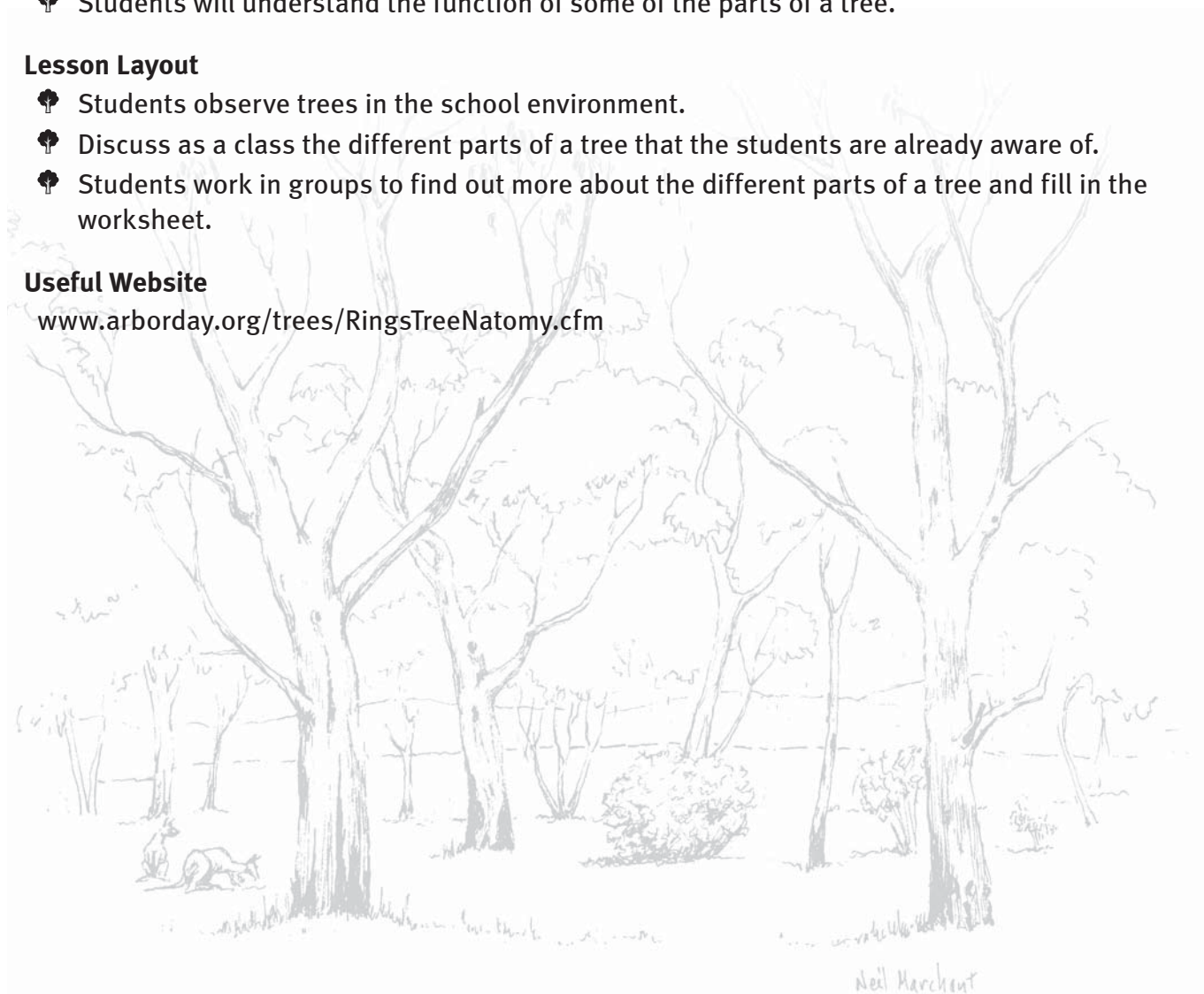
- 🌳 Students will understand that trees have different parts.
- 🌳 Students will be able to name and label various parts of a tree.
- 🌳 Students will understand the function of some of the parts of a tree.

Lesson Layout

- 🌳 Students observe trees in the school environment.
- 🌳 Discuss as a class the different parts of a tree that the students are already aware of.
- 🌳 Students work in groups to find out more about the different parts of a tree and fill in the worksheet.

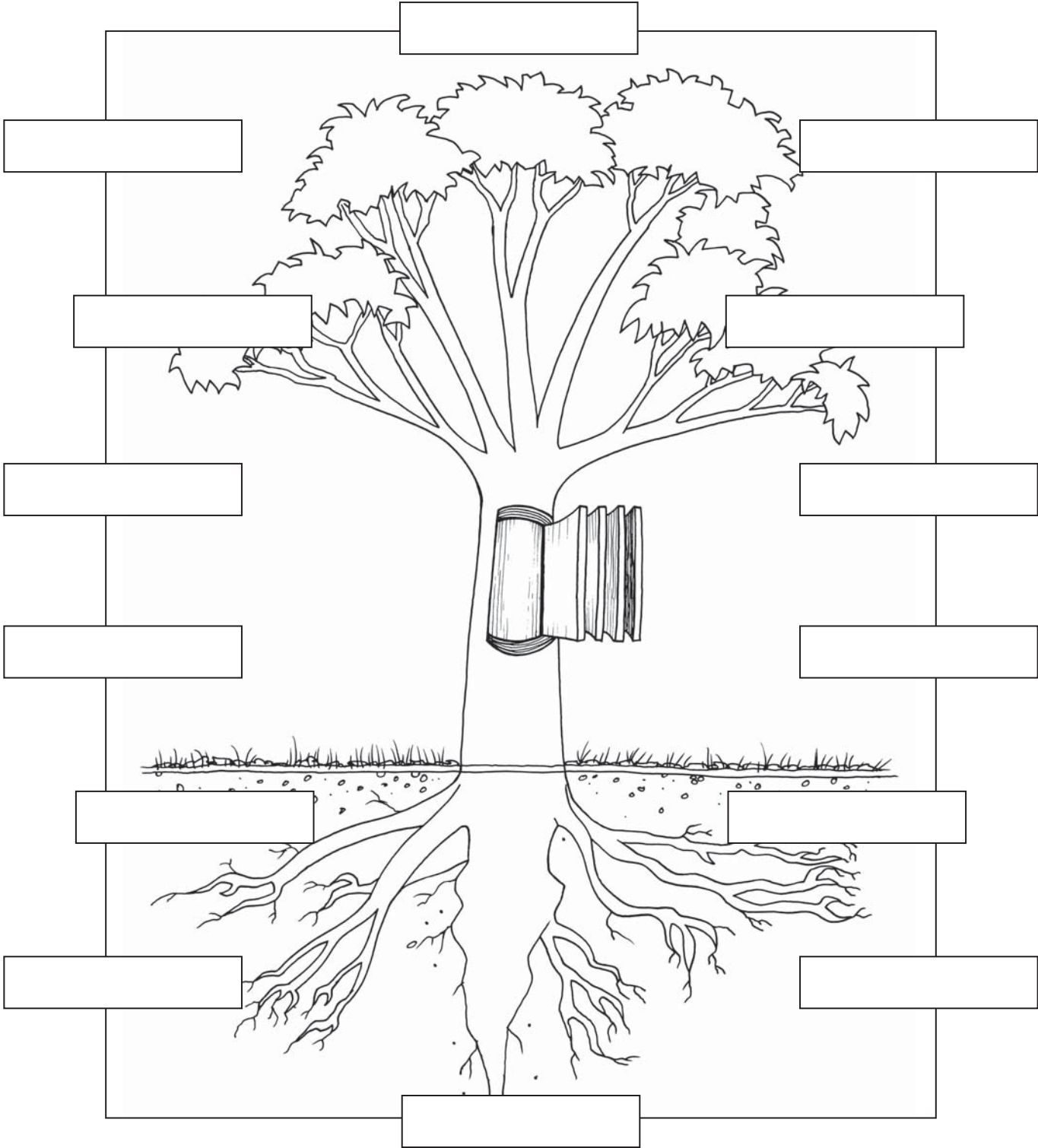
Useful Website

www.arboday.org/trees/RingsTreeNatomy.cfm



What is a Tree?

Use the words below to correctly label the diagram of a tree.



- | | | | |
|---------------|-------------------|----------------|----------|
| Trunk | Tap root | Outer bark | Bark |
| Lateral roots | Twigs | Leaves/needles | Branches |
| Pith | Phloem/Inner bark | Xylem/sapwood | Cambium |
| Roots | | | |

Solution on page 76.

Lesson Plan

Animal and Bird Report

Task

- 🌳 To research one Australian native animal and one Australian native bird.

Key Learning Areas

- 🌳 Studies of Society and the Environment.
- 🌳 Science and Technology.
- 🌳 English and Language.
- 🌳 Art.

Resources Needed

- 🌳 Internet.
- 🌳 School library.

Learning Outcomes

- 🌳 Students will study one Australian native animal and one native bird in detail.
- 🌳 Students research one forest-dwelling animal and one forest-dwelling bird.

Lesson Layout

- 🌳 Students will choose and research one Australian bird and one Australian animal that live in the forest.
- 🌳 Students will find a picture of their animal and bird on the Internet, in a magazine, or photocopied from a book, or draw a sketch of it.
- 🌳 Students will fill in the activity sheet and share it with the rest of the class.



Animal and Bird Report

Animal

Common name

Scientific name

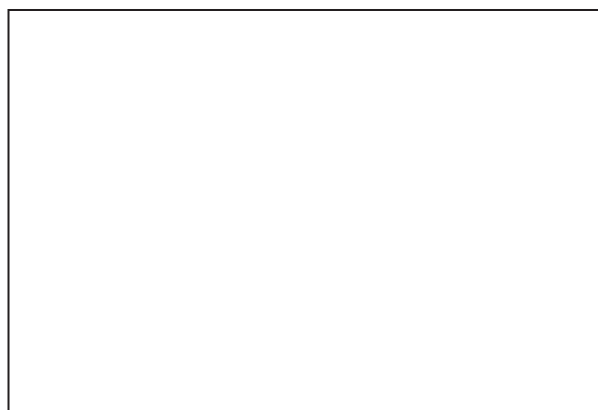
Habitat

Diet

Behaviour *(or Habits)*

Description

Picture



Bird

Common name

Scientific name

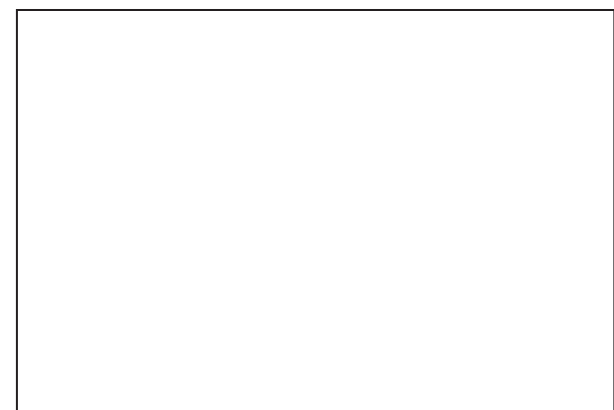
Habitat

Diet

Behaviour *(or Habits)*

Description

Picture



Lesson Plan

Trees at Our School

Task

- 🌳 Create a realistic map of the trees and garden areas within the school.

Key Learning Areas

- 🌳 Studies of Society and the Environment.
- 🌳 Health and Physical Education.

Resources Needed

- 🌳 Clipboards, pencils, paper, rulers, measuring tapes.

Learning Outcomes

- 🌳 Students will locate and become more aware of the trees in their school environment.
- 🌳 Students will start to think about how they can have a positive impact on and take responsibility for their environment.
- 🌳 Students will explore their school environment and create a realistic map of the trees and garden areas within the school.

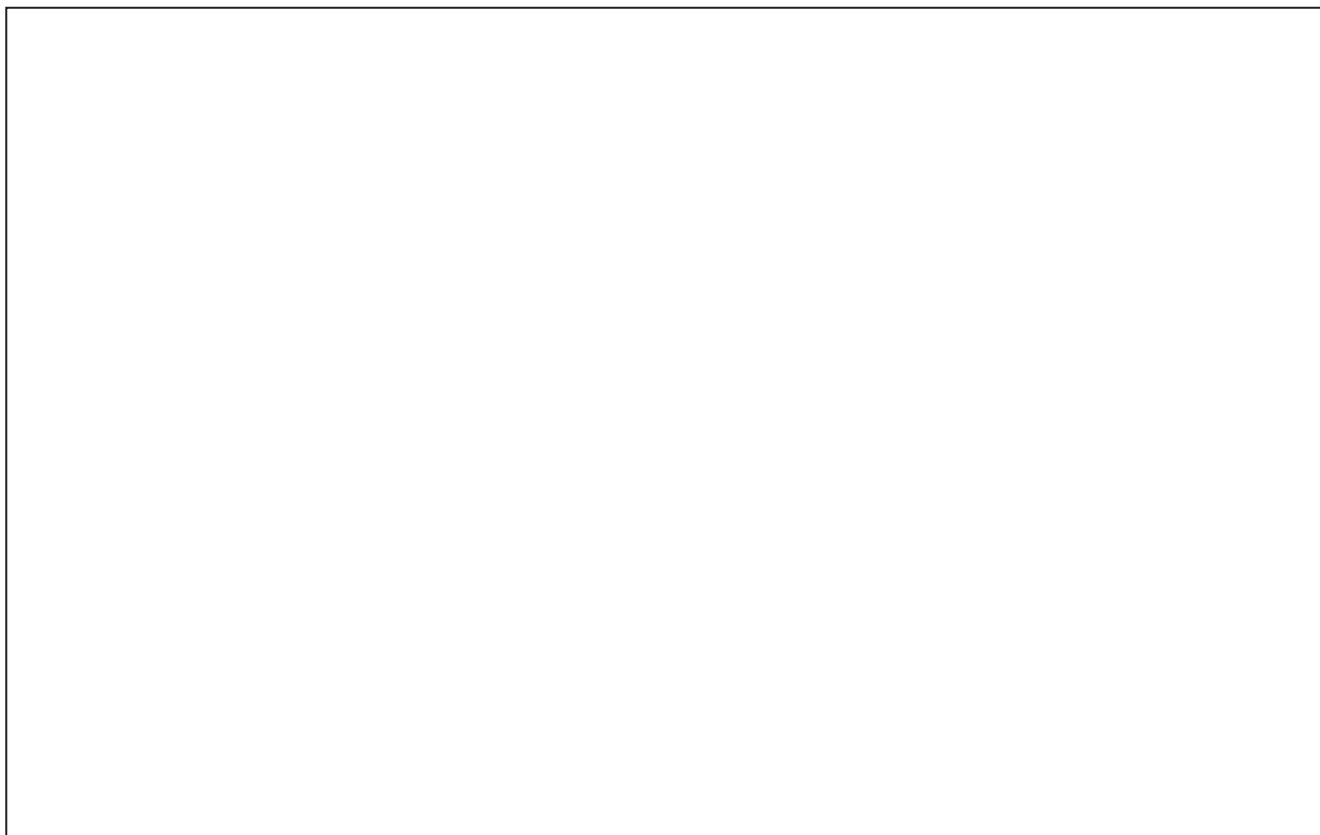
Lesson Layout

- 🌳 Students will explore their school environment and create a realistic map of the trees and garden areas within the school.
- 🌳 Students will think about their school environment and reflectively fill in the activity sheet.



Trees at Our School

Draw a map showing where trees are located in our school grounds.



Write down something you noticed about the trees in our school.

Do you think there are enough trees in our school? Why or why not?

What types of trees are growing around our school? Are they native trees? Is there any 'bush'?

Who looks after the trees and gardens in our school?

How could you become involved in caring for our school environment?

Lesson Plan

Forests in South Australia

Task

- 🌳 Research the location of native and plantation forests in South Australia.
- 🌳 Research the major cities, towns, rivers and lakes in South Australia.
- 🌳 Mark them onto the map of South Australia.

Key Learning Areas

- 🌳 Studies of Society and the Environment.
- 🌳 The Arts.

Resources Needed

- 🌳 The Internet.
- 🌳 Forestry Fact Sheets.

Learning Outcomes

- 🌳 Students will become aware of the forests in South Australia and where they are located.
- 🌳 Students will become aware of the major towns, cities, rivers and lakes located in South Australia.

Lesson Layout

- 🌳 Students use the Internet and other resources to locate forests in South Australia.

Useful Websites

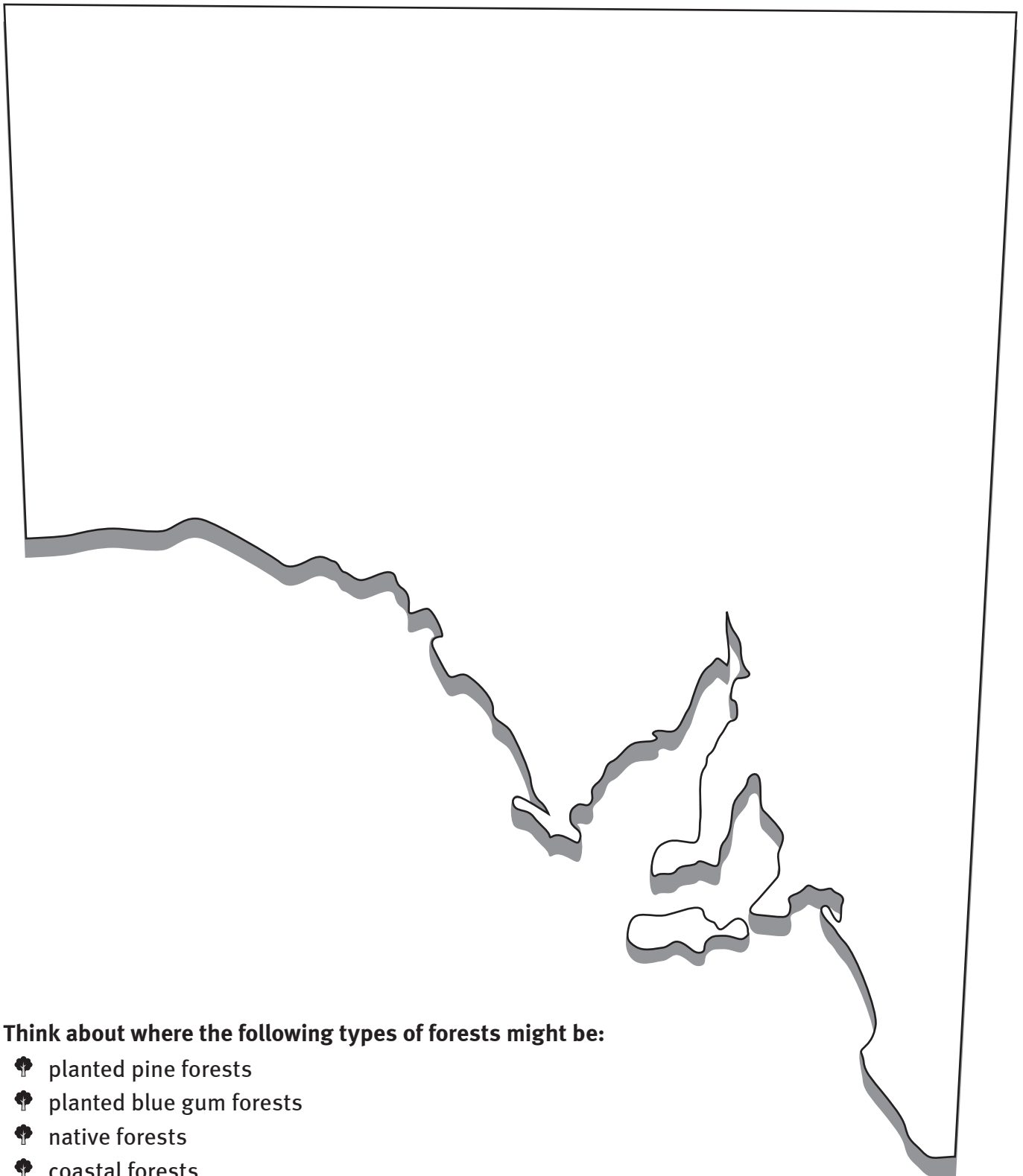
www.forestry.sa.gov.au/maps.stm

www.daff.gov.au/nfi



Forests in South Australia

Mark the locations of forests in South Australia.



Think about where the following types of forests might be:

- 🌲 planted pine forests
- 🌲 planted blue gum forests
- 🌲 native forests
- 🌲 coastal forests

Lesson Plan

Let's Make a Nest Box

Task

- 🌳 Construction of a nest box for an Australian native bird species.

Key Learning Areas

- 🌳 Studies of Society and the Environment.
- 🌳 Science and Technology.
- 🌳 Mathematics.
- 🌳 The Arts.

Resources Needed

- 🌳 Timber - must not be chemically treated.
- 🌳 Dowelling.
- 🌳 Woodworking tools: hammer, plane, sandpaper.
- 🌳 Nails.
- 🌳 Other materials and resources may be required, depending on the species chosen.

Learning Outcomes

- 🌳 Students will research and learn about an Australian native bird species, to determine the appropriate design, materials and location of a nest box for it.
- 🌳 Students will work together to complete the task.

Lesson Layout

- 🌳 Students can use the Internet to research the design and requirements for a nest box for an Australian native bird species that is found in South Australia.

e.g. www.gresswell.vic.edu.au/projects/house.htm

Lesson Note

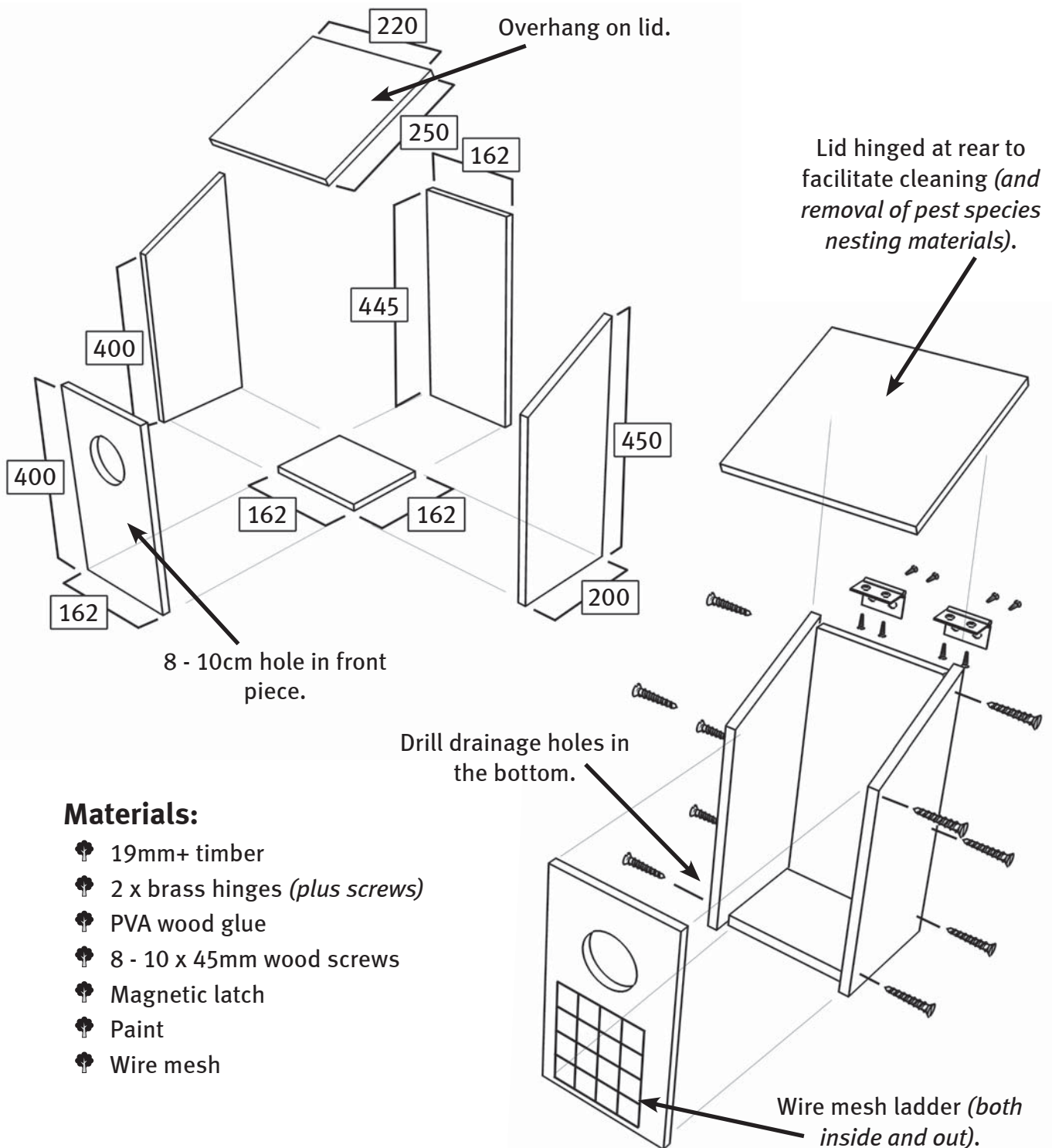
Research, design, and construction of the nest box may require several lesson periods.

Complete this project by arranging to have the nest boxes installed in native trees in a secluded area of the school grounds (if appropriate), or in a local forest or park area.



Let's Make a Nest Box

The best way to restore native birds to your garden is to provide an environment that favours them over introduced species. A nest box designed to exclude non-native birds such as Common Starlings and Feral Pigeons, may help. Feedback from people who have experimented with nestbox designs for native birds emphasise the importance of the baffle or hood completely enclosing the nestbox entrance, apart from the underside. There should also be nowhere for feral birds to perch on, either on the box itself or close by, as they may continue to harass native species attempting to nest. The roof of the box can be steeply sloped to ensure this.



Materials:

- 19mm+ timber
- 2 x brass hinges (plus screws)
- PVA wood glue
- 8 - 10 x 45mm wood screws
- Magnetic latch
- Paint
- Wire mesh

Review and Assessment

Student Name: _____ Number of Tasks attempted: _____

Australian Native Trees and Plants	
Task attempted? Yes/No	Start Date:
Student shows a good understanding of Australian native trees and plants.	<input type="checkbox"/>
Student is able to identify at least five different Australian native plant species.	<input type="checkbox"/>
Student has demonstrated an understanding of the difference between native and introduced plants and trees.	<input type="checkbox"/>
Student has completed work sheet. <input type="checkbox"/>	Completion date:
Student comment on the topic.	Teacher comment on the topic.
	Result

What is a Tree?	
Task attempted? Yes/No	Start Date:
Student shows a good understanding of what a tree is.	<input type="checkbox"/>
Student is able to identify ten different parts of a tree.	<input type="checkbox"/>
Student has demonstrated an understanding of the role and importance of trees.	<input type="checkbox"/>
Student has completed work sheet. <input type="checkbox"/>	Completion date:
Student comment on the topic.	Teacher comment on the topic.
	Result

Animal and Bird Report	
Task attempted? Yes/No	Start Date:
Student shows a good understanding of Australian native animals and birds.	<input type="checkbox"/>
Student is able to discuss in detail one Australian native animal and one native bird species.	<input type="checkbox"/>
Student has demonstrated research skills.	<input type="checkbox"/>
Student has completed work sheet. <input type="checkbox"/>	Completion date:
Student comment on the topic.	Teacher comment on the topic.
	Result

Review and Assessment

Trees at Our School	
Task attempted? Yes/No	Start Date:
Student has followed instructions.	<input type="checkbox"/>
Student has been able to identify and record where trees are located within the school.	<input type="checkbox"/>
Student has demonstrated an understanding of the difference between native and introduced plants and trees.	<input type="checkbox"/>
Student has completed work sheet. <input type="checkbox"/>	Completion date:
Student comment on the topic.	Teacher comment on the topic.
	Result

Forests in South Australia	
Task attempted? Yes/No	Start Date:
Student shows a good understanding of the forests in South Australian.	<input type="checkbox"/>
Student is able to name and describe the forests in South Australia.	<input type="checkbox"/>
Student has demonstrated an understanding of the difference between native and plantation forests.	<input type="checkbox"/>
Student has completed work sheet. <input type="checkbox"/>	Completion date:
Student comment on the topic.	Teacher comment on the topic.
	Result

Let's Make a Nest Box	
Task attempted? Yes/No	Start Date:
Student has demonstrated the ability to follow instructions and directions.	<input type="checkbox"/>
Student has demonstrated an understanding of the purpose of nest boxes.	<input type="checkbox"/>
Student has successfully constructed a nest box.	<input type="checkbox"/>
Student has completed work sheet. <input type="checkbox"/>	Completion date:
Student comment on the topic.	Teacher comment on the topic.
	Result

Book List

Pine Needle Basketry from Forest Floor to Finished Project by *Judy Mofield Mallow* - Create picturesque pine needle baskets, miniatures, trays, pencil holders and more. Includes information on dyeing needles, making lids and handles, techniques, and gathering and storing materials.

Forest-Friendly Building Timbers by *Alan Gray and Anne Hall* - This book explains the differences in environmental impact of using plantation and recycled timber rather than native timber.

Mythic Woods – The World’s Most Remarkable Forests by *Jonathan Roberts* - Illustrates these enigmatic worlds using lavish photography. The author explores the individual character of each forest and reveals the mysteries hidden within.

The Tree House Book by *Peter Nelson and David Larkin* - Trees welcome all types of houses. Detailed how-to information, including plans and drawings, is combined with stunning interior and exterior photographs. A fun book that students will really enjoy.

Forest Explorer by *Nic Bishop* - An engrossing guide to the deciduous forests of North America, with stunning photographs of animals, plants, and insects - all life-sized or magnified.

A Home Among the Gum Trees: The story of Australian houses by *John Nicholson* - From Aboriginal shelter, convict hospital, tree-house, lighthouse and mobile home to the modern suburban house; how Australians have responded to the land, the weather and new fashions in building materials.

The Man Who Planted Trees by *Jean Giono* - The touching story of Elzéard Bouffier, who devoted his entire life to reforesting a desolate portion of Provence, in southern France before, during, and after, World Wars I and II. A tribute to how much good one person can accomplish in a lifetime.

Common Sense Forestry by *Hans Morsbach* - An American book that shows how to expand existing woodlands into forests that promote biodiversity while providing harvestable timber.

The Schoolbook of Forestry by *Charles Lathrop Pack* - General information and facts about forests, specifically aimed at students.

Eucalyptus - A Novel by *Murray Bail* - A modern fairy tale and love story about a girl who can only marry a man who is able to name the species of every gum tree on her property.

Useful websites

www.pir.sa.gov.au/forestry - Information on South Australia’s forests.

www.forestry.sa.gov.au - Information on South Australia’s forest reserves.

www.rainforest-alliance.org - A U.S. based website focusing on forestry protection and awareness.

www.nafi.com.au - The national Australia Forestry Industry website. Education sections, games, facts.

www.csiro.au - Facts and figures about Australian forests.

www.environment.gov.au - Online portal and gateway to Australian environment resources.

www.anbg.gov.au/birds/birds.html - Information for bird projects on Australian native birds.

www.sabirding.com - Birding South Australia website, information on SA native birds.

www.outdoorssa.com.au - Information on outdoor activities throughout South Australia.

www.gould.edu.au/index.asp - Gould Group designs innovative environmental education and training in sustainability.

Resource List

www.daff.gov.au - Follow the link to Forestry. This is the premier site for forestry in Australia.

www.daff.gov.au/brs/forest-veg/nfi - National Forest Inventory. Maps and facts on Australian forests.

www.australianforests.org.au - The National Forest Education and Awareness Network. The main forestry education web portal in Australia.

www.dpi.vic.gov.au/privateforestry/schoolsed - A curriculum resource for schools titled, 'Farm Forestry - Trees at work'. It has useful class activities and virtual farm forests sites.

Extension Activity Ideas

These extension activities are designed so that little or no resources and preparation are required. In most cases, students can carry out the extension activities independently once they have completed the core forestry activities.

- 🌲 Write a letter or email to ForestrySA, other forest growers or the Department for Environment and Heritage (SA) asking them some questions about what they do.
- 🌲 Locate the forested areas of Australia and mark them on a map.
- 🌲 Research another animal or bird that lives in the forest.
- 🌲 Find out what percentage of land in Australia is forest. How much of this is native forest and how much is plantation forest? What percentage of Australia's forests are found in South Australia?
- 🌲 How much of Australia was covered in forest when European settlers first arrived? How much remains? What impact has this had on the Australian environment?
- 🌲 Compare the forest management practices of Indigenous Australians, early settlers and the present day. What were and are people using forests for?
- 🌲 Prepare a report on the various types of forests found in Australia and around the world, including old-growth forests, rainforests, hardwood plantations, softwood plantations and native forests.
- 🌲 Complete some Forestry Fun pages.