Busy in the bushland

Department of
Environment and Conservation

ecoeducation

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About this pack

There is growing world-wide concern that children are becoming increasingly disconnected from their natural environment. This can be attributed to factors such as urban development, parental anxiety and the popularity and convenience of sedentary electronic entertainment. Many see the estrangement between children and nature as detrimental to children's innate sense of curiosity and connection with all living things.

Busy in the bushland enables the teacher to awaken, engage and use this innate curiosity and enthusiasm for educational experiences aimed at forging an empathetic and emotional connection between children and nature.

Research suggests that nature-based education in the early years should focus on developing empathy and drawing inspiration from nature rather than embarking on difficult scientific explanations and creating an overload of complex conceptual knowledge. This resource incorporates an objective, empirical view with a concrete focus on nature as well as a subjective, aesthetic and personal approach in which self expression is encouraged.

The activities are designed to promote sensory, concrete, hands-on experiences with real objects, allowing for different levels of complexity. Cooperative group work, pair work and whole-class activities are included as a means of encouraging social learning in which students can discuss, share ideas and observations and ask questions.

Busy in the bushland has been developed as a cross-curricular, integrated unit with links to Science, Maths, English, Society and Environment and Art learning areas. Activities support content in the Biological Sciences, scientific inquiry and science as human endeavour strands in the Australian Curriculum. Maths and English activities are also linked to the Australian Curriculum while Art and Society and Environment links relate to the WA Curriculum Framework.

A cross-curricular, thematic approach enables all learners and learning styles to be included and catered for. A table demonstrating inks between activities and Howard Gardner's Multiple Intelligences has been included as a reference tool to ensure that delivery and implementation of this unit includes all learning styles.

Key outcomes

Students will:	Curriculum links			
Understand that bushland contains living and non living things which influence each other (Yr 2)	Science	Science understanding	Biological sciences	Australian Curriculum
Develop greater awareness and appreciation of the appearance, structure and function of trees (Yr 1)	Science	Science understanding	Biological sciences	
Understand that living things have basic needs, including food and water (Foundation)	Science	Science understanding	Biological sciences	
Understand that people use science in their daily lives, including when caring for their environment and living things (Yr 1)	Science	Science as a human endeavour	Use and influence of science	
Science involves exploring and observing the world using the senses (Foundation)	Science	Science as a human endeavour	Nature and development of science	
Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play (Yr 1)	Science	Science inquiry skills	Communicating	
Engage in discussions about observations and use methods such as drawing to represent ideas (Foundation)	Science	Science inquiry skills	Processing and analysing data and information	
Use comparative language to describe and order leaves	Mathematics	Number and algebra	Patterns and algebra	
Sort and classify natural objects and explain the basis for these classifications and create patterns with natural objects	Mathematics	Number and algebra	Patterns and algebra	
Experiment with reading and writing texts related to the natural environment	English	Literacy		
Develop and experiment with language to describe the natural environment	English	Language		
Explore ways to investigate the natural environment through a variety of visual arts works	Art	Visual arts	Creating visual arts/ exploring ideas	WA Curriculum
Create and present performing works which communicate ideas and observations	Art	Drama	Arts practice	
Understand that systems provide order to the dynamic natural and social relationships occurring in the world	Society and environment	Natural and social systems		
Understand that human activities can damage bush land and ways in which people can reduce and prevent damage	Society and environment	Place and space		
Understand the reasons why bush land needs to be cared for	Society and environment	Place and space		
Values				
Understand the many ways in which people and other living things use trees and tree products for enrichment and survival	Environmental responsibility	Conservation of the environment		
Understand the reasons why bush land is valuable and ways in which it can be cared for	Environmental responsibility	Conservation of the environment		

Busy in the bushland – an integrated cross-curricular approach

Table of activities and curriculum links

Theme	Activity	Main curriculum area				
		Science	Arts	English	Maths	S & E
Preliminary activities	KWL chart	■		■		
	Bushland meditation	■		■		
	A walk through bushland	■	■	■		
	Is it living?	■		■		
	Get connected	■		■	■	
Look at trees	Tree walk around the school	■		■		
	Tree imagery – I am tree	■		■		
	Explore and draw a tree	■	■	■		
	A tree needs water	■				
	Build a tree – role play	■				
	Parts of a tree – what am I?	■	■	■		
	How old is that tree?				■	
	Young and old	■	■			
	Count my rings	■	■		■	
	Look at bark	■	■			
	Look at leaves	■	■	■		
	I wonder which leaf is the longest…	■		■	■	
	Leaf drawing	■	■	■		
	Arts ideas with leaves	■	■			
	Leaf dance	■	■			
	If I was a leaf…			■		
	Look at fruit and nuts	■	■			
	Look at seeds	■			■	
	What do plants need to grow?	■				
	A tree grows	■		■		
	The tree that I planted	■		■		
About bushland	Many trees make bushland				■	
	Bushland buddies – who am I?	■	■			
	Tree dwellers	■	■			
	Is there a tree for me?	■	■			
	The bushland neighbourhood			■		■
	My neighbourhood and a bushland neighbourhood		■			■
	Fire fire!	■				
	Bushland is a busy place		■	■		
	Snap				■	
People, trees and bushland	Having fun in bushland			■		■
	Tree-mendous food!		■			■
	Bush tucker tasting plate			■		■
	Trees at work			■		■
	Bushland symphony		■			
	Say good morning to a tree	■	■	■		■
	Caring for bushland	■	■	■		■

Busy in the bushland and Howard Gardner's multiple intelligences

Activity	Ways of being smart							
	Word	Number	Picture	Body	Music	People	Self	Nature
KWL chart	•					•		•
Bushland meditation					•		•	•
A walk through bushland	•		•	•				•
Is it living?			•			•		•
Get connected	•	•	•			•		•
Tree walk around the school				•		•		•
Tree meditation					•		•	•
Explore and draw a tree			•	•				•
A tree needs water		•						•
Build a tree – role play				•		•		•
Parts of a tree – what am I?	•	•	•					•
Explore and draw a tree			•	•				•
How old is that tree?		•	•					•
A tree needs water	•		•					•
Look at bark	•		•					•
Look at leaves		•				•		•
I wonder which leaf is the longest, smallest, biggest…		•				•		•
Leaf drawing	•		•					•
Arts ideas with leaves			•					•
Leaf dance	•			•	•			•
If I was a leaf…	•						•	•
Look at flowers			•					•
Look at fruit and nuts		•						•
What do plants need to grow?	•	•	•					•
Seed pattern		•	•					•
A tree grows	•	•						•
The tree that I planted	•							•
Many trees make bushland		•						•
Bushland buddies – who am I?				•				•
Tree dwellers			•					•
Is there a tree for me?				•				•
The bushland neighbourhood	•							•
My neighbourhood and a bushland neighbourhood	•		•					•
Bushland is a busy place	•		•					•
Snap			•			•		•
Having fun in bushland	•		•					•
Tree-mendous food!				•		•	•	•
Bush tucker tasting plate				•		•	•	•
Trees at work								•
Bushland symphony					•			•
Say good morning to a tree	•			•	•			•
Caring for bushland	•		•			•		•

Bushland background information

Many different types of native plants and animals live in habitats in bushland. All living things within bushland depend on each other for food, shelter and survival.

There are different types of bushland throughout Western Australia—urban, rural and national parks. Urban bushland includes patches of natural bush around cities, suburbs and towns and can be strips of natural bush along a creek, or pockets of bushland between houses.

Rural bushland includes patches of natural bush on the outskirts of country towns, along roads and creeks or on rural properties.

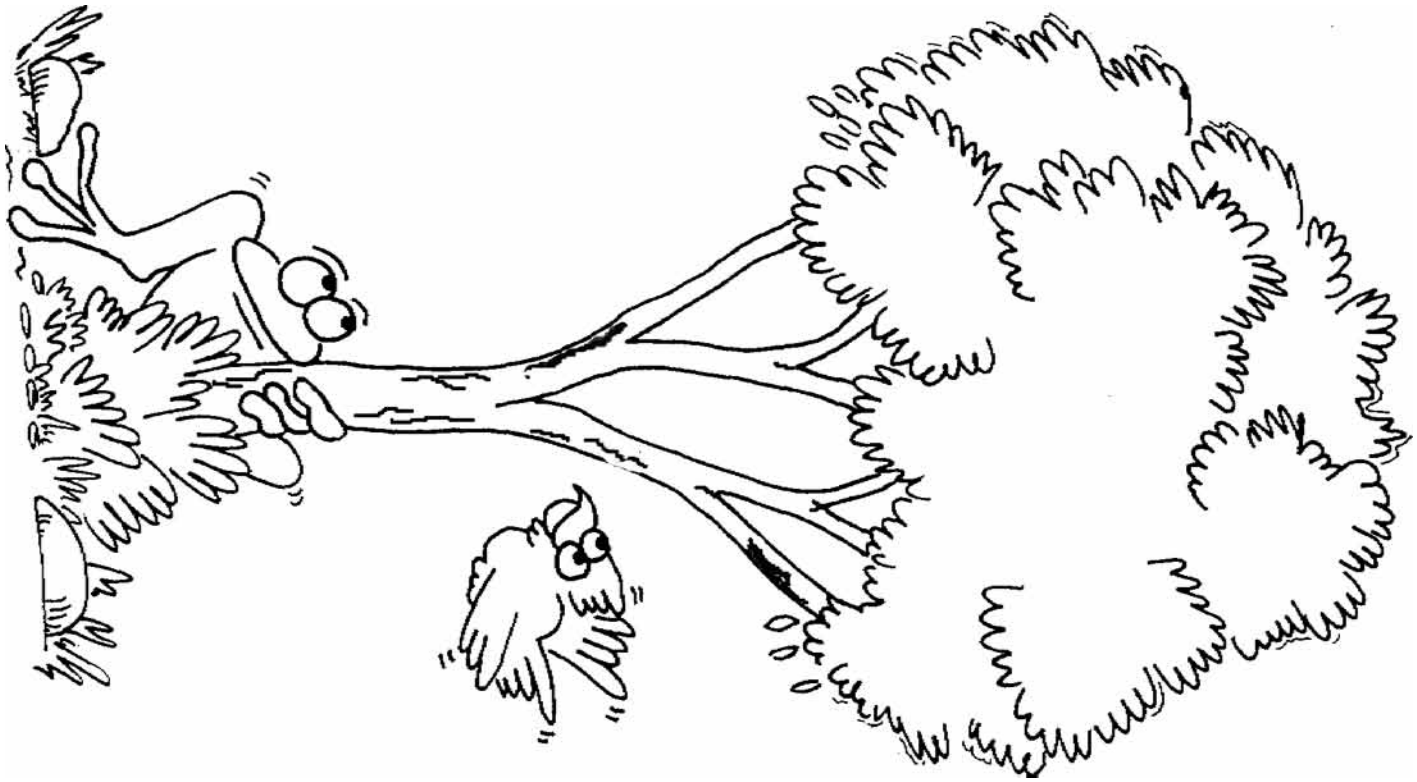
Urban and rural bushland is disappearing rapidly mainly as a result of increasing housing development.

National parks are large areas of natural bushland. These are large areas containing unspoiled natural landscape, plants and animals. These parks are for enjoyment, education and inspiration and are protected, conserved and managed by the government as a means of preserving their natural qualities.

Karri

Jarrah

Pilbara



Introductory activities

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Introductory activities

KWL chart

Aim: To collaboratively map and reflect on the learning journey by recording what we know, what we want to know and what we have learned.

Instructions:

Teacher and students collaboratively construct a KWL chart on A3 butchers' paper. This can then be completed at the conclusion of the unit and enables teacher and students to reflect, review and reinforce the learning experiences.

Bushland		
What we know	What we want to know	What we have learned
For example: • different types (what type near us) • trees (seeds, leaves, structure) • animal homes • resources • caring for bushland		

Bushland meditation

Aims

- To enable students to tune into the topic.
- To elicit and determine existing knowledge of bushland.

Instructions:

Students lie on the floor and listen to a bushland soundtrack.

Teacher verbally leads the students through the bushland.

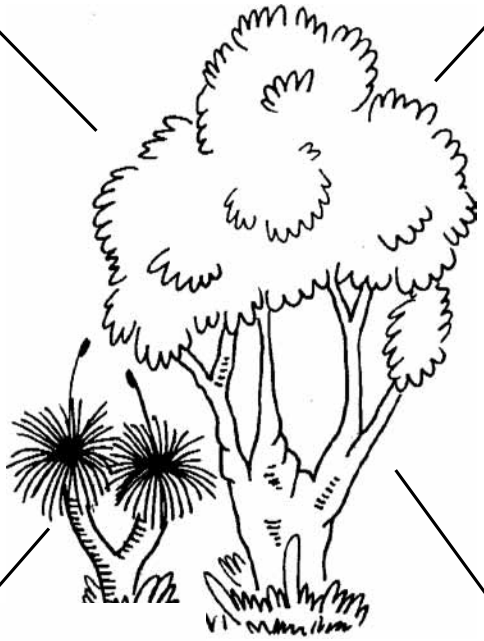
Students are encouraged to imaginatively engage all their senses.

Students record imaginary, sensory observations by drawing/writing on the activity sheet *A walk through bushland.*

A walk through bushland

I can touch

I can hear



I can see

I can smell

Living and non-living things in the bushland

Australian Curriculum links

Science/ Science understanding/Biological sciences:

Living things have basic needs, including food and water (Foundation).

Living things can be grouped on the basis of observable features and can be distinguished from non-living things (Year 3).

Science/Processing and analysing data and information: Engage in discussions about observations.

Science/Communicating: Share observations and ideas.

English/Literacy/Interacting with others

Aim:

Students recognise that the elements of the natural world include living and non-living things, which influence each other.

Instructions:

In a whole-class brainstorm, name some living/non-living things which live in the bushland. The teacher records contributions under the appropriate column (living/non-living) on the board.

In a whole-class discussion, decide what are living/non-living. What makes a thing living? What does a living thing need in order to survive?

In pairs students play *'Is it living?'* Enlarge to A3.

Starting on the outside of the spiral students take turns to roll a dice and move spaces. The first player to reach the bushland at the centre wins.

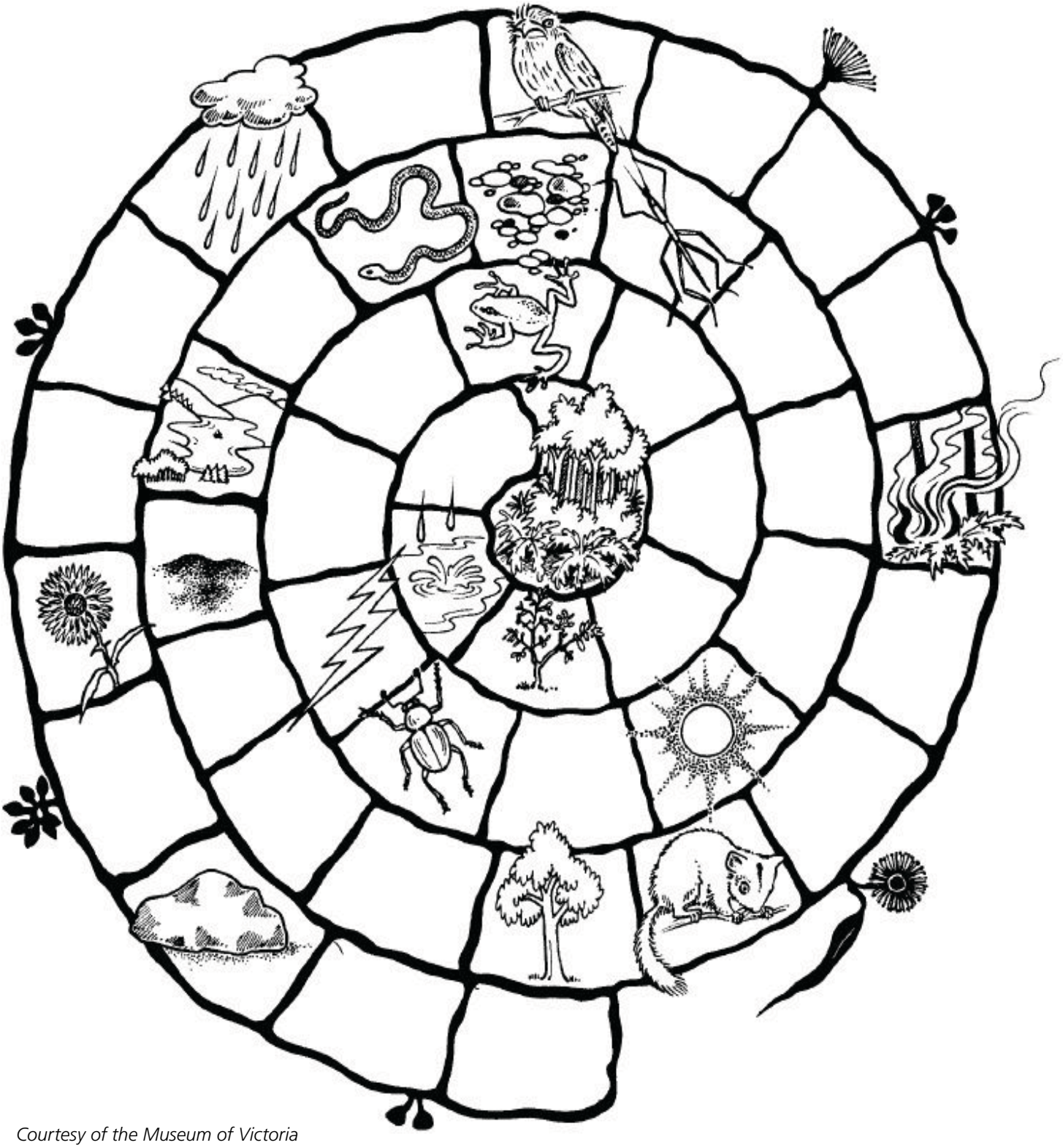
Is it living?

You will need: dice, coloured pencils and some counters. Enlarge to A3 for students.

Instructions:

1. Take turns with your partner to roll the dice.
2. Move that many spaces.
3. If you land on something which is living, go forward two spaces.
4. If you land on something which is not living, go back two spaces.
5. The first person to reach the bushland at the centre is the winner.

- Colour: plants green, animals brown, non living things red,
- Put a 'L' next to all the living things



Courtesy of the Museum of Victoria

Get connected – Living and non-living things in the bushland

Living things in the bushland cannot survive without non-living things. Rule lines to link a non-living and living thing. Write along the line how they are linked.

Sun

Rain

Leaf litter

Rocks

Dead wood

Tree

Snake

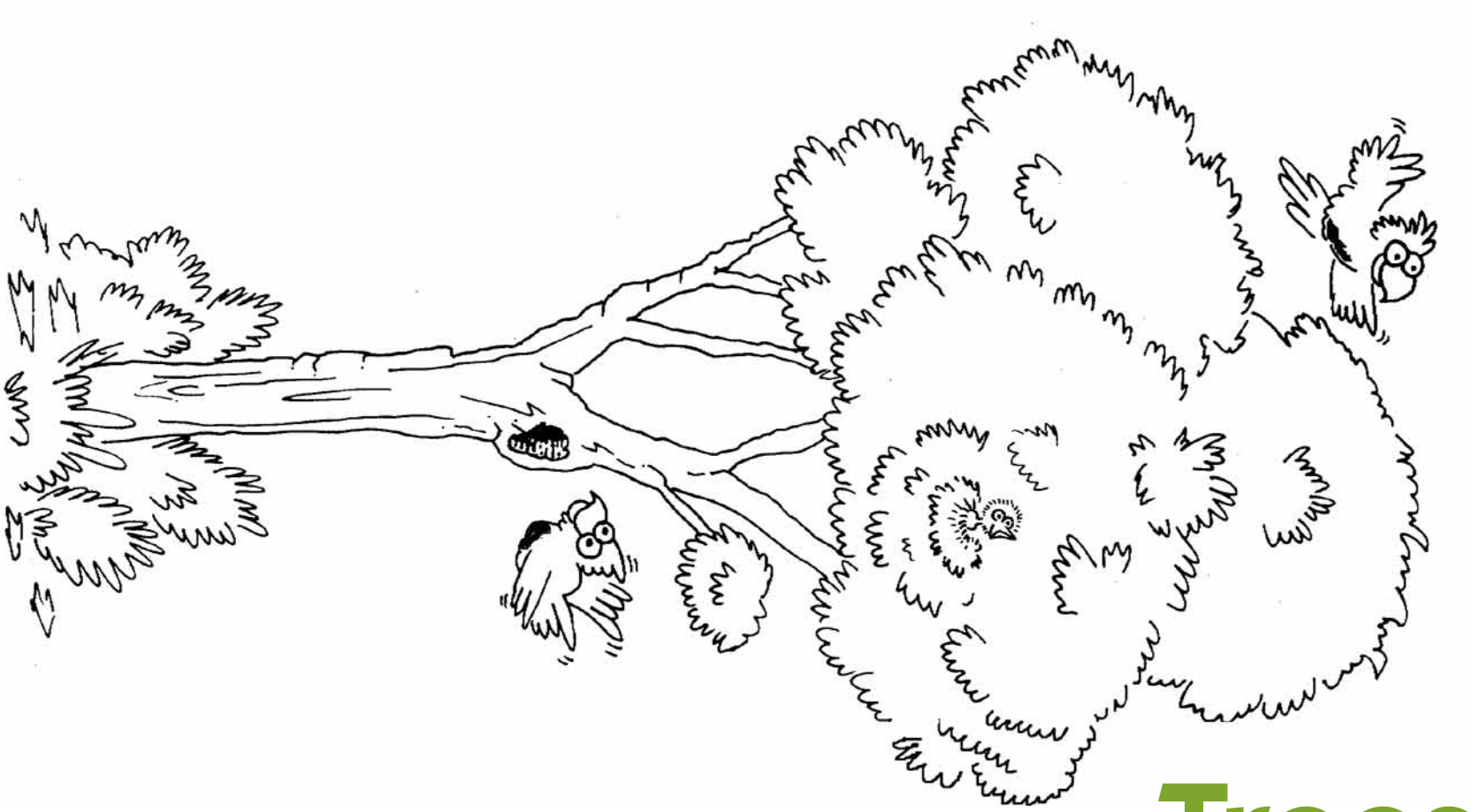
Slater

Echidna

Bird

Can you think of another example to show how living and non-living things are linked?

Living **Non-living**



Trees

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Section one

Look at trees

Australian Curriculum and Curriculum Framework links

Mathematics/Number and algebra/Number and place value:

- Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point.
- Subitise small collections of objects.
- Compare, order and make correspondences between collections, initially to 20, and explain reasoning.
- Represent practical situations to model addition and sharing.
- Count collections to 100 by partitioning numbers using place value.
- Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts (Year 1).
- Explore the connection between addition and subtraction.
- Recognise and represent multiplication as repeated addition, groups and arrays.
- Recognise and represent division as grouping into equal sets and solve simple problems using these representations (Year 2).
- Recognise and explain the connection between addition and subtraction (Year 3).

These activities stimulate and focus observation and interest in trees and introduce and develop tree-related vocabulary.

Collaborative classroom papier mache tree

If time and creativity permit, teachers can install a 3D tree in the classroom. This becomes the collaborative class tree collage and any tree 'work' can be displayed. For example, bark rubbings can be used to cover the trunk and leaf creations can be used for foliage. If a 3D tree is not possible or viable, a large 2D tree affixed to a wall is a suitable alternative for display purposes.

Using materials such as cardboard and newspaper provides a springboard for introducing and discussing recycling and sustainability issues.

Materials:

- lots of newspaper
- cardboard
- large cardboard tube - preferably a carpet tube
- masking tape
- water
- wall paper paste
- paint (green, brown, black, grey, and autumn colours if desired)

Instructions:

- Prepare some wallpaper paste in a large container such as a plastic crate, making sure it is not too thick or lumpy. Next, soak large sheets of newspaper in the mixture.
- Roll up sheets of cardboard until you have the desired trunk size. Use plenty of tape to hold the rolled-up cardboard together.
- To create bark-like texture on the trunk affix rolled up pieces of newspaper length ways.
- To build a hollow make a circle of rolled newspaper.
- For the roots, roll up larger rolls of newspaper around strips of cardboard and apply them to the bottom of the trunk with plenty of tape.
- When you have completed the structure cover it with the larger pieces of newspaper which have been soaking. Wipe off excess wallpaper paste. Apply the sheets to the trunk, pressing them down around all the contours. Apply several layers of paper.
- Leave to dry for up to 24 hours.
- To create and add branches roll up sheets of cardboard and tape them closed. Attach smaller rolls to the larger ones to make them look more like branches. Make up several branches like this, thicker at the base and thinner towards the tips. When you have enough branches, begin taping them in place.
- Cover the branches with papier mâché in the same way you did with the trunk, and allow it to dry.
- When everything is dry the tree is ready to be painted.

To complement the large classroom tree students can also make and label individual papier mâché trees.

www.creativekidsathome.com/activities/activity_158.shtml provides clear, illustrated instructions.

Be sure not to build the tree near overhead lights or heaters.

Tuning in activity: Tree walk around school

Instructions:

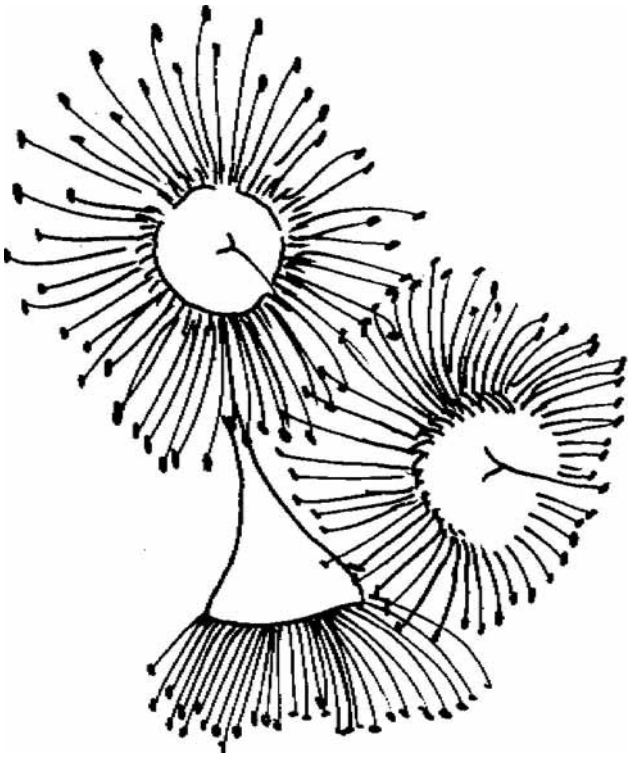
Teacher leads a 'walk and talk' and promotes discussion about shape, size, structure, age, and names of trees. Look at trees from different angles. Ask why trees have been planted in those positions? What purpose do they serve in the school grounds? Recording students' statements is invaluable. Quotes can be used to display on the collage tree.

Tree imagery – I am a tree

Teacher uses the following narration to lead students through a tree imagery exercise in which students can experience what it might feel like to be a tree. Empathy enriches us and helps us to adopt and develop respect and a caring and protective attitude toward the environment. This imagery focuses on how trees draw on inner strength to weather adversity. This can be a useful analogy when discussing and developing resilience in young children.

Instructions:

This exercise should ideally be conducted among real trees. Students spread out and close their eyes while remaining close enough to the teacher so that they can hear the narration. They can choose to hold their arms up like branches.



Guided tree imagery

Close your eyes.

Be very still.

Imagine you are a very tall tree.

You are standing very still and your legs are firmly rooted to the ground.

Can you make your body still like a sturdy tree?

Imagine that roots are growing down from your hips, going down through your thighs, knees, and your ankles, down through the soles of your feet and into the earth.

Send out smaller roots all around you. Spread them out further and further.

The deeper your roots grow the stronger you become.

Imagine your large trunk. Is your bark rough or smooth? Is it light or dark coloured?

You are a very mighty, tall tree. Inside you feel very strong and powerful.

Say to yourself, in your mind: "I am very strong and powerful". (repeat twice)

Enjoy this feeling of being strong and stable.

If anyone came to shake you, you would not move at all.

Now imagine you are growing taller.

Enjoy the feeling of gently stretching your arms up to the sky.

Can you feel the extra space in your body as you stretch out?

Grow and grow, stretch and stretch until you are the tallest tree.

Imagine your arms are branches and your fingers are leaves. What sort of leaves do you have? Are they large and pointed or round and small?

Your head and shoulders are the top of the tree and your feet are the roots.

Your feet don't move at all but your top half sways in the gentle breeze.

Feel your arms and fingers blowing gently in the wind.

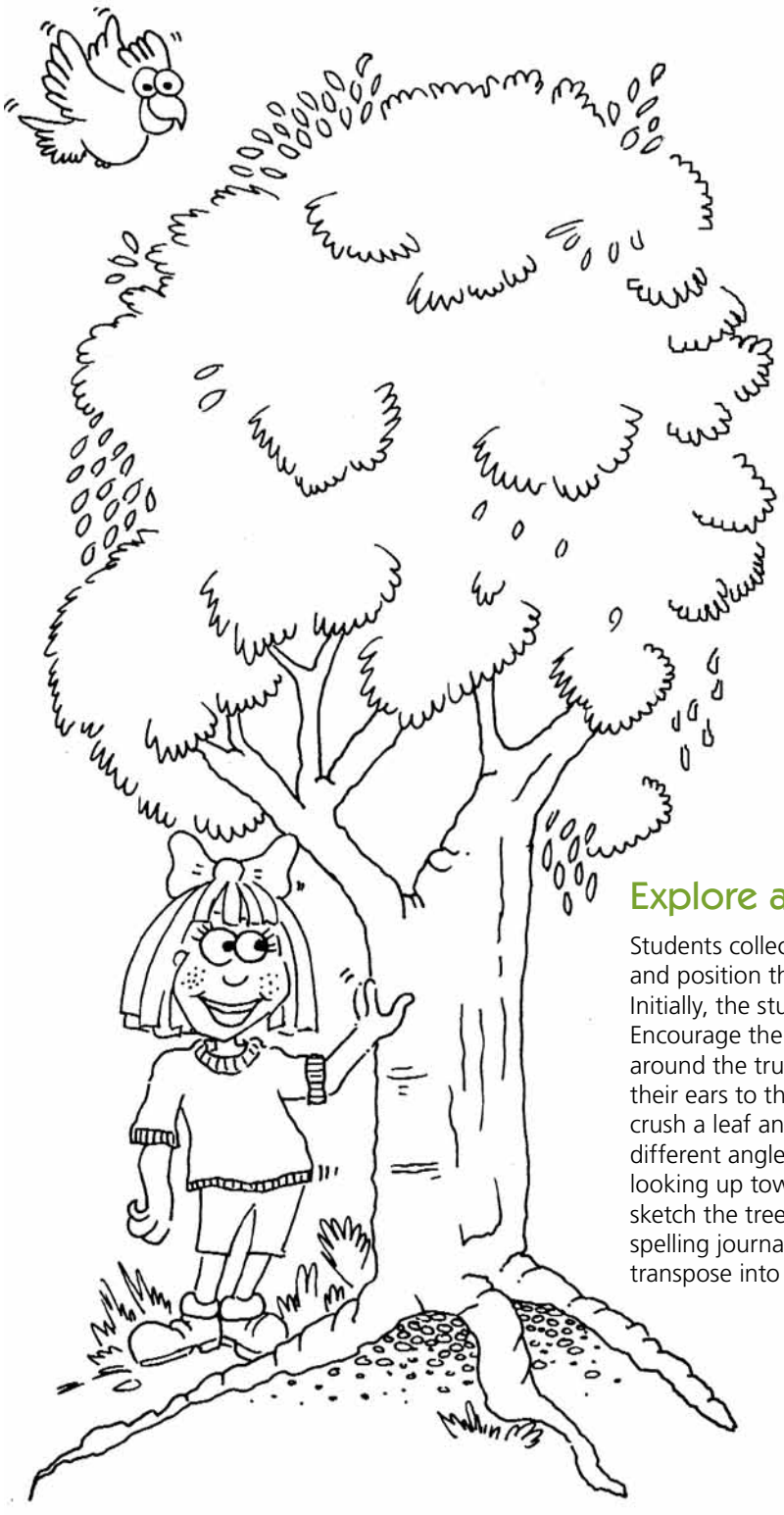
Now open your eyes.

Reference: CD: *Relax Kids: Nature – Enchanting Meditations for nature lovers of all ages*

Brainstorm – parts of a tree

Instructions:

Using a diagram, the teacher and students label parts on a whiteboard. Teacher scribes words and students record them in a spelling journal.



Explore and draw a tree

Students collect a clipboard, a pencil and spelling journal and position themselves outside in full view of a tree. Initially, the students explore the tree using their senses. Encourage them to touch the bark, wrap their arms around the trunk and feel the strength of the tree, put their ears to the tree to see if they can hear anything, crush a leaf and smell the aroma, view the tree from different angles, preferably lying underneath it, and looking up towards the sky. They then observe and sketch the tree and label the parts of the tree using their spelling journal as reference. This provides a 2D version to transpose into 3D papier mâché tree.

Thirsty work – a tree needs water

Australian Curriculum and Curriculum Framework links

Science/Science understanding/Biological sciences: Living things have basic needs including food and water.

Science/as a human endeavour/Nature and development of science: Science involves asking questions about and describing changes in, objects and events (Year 1).

Science/inquiry skills/Planning and conducting: Explore and make observations by using the senses.

Science/inquiry skills/Processing and analysing data and information: Engage in discussions about observations and use methods such as drawing to represent ideas (Foundation).

Science/inquiry skills/Communicating: Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play (Year 1).

Instructions:

Explain: What do we need to survive? (elicit water). Trees also need water. How do we know they use water? Invite suggestions from students

In pairs or small groups, students put a plastic bag over some leaves on a bush or small tree and tie it up with a twistie. Let it hang on the bush for a couple of days. When they return they will find that water has collected in the bag.

Question: how did the water get there?

Explain: leaves 'breathe out water' called transpiration. When they breathe out water they also breathe out oxygen which makes the air that we breathe nice and clean and healthy.

How much water do trees use?

Instructions:

Repeat the plastic bag experiment this time ensuring that there are 10 leaves in the bag. Leave it on for three days, then measure the amount of water collected in the bag. Estimate the amount of leaves on the tree and divide it by 10. Multiply the answer by the amount of water in the bag. That will give the amount of water used by the whole bush in three days. (Harry Butler *Looking at the Wild* 1981)

Where do the leaves get water from?

How does the water get to the leaves?

Water travels from the soil through the roots, up the stem or trunk and along the branches and into the leaves.

Instructions:

Students can experiment to show this capillary action by placing a stick of celery in a jar of water coloured with food dye. After a day or two the coloured water should have travelled up the stem of the celery and into the leaves.

Build a tree

A collaborative role play to demonstrate the water cycle of a tree.

Australian Curriculum and Curriculum Framework links

Science/Science understanding/Biological sciences: Living things have a variety of external features (Year 1).

Science/Science inquiry skills/Communicating: Represent and communicate ideas and findings in a variety of ways, such as diagrams, physical representations and simple reports.

Art/Drama: Students take on a role and act out a situation by using physical movement, vocal and interpretive skills.

The teacher directs students to act out various parts of the tree by following these instructions and reading the narrative. This activity is a great way to build class cohesiveness and cooperation.

Instructions:

Heartwood (internal part of trunk)

Select two or three tall, strong students. They stand back to back.

"Your job is to hold the branches upright so the leaves can reach for the sun – stand tall and strong."

Taproot

Select one student to sit at the base of trunk facing outwards.

"You are a very long root called a taproot. You are as long as the tree is tall. You help the tree get water from deep in the earth and you anchor the tree firmly in the ground. You stop the tree from blowing over in a storm."

Lateral roots

Select four or five people (preferably with long hair). They lie on the ground on their backs with their feet against the trunk. Spread out their hair on the floor.

"There are hundreds and hundreds of you growing outwards all around the tree like branches under the ground. You have tiny hairs in the tips and when they sense there is water nearby they suck it up like a straw. When I say 'Let's slurp' I want you to make slurping noises (demonstrate) – let me hear you slurp!"

Sapwood

Select enough students to make a complete circle around the trunk, facing inwards holding hands.

"You draw water up from the roots and lift it to the tree's highest branches. You are a big pump. After the roots have slurped water from the soil your job is to bring the water up the tree. When I say 'Bring the water up', you go like this 'whee!' (throw arms up in the air). Let's practice – first roots 'slurp' – 'Let's slurp!' 'Bring the water up – Wheee!'"

Branches

Students form a circle around the sapwood facing inwards holding hands. Stretch their arms up and outward so they intersect each other's arms at wrists and forearms, leaving their hands free to flutter like leaves.

"When I say 'Let's make food' raise your arms and flutter your leaves and absorb the energy from the sun and make food. This food then needs to be taken to the rest of the tree. When I say 'bring the food down' you go "whooooo!" (a long descending sound) and bend knees and drop your arms and body to the ground. Let's practice!"

Go through the sounds and motions with all the parts in this order:

"Stand tall and strong!" – sapwood

"Let's slurp!" – tap roots

"Let's make food!" – leaves

"Bring the water up!" – sapwood

"Bring the food down!" – leaves

Bark

Remaining students play the bark. Have them circle round the tree, facing outward.

"You are the bark. What type of dangers do you protect the tree from?" (fire, insects, temperature, human damage)

Instruct bark to take protector stance (elbows out, fists close to the chest)

"What's that I hear – sounds like a tuart longicorn beetle. I'll go and check it out. You may have to stop it if I can't."

Disappear behind the tree and come out as a beetle. Ham it up by scowling and using branches for your antennae. Zero in with your antennae and point your long borer snout toward the tree. Run around the tree pretending to try and penetrate the bark's protective layer. The 'bark' people should try and fend you off.

While you are going around the tree, lead the rest of the tree groups in their parts. Go through the sequence three or four times. After the first round shout the commands without giving the names of the tree parts.

(Build a Tree is a Sharing Nature® Worldwide activity created by Joseph Cornell. *Sharing Nature with Children Volume 2*, 1989, page 62-66, published by Dawn Publications.)

Parts of a tree – what am I?

Australian Curriculum and Curriculum Framework links

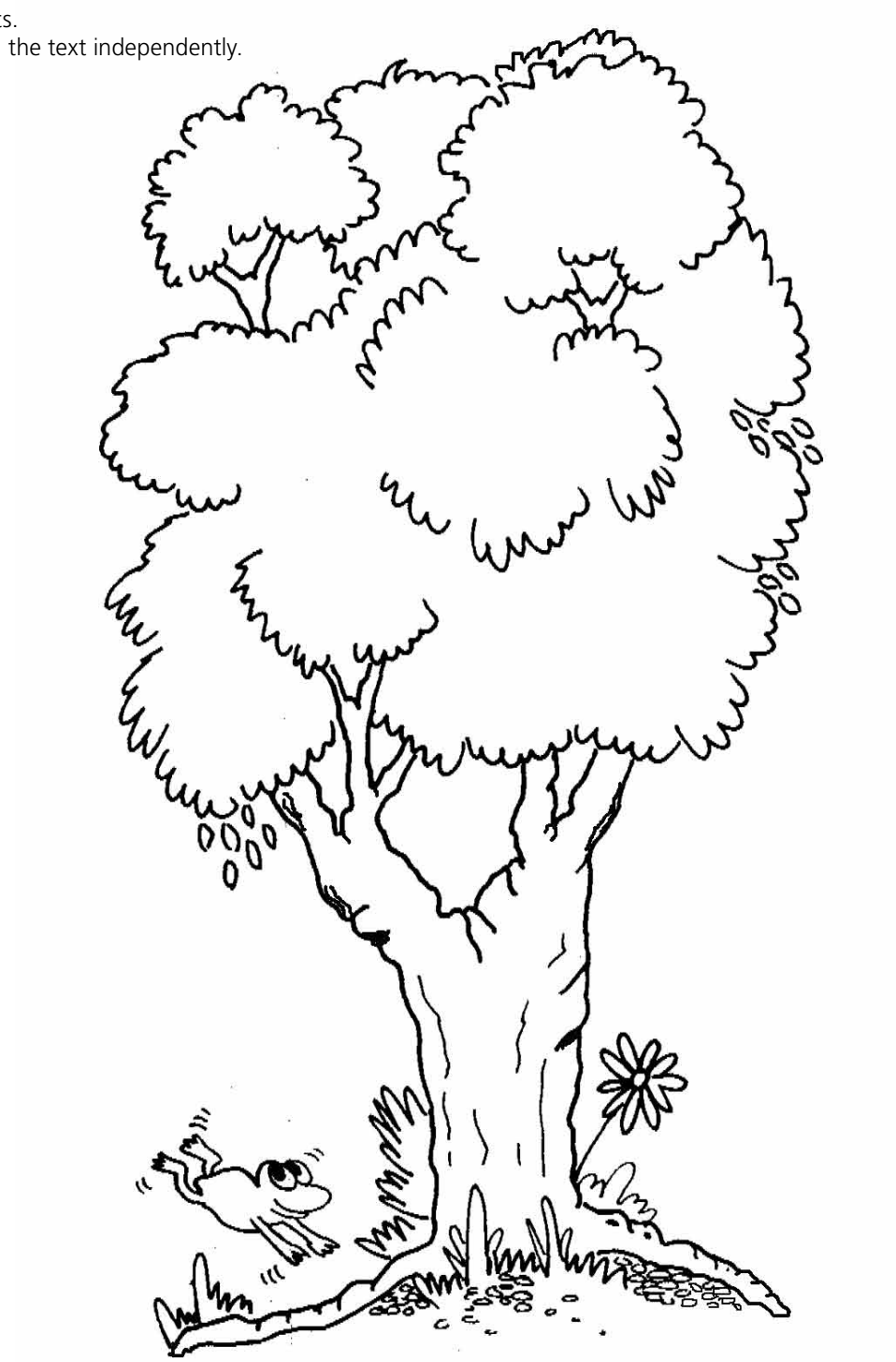
English/Literacy: Read supportive texts using developing phrasing, fluency, contextual, semantic, grammatical and phonic knowledge and emerging text processing strategies, for example, prediction, monitoring meaning and rereading.

Science/Science inquiry skills/Communicating: Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play.

Art/Visual arts/Creating visual arts/Exploring ideas: Students explore ways to investigate the natural environment through drawings.

Instructions:

Enlarge the following worksheet to A3 and model read to students.
Distribute copies to students.
Encourage students to read the text independently.



Parts of a tree – what am I?

Write my name on the dotted line	Draw a picture of me
…… I am the tree's feet. I help it stand up tall and stop it getting blown over when it is windy. I get food and water from the soil.	
…… I help the tree stand tall and strong. I lift the branches off the ground and help the leaves reach up to the sky so they are nearer to the sun. I take water and minerals from the roots to the rest of the tree.	
…… I am the tree's arms and my fingers are the leaves. I take water from the roots to the leaves and take food back again.	
…… Each tree has thousands of these. I use the sun's energy to make food. I breathe in dirty air and breathe out good air and water.	
…… I am the pretty part of the tree. I bloom out of buds and contain the seeds.	
…… New trees grow from me!	

How old is that tree?

Australian Curriculum and Curriculum Framework links

Science/Science understanding/Biological sciences: Living things grow, change and have offspring similar to themselves (Year 2).

Science/as a human endeavour/Nature and development of science: Science involves exploring and observing the world using the senses (Foundation).

Science/as a human endeavour/Nature and development of science: Science involves asking questions about and describing changes in objects and events (Year 1).

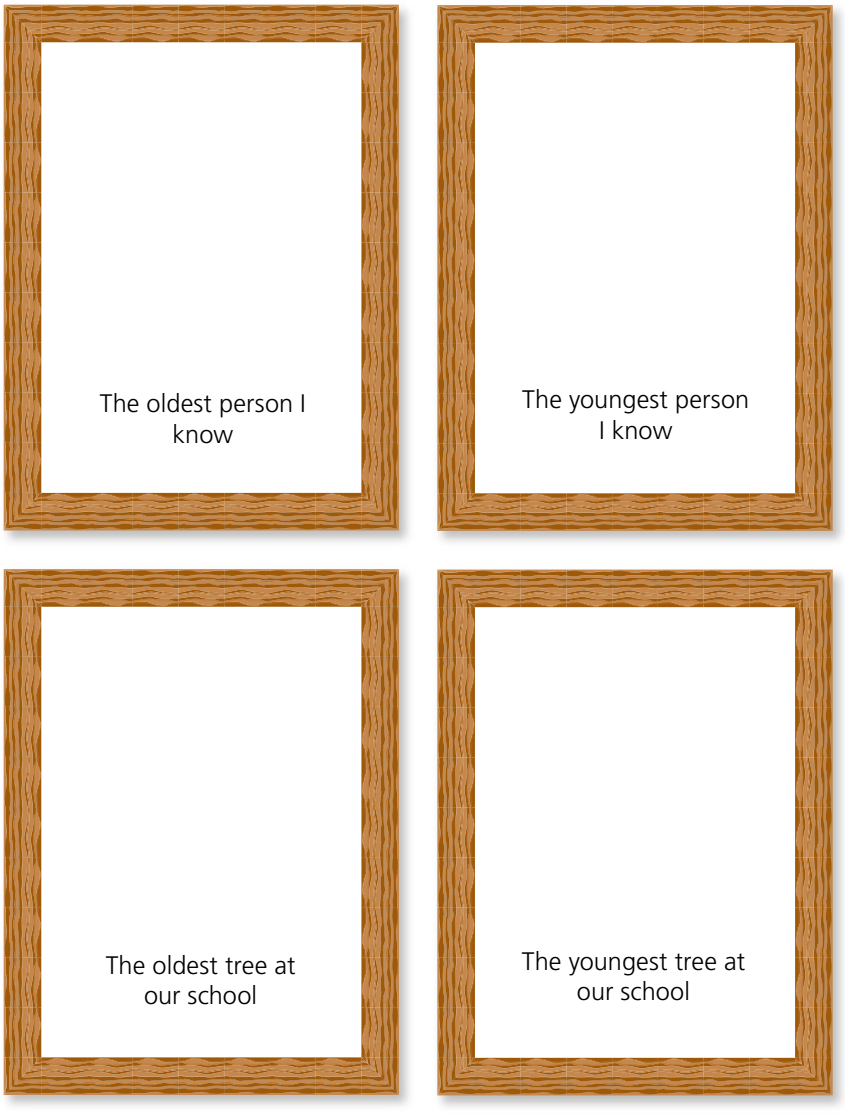
Art/Visual arts/Creating visual arts/Exploring ideas: students explore ways to investigate the natural environment through drawings.

Mathematics/Number and place value

Discuss with students the concept of age and growth by showing photos (baby possum and mature possum, sapling and mature tree). Ask students if they think the biggest plants are always the oldest and the smallest plants are always the youngest. Consider that some plants grow more slowly or have smaller forms than others, so the biggest actually isn't always the oldest.

Visit the playground and look at a number of plants. What are some ways you could tell the age of each plant (for example by their size, height, the number of branches, seeds or flowers, length of root system, gnarled trunk or branches, existence of hollows)? Explain it is sometimes hard to tell because plants grow at different rates. Ask students to consider which plants might be the oldest and youngest in the playground.

Young and old



Count my rings

Instructions:

Explain: Trees grow upwards and outwards so as well as getting taller they also get wider. Trees grow at different rates depending on the seasons.

Question: how can we find out the age of a tree?

Explain or elicit response: When the trunk of a tree is cut you can see rings. There is usually one ring for each year. Scientists use them to tell the history of the climate. Can you think how?

Instructions:

After pruning, collect some pieces of wood that have annual rings. Students smooth the wood with sandpaper and then count the rings and form estimations of the age of the tree. Promote discussion of students' ages and lives in relation to the rings. Students draw the pattern of lines and number the lines accordingly. This pattern can be used as the basis of a design and used for printing, sewing or colouring.

Look at bark

Australian Curriculum and Curriculum Framework links

Art/Visual arts/Creating visual arts/Exploring ideas: Students explore ways to investigate the natural environment through drawings of closely observed detail.

Art/Visual arts/Creating visual arts/Texture: Texture can be real or simulated.

Science/Biological sciences: Living things have a variety of external features.

English/Literacy/Creating texts: Create short imaginative and informative texts.

Bark is like the tree's skin. It helps protect the tree from the effects of fire, water and animals. Bark is used as a home by many animals which hide in the crevices. Some birds use bark to make their nests. Aboriginal people used fibrous bark to make string. They also used large pieces of bark to make shields and for building their houses.

These activities enable children to closely explore and compare the appearance, patterns and texture of bark from different trees. This can lead into a discussion about the role of tree bark.

Make a plaster cast of bark

You will need:

- plaster of Paris
- clay
- cooking oil
- small brush for oil
- paint brush
- water paints
- thin wire (about 10cm).

Instructions

1. Firmly press a handful of clay onto the bark. Make sure that clay is pressed between the cracks in the bark.
2. Carefully lift the clay without disturbing the impression.
3. Using extra clay, build a raised edge around the impression as a 'dam' to hold the plaster of Paris.
4. Brush a layer of cooking oil over the impression – this will help the plaster to lift away without sticking to the clay.
5. Make a smooth mixture of plaster of paris and pour it onto the impression. Gently tap the sides to remove air bubbles. A small loop of wire pushed into the back of the plaster before it sets will provide a hanging hook.
6. When the plaster has set, remove the cast from the clay. Rinse oil from the cast using warm water and detergent.
7. Paint the cast with water paints. Varnish if required.

Bark rubbing

Instructions

1. Students make careful rubbings of bark on a large piece of litho paper.
2. Use a variety of brown coloured crayons to cover the page with the print.
3. Wash over the pattern with a 'coffee' wash to fill in the background.
4. Students affix their rubbings onto the trunk of the collaborative class tree collage.

After completing their bark rubbings, ask the students to consider these questions:

1. What happens to you when you have a cut or scratch on your skin?
2. Can you find a place on some bark where the tree's 'skin' has been cut or damaged?
3. What has happened?
4. On a new page, draw the damaged tree bark.
5. Write a sentence explaining how you would feel if you were the tree.

Look at leaves

Australian Curriculum and Curriculum Framework links

Mathematics/Number and algebra/Patterns and algebra: Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings.

Science/Science inquiry skills/Processing and analysing data and information: Engage in discussions about observations and use methods such as drawing to represent ideas (Foundation).

Art/Visual arts/Creating visual arts/Exploring ideas: Students explore ways to investigate the natural environment through drawings.

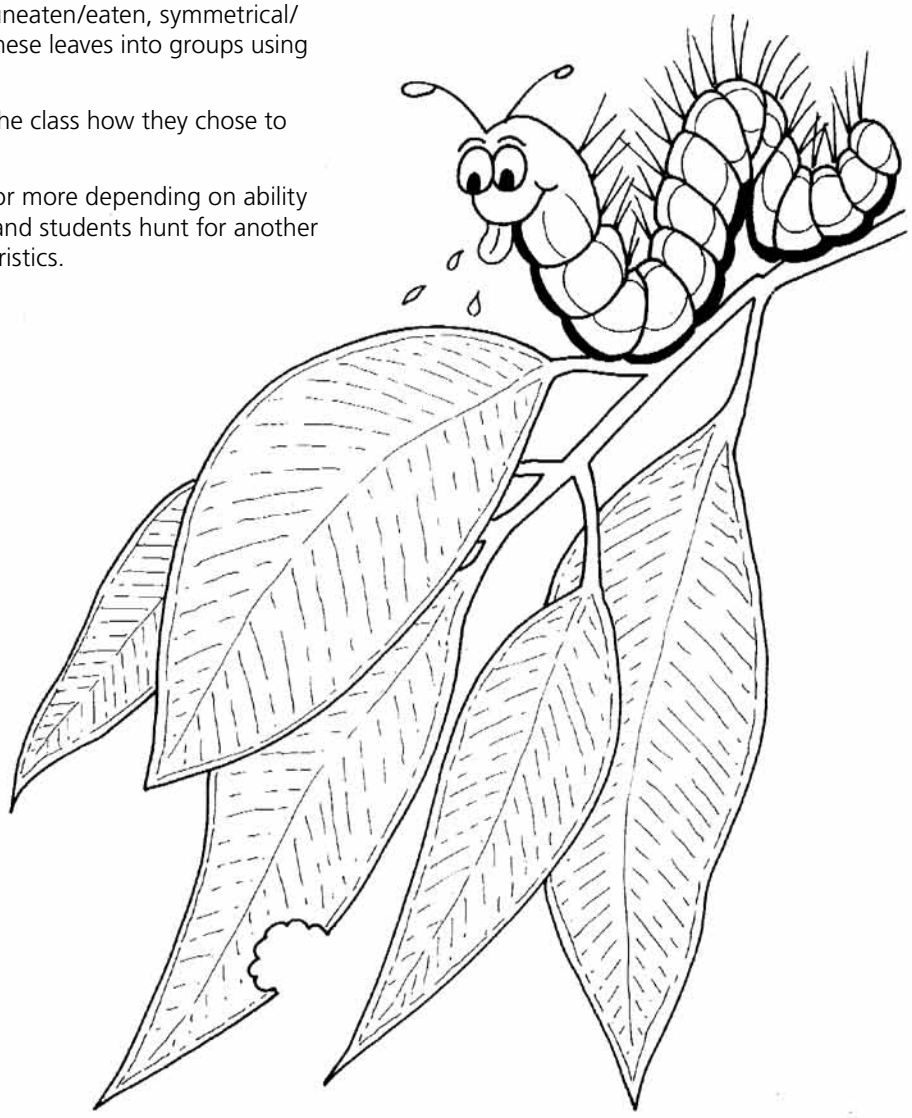
Instructions

Students go for a walk around the school grounds and collect a handful of leaves of varying shape, colour and size.

On return to the classroom they form groups and place their leaves in the middle of the table to form a large collection. Through observation and discussion, students describe the properties of the collection (shape, colour, texture, smell, size, uneaten/eaten, symmetrical/asymmetrical) and classify these leaves into groups using their own criteria.

Groups relay to the rest of the class how they chose to sort their leaf collection.

Extension: Write pairs of (or more depending on ability of students) characteristics and students hunt for another leaf with matching characteristics.



I wonder which leaf is the longest, smallest, biggest…

Australian Curriculum and Curriculum Framework links

Mathematics/Measurement and geometry/Using units of measurement: Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language (Foundation).

Measure and compare the lengths and capacities of pairs of objects using uniform informal units (Year 1).

Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (Year 2).

Measure, order and compare objects using familiar metric units of length, mass and capacity (Year 3).

Instructions:

In groups, students compare and contrast six different-sized leaves according to comparative language.

Students discuss ways and experiment with ways to find out which leaf is the biggest using blocks and/or squared paper. Groups share their ideas and discoveries with the rest of the class.

Leaf drawing

Australian Curriculum and Curriculum Framework links

Science/Science inquiry skills/Communicating: Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play (Year 1).

The Arts/Visual arts/Arts practice/Arts ideas/Creating: Investigate the natural environment through drawings of closely observed detail.

English/Language: Identify language that can be used for appreciating texts and the qualities of people and things.

Instructions:

Students select one leaf. They observe it using a loupe (or magnifying glass) and draw finer details of the leaf. Through questioning, the teacher promotes thinking: why does a leaf have 'veins'?

Brainstorm adjectives to describe the leaves. Teacher scribes them on the board.

Students record adjectives next to their drawing to describe their leaf.

Touch: sticky, slimy, rough, smooth, hairy, prickly, bumpy.

Smell: fruity, rotten, sweet, floral, musty, green.

Arts ideas with leaves

Leaf prints

Aim: To explore techniques of simple printmaking.

Learning Phase: K–3

Materials: Leaves of different shape and size, poster paint mixed with a little washing up liquid, paper or fabric.

Instructions:

Paint one side of leaf. Place leaf wet side down on paper or fabric. Place newspaper on top of leaf and press down. Remove newspaper and leaf and leave to dry. Repeat with a variety of leaves. Students can then cut out the leaves and affix to the collaborative class tree collage.

Relief leaf prints

Aim: To explore techniques of simple relief printmaking.

Learning phase: Years 2–3

Materials: Variety of leaves and seed pods, poster paint mixed with little washing up liquid, paper or fabric, thin polystyrene (e.g. pizza packaging), biro.

Instructions:

Students draw leaf or seed pod on to polystyrene, cut out shape and glue to block of wood (makes it easier to handle). Paint polystyrene. Place leaf wet side down on paper or fabric. Place newspaper on top of leaf and press down. Repeat process to create pattern.

Students can then cut out the leaves and affix to the collaborative class tree collage.

The above technique can also be used to create a monoprint of close-up images of leaves and seed pods using a microscope. This creates a more abstract pattern and can be used for further design work.

Leaf beating

Aim: To extract the natural colours from leaves by beating to form an imprint on fabric.

Learning phase: K–3

Materials: Leaves, wooden board, small square of muslin, thumbtacks, a flat, smooth, palm-size rock or small hammer.

Instructions:

Students select a leaf and lay it on the board (put a piece of paper on the board first if you don't want to stain it). Place the piece of muslin on top, tacking the fabric down at the corners so it won't shift. Using the rock or hammer, beat the fabric carefully but with consistent, even force. Lift up the fabric, and the leaf will have left its image in green. Place a frame of coloured paper to cover the edges.

Leaf necklace

Learning phase: K–3

Instructions:

Spray both sides of the leaves with a light coat of clear gloss varnish. (optional)

Using darning needles and twine or string, thread the leaves to create some natural jewellery. You may want to explore possible patterns and designs using a variety of leaves.

Leaf skeletons

Put some leaves in a bucket of water in a dark place. After one week change the smelly water. After another week the leaves should have become skeletons because bacteria will have eaten the soft fleshy parts of the leaves. Strain off the water and press the skeletons. When dry mount them on card or use them for printing and stencilling.

Leaf dance

Australian Curriculum and Curriculum Framework links

English/Literature: Listen to, recite and perform poems, chants, rhymes and songs.

English/Language: Understand the use of vocabulary about familiar and new topics and experiment with and begin to make conscious choices of vocabulary to suit audience and purpose.

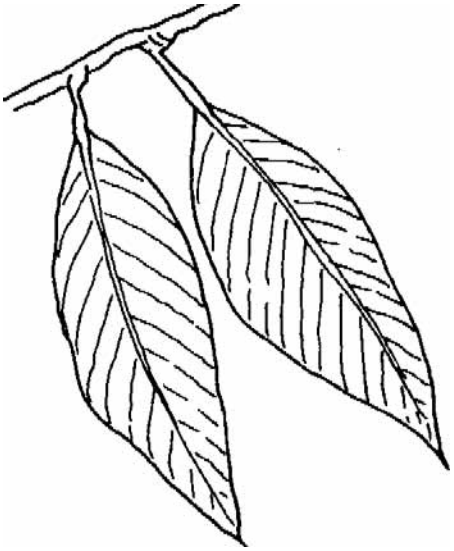
Art/Dance/Choreography: Students use elements of dance to create movement that communicates ideas and emotions.

Literature link

Ferdie and the Falling Leaves by Julia Rawlinson

Instructions:

Students go for a walk in the school grounds, preferably on a windy, autumnal day and observe leaves falling from trees. The teacher records adjectives to describe movement of leaves (swirling, twirling, twisting, gliding, fluttering, floating)



Five little leaves

K – Year 1

Teacher sings song and issues instructions:

Five little leaves so bright and gay
(choose five children to be leaves)

Were dancing about on a tree one day
(children twirl and dance)

The wind came blowing through the town
(teacher pretends to be wind and blows very hard)

And one little leaf came tumbling down
(teacher touches one child on the head and as she/he does the child twirls to the ground)

Four little leaves... Three little leaves... Two little leaves... One little leaf so bright and gay were dancing about on a tree one day. The wind came blowing through the town and one little leaf came tumbling down. (All children are on the floor)

And then I came and raked them all up in a pile.
(Teacher pretends to rake the leaves into a big pile. The children love to scatter at this point so you can't rake them up.)

Students simulate movement of falling autumn leaves to suitable soundtrack. The teacher issues adjectives to which students create movement to communicate meaning.

Reference: Fran Avni

If I was a leaf ...poem

Australian Curriculum and Curriculum Framework links

English/Literature: Listen to, recite and perform poems, chants, rhymes and songs.

English/Language: Understand the use of vocabulary about familiar and new topics and experiment with and begin to make conscious choices of vocabulary to suit audience and purpose.

Art/Dance/Choreography: Students use elements of dance to create movement that communicates ideas and emotions.

Instructions:

Students use brainstormed adjectives and their observations and re-enactment of falling leaves to produce a piece of poetry or imaginative text which explores the feelings of a leaf – "If I were a leaf falling to the ground…."

Look at flowers

Australian Curriculum and Curriculum Framework links

Science/Biological sciences: Living things have a variety of external features.

The Arts/Visual arts/Arts practice/Arts ideas/Creating: Investigate the natural environment through drawings of closely observed detail.

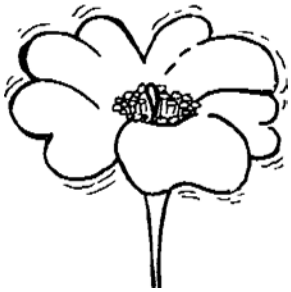
Seeds develop deep inside flowers. When all the petals have gone all that is usually left is a fruit or nut.

Flowers are very special. Bring some flowers into class from your garden home (or these could be sourced from around the school yard).

Use some mini hand lenses to get a 'close-up' look at the different parts of your flowers.

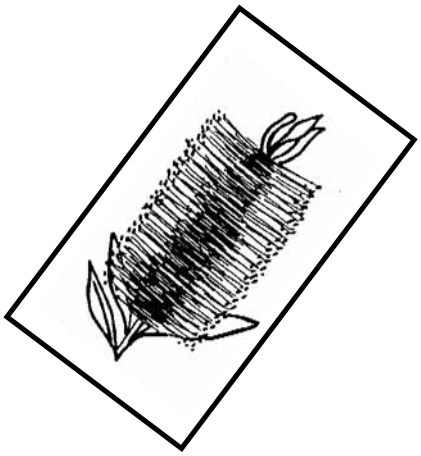
Smell them

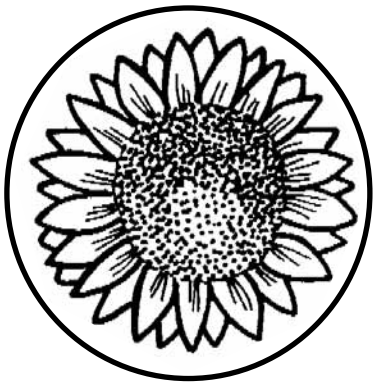
Look at the colours

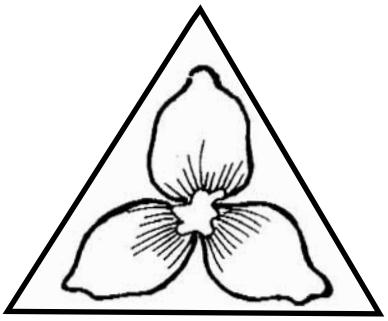


Count the petal

(Look at all their different shapes. Find one flower for each of these shapes.)







Draw one of your favourite flowers.

Look at fruit and nuts

Australian Curriculum and Curriculum Framework links

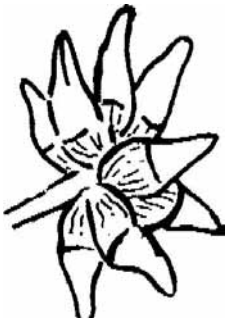
Mathematics/Number and algebra/Number and place value:

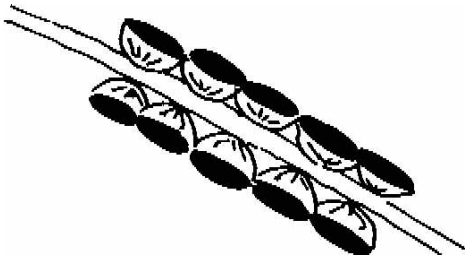
- Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point.
- Subitise small collections of objects.
- Compare, order and make correspondences between collections, initially to 20, and explain reasoning.
- Represent practical situations to model addition and sharing.
- Count collections to 100 by partitioning numbers using place value.
- Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts (Year 1).
- Explore the connection between addition and subtraction.
- Recognise and represent multiplication as repeated addition, groups and arrays.
- Recognise and represent division as grouping into equal sets and solve simple problems using these representations (Year 2).
- Recognise and explain the connection between addition and subtraction (Year 3).

Background

Fruit is the name given to the part of a flowering plant that makes and contains the seed. The seeds from fruits are one way that plants can reproduce or form more plants. Many Australian plants have hard woody fruit (or nuts) containing their seeds. For example, some Western Australian eucalypt and banksia trees have conspicuous tough, woody fruit which can help protect the precious seeds from the effects of our hot, dry summers and bushfires.

Seeds may be disguised as fruit or nuts to make them look more appealing to animals and to aid seed dispersal.





Instructions:

Use the fruit and nuts you collect as counters for mathematics activities. For example:

Pre-primary: Free play with a variety of sorting and counting materials. Can produce laminated counter strips. Students place appropriate amount of nuts into each section.

Year 1: Simple combining and separating of sets of objects. Use nuts in simple grouping and sharing activities.

Year 2: Use clusters of fruit to encourage early multiplication activities.

The following pages contain pictures of native fruits and nuts found in different areas of Western Australia.

Select the appropriate page and distribute to students. Ask them to locate the fruit and nuts in the school grounds or in their local environment.

Fruit and nuts in north-west Australia

Which tree do I grow on?

Draw a line to match the fruit and nut with the right tree

kapok

pandanus

boab

brachychiton

Answer: a3, b1, c4, d2

Fruit and nuts in south-west Australia

Which tree do I grow on?

Draw a line to match the fruit and nut with the right tree

cycad

karri tree flower

pine cone

tingle tree nuts

Answer: a3, b4, c1, d2

Fruit and nuts in Perth

Which tree do I grow on?

Draw a line to match the fruit and nut with the right tree

balga

banksia

honky nuts

jarrah tree nuts

Answer: 1b, 2d, 3c, 4a

Look at seeds

Australian Curriculum and Curriculum Framework links

Science/Science understanding/Biological sciences: Living things have basic needs, including food and water.

Science/Science as a human endeavour/Nature and development of science: Science involves exploring and observing the world using the senses.

Science/Science inquiry skills/Questioning and predicting: Respond to questions about familiar objects and events.

Science/Science inquiry skills/Planning and conducting: Explore and make observations by using the senses.

Science/Science inquiry skills/Processing and analysing data and information: Engage in discussions about observations and use methods such as drawing to represent ideas.

Science/Science inquiry skills/Communicating: Share observations and ideas.

Literature Link

The Tiny Seed by Eric Carle

Trees grow from seeds and seeds grow on trees!

What do plants need to grow?

Instructions

You will need: bean seeds, carrot seeds, jars and cotton wool.

Students follow a procedure, predict, observe and record changes in the seeds and the development of new plants. From this exercise they determine that seeds need water to grow.

Observation

Students observe and record changes to the seeds.

Procedure

- Place cotton wool in jar.
- Sprinkle with seeds and water.
- Leave jars in sunny position.

Predict

- How long do you think it will take for the seeds to shoot?
- Which seeds do you think will shoot first?

Record

Date	Observations (writing)	Drawing of observation

Which seeds were the first to shoot?

What do plants need to grow?

Explain that this is how all seeds grow. Trees and plants in bushland need water and light to grow too.

Seed patterns

Australian Curriculum and Curriculum Framework links

Mathematics/Number and algebra/Patterns and algebra: Copy, continue and create patterns with objects and drawings (Foundation).

Instructions:

Students fill a large lid with plasticine and then create a seed pattern by pressing the seeds into the plasticine.

A tree grows

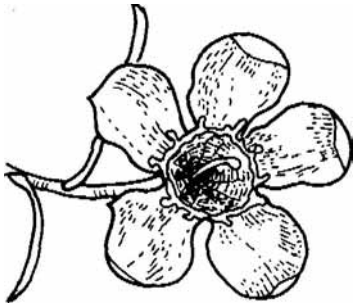
Australian Curriculum and Curriculum Framework links

English/Literacy/Creating texts: Create short imaginative and informative texts that show emerging use of appropriate text structure, sentence-level grammar, word choice, spelling, punctuation and appropriate multimodal elements, for example, illustrations and diagrams..

Instructions:

Enlarge 'A tree grows' to A3, colour it and use it as either a reference material or shared reading material in the class.

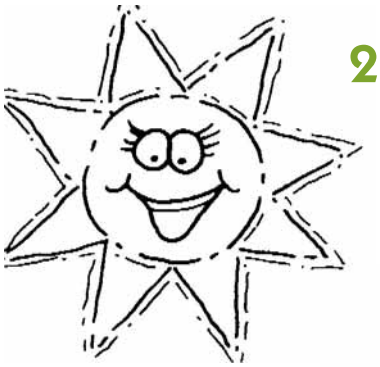
Students cut out pieces of text and sequence them in the correct order. They record the order number on the back. (Teacher checks!) They then affix the pieces of text into a book (three folded and stapled A4 sheets with coloured cover). More able students can write their own text. Students illustrate each page and produce a front cover. This book can then be used for a guided reading session.



A tree starts as a seed.	Water, soil and sunshine help it to grow.
The seed grows into a seedling if it is lucky. Many new trees are eaten by hungry animals who love the soft new shoots.	A tree lives for many years. It can be a home for animals. Some animals eat its leaves and fruit.
Over the years, the tree becomes tall and strong. New buds grow.	These turn into flowers and flowers produce seed inside fruit. These open up and let go of lots of tiny seeds and many new trees are born.

A tree grows

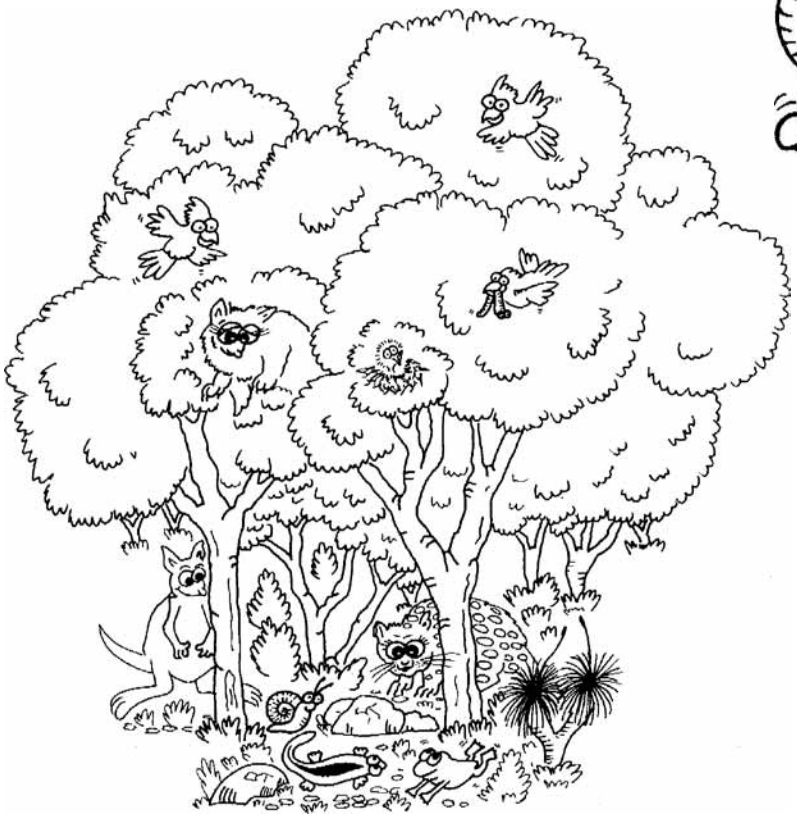
1 A tree starts as a seed



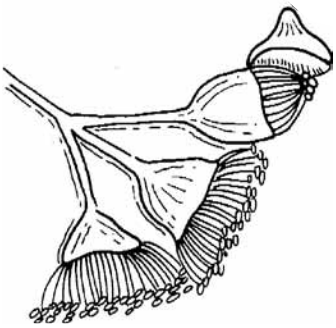
2 Water, soil and sunshine help it to grow.

3 The seed grows into a seedling if it is lucky.

4 Many new trees are eaten by hungry anumals who love the soft new shoots.



5 A tree lives for many years. it can be home for animals. Some animals eat its leaves and fruit.



6 Over the years, the tree becomes tall and strong. New buds grow. These turn into flowers and flowers produce seed inside fruit. These open up and let go of lots of seeds and many trees are born.

Schools tree day

Each year, around 2,500 schools across Australia take part in Schools Tree Day coordinated by Planet Ark. Students nation-wide have learnt how to plant and care for the seedlings they grow. This project can mark the beginning of a long-term environmental program, engaging students in a fun, hands-on activity that can reinforce their environmental, maths, science and arts learning or simply contribute to creating beautiful school grounds. You don't have to be planting trees to take part in Schools Tree Day. You could be growing a vegetable garden, weeding a previously planted area, adding shrubs to the building surrounds or venturing out to local bushland to lend community groups a helping hand.

For more details log on to: http://treeday.planetark.org

Literature link

Last Tree in the City by Peter Carnavas

(Free unprintable copy and teacher notes downloadable from www.planetark.org)

The tree that I planted

Australian Curriculum and Curriculum Framework links

Science/Science understanding/Biological sciences: Living things grow, change and have offspring similar to themselves (Year 2).

English/Literature: Listen to, recite and perform poems, chants, rhymes and songs.

English/Literature/Examining literature: Identify, reproduce and experiment with rhythmic, sound and word patterns in poems, chants, rhymes and songs (Year 2).

This poem is an innovation of a common poem.
The same organisation and rhythm has been maintained, just the content has been changed to suit the theme.

Drama

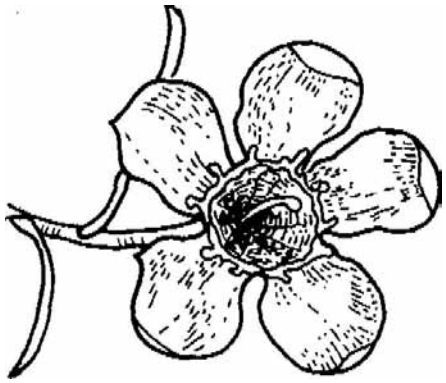
This can be performed as an effective assembly item by dramatising the scenes as they are repeated.

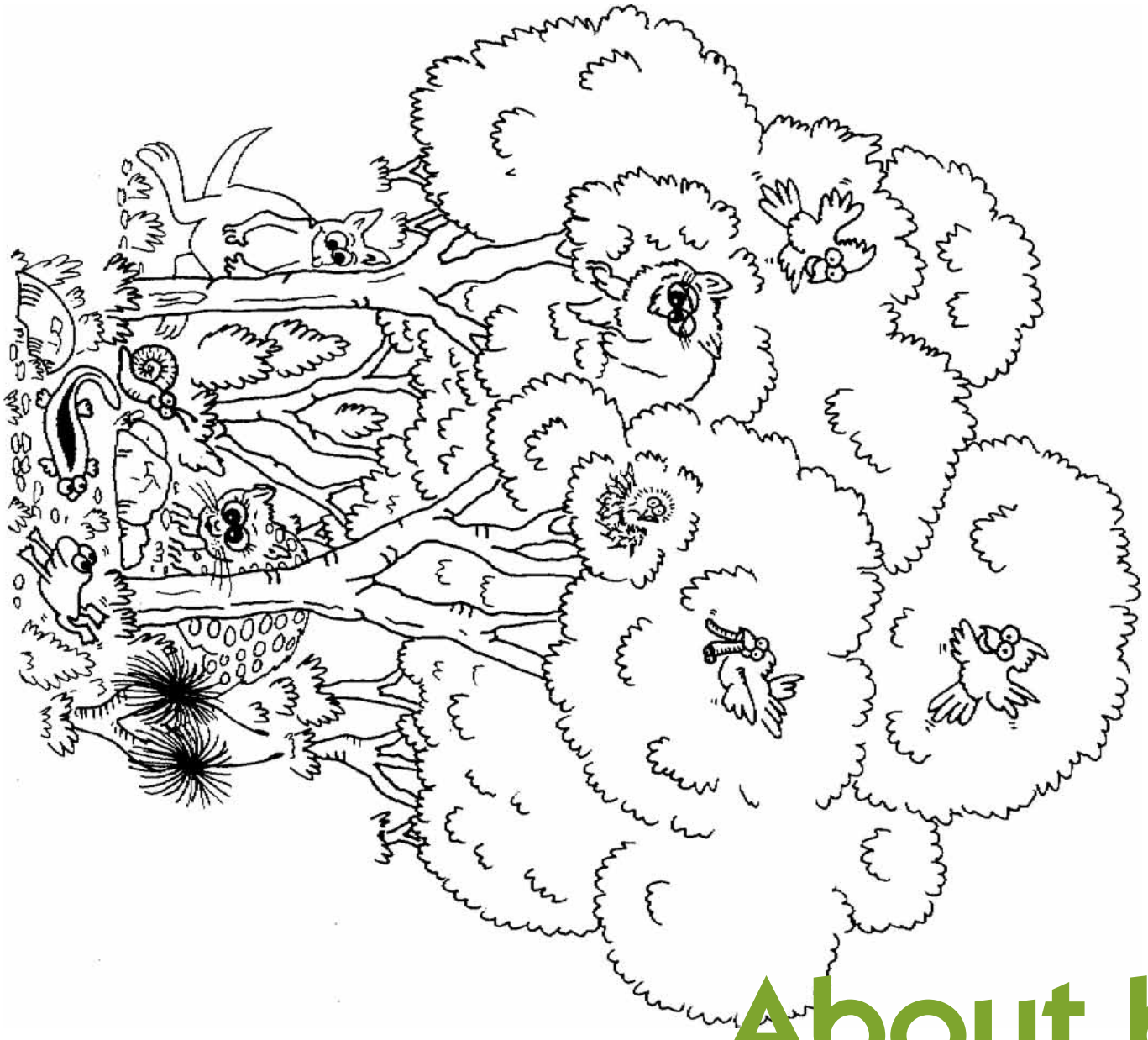
Language

Make some copies of the poem and have the children cut and paste the text onto the pages of a concertina book. As the children read each page of the text they can illustrate it appropriately.
Children can work in pairs or individually.

The tree that I planted

This is the seed that I planted.	This is the shoot that grew in the sun that shone on the water that soaked the soil that covered the seed that I planted.
This is the soil that covered the seed that I planted.	This is the seedling that grew from the shoot that grew in the sun that shone on the water that soaked the soil that covered the seed that I planted.
This is the water that soaked the soil that covered the seed that I planted.	This is the tree that once was a seedling that grew from the shoot that grew in the sun that shone on the water that soaked the soil that covered the seed that I planted.
This is the sun that shone on the water that soaked the soil that covered the seed that I planted.	This is the flower that grew on the tree that once was a seedling that grew from the shoot that grew in the sun that shone on the water that soaked the soil that covered the seed that I planted.
This is the bee that collected pollen from the flower that grew on the tree that once was a seedling that grew from the shoot that grew in the sun that shone on the water that soaked the soil that covered the seed that I planted.	This is the seed that grew when the bee collected pollen from the flower that grew on the tree that once was a seedling that grew from the shoot that grew in the sun that shone on the water that soaked the soil that covered the seed that I planted.
This is another seed that I planted.	





About bushland

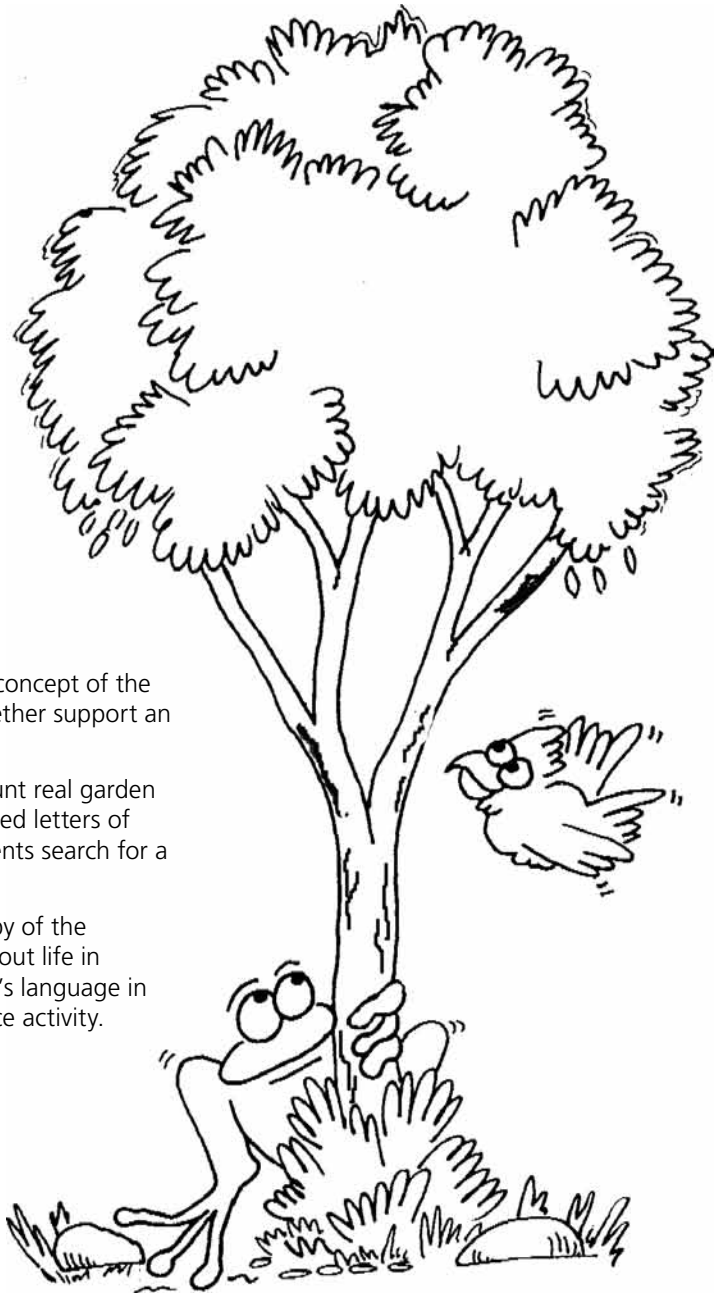
Look at bushland

Australian Curriculum and Curriculum Framework links

Society and Environment/Natural and social systems: Understand that systems provide order to the dynamic natural and social relationships occurring in the world.

Society and Environment/Place and space: Students understand that the interaction people have with places in which they live is shaped by the location, patterns and processes associated with natural and built features. Students constantly recognise the importance of caring for landscapes and their features. They apply principles embedded in the concept of ecological sustainability to describe ways in which natural landscapes can be managed appropriately.

Science/Science understanding/Biological sciences: Living things live in different places where there needs are met.



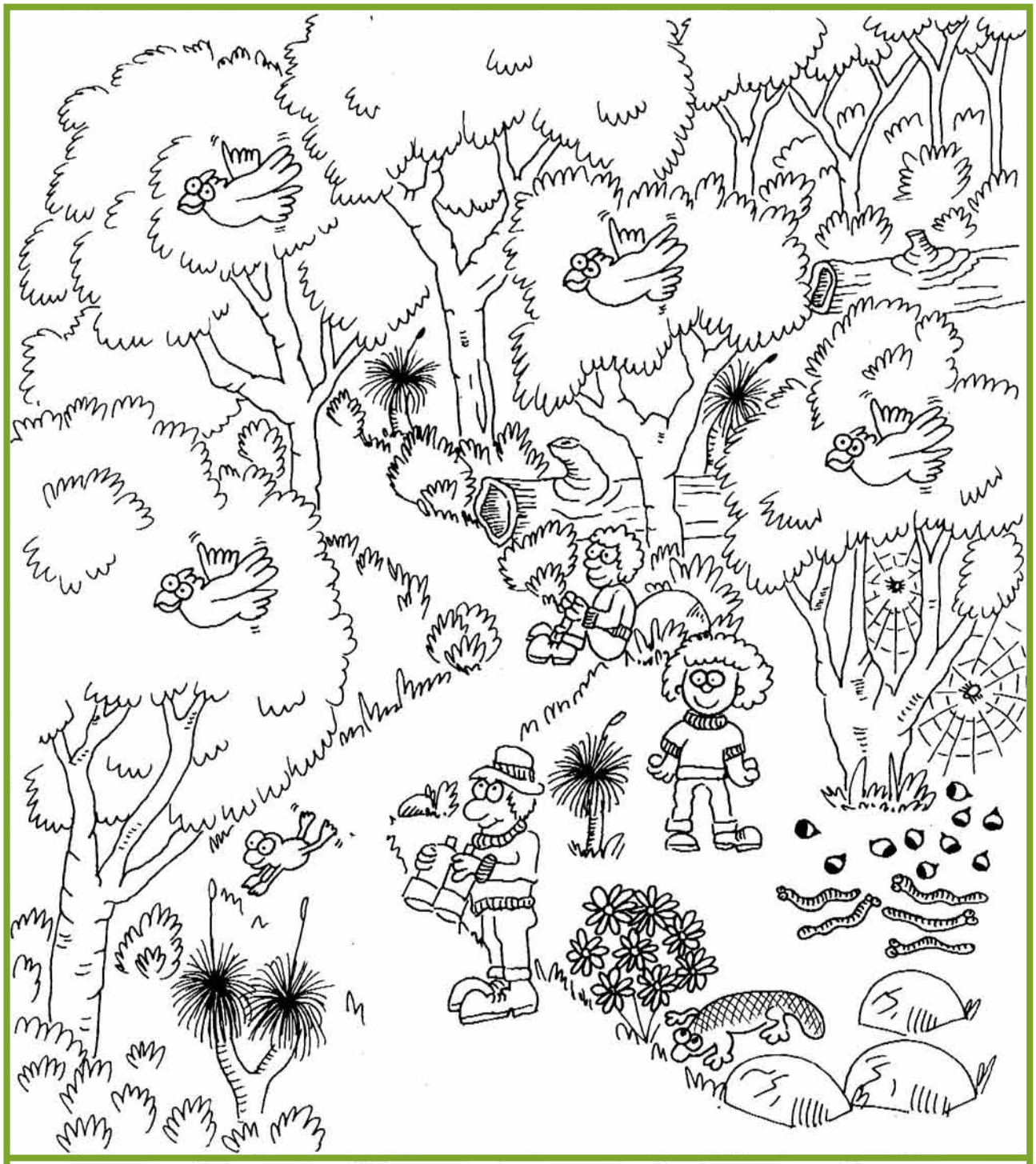
This section introduces and develops the concept of the bushland as a collection of trees that together support an intricate web of life.

Why not take your children outside to count real garden or bush objects or play 'eye spy'? Laminated letters of the alphabet can be distributed and students search for a corresponding object.

For young children, make an enlarged copy of the following page and have a picture talk about life in bushland. Record and display the children's language in the same way as for a language experience activity.

Many trees make the bushland

Can you find and count all the living things in this picture?



Counting Key

Bushland buddies – who am I?

Bushland is a **biodiversity hotspot!** This means many different living things live in bushland.

Cut and laminate these cards and distribute one to each student.

Students act out "Who am I?" and the rest of the class guess the animal/insect/bird they are representing.


echidna


bat


rat


mouse


possum


cricket


frog


butterfly


praying mantis


turtle


kookaburra


willy wagtail

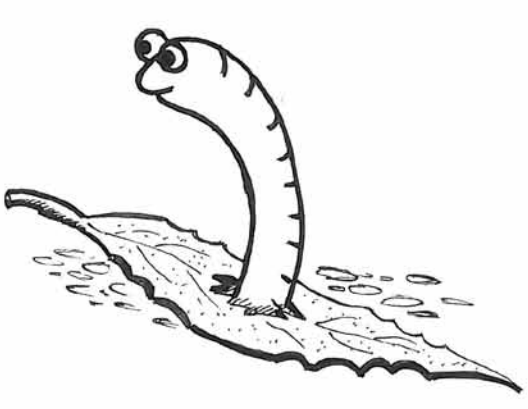

scorpion


centipede


emu

Tree dwellers

Trees and plants in bushland are home to many animals, including mammals, birds, insects and spiders.

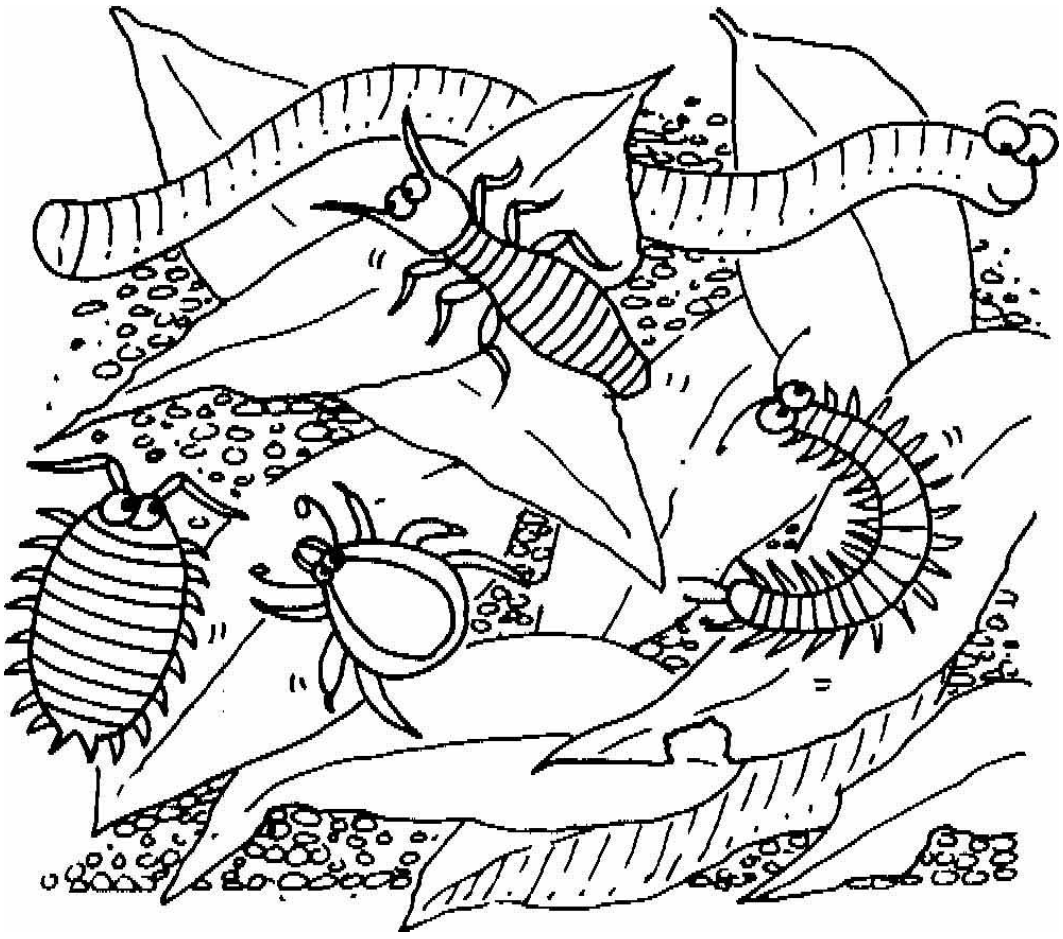


Instructions

Take students outside to a tree. With a magnifying glass (or loupe) they search for critters and record their observations on the worksheet.

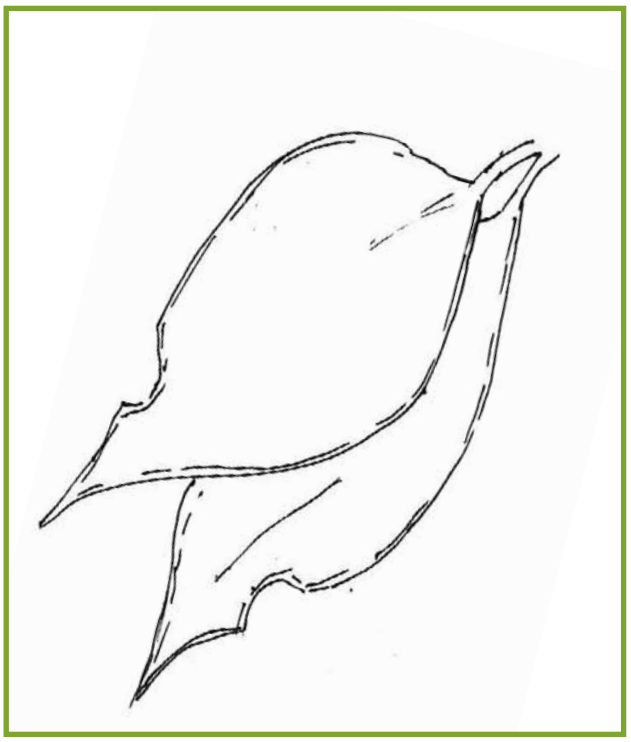
After observing and recording the information collaboratively, create a class tally or a simple graph.

Animals	Leaves	Branch	Bark	Around the tree
Ants	II			IIII
Caterpillars	I	I		
Slaters				

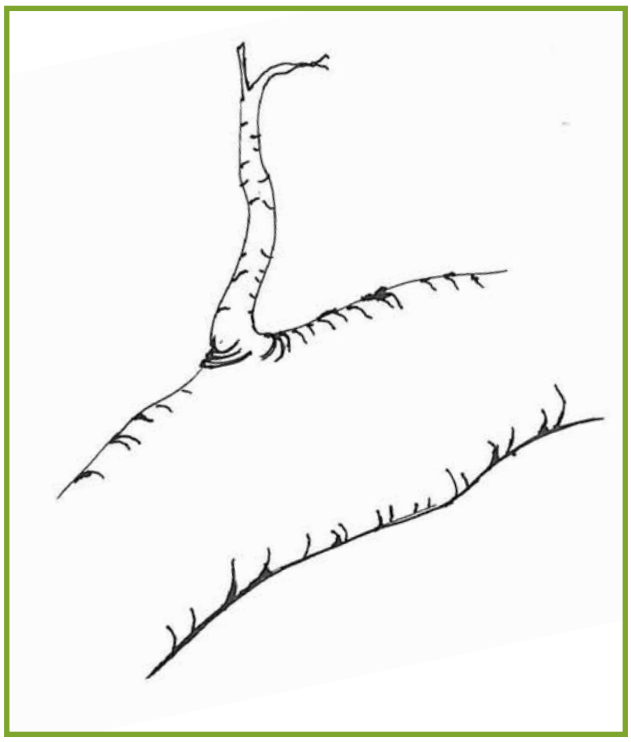


Tree dwellers

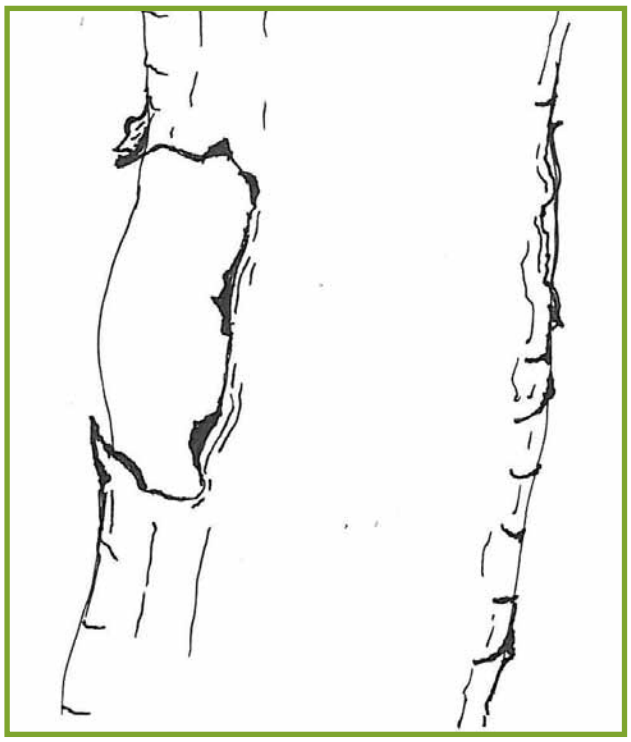
Find yourself a tree. Draw any animals you see on it.



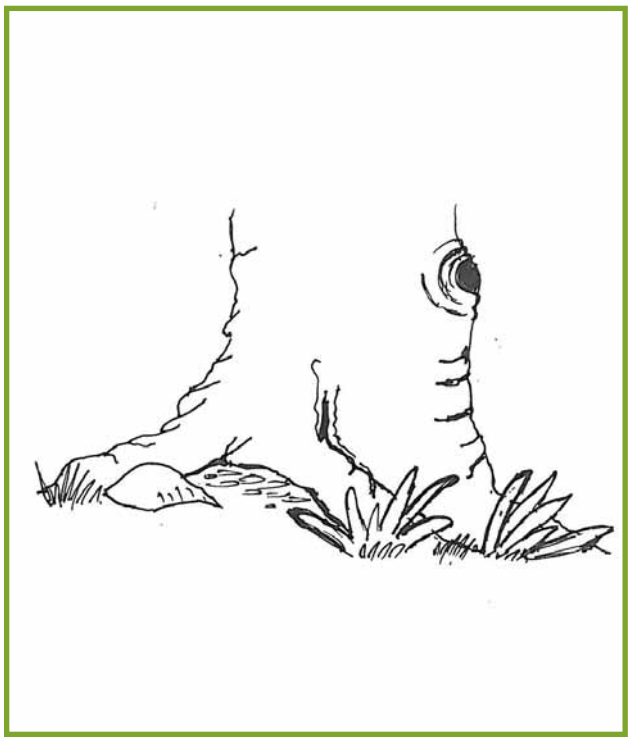
On the leaves



On a branch



On the bark



Around the tree

Is there a tree for me?

This game is based on the 'musical chairs' format and is intended to raise students' awareness of the implications for tree dwellers when their homes are removed.

Instructions

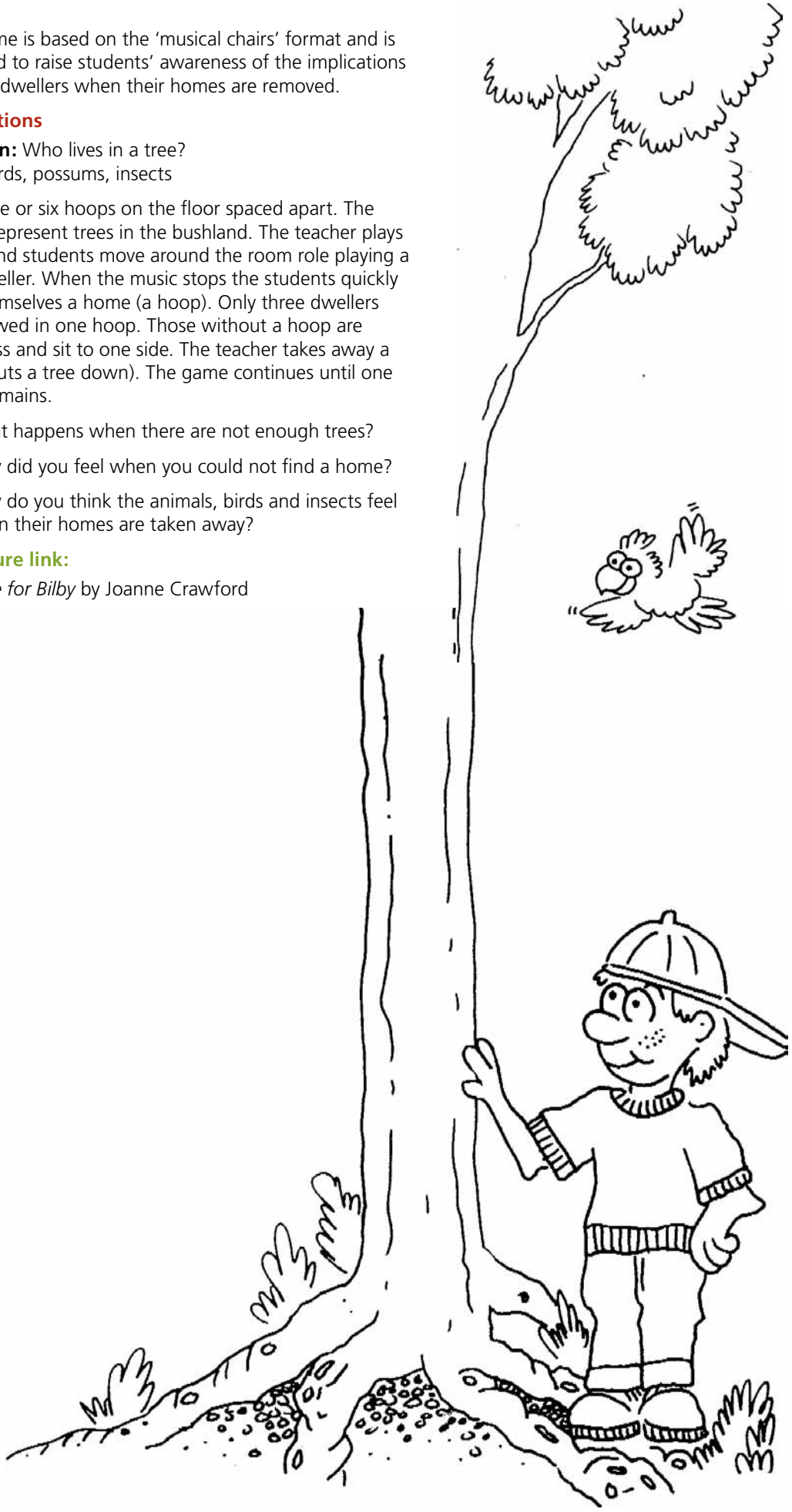
Revision: Who lives in a tree?
Bees, birds, possums, insects

Place five or six hoops on the floor spaced apart. The hoops represent trees in the bushland. The teacher plays music and students move around the room role playing a tree dweller. When the music stops the students quickly find themselves a home (a hoop). Only three dwellers are allowed in one hoop. Those without a hoop are homeless and sit to one side. The teacher takes away a hoop (cuts a tree down). The game continues until one hoop remains.

- What happens when there are not enough trees?
- How did you feel when you could not find a home?
- How do you think the animals, birds and insects feel when their homes are taken away?

Literature link:

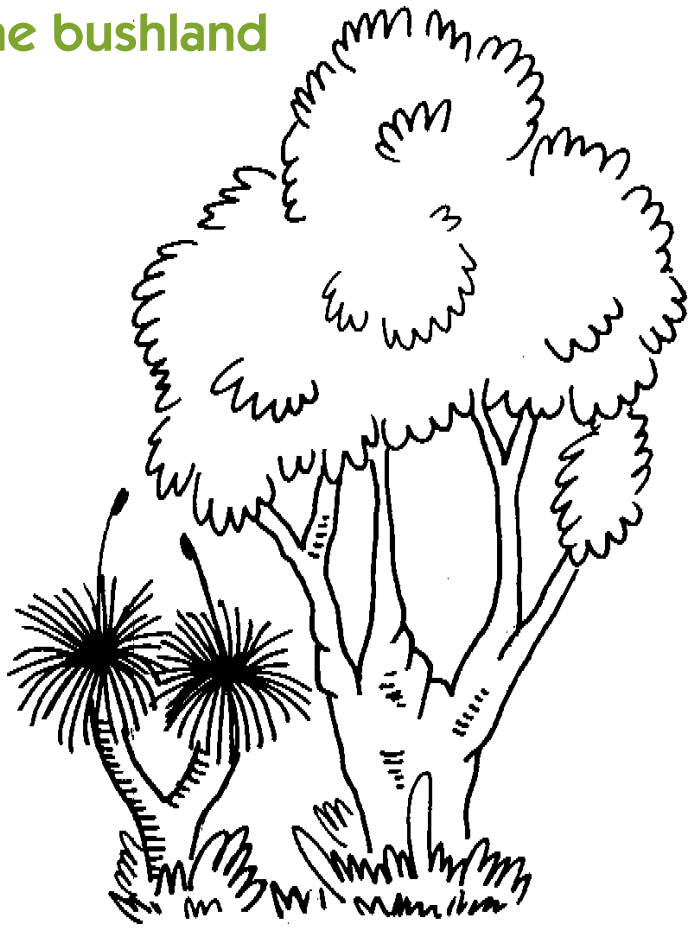
A Home for Bilby by Joanne Crawford



The bushland neighbourhood

The bushland is a very busy place. In fact, it is as busy as the neighbourhood you live in. The only difference is you have to look very closely to see the things living in the bushland.

Housing in the bushland



The bushland is made up of many different types of trees. If there weren't any trees in the bushland, you wouldn't call it bushland. In the bushland neighbourhood the trees are the 'houses'.

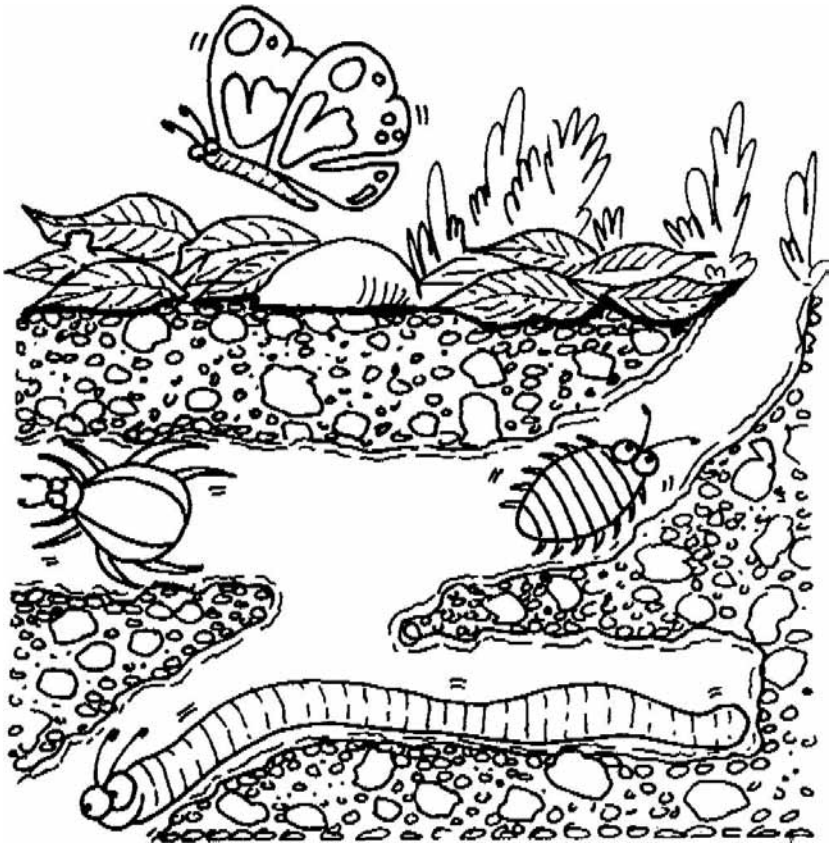
Each tree shelters many different animals.

Some birds live high in the tree tops in nests or hollows in branch or trunk.

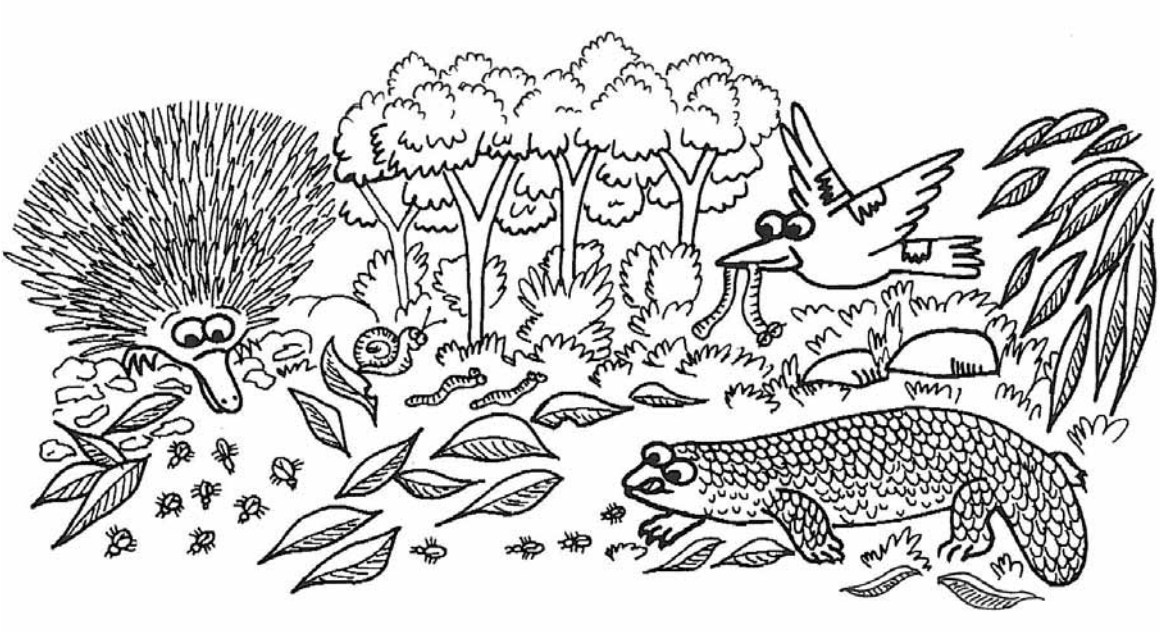
Other animals also like hollows in tree trunks.

Snakes and lizards shelter under the fallen leaves. Ants and other insects live on the tree trunk and around the base of the tree near the ground. If you look very closely you may even see a spider building its delicate home between the branches of a tree in the bushland.

While down within the bushland soil many, many, many, tiny animals crawl, dig and wriggle. Earthworms, mites, beetles and other insects mostly live out of sight in the soil. They breakdown leaves and twigs and make small airways through the soil.



When we need food, we go to the local shopping centre. When a bushland animal needs food it doesn't need to look very far at all.

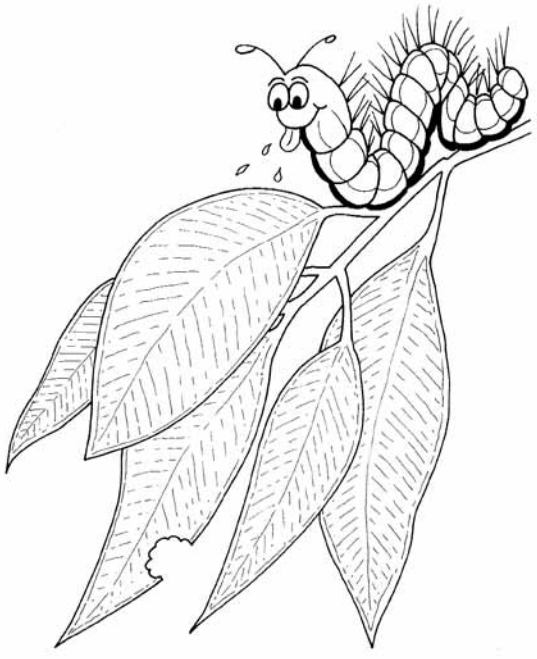


In the bushland the living things survive by finding all they need to eat and drink in the place where they live.

The forest plants make their own food using sunlight, water and goodness from the soils.

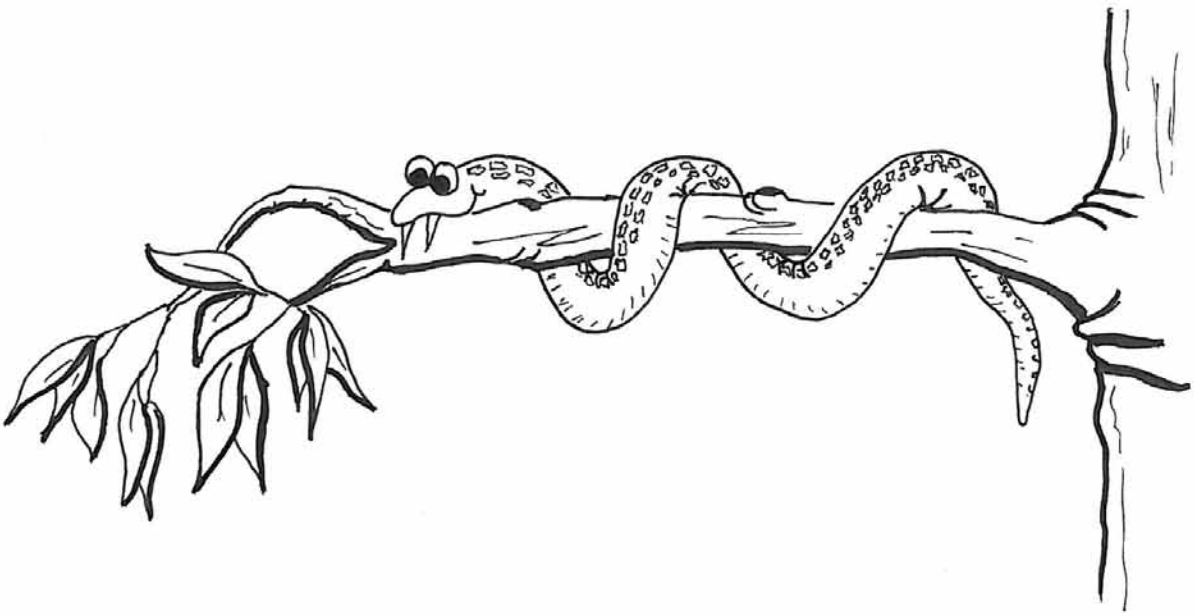
Many small animals and insects eat the leaves of the tree they live on. They may also eat the flowers, fruit and seeds that the tree may produce.

These parts of the tree are delicious food for birds and insect larvae.

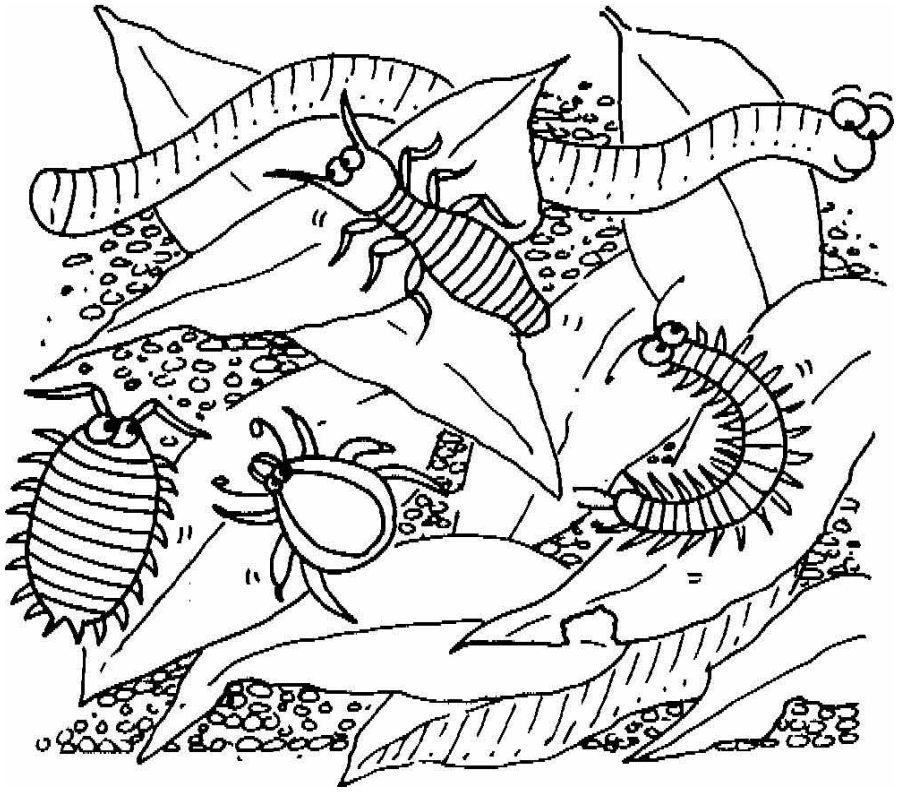


But these little creatures need to be careful because if it is dinner time for them, it must be dinner time for the other animals in the bushland. These other animals are always in the mood for a feast of bugs, insects or small creatures.

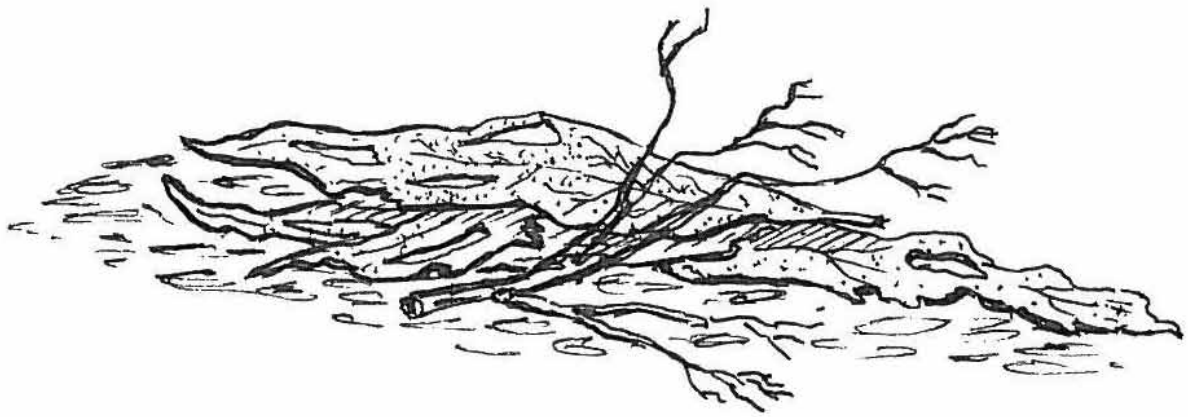
Lizards like to eat insects and are always on the look out for flies, grubs and bugs. Some bushland snakes like to eat small mice and lizards. Some have been known to eat baby possums or even birds.



In the neighbourhood where you live, a truck comes and collects your household rubbish every week. In the bushland most of the food scraps end up on the ground. It isn't really rubbish yet because other animals like to eat the leftovers.

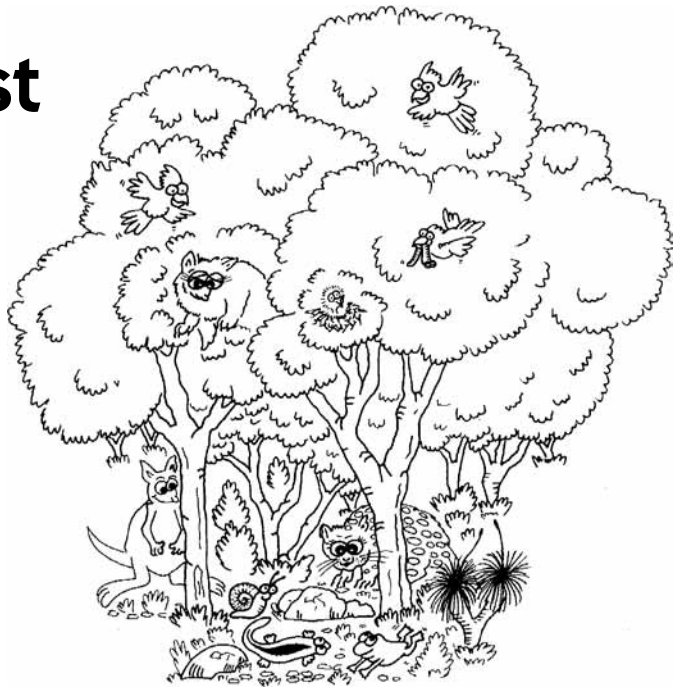


First, tiny insects, including ants, flies, beetles and worms love to eat and lay their eggs in the bits of food the other animals have left. Then, even smaller animals, like germs, and fungi decay the scraps further. Eventually this becomes a natural compost for the trees.



The rains wash the goodness deep down into the soil and all the nutrients become food for the trees.

The trees grow bigger and stronger and produce more flowers and seeds and leaves and more animals come to live amongst them and the whole cycle of life in the bushland neighbourhood continues.



Reference: *original text by Belinda Nelson, 1996*

The bushland neighbourhood

Tick the statements from the story:

- ☐ Birds live in nests or tree hollows
- ☐ Many small insects eat leaves.
- ☐ A truck drives in the bushland every week.
- ☐ In the bushland the trees are like houses.
- ☐ Lots of people live in the bushland.
- ☐ Lizards like to eat insects.

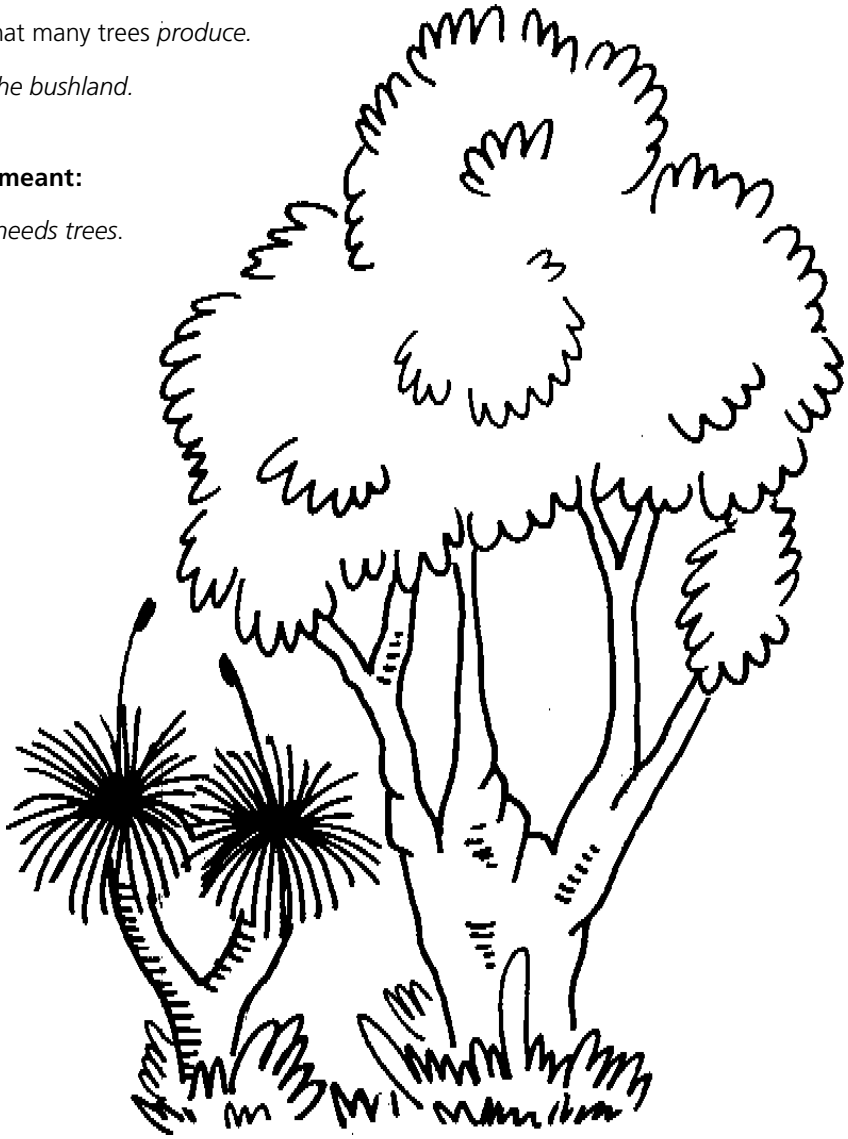
Tick the statements that are true:

- ☐ The bushland is like a community.
- ☐ Many animals live in or around the trees
- ☐ Animals *provide food* for the trees.
- ☐ *Bushland* animals survive on what many trees *produce.*
- ☐ *There are* shopping *centres in the bushland.*

Tick the things you think the writer meant:

- ☐ *Every creature* in the *bushland needs trees.*
- ☐ *The bushland* is a *special place.*
- ☐ Animals are *important to trees.*
- ☐ *Trees are good for compost.*

Write a new title for this text.



My neighbourhood and a bushland neighbourhood

My neighbourhood	A bushland neighbourhood
This is who lives in my neighbourhood	This is who lives in a bushland neighbourhood
The homes in my neighourhood look like this	The homes in a bushland neighourhood look like this
This is the food we eat in our neigbourhood	This is the food animals and insects eat in the bushland neigbourhood
Rubbish in my neighbourhood is collected like this	Rubbish in a bushland neighbourhood is collected like this

Fire fire!

Australian Curriculum and Curriculum Framework links

Science/Science as a human endeavour: Science involves asking questions about, and describing changes in, objects and events.

Science/Science inquiry skills: Communicating; represent and communicate observations and ideas in a variety of ways such as oral and written language.

Background

Bushfires can kill trees and animals. However, some trees don't die, and some animals run or fly away. After a bushfire some plants produce lots of seeds which germinate and grow into new trees.

Questions

- What happens to animals' homes and food after a bushfire?
- How do birds try to escape from a fire?
- What do you think other animals like fish, snakes, wombats and stick insects do?

Students complete activity sheet 'Fire Fire'

The four pictures below show what happens to a forest during and after a bushfire.

Think: Pair: Share

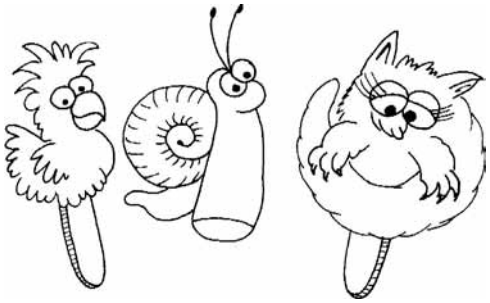
Discuss how the landscape has changed in each picture and number the images from one to four using the following information.

1. During the bushfire
2. A few weeks after the bushfire
3. One year after the bushfire
4. Ten years after the bushfire

Bushland is a busy place – puppet theatre

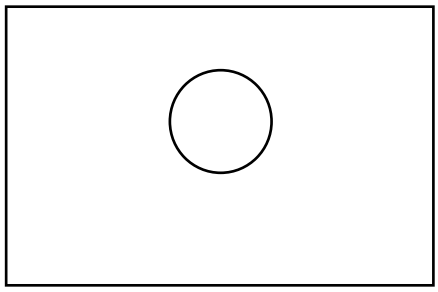
Instructions

- A puppet theatre that small children can easily use can be made from half a sheet of pasteboard (final size is about 30cm x 45cm).
- Try to use as much recycled material as possible.
- Encourage the children to be spontaneous in their play with these newly created 'toys'.
- Allow time for this play and provide topics or problems as springboards for dramatisations.
- The children can write their own stories for dramatisation or simply retell one they know well.



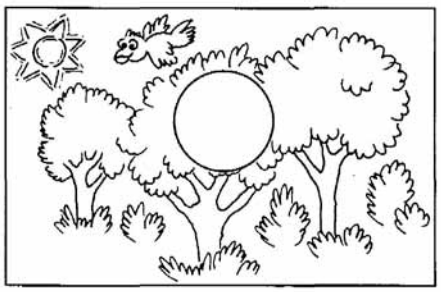
Make a puppet theatre and tell a story about busy bushland.

1 On the front of a large piece of card draw a neat central circle big enough to house two small finger puppets.
Cut the circle out.



2 Decorate by drawing, painting and gluing to make a bush scene. Include all details from recycled wood on the ground to nests in the trees.

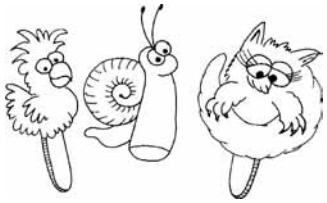
Don't worry about the hole in the centre. Just decorate around it.



3 Make a cylinder out of the bushland scene when it is very dry.

Staple the back carefully

4 Design and make two or three small finger puppets. Try gluing felt pieces together and adding details in the same way or use recycled materials and pop sticks. Make them no bigger than 5–8cm.



5 Hold the puppet theatre over your hand that is holding the puppets. You will be able to create some super stories about life in the bushland with your puppet show.

Snap

Colour and carefully cut out the cards and play SNAP with some friends—a group of three works well.

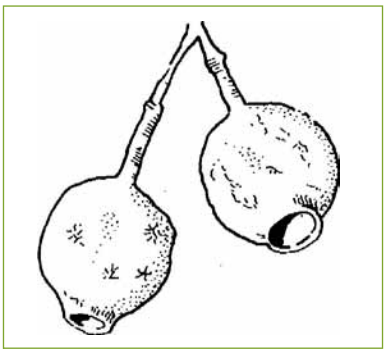
Gluing the page onto light cardboard to make the cards more robust is a good idea.

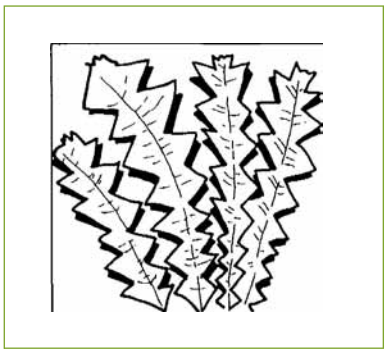
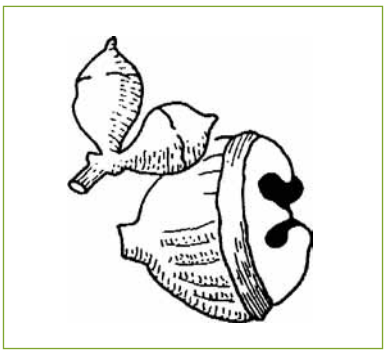
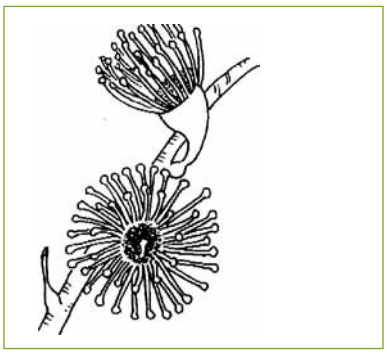
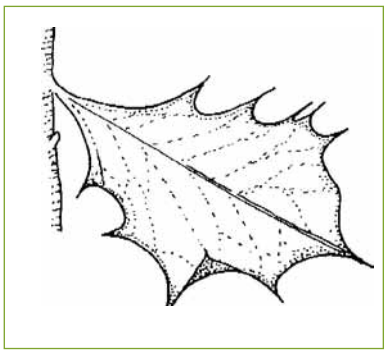
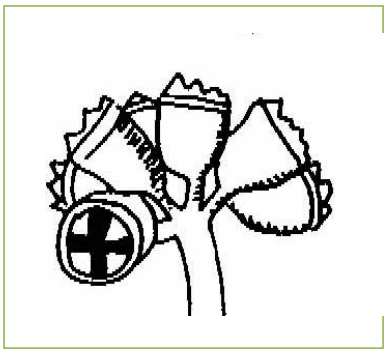
Leaves SNAP with leaves.

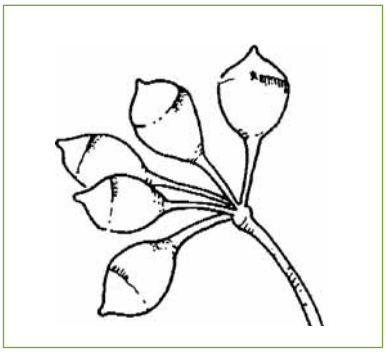
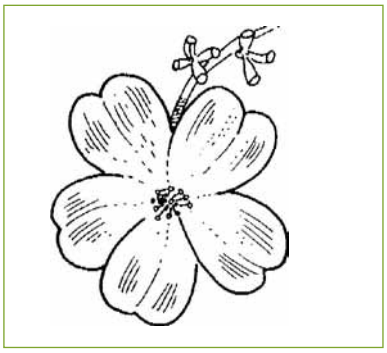
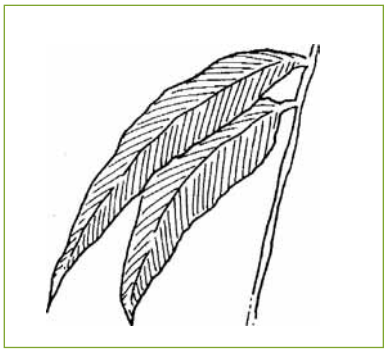
Fruit SNAP with fruit.

Flowers SNAP with flowers.

Animals SNAP with animals

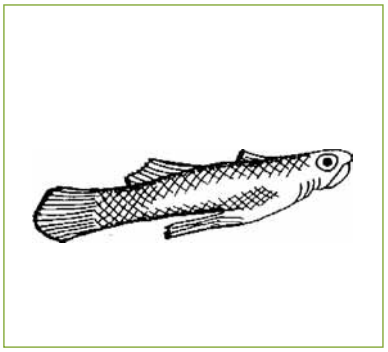
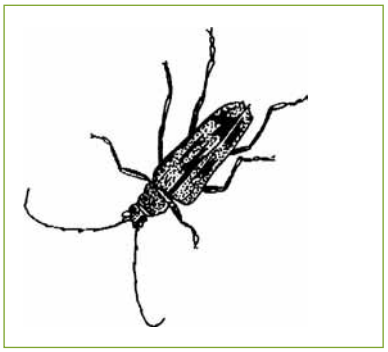
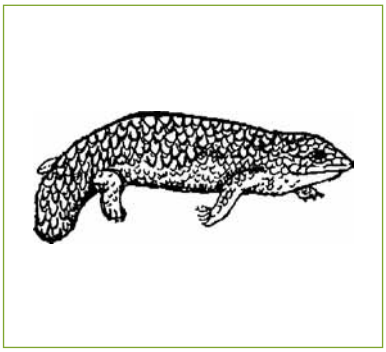


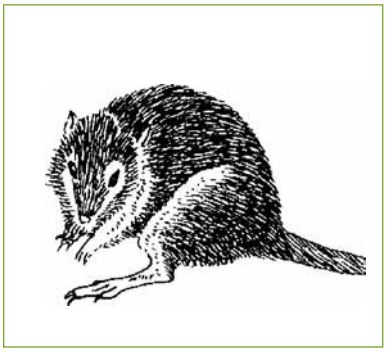






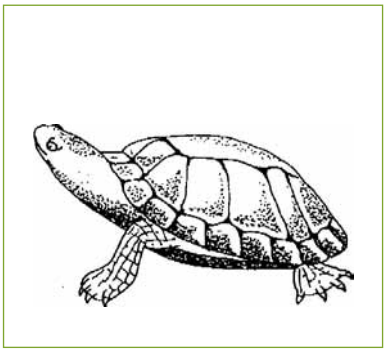
Snap







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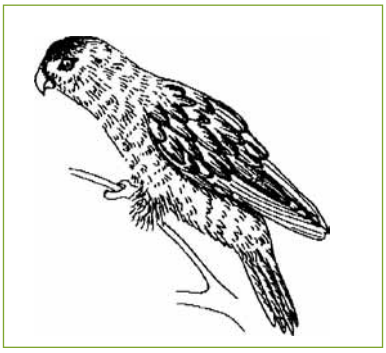
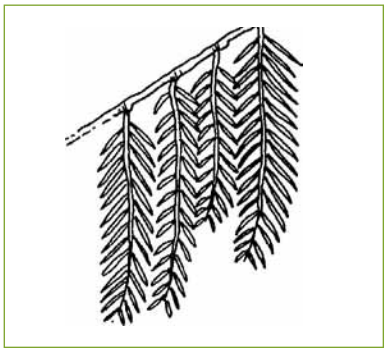
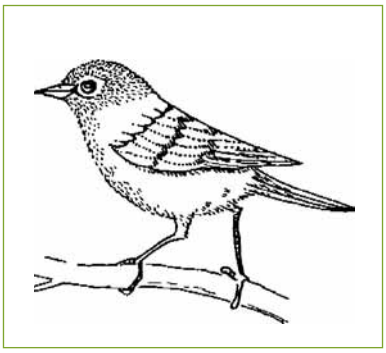
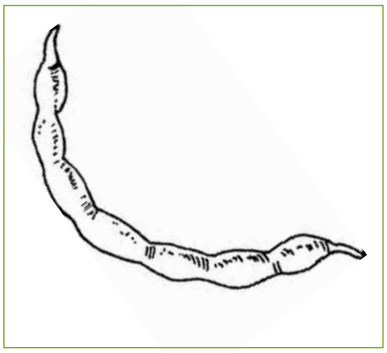
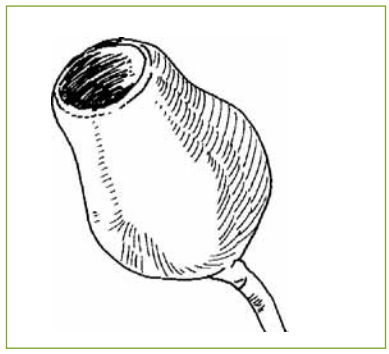
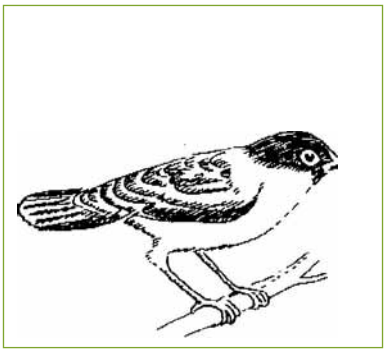
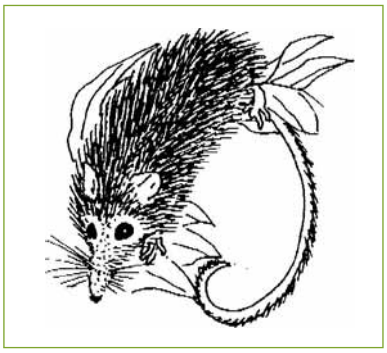
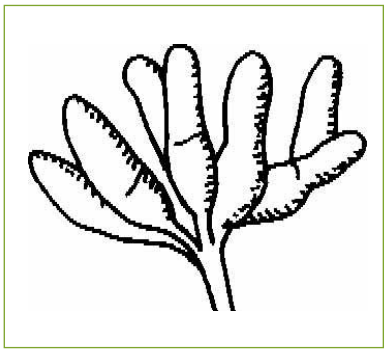
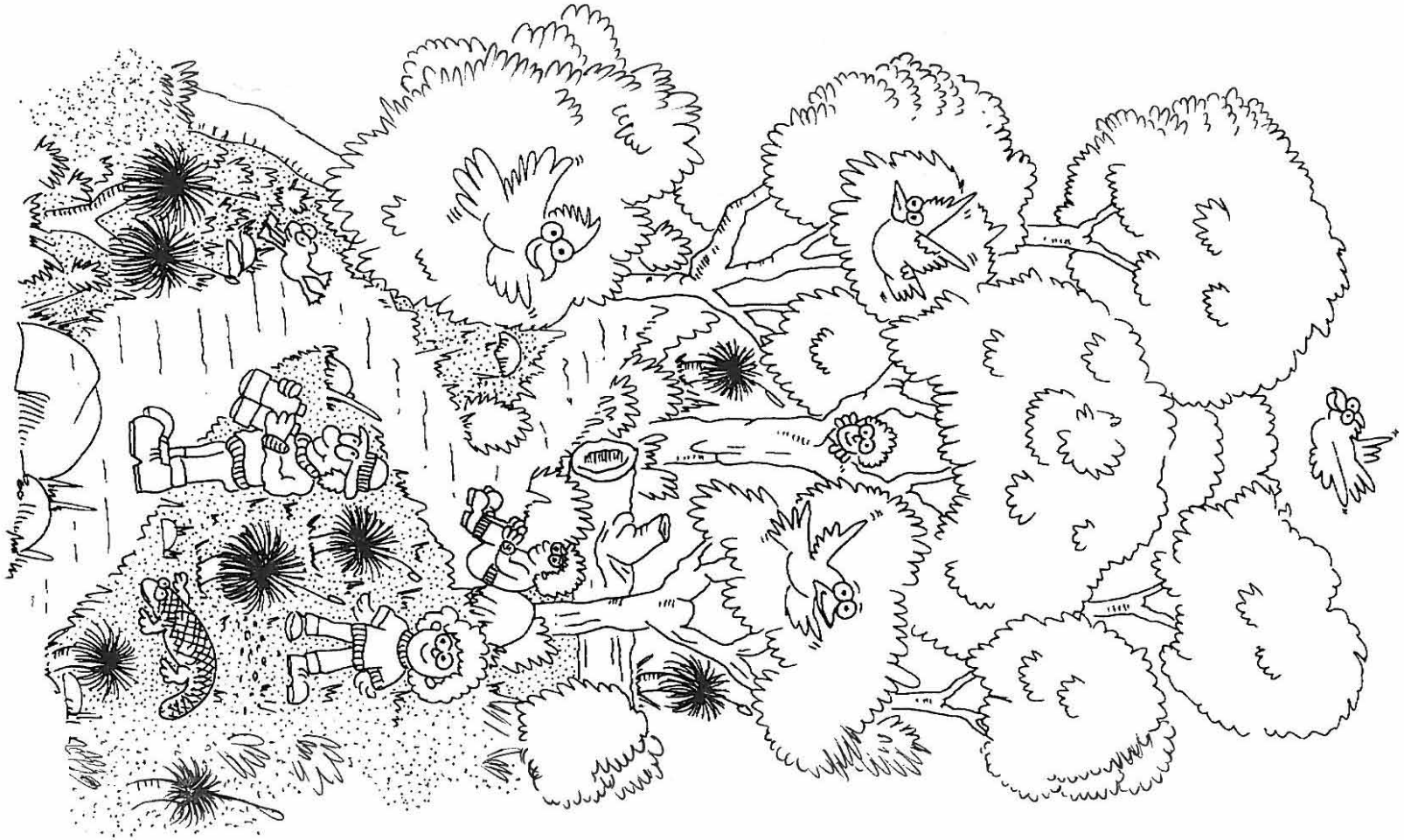




Having fun in the bushland

ecoeducation

Section three

Busy in the bushland – Excursion

Organise a class excursion to a national park or an area of natural bushland. Take a picnic lunch and get involved in an educational activity if any are offered at the site.

Contact your local office of the Department of Environment and Conservation (DEC) for information about national parks and reserves within your immediate area, as well as opportunities to participate in educational activities. DEC offers a range of eco-education activities and interpretative walks at various state-wide centres.

Teachers can find out more about DEC's EcoEducation programs at www.dec.wa.gov.au/ecoeducation or contact us to be placed on our mailing list.

ecoeducation

EcoEducation contact details	
Perth Hills Centre, Mundaring Weir, North Beach, Henderson Environmental Centre, John Forrest National Park, Dwellingup Forest Heritage Centre Ph: 9295 6149 or 9295 6300, fax: 9295 3247 email: DEC-ecoeducation@dec.wa.gov.au	**Wellington Discovery Forest, Bunbury Margaret River Eco Discovery Centre Leschenault Peninsula Conservation Park,** Bunbury Ludlow Tuart Forest, Busselton Ph: 9725 4300 or 9725 5944, fax: 9725 4351 email: swecoed@dec.wa.gov.au
Dryandra Woodland Ecology Centre, Narrogin Ph: 9881 9207, fax: 9881 1645	**Valley of the Giants Walpole Wilderness Discovery Centre** Ph: 9840 0400, fax: 9840 1251 email: walpole@dec.wa.gov.au
Kununurra East Kimberley District Ivanhoe Road, Kununurra Ph: 9168 4200 or 9168 2179	**West Kimberley District** Herbert Street, Broome Ph: 9193 5027
Bush Rangers WA cadet program Ph: 9334 0137 Mobile: 0418 958 457 www.dec.wa.gov.au/bushrangers	

Busy in the bushland – Excursion

Australian Curriculum and Curriculum Framework links

Society and Environment/Place and space: Students understand that the interaction people have with places in which they live is shaped by the location, patterns and processes associated with natural and built features.

Students constantly recognise the importance of caring for landscapes and their features. They apply principles embedded in the concept of ecological sustainability to describe ways in which natural landscapes can be managed appropriately.

Society and Environment/Resources: Students understand that people attempt to meet their needs and wants by making optimum use of limited resources in enterprising ways. (They explore some types and uses of natural resources, such as trees for furniture or homes for birds.)

People use the bushland in different ways.

Describe how the people in this picture are using the bushland.

What fun things have you done in the bushland?

Use the illustration to elicit ideas about how people use the bushland for recreational activities. Discuss any visits the children have made to bushland and the activities they were involved in.

Suggest ways people may damage the bushland.

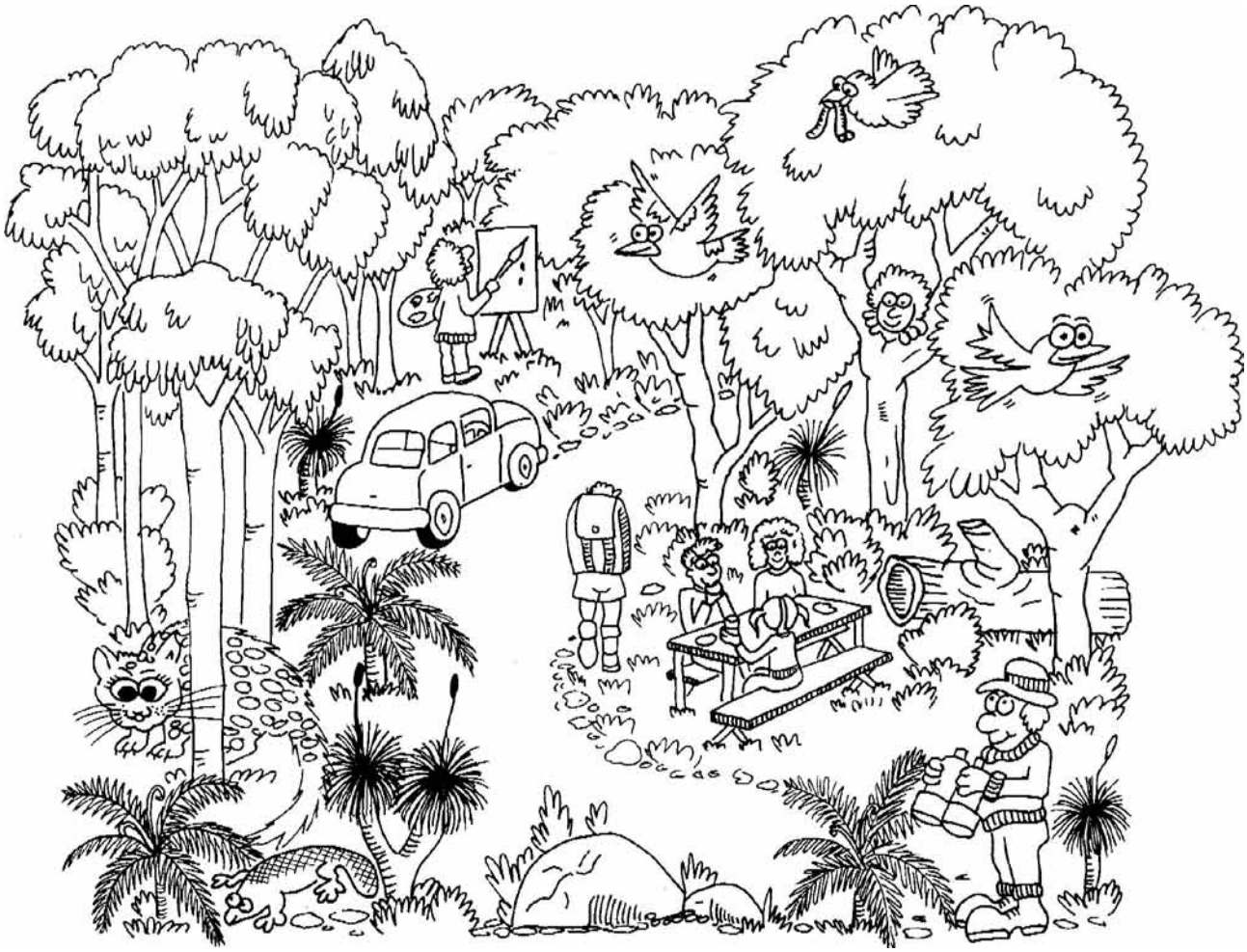
Why is it important to not damage the bushland?

Suggest ways people can minimise their impact on bush land.

Students write about their personal experiences in the bushland and how they can minimise their impact on the bushland.

Literature link:

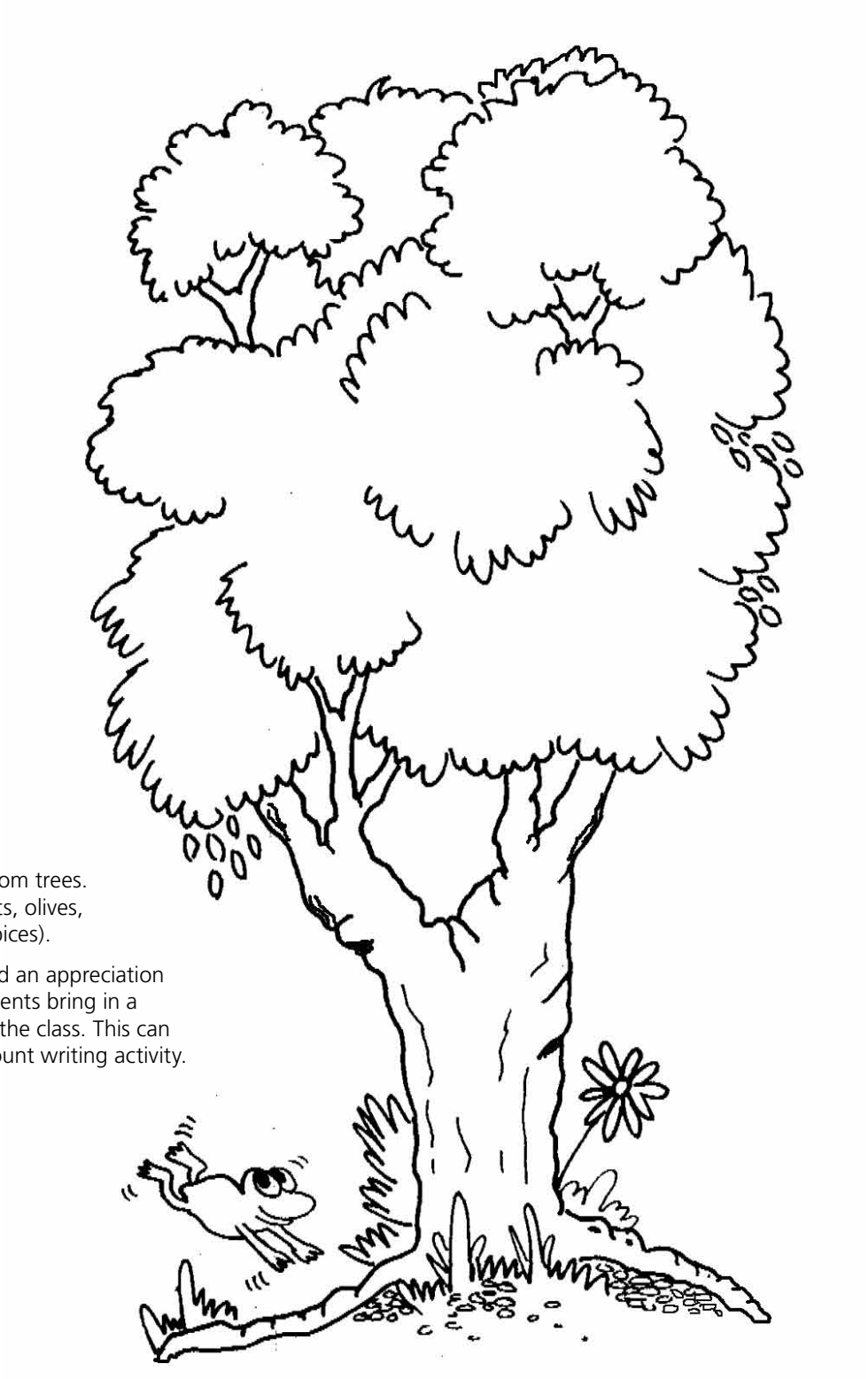
Echidna by Steve Parrish



Tree-mendous food!

Australian Curriculum and Curriculum Framework links

Society and Environment/Resources/Use of resources: Resources are used to satisfy needs and wants and are varied in availability and distribution.

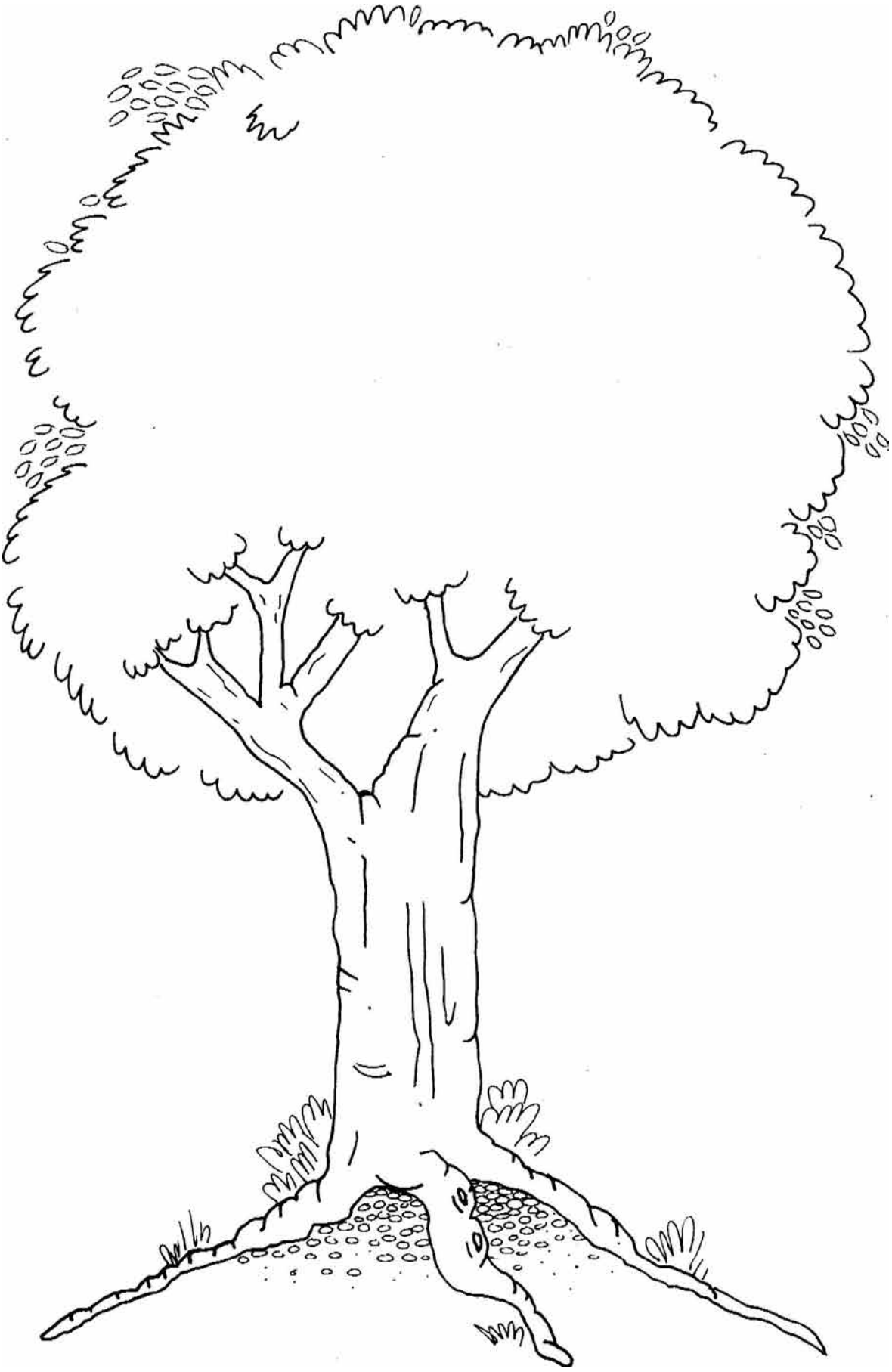


Discuss what food do we get from trees. (for example, orchard fruits, nuts, olives, seeds, some beans, gum and spices).

As a healthy eating initiative and an appreciation of food we get from trees, students bring in a tree-related food to share with the class. This can be used and extended as a recount writing activity.

Tree-mendous food!

Look through magazines for food we get from trees. Cut them out and glue them onto the tree.



Bush tucker tasting plate

Australian Curriculum and Curriculum Framework links

Society and Environment/Resources/Use of resources: Resources are used to satisfy needs and wants and are varied in availability and distribution.

English/Literacy/Interacting with others: Engage in conversations and discussions, using active listening behaviours, showing interest, and contributing ideas, information and questions.

Aboriginal people use plants and trees as food, medicine and for washing.

Source and obtain some local bush foods—many are available from supermarkets. Prepare and label tasting plates (five students per plate).

Students taste and discuss bush tucker delight.

Students collaboratively create a plate-shaped menu labelling, illustrating and describing the foods they have sampled.

Trees at work

Australian Curriculum and Curriculum Framework links

Society and Environment/Resources/Use of resources: Resources are used to satisfy needs and wants and are varied in availability and distribution.

English/Literacy/Interacting with others: Engage in conversations and discussions, using active listening behaviours, showing interest, and contributing ideas, information and questions.

This activity develops understanding of our use of trees and tree products in our homes and/or in our schools. Trees give us many other things besides some of our food.

In groups students brainstorm items made from trees and record ideas on butchers paper. Groups share with the whole class how many items they recorded.

At home or school

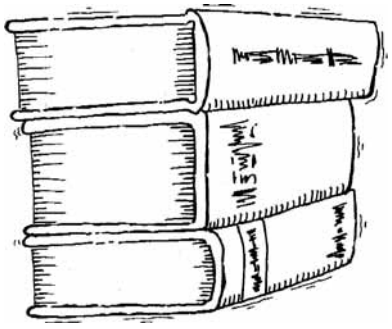
Ask students to do a survey at home or school of things made from trees.

Encourage students to walk around their homes looking for objects made from trees (for example, furniture, flooring, wooden spoons, pencils, wooden toys, cork boards, pergolas).

Ask children to draw pictures of at least four household items made from trees.

In class

In small groups students show and tell their ideas.



Trees at work

Trees give us many other things besides some food.

At home look for things made from trees, like things made from wood or paper.

Draw pictures of four of these things here:

Bushland symphony

Make your own forest music with a selection of forest instruments. Use a variety of tree parts to make music.

Use some dead wood to make tapping sticks.

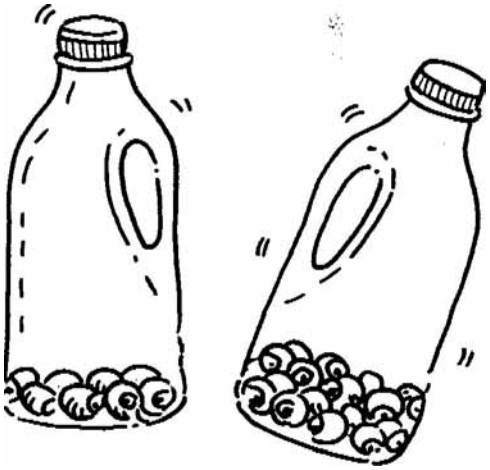
Listen to the sounds which a tree makes.
Use dry fallen leaves to make some sounds.

Crush some dry leaves in your hand.
What kind of sound do they make?

Leaf blowing:

Hold two gum leaves together.
Put your lips to the edges and blow softly.
Keep your lips 'loose'.
What happens?

Make a shaker with one kind of nut.
Get your partner to use different nuts.
Compare the sounds.



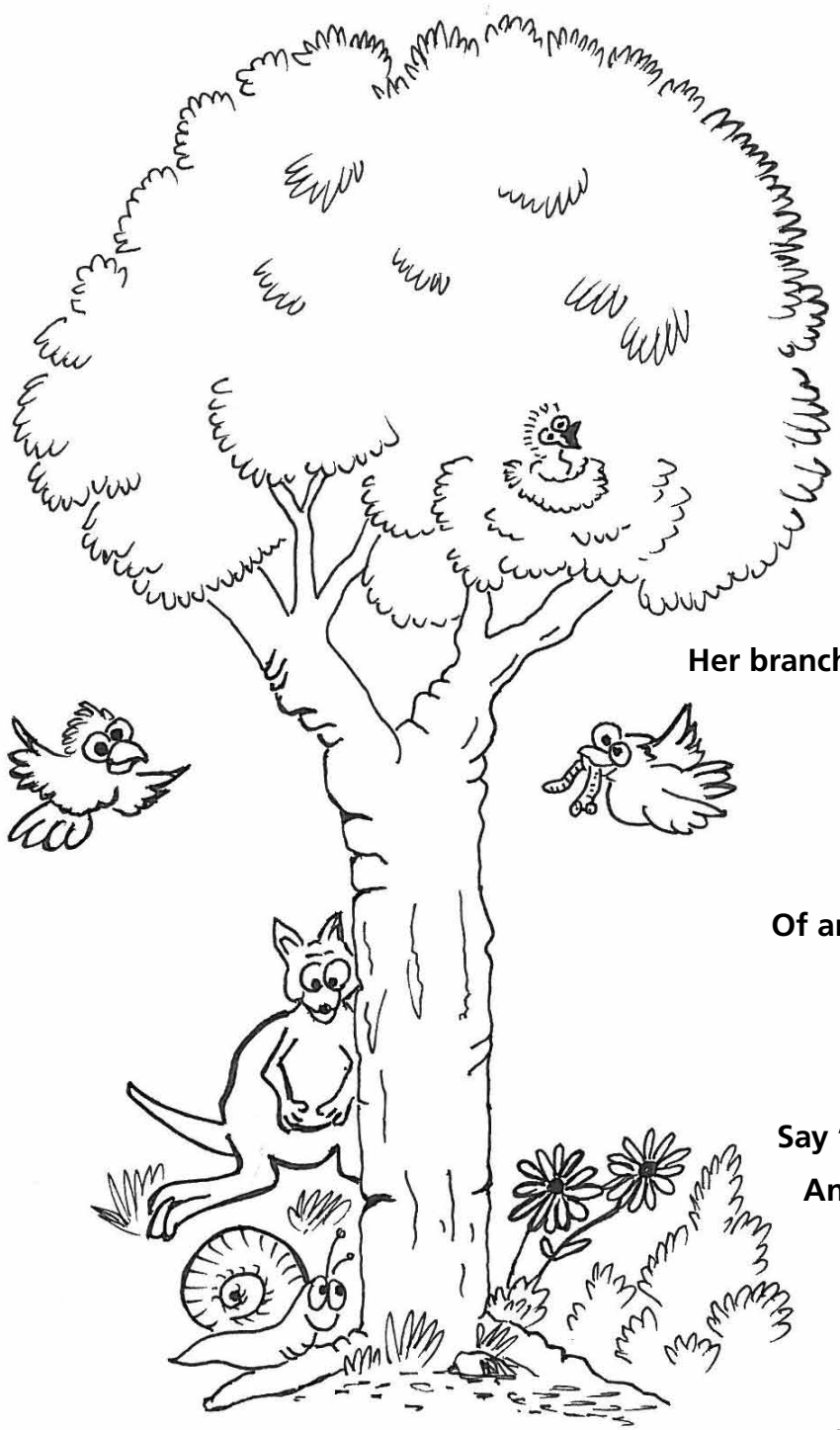
Say good morning to a tree

Take students outside and find a tree to sit under.

Discuss the story in the poem—its meaning, the feelings it evokes and the children's experiences with trees.

Learn the poem and orchestrate it in parts. Use the bushland symphony to accompany the poem.

Address the poem to the tree.



Say 'Good morning' to a tree,
Ask about her family,
Her branches, roots, flowers and leaves,
Say 'Good morning' to a tree.

Say 'Good morning' to a tree.
Chat to her community,
Of ants and grubs, birds and bees,
Say 'Good morning' to a tree.

Say 'Good morning' to a tree
Say 'Thank you for your company,
And all the gifts you give to me'
Say 'Good morning' to a tree.

Reference: *Liddlelow,L (1990) Talk with me. Longman, Cheshire Ply Ltd, Melbourne*

Caring for bushland – create a poster

Australian Curriculum and Curriculum Framework links

Society and Environment/Place and space: Students understand that the interaction people have with places in which they live is shaped by the location, patterns and processes associated with natural and built features.

Value: Environmental responsibility

The commitment to developing an appreciative awareness of the interdependence of all elements of the environment, including humans and human systems, and encouraging a respect and concern for Australia's natural and cultural heritage and for forms of resource use that are regenerative and sustainable.

Reflection and review of the learning journey

Collaboratively complete the KWL chart.

Students create a poster 'Caring for the Bushland' to demonstrate knowledge, understanding and any intended behaviour changes.

Resources list

Bush Secrets by Tjalaminu & Jessica Lister (Fremantle Press, 2009)

The Great Cold by Gladys Cold (Fremantle Press, 2009)

Ferdie and the Falling Leaves by Julia Rawlinson

The Tiny Seed by Eric Carle

Last Tree in the City by Peter Carnavas

A Home for Bilby by Joanne Crawford

Echidna by Steve Parrish

Internet site:
www.dec.wa.gov.au

The DEC website contains specialist information on every aspect of conservation and land management in WA. Here you will find links to an online bookshop, a wide variety of educational opportunities and area-specific information.

www.sharingnature.com

Books:
Bush Book series:

These DEC publications are a series of area-specific practical field guides to help you learn about and discover WA's unique plants, animals and special features.

Acknowledgments

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Front cover artwork – Juliet Rushton

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Thank you.

This resource includes several activities from the previous 'Busy in the Forest' resource written by Belinda Nelson.

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