get growing!

National Tree Day®

ENVIRONMENTAL EDUCATION KIT

National Tree Day is organised by Planet Ark in partnership with Toyota Prius

PLANET ARK

It's Tree Day TOYOTA

Powered By PRIUS PEOPLE

Proud sponsor

The 'Get Growing!': Environmental Education Kit has been produced by Planet Ark in partnership with the Australian Association for Environmental Education as an education and learning resource for teachers and students participating in Schools Tree Day and National Tree Day. *

This resource has been designed to increase the environmental, educational and community development outcomes of mass plantings of locally indigenous plant species and bush regeneration in benefiting Australian ecosystems, thereby satisfying the Aim of the National Tree Day project.**

Planet Ark Project Manager, 'Get Growing!' Environmental Education Kit:

Melissa Allen

B.Bus

Principal Author:

Sydney Smith

B.A., MEd., MACE

Vice President AAEE***

Environmental Consultant: NTDEAC****

Co-Author:

Jillian Cupitt

B.Ed.

Planet Ark Editorial Team:

Karen Billington

Anne-Marie Byrne

Michelle Cook

Sandy Holmes

Caroline Jones

'Get Growing!' Logo Concept and Design:

Spatchurst

Illustrations and Layout:

Mike Foxall www.centralwestcreative.com

All illustrations in this resource are ©Mike Foxall / Central West Creative 2008

Published by:

Planet Ark, Sydney, Australia 2008

'Get Growing!' Environmental Education Kit

Copyright © Planet Ark 2008

Planet Ark welcome the use of these resources within the restraints imposed by the Copyright Act 1968 (Cth). Provided acknowledgement is made of the source, Australian Government and non-Government school staff are permitted to copy this material freely for the purpose of teaching students in schools or communicating with parents and others in the community. Detailed requests for use not specifically permitted by the Copyright Act 1968 (Cth) should be submitted to Planet Ark via: admin@planetark.org

* National Tree Day 2008 is organised by Planet Ark in partnership with Toyota and the AMP Foundation.

** For more information on the Vision, Aim and Objectives of National Tree Day, please go to: treeday.planetark.org.

*** The Australian Association for Environmental Education (AAEE) is the premier, national, professional association for those who identify themselves as working in the fields of environment or sustainability education.

**** The National Tree Day Environmental Advisory Committee was set up to provide technical and specialist advice to enhance the environmental and social outcomes of the National Tree Day project. Member organisations include: Trees For Life, the Australian Association of Bush Regenerators, Greening Australia, Landcare Australia, the Australian Local Government Association and Education for Sustainability.
For more information on the NTDEAC, please go to treeday.planetark.org.

TEACHERS NOTES

UNIT OBJECTIVES

After completing this unit students will:

- Understand what plant communities need to survive
- Appreciate that dead and dying trees play an important role in ecosystems
- Understand the role of trees and plants in the ecosystem
- Understand that many people have a responsibility for caring for our natural environment
- Understand their role in caring for our natural environment
- Develop participatory skills by taking part in Planet Ark's Schools Tree Day

HELFUL TERMS AND DESCRIPTORS (SEE GLOSSARY FOR DEFINITIONS)

- Climate Change
- Rehabilitation
- Regeneration
- Revegetation
- Custodianship
- Decomposer

FOCUS QUESTIONS

1. What do plants need to live and grow?
2. How do dead or dying trees serve a purpose for the environment?
3. Who are the caretakers of our natural environment?
4. How can we be involved in caring for our natural environment?

OTHER RESOURCES AND WEBSITES SUPPORTING THIS UNIT

TREES AND CLIMATE CHANGE

http://www.wilderness.org.au/campaigns/climate-change/trees-and-climate-change/

http://treeday.planetark.org/faq/climate-change.cfm

DEAD AND DYING TRESS

http://www.maroondah.vic.gov.au/DeadTrees.aspx

http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/threat_profile.aspx?id=20011

INDIGENOUS CUSTODIANSHIP

http://www.dreamtime.net.au/indigenous/land.cfm#bi

COMMUNITY CUSTODIANSHIP

http://www.landcareonline.com/page.asp?sID=22

TREE PLANTING & MAINTENANCE

http://treeday.planetark.org/howto/

http://www.environment.gov.au/education/publications/school.html

SUSTAINABLE SCHOOLS

http://www.environment.gov.au/education/aussi/

http://www.juniorlandcare.com.au/

BOOKS

'Life in a Rotten Log' by Kathie Atkinson

BACKGROUND INFORMATION

Climate change is a serious problem that affects us all. Our current carbon dioxide emission levels are causing global warming and are unsustainable for the future of the planet and all life forms that depend on it for survival. We contribute to carbon dioxide and other greenhouse gas emissions when we do things like drive our cars, use energy to light our houses, send rubbish to landfill, and fly in aeroplanes. We even contribute to emission levels when we source our food from far-away places, due to the energy used transporting it to our dinner table! Clearing of existing native vegetation also makes a significant contribution to carbon emissions and loss of biodiversity, which is another major threat to life on earth and one which is being further impacted by climate change.

One effective way we can help combat the ill-effects of greenhouse gas emissions and loss of biodiversity, is to plant native trees (and other vegetation), and to care for existing bushland. All plants absorb carbon dioxide while they grow, trapping it in their tissues. Trees and plants release oxygen and provide habitat for many thousands of other plants and animals.

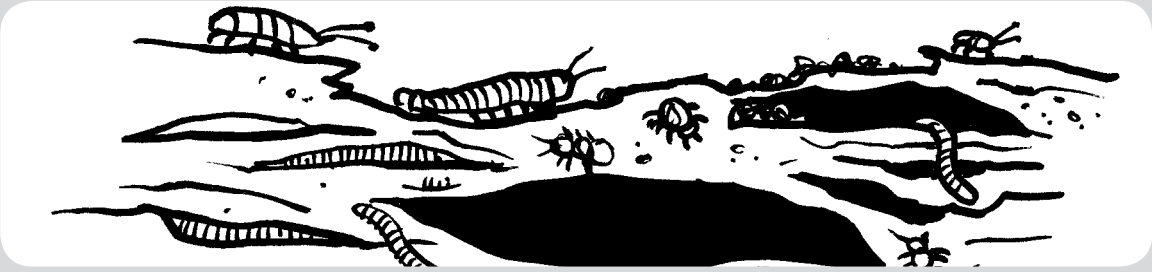
If plants are essential for our survival, we in turn need to ensure that plants have all they need to survive:

Sunlight – shines on leaves and helps the plant make food through photosynthesis. Plants are the primary producers of our planet.

Soil - the loose surface of the earth in which plants grow. Soil is a mixture of decaying organic matter, living organisms and minerals from worn away rocks. The soil keeps water and minerals close to the plants roots and holds the plant in place in the ground.

Water – plants need water to keep their cells turgid (so they can stay upright), to transport nutrients to their cells, and to photosynthesise. Without water, plants would die.

Air - provides plants with the carbon dioxide they need to survive. Plants clean the air by removing pollution and maintaining a balance in the carbon and oxygen cycles by converting carbon dioxide to oxygen for us to breathe.



Plants also need a habitat - a place to live that contains all the above items to help it survive. A tree or plant species may become extinct or threatened because their habitat has been destroyed or changed, perhaps due to human activity.

Trees are valuable whether they are dead or alive. Dead trees, including decaying logs, solid logs, fallen branches, standing dead trees, and stumps, provide essential habitat for a variety of native species and are key functional elements of many ecosystems and ecological processes. The energy captured during a tree's life is released or converted as it rots, as wood-eating plants and animals such as fungi and termites digest the wood and are themselves eaten by other life forms. Rotting trees provide birds, lizards and echidnas with shelter from predators, weather and a protective nursery for their young. The slow breakdown of the wood in a large log supports a web of living things from ants, worms and beetles to birds, lizards, frogs, bats, possums and gliders for decades or longer. Standing dead trees can also provide tree hollows, important as nesting sites for bats, birds, possums and all arboreal species. The removal of dead wood from the ground can expose soil to erosion by wind and water processes.

One of the most important ways to help all plants and habitats to survive is to protect them permanently in National Parks, nature reserves or wilderness areas. We can also take positive action to create and protect habitats for plant communities in our own communities – in our gardens, schoolyards and local parks. In this way, we can become environmental custodians, caring for our local environment and preserving it for future generations.

One way to do this is to help grow, plant and care for native trees, shrubs and grasses in your local area as part of Schools Tree Day or National Tree Day.

There are a number of other activities, groups and events that students can join or get involved in to become environmental custodians in their community throughout the year. Good examples include Streamwatch programs, Clean Up Australia Day, recycling, buying locally, Landcare and Weedbusters.

If we all become dedicated environmental custodians, Australia's plants and animals will have a greater chance of survival.

STAGE 1

FOCUS QUESTION 1: WHAT DO PLANTS NEED TO LIVE AND GROW?

Discovering plant needs

Materials

5 lettuce seedlings

1 large snap lock bag

4 small pots on trays & 1 cup

Soil

5 paddle pop sticks

Information Sheet G

Activity Sheet 4.1

ACTIVITY

Discuss with the class (or ask them to tell you) the four key things plants need to grow: "air" (oxygen and carbon dioxide), soil (nutrients and support), sunlight and water. Explain that just like the students' bodies, which need water, food, air and shelter to be healthy, plants also need each of the above four things to survive.

To illustrate the impact of the loss of any of these elements, conduct an experiment with the class using five lettuce seedlings. See Information Sheet G for the experiment method.

Over a two week period, water each plant each morning (except number 5) and maintain all other constraints of the experiment. Monitor each plant and ask students to record their observations in Activity Sheet 4.1.

After two weeks, discuss the results as a class using the prompt questions in Activity Sheet 4.1.

FOCUS QUESTION 2: HOW DO DEAD OR DYING TREES SERVE A PURPOSE FOR THE ENVIRONMENT?

Eco Detectives

Materials

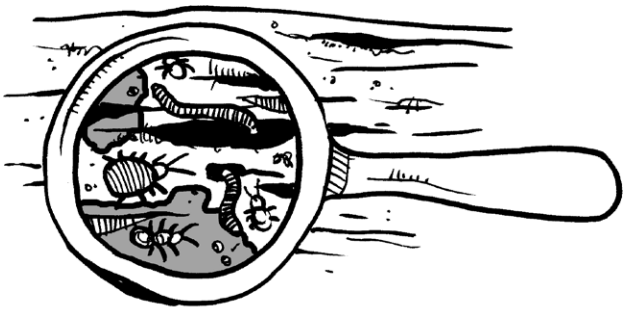
Fallen, decaying tree to study in its habitat, OR

'Life in a Rotten Log' by Kathie Atkinson

Torch, magnifying glass, mirror (if using an actual log)

Information Sheet H

Paints & Art paper



ACTIVITY

Locate a standing dead tree or fallen log that is decaying. If you can't get access to a fallen log, you could read through 'Life in a Rotten Log' by Kathie Atkinson and discuss its content.

Examine the log (without disturbing it or the animals that live in it) by using torches, magnifying glasses and mirrors (to see the underside). What evidence of animals and insects can the class see? Look for:

Beetles, weevils, ants and signs of termites

Mosses and lichens

Fungi that are recycling the log

Scratches, diggings, eggs, spider-webs

If it's a standing dead tree, does it have hollows that are suitable for birds, possums and bats to nest in?

Explain that dying trees provide not only a home for many animals; they also break down over time to make soil. Use Information Sheet H to help explain the process.

Students paint a picture of their own fallen log, and add images of some of the animals and insects that live in, or under, it.

FOCUS QUESTION 3: WHO ARE THE CARETAKERS OF OUR NATURAL ENVIRONMENT?

Whose job is it?

Materials

Information on the Aboriginal group that originally lived in your area

Butchers paper

Pencils and markers

ACTIVITY

Introduce the words 'caretaker' and 'custodian' to the class. What does it mean to 'take care' of something? (Protect it, nurture it, and make sure it has everything it needs to be healthy). Ask students to recall a time they had to take care of something (perhaps a younger sibling, pet, valuable item or sick friend).

Help them to recall the results of the experiment from Focus Question 1. What are the four things that plants need to survive? (Air, water, sunlight and soil). Explain that there are many people who work hard to take care of plants so that they have everything they need to grow healthy and strong.

Think about your local area. Who were the original caretakers of the landscape? (Indigenous Australians). Can you find out which Aboriginal language group originally lived in your area? How did they care for the environment? (See http://www.dreamtime.net.au/indigenous/land.cfm#bi for some information on Aboriginal connection to the land. It would be great to speak to a contact who knows about the indigenous heritage of your area, for example an Aboriginal Land Council, Tribal Council, Aboriginal Resource Centre and/or local Elders).

Who takes care of the land in your area today? Brainstorm as a class all the different groups and individuals who are environmental caretakers, whether as paid jobs or volunteers. Discuss which land they take care of and how they take care of it. Invite someone involved with land management to come a class discussion (eg Park Ranger, Bushcare Volunteer, or farmer).

As a class, make a poster on butcher's paper showing pictures of all the different people who work to protect our environment and the jobs they do.

FOCUS QUESTION 4: HOW CAN WE BE INVOLVED IN CARING FOR OUR NATURAL ENVIRONMENT?

What can we do?

Materials

Internet research

Identification tags

ACTIVITY

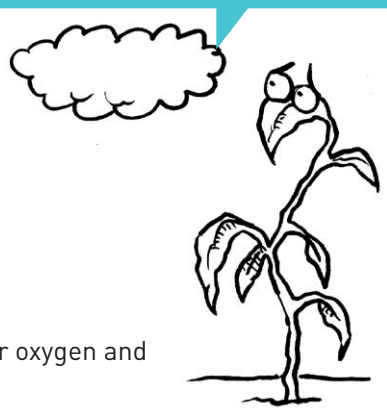
Help students understand that it's not just the job of the people they learnt about in Focus Question 3 to care for the environment; it is their job too!

Brainstorm some of the different things your class could do to be good environmental caretakers. If you have recently carried out, or are about to carry out your Schools Tree Day planting, how can you make sure your plants will have all they need? For example, will they be watered regularly and protected from weeds and pests? (Visit http://treeday.planetark.org/howto/tree-maintenance.cfm for more information on caring for your site). Make identification tags for your plants showing their name, date of planting, who planted them and the height at time of planting. This way, you can track their growth and see how they're going next year!

Carry out research on other groups and programs students could get involved with (in or out of class) like Streamwatch, Landcare, Coastcare, Bushcare, Clean Up Australia, Weedbusters, bush regeneration, or protection and awareness raising for a local threatened species (visit http://treeday.planetark.org/involved/other-activities.cfm for more information). You might even want to build a shade house for seed propagation, or plant a bush tucker, native, or sensory garden at your school. When we all do our little bit, it makes a big difference to our planet!

STAGE 2

FOCUS QUESTION 1: WHAT DO PLANTS NEED TO LIVE AND GROW?



Let-us investigate!

Materials

5 lettuce seedlings
1 large snap lock bag
4 small pots on trays & 1 cup
Soil
5 paddle pop sticks
Information Sheet G
Activity Sheet 4.1

ACTIVITY

Ask the class to tell you the four key things plants need to grow: 'air' (or oxygen and carbon dioxide), soil (nutrients and support), sunlight and water.

Brainstorm what might happen to a plant that doesn't get each of these four things.

Inform the class that you are going to conduct an experiment using five lettuce seedlings to test their hypotheses. See Information Sheet G for the experiment method.

Break the class into five groups, and allow each group to be responsible for a setting up a different plant. Help the class begin writing up their experiment including the aim (to see how a lack of <insert their element> affects the health of their plant), hypothesis (what might happen), equipment, and method used.

Over a two week period, groups should water their plant each morning (except the group who is monitoring seedling 5). All other constraints of the experiment should remain. Every second day a member from each group should record observations about their plant's size, colour, shape and general health. These observations should be recorded as a table in the 'results' section of their experiment write-up.

After two weeks, each group should draw observations and conclusions about what happened to their plant, and conclude if their hypothesis was correct. They should then present their findings to the rest of the class. See Activity Sheet 4.1 for further suggested discussion points.

FOCUS QUESTION 2: HOW DO DEAD OR DYING TREES SERVE A PURPOSE IN THE ENVIRONMENT?

The cycle of a rotting log

Materials

Pictures of fallen (and standing) dead or dying trees
Information Sheet H
Cardboard sheets and rolls (toiler paper/paper towel)
Paddle pop sticks for puppet making
Glue, scissors, craft paper, masking tape and markers
Activity Sheet 4.2

ACTIVITY

Show the class the different pictures of dead and dying trees and see if they can think of all the ways these trees might still be helping the environment (providing homes for many animals and insects, stabilising soil, decomposing into nutrients and new soil etc.).

Talk through Information Sheet H to help them understand the cycle of a rotting log. Define and talk about the role of decomposers (see http://www.austmus.gov.au/factsheets/biodiversity_litter.htm).

Introduce the idea of food webs. Who eats the decomposers that break down the tree? Write a few simple food webs on the board (e.g. tree-millipede-magpie-owl, which dies and goes into the soil to nourish the tree).

In groups, students make a model dead tree by joining cardboard rolls together (to make branches and trunk). Cut out some 'hollows' in the trunk and branches. Students then colour in the templates of the hollow-dwelling animals (from Activity Sheet 4.2), then cut out and glue each onto cardboard before attaching to paddle pop sticks. Students can then show the animals living in their new home!

FOCUS QUESTION 3: WHO ARE THE CARETAKERS OF OUR NATURAL ENVIRONMENT?

If I were a...

Materials

Information on the Aboriginal group that originally lived in your area

Internet for research

ACTIVITY

Introduce the words 'caretaker' and 'custodian' to the class. What does it mean to 'take care' of something? (Protect it, nurture it, and make sure it has everything it needs to be healthy).

Ask them to recall the results of their experiment from Focus Question 1. What are the four things that plants need to survive? (Air, water, sunlight and soil). Explain that there are many people who work hard to take care of plants so that they have everything they need to stay healthy.

Think about your local area. Who were the original caretakers of the landscape? (Indigenous Australians). Can you find out which Aboriginal language groups originally lived in your area? How did they care for the environment? (See http://www.dreamtime.net.au/indigenous/land.cfm#bi for some information on Aboriginal connection to the land. It would be great to speak to a contact who knows about the indigenous heritage of your area, for example an Aboriginal Land Council, Tribal Council, Aboriginal Resource Centre and/or local Elders).

Who takes care of the land in your area today? Brainstorm as a class all the different groups and individuals who are environmental caretakers, both in paid jobs and as volunteers. Some ideas might be National Parks officers, State rangers, Local Council workers, farmers, environment workers from groups like Landcare, Conservation Volunteers and Greening Australia, bush regenerators, Government agencies, fire fighters etc.

Each student should then pick one of these people and research the tasks they carry out and the responsibilities they have. Students should then give a short presentation to the class, as though they were a worker in that role, sharing the details of their job.

FOCUS QUESTION 4: HOW CAN WE BE INVOLVED IN CARING FOR OUR NATURAL ENVIRONMENT?

What can we do?

Materials

Internet for research

Identification tags

ACTIVITY

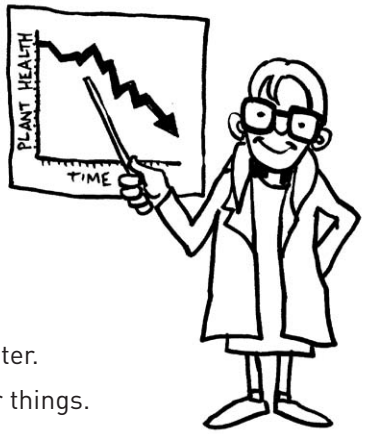
Discuss with the class that it's not just the job of the people they learnt about the environment; it is their job too!

Brainstorm some of the different things your class could do to be good environmental caretakers. If you have recently carried out, or are about to carry out, your Schools Tree Day planting, how can you make sure your plants will have all they need? For example, will they be watered regularly and be protected from weeds and pests? (Visit http://treeday.planetark.org/howto/tree-maintenance.cfm for more information on caring for your site). You could make identification tags for your plants showing their scientific name, common name, date of planting, who planted it and the height at time of planting. This way, you can track their growth and see how they're going next year!

Carry out research on other groups and programs students could get involved with (in or out of class) like Landcare, Streamwatch, Coastcare, Clean Up Australia, Weedbusters, bush regeneration, or protection and awareness raising of local threatened species. You might even want to build a shade house for seed propagation or plant a bush tucker, native, or sensory garden at school. When we all do our little bit, it makes a big difference to our planet!

STAGE 3

FOCUS QUESTION 1: WHAT DO PLANTS NEED TO LIVE AND GROW?



Investigating plant needs

Materials

5 lettuce seedlings	Soil
1 large snap lock bag	5 paddle pop sticks
4 small pots on trays & 1 cup	Information Sheet G

ACTIVITY

Ask the class to tell you the four key things plants need to grow: 'air' (or oxygen and carbon dioxide), soil (nutrients and support), sunlight and water.

Brainstorm what might happen to a plant that doesn't get each of these four things.

Inform the class that you are going to conduct an experiment using five lettuce seedlings, to find out if their hypotheses were right. See Information Sheet G for the experiment method.

Break the class into five groups, and allow each group to be responsible for a setting up a different plant. Students should write up the details of their experiment including the aim (to see how a lack of <insert their element> affects the health of their plant), hypothesis (what might happen), equipment, and the method used.

Over a two week period, groups should water their plant each morning (except the group who is monitoring seedling 5). All other constraints of the experiment should remain. Every second day a member from each group should record some observations about (and optionally take a photo of) their plant's size, colour, shape and general health. These observations should be recorded in a 'results' table in their experiment summary.

After two weeks, each group should draw observations and conclusions about what happened to their plant, and whether their hypothesis was correct. They should then present their findings to the rest of the class. Discuss which specimen deteriorated the fastest and which seemed the healthiest. Why might this be so? Could any of the plants be cared for in such a way that they could be restored to full health? Which elements are the most essential to plant life in light of the results of the experiment?

FOCUS QUESTION 2: HOW DO DEAD OR DYING TREES SERVE A PURPOSE FOR THE ENVIRONMENT?

Understanding food webs

Materials

Pictures of fallen (and standing) dead or dying trees

Information Sheet H

ACTIVITY

As you show the class different pictures of dead and dying trees, brainstorm the ways these trees might still be helping the environment (providing homes for animals/insects, stabilising soil, decomposing into soil etc.).

Talk through Information Sheet H, demonstrating the cycle of a rotting log. Define and talk about the role of decomposers (see http://www.austmus.gov.au/factsheets/biodiversity_litter.htm).

Introduce the idea of food webs. Draw a picture of a fallen log on the board and ask students to build up a picture of the interactions that radiate out from the log. Consider:

Decomposers such as worms, termites, slaters, millipedes and fungi which break down the log and lichens and mosses which colonise the surface in preparation for the establishment of new vegetation.

Other creatures which eat the decomposers such as centipedes and spiders and larger predators such as birds, lizards, echidnas, snakes, kookaburras, owls, quolls and dingos.Various native animals which eat fungi eg wallabies, possums and bandicoots (see http://www.anbg.gov.au/fungi/ecology-vertebrates.html).

Eventually the cycle is completed when an animal's waste and dead body (if not eaten by) is consumed by the decomposers, to go back into the soil.

See how many interrelationships the class can build into the model.

FOCUS QUESTION 3: WHO ARE THE CARETAKERS OF OUR NATURAL ENVIRONMENT?

I could be a...

Materials

Information on the Aboriginal group that originally

lived in your area

Butchers paper

ACTIVITY

As a class, consider what it means to be a 'caretaker' or 'custodian' of something (protect it, nurture it, make sure it has everything it needs to be healthy).

Think about your local area. Who were the original caretakers of the landscape? (Indigenous Australians). Can you find out which Aboriginal people group originally lived in your area? How did they care for the environment? (See http://www.dreamtime.net.au/indigenous/land.cfm#bi for some information on Aboriginal connection to the land. It would be great to speak to a contact that knows about the indigenous heritage of your area. For example: an Aboriginal Land Council, Tribal Council, Aboriginal Resource Centre and/or local Elders).

Who takes care of the land in your area today? Brainstorm as a class all the different groups and individuals who are environmental caretakers, both in paid jobs and as volunteers (eg National Parks officers, State rangers, Local Council workers, farmers, environment workers from groups like Greening Australia and Landcare etc., bush regenerators, Government through law and policy, fire fighters etc.).

The class then divides into skill groups. Each student picks an area they feel they are skilled in or passionate about (e.g. maths, science, computers, sport, english, art, history) and within their groups, brainstorm on butchers paper all the jobs they could do to support the environment with that skill (e.g. maths group could do wildlife statistics, biologists could survey and monitor native ecosystems, scientists could test the impact of pesticides, technicians can do mapping, athletes could be guides, english group could write books, artists could photograph, paint or sing, historians could research the way landscapes have changed over time etc).

Each group then prepares a presentation to share with the rest of the class that shows all the applications of their skill. This exercise is designed to help students realise that no matter what their skill, there is a way to apply it to being a caretaker of our environment.

FOCUS QUESTION 4: HOW CAN WE BE INVOLVED IN CARING FOR OUR NATURAL ENVIRONMENT?

Taking action

Materials

Internet research

Identification tags

ACTIVITY

Discuss with the class that it's not just the job of the people they learnt about in Focus Question 3 to care for the environment; it is their job too!

Brainstorm some of the different things your class could do to be good environmental caretakers and custodians. If you have recently carried out, or are about to carry out, your Schools Tree Day planting, how can you make sure your plants will have all they need? For example, will they be watered regularly and be protected from weeds and pests? (Visit http://treeday.planetark.org/howto/ for more information on planning and caring for your site). You could make identification tags for your plants showing their scientific name, common name, date of planting, who planted it and the height at time of planting. This way, you can track their growth and see how they're going next year! If you participate in Schools Tree Day, make sure you complete your Site Results, including an estimate of the percentage survival of previous year's plantings.

Carry out research on other groups and programs students could get involved with (in or out of class) like Landcare, Streamwatch, Coastcare, Clean Up Australia, Weedbusters, bush regeneration, or protection and awareness raising for a local threatened species. You might even want to build a shade house for seed propagation or plant a bush tucker, native, or sensory garden at school. When we all do our little bit, it makes a big difference to our planet!

Information Sheet G – All Stages:

What do plants need to live and grow?

Experiment Instructions

EQUIPMENT:

- 5 lettuce seedlings
- 1 large snap lock bag
- 4 small pots on trays & 1 cup
- Soil
- 5 paddle pop sticks

METHOD:

Seedling 1

This will be your **control** plant (the healthy seedling used as a means of comparison). Plant in a pot with good soil, and water regularly. Place on a windowsill where it will get a good dose of morning or afternoon sunlight. Make sure you label a paddle pop stick with a number '1' and place in the plant.

Seedling 2

This seedling will be denied **air**. Plant in a pot with good soil, water regularly and place on the window sill, however place the entire pot in a sealed snap lock bag for the duration of the experiment (except when giving water). Make sure you label a paddle pop stick with a number '2' and place in the plant.

Seedling 3

This seedling will be denied **soil**. Place the seedling in a cup of water and place on the windowsill. Make sure you label a paddle pop stick with a number '3' and place with the plant.

Seedling 4

This seedling will be denied **sunlight**. Plant in a pot, with good soil and water regularly, however keep this plant in a dark cupboard or storeroom for the duration of the experiment. Make sure you label a paddle pop stick with a number '4' and place in the plant.

Seedling 5

This seedling will be denied **water**. Plant in a pot, with good soil and place on the windowsill, however do not water this plant at all for the duration of the experiment. Make sure you label a paddle pop stick with a number '5' and place in the plant.

Activity Sheet 4.1 – Stage 1:
Discovering plant needs

Name: _____ Date: _____

FILL IN OR CIRCLE THE CORRECT ANSWER:

Seedling 1 is the _____ plant.

Seedling 2 is getting no	air	water	sun	soil
Seedling 3 is getting no	air	water	sun	soil
Seedling 4 is getting no	air	water	sun	soil
Seedling 5 is getting no	air	water	sun	soil

WHAT IS HAPPENING TO THE SEEDLINGS? FILL IN THE TABLE BELOW:

	Seedling 1	Seedling 2	Seedling 3	Seedling 4	Seedling 5
Day 1 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____
Day 3 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____
Day 5 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____
Day 8 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____
Day 10 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____

Day 12 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____
Day 14 Date: __/__/__ **Colour** **Height** **Texture** ***(circle/describe)***	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____	_____ _____ Soft Dry Wet _____

After two weeks, discuss:

Which seedling was the healthiest?

Which seedling was the most yellow?

Which seedling was the driest?

Which seedling grew the most?

Which seedling grew the least?

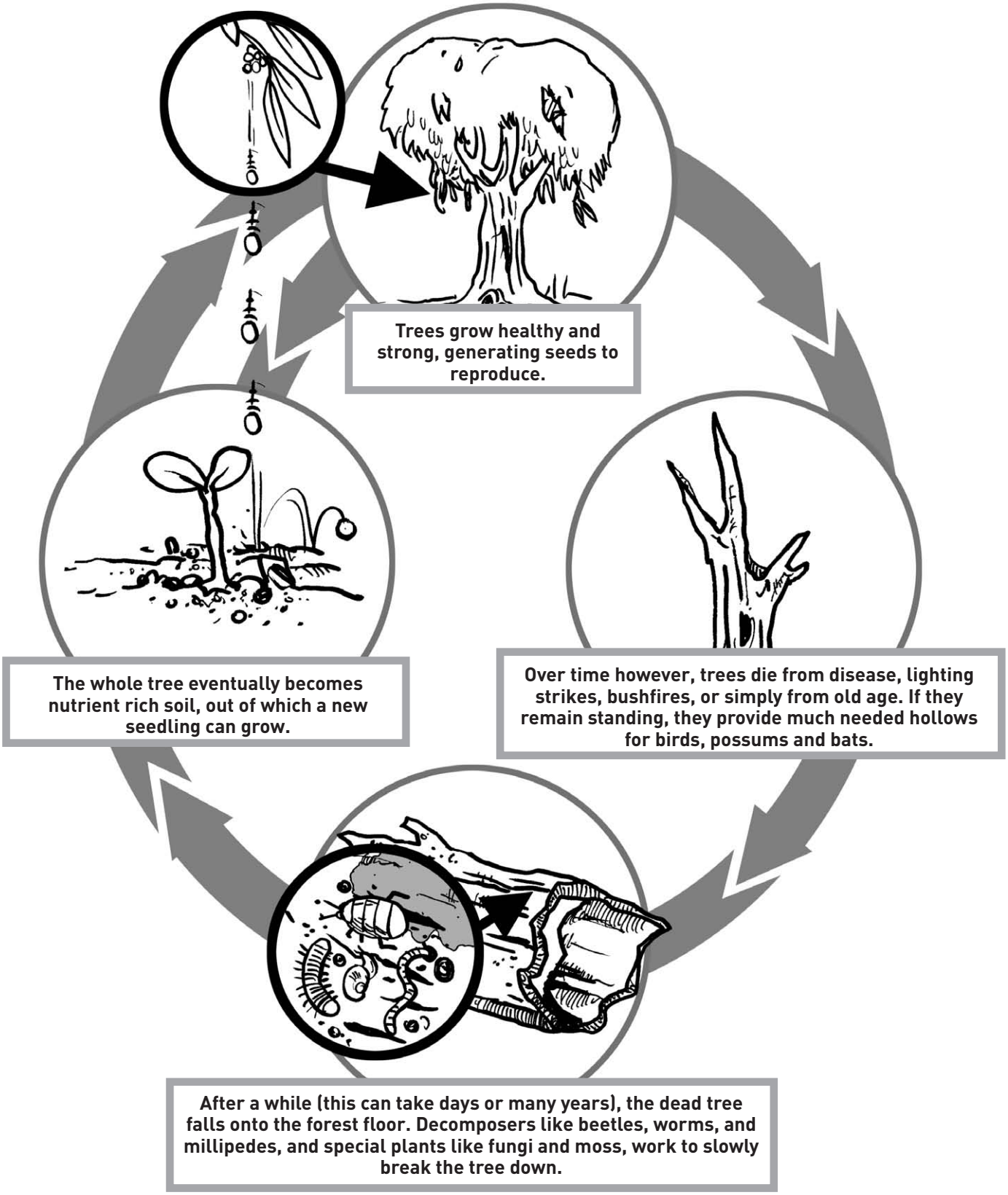
Did any seedlings die?

Draw a picture of each of the five seedlings after two weeks:

Information Sheet H – All Stages:

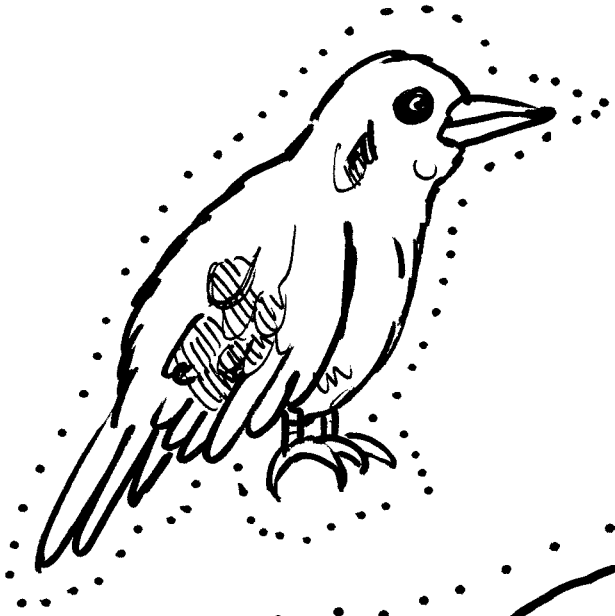
How do dead and dying trees serve a purpose for the environment?

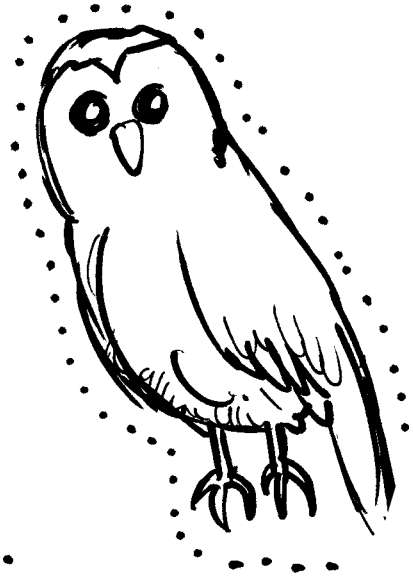
CYCLE OF A ROTTING LOG

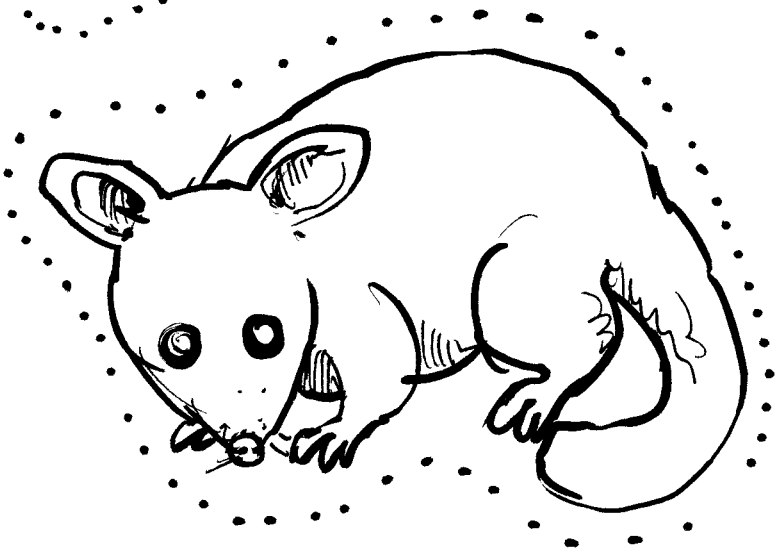


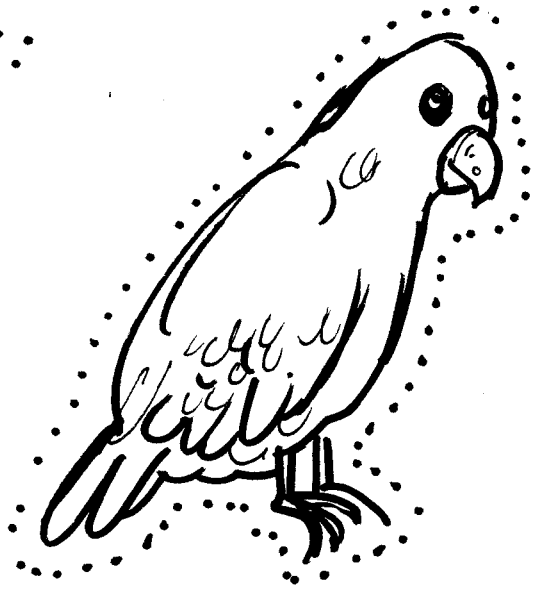
Activity Sheet 4.2 – Stage 2:

The cycle of a rotting log









PLANET ARK

get growing!

National TreeDay

Unit 4 - Feedback and Evaluation Form

This resource has been developed to help students get the most out of their National Tree Day and/or Schools Tree Day event, and to provide learning experiences that enable them to grow into environmental custodians.

In order to improve this resource in the future, we would greatly appreciate your feedback.

Once completed, please fax this form to **02 4757 8980** or post to

Planet Ark Environmental Foundation, PO Box 4, Wentworth Falls, NSW 2782

Please answer the following questions:

Teacher Name: _____

School Name: _____

Grade/Class: _____

Which state do you teach in? _____

In which Local Government Area is your school? _____

Which stage of lessons did you implement? _____

Which focus questions did you implement? _____

Did your class participate in Schools Tree Day? Yes No

If so, on what date? _____

How did you hear about this resource? _____

Please remark on the following statements on the scale provided:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel the lessons were effective in teaching their stated aims	1	2	3	4	5
I feel the class was engaged by the unit content	1	2	3	4	5
I feel the lessons were appropriate for their age and level of understanding	1	2	3	4	5
I found this unit useful for incorporating environmental education into my lesson planning	1	2	3	4	5
I feel this unit helped to increase my class' knowledge about the benefits of creating healthy native plant communities	1	2	3	4	5
I feel my class is now better equipped to be environmental custodians as a result of this unit	1	2	3	4	5
(If applicable) I feel this unit gave good educational support to our Schools Tree Day event	1	2	3	4	5

Which lesson(s) did you find were the most effective?

Which lesson(s) did you think were ineffective or inappropriate?

Was there anything about the document layout that you found frustrating?

How would you like to see this unit changed or improved for the future?

Are there any other comments, feedback or suggestions you would like to make?

Are you happy for us to contact you for further feedback? If so, please provide a contact number:

Thank you for taking the time to fill in this evaluation form.

Your feedback will ensure that we can produce the best possible resources to support the valuable work you are doing in educating our children, the future leaders of our world.