

LIBRARY

Department of Biodiversity,
Conservation and Attractions

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forest pack



Produced by the Education Dept. in conjunction with the Forests Dept.

level 5~7

FOREST PACK

Teachers' Notes



5~7

12. TREE MEASUREMENTS - This sheet describes several ways of measuring trees. Children will become aware that height alone is only one of many measures to be made.

13. INVESTIGATING SEEDS - Seeds and a jar are needed for this activity. The teacher should encourage regular and accurate observations and records.

14. INVESTIGATING LEAVES - The children need clear plastic bags for this activity. Ensure that the bags are removed and holes filled after the activity is finished.

15. A TREE IS A HOME - A large sheet of paper is needed for recording the findings of this activity.

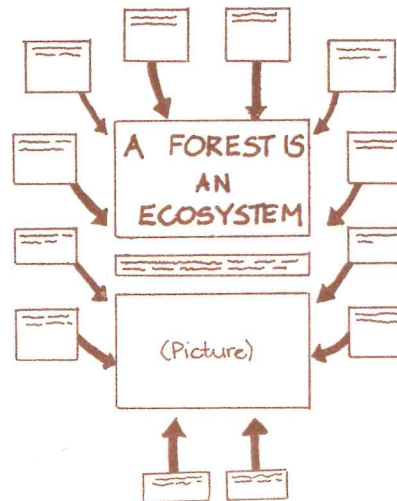
16. INVESTIGATING FLOWERS AND FRUITS - Discussion of discoveries may be made after the activities have been completed.

17. WHAT'S IN A NAME - Children will enjoy creating names for plants in the garden. A file of pressed plant samples with names attached, could be made.

18. TREE WORDS - All these words may be found in a dictionary or on the sheet, 'What's in a name?'. Copies of this sheet could be made if each child needs an individual copy.

19. FIRE IN THE FOREST - This is an information and discussion sheet. Children can suggest other conditions that affect fire.

20. ADAPTING TO FIRE
a) It should be emphasized that many animals cannot survive a wild fire.
b) This is an information and discussion sheet. Children could make a chart showing how to prevent bushfires.



21-25. PROJECT SHEET - Children can draw pictures, use magazine pictures or make collages to complete the boxes. The sheets can be arranged on a pin-up board using arrows to connect important sections.

WHY FOREST PACKS?

The activity sheets in this forest pack aim to:

- Increase children's knowledge of the forest and what it consists of.
- Enhance the children's perception of the forest.
- Develop an awareness of the value of the forest, not only to people but to the environment and the fauna.
- Develop an appreciation of the beauty of trees, how they grow and their many parts.
- Integrate the traditionally, science-oriented topic 'trees' with other subjects eg. English, social studies, maths.

USING THE FOREST PACK

This year 5-7 forest pack comprises sheets which are designed so that the children can work on them independently or in small groups. These notes have suggestions for the materials that are needed for each sheet.

This folder may be pinned to a pin-up board or it may stand on a desk. It would be valuable to obtain a bulk loan of books about trees to supplement the sheets.

The forest pack can, if possible become the focus of a 'forest interest centre' in which children's work can be produced and displayed.

Allow children time to work at the centre. Some sheets may be done alone or by the whole class. Keep a box or tray nearby, for children to place their sheets to be checked.

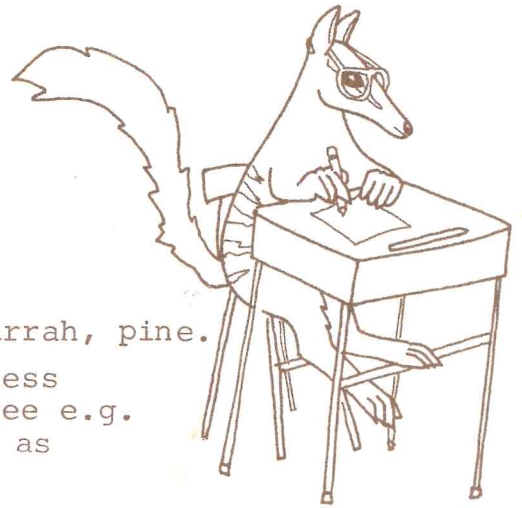
1. RESEARCH - Children may need to visit the library or use books from a bulk loan for this activity. Blank paper or card would be beneficial.

2. GRANNY SMITH - Children read the story for interest. They may wish to follow up their interest by researching several of the suggestions. They may need to go to the library.
3. ROOT-ROT - Have books or information from the Forests Department about this problem. Encourage children to write to the Department for additional information. Discuss the finished result with children in a group.
4. MOBILE - Provide scraps of coloured paper, wool, egg cartons, P V A glue. Children will need to go outside to get a branch. They may also need a hand to hang their mobile.
5. QUIZ - Make an attractive 'quiz' box for children to insert their quiz questions. Keep an eye on how many questions are asked and when there is a large enough number hold a class quiz.
6. WEAVING - Children will need to go outside to get a branch, and thin objects to weave with. Children may need a hand to hang their weavings.
7. CHANGES - Children may need to go to the library for further research.
8. CONFLICT IN THE ENVIRONMENT - Provide large sheets of paper to make a poster. Have children collect newspapers.
9.
 - (a) TREES - A POEM - Children read the poem for appreciation.
 - (b) WRITE - A POEM - Provide different sized paper or card on which children could write their poems. After several children have written a poem, they might like to read them to the class.
10. TOURIST BROCHURE - Provide blank and lined paper or card for the brochure. Encourage children to bring in magazines for this activity. Children may need to go to the library for further research.
11. MEASURING TREES - The children may need some guidance to perfect this method. The distance from the measurer's eye to the pencil should remain constant.

RESEARCH

Choose a specific tree e.g. karri, jarrah, pine.

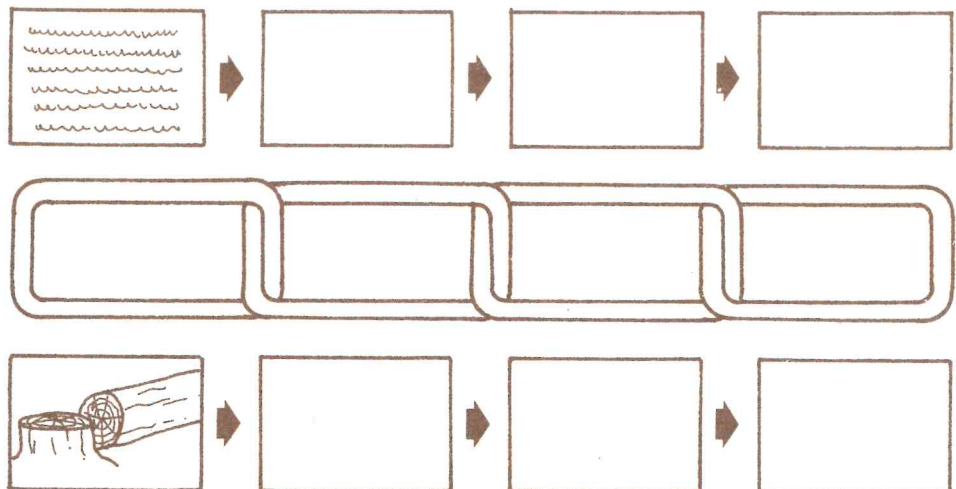
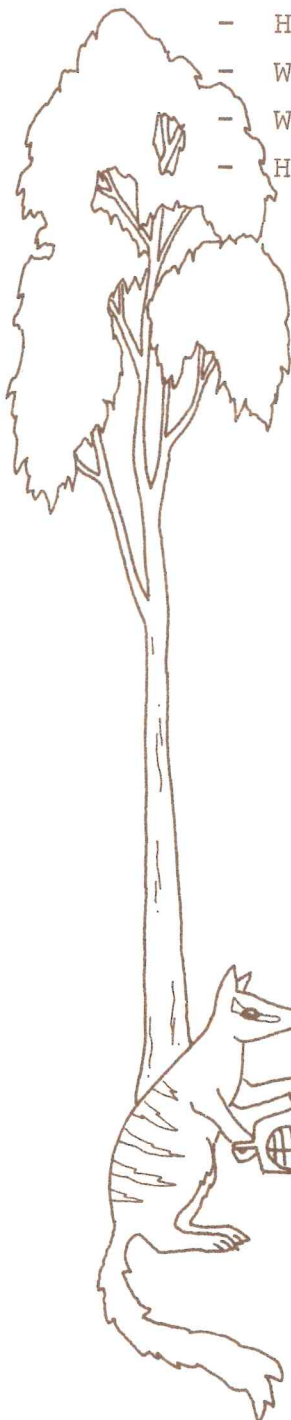
Find out about the manufacturing process involved in changing a part of the tree e.g. trunk into something people used such as furniture, turpentine (see over).

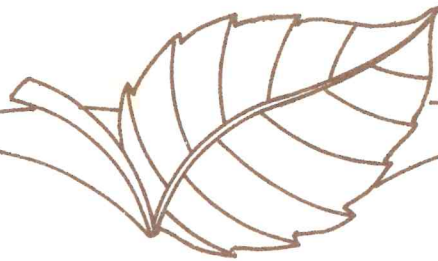


You may need to find answers to questions like:

- How is the tree part removed from the tree?
- How is it transported?
- What various stages of treatment does it undergo?
- Where is it treated?
- How is it made ready for sale?

HINT: You could set out your research along a chain - as shown.





Have you heard of the apples called Granny Smiths?
They are green apples. Did you ever wonder how they
got their name?

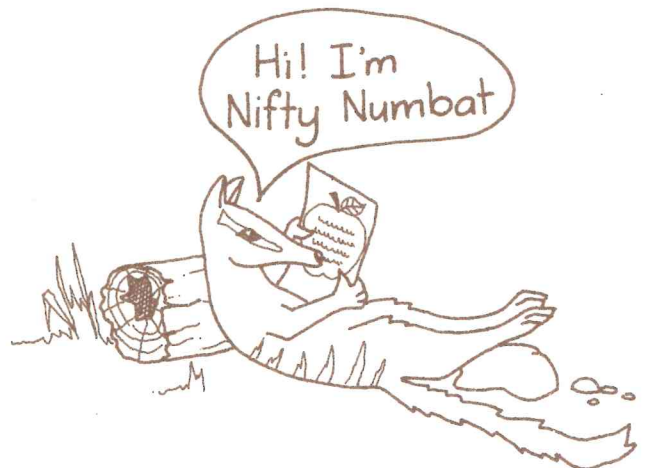
Maria Ann Smith was an old lady who lived in Ryde, New South Wales in 1839. She had an orchard of apple trees which she and her husband Thomas tended and sold the apples from. One day, as she was walking by the creek which ran through her property, she came across a small apple tree growing by itself among the weeds. She remembered how, many years before, she had dumped a few withered looking apples in old boxes down by the creek. This small tree must have sprung from one of those apple seeds.

The tree grew quickly and when its apples appeared, for some strange reason they were different from the other apples grown in the district. They had lighter green skins, were smoother and rounder and tasted sweeter and crisper than cooking apples usually did. She took them to the market and sold them by the caseful. People thought they were so good to eat, that as time went by, Maria Smith - known as Granny Smith, packed and sold them by the crateful and even sold young trees. Soon the whole district had apple orchards which had grown from Granny Smith's apples.

After Maria died in 1870, fruit growers continued planting Granny Smith's apple trees and the apples began to be known as 'Granny Smiths'. Granny Smiths are now very common in Australia and popular with people of all ages.

- o Find out the origins of other well-known names of apples e.g. Jonathan, Delicious.

- o List some possible reasons why 'Granny Smith's' apples were so different from other apples grown in the district.



- o Find out what happens to the apples after they are picked. Make a list of by-products of apples.

- o Collect food items which are made with apples or from apples. Compare the amount of real apple used in each.

- o Make a collection of recipes using apples. Make something delicious to bring to school.

NEWSFLASH

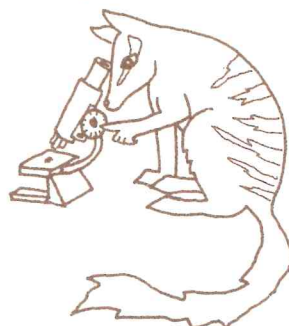
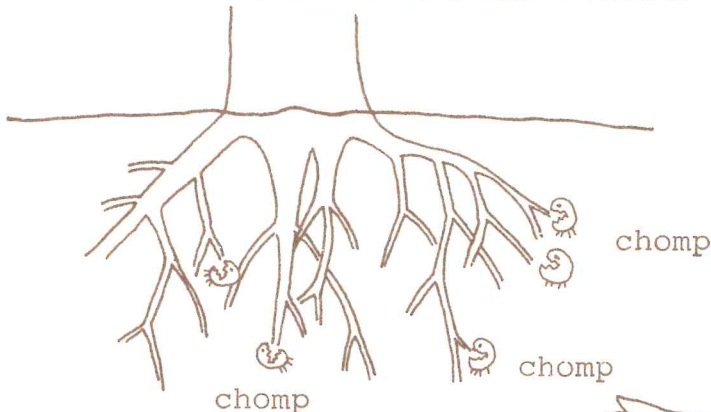
JARRAH ROOT ROT

For many years the jarrah forest has been threatened by a fungus with the name Phytophthora cinnamomi (P. C. for short! Phew!). This microscopic fungus lives in the soil and invades the feeding roots of jarrah trees, causing them to rot and die. Without roots to supply food and water, the jarrah tree slowly starves to death. The youngest leaves turn yellow and shrivel up and the whole tree will slowly "dieback" from the top.

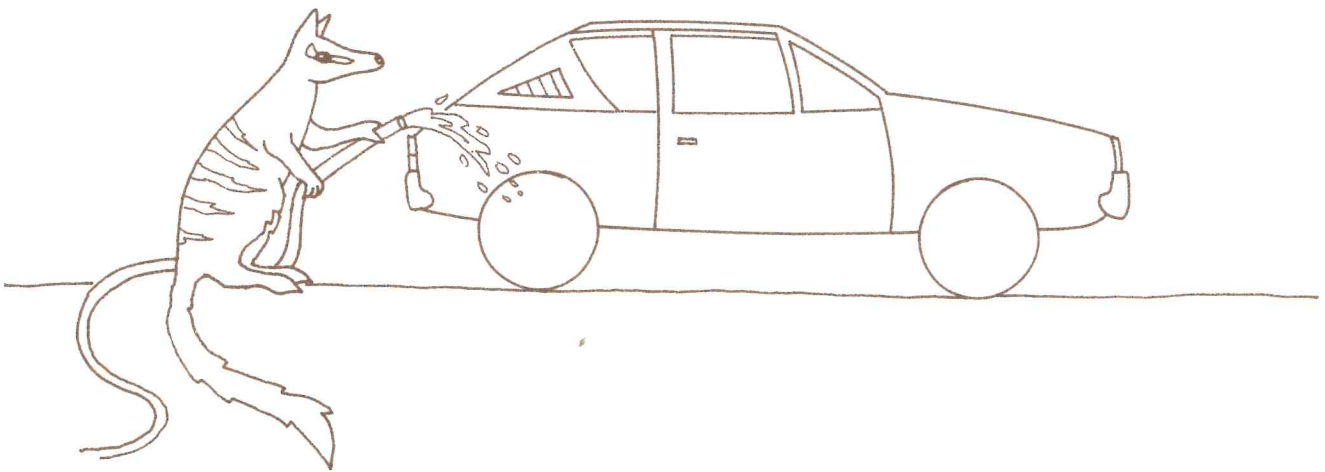
P.C. will attack other plants and trees in the forest, in fact any root systems that will provide a tasty meal. Zamia palms, banksias, and grass trees may fall victim to the disease. Some plants and trees are lucky because their roots can resist P.C. Karri, Marri and the wattles are a few examples.

Hmm, I wonder if this is the same as Jarrah Dieback?

aha! I thought it was the same as Jarrah dieback



At the moment almost 10% of State Forest is known to be diseased. With careful research, scientists have now begun to understand just what makes P.C. grow and spread. We now know that P.C. lives and grows best when the soil is warm and moist, and is quickly transported from place to place by infected mud sticking to tyres of vehicles, the hooves of horses or even the soles of the bushwalker's boots. To minimize this spread, restrictions have been placed on traffic going through the forest. In some cases cars, trucks and tractors must be thoroughly washed before entering the forest.



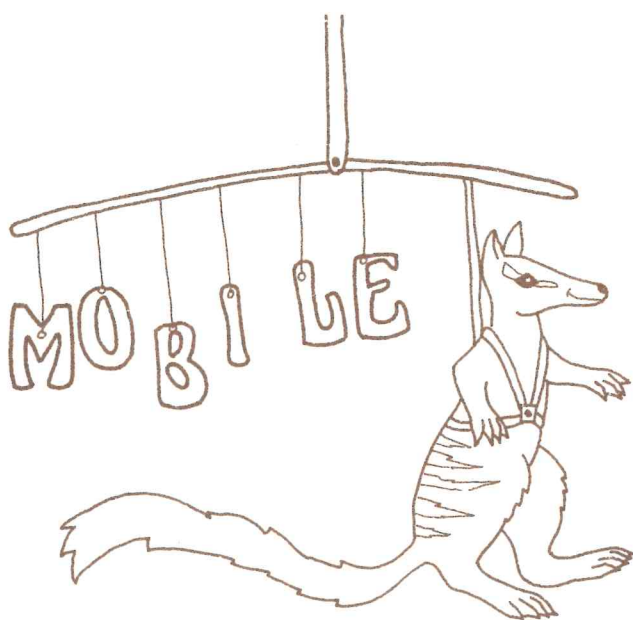
Read more about this thrilling saga of Jarrah Root Rot. When do people think it first appeared? Why has it been able to spread so quickly in the jarrah forest? What is the time of year that P.C. likes? Give some reasons. Why does it infect jarrah but not karri or marri?

Find articles about Jarrah Dieback and compare the authors' attitudes towards the disease.

In your opinion, what does the future look like for the only jarrah forest in the world? Have you any solutions? Make a list of instructions to people travelling in the south west about preventing the spread of the fungus. What can they do to help, what should they do when in the forest?

Next time you're walking in the forest anywhere near jarrah trees, e.g. farms, see if you can detect the presence of this jarrah threat.

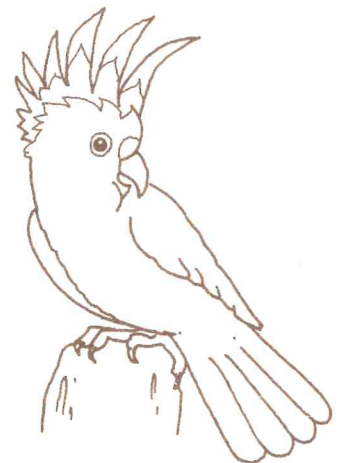




Things needed

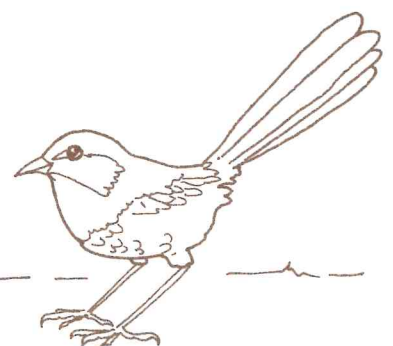
scraps of coloured paper,
egg cartons, PVA glue,
scissors, felt pens.

1. Find a dead branch that has a nice shape.
2. Hang it so that it balances from one point.
3. Make birds to fly from the branch.
 - Cut up an egg carton to make a body and head of a bird.
 - Cut and stick coloured scraps of paper to make wings, legs, tails, crests and other larger details.
 - Use felt pens to mark feathers and eyes.



HINT: You could find a picture of a bird you like first and make your model look like it.

4. Tie your birds onto the branch. Does the mobile still balance?



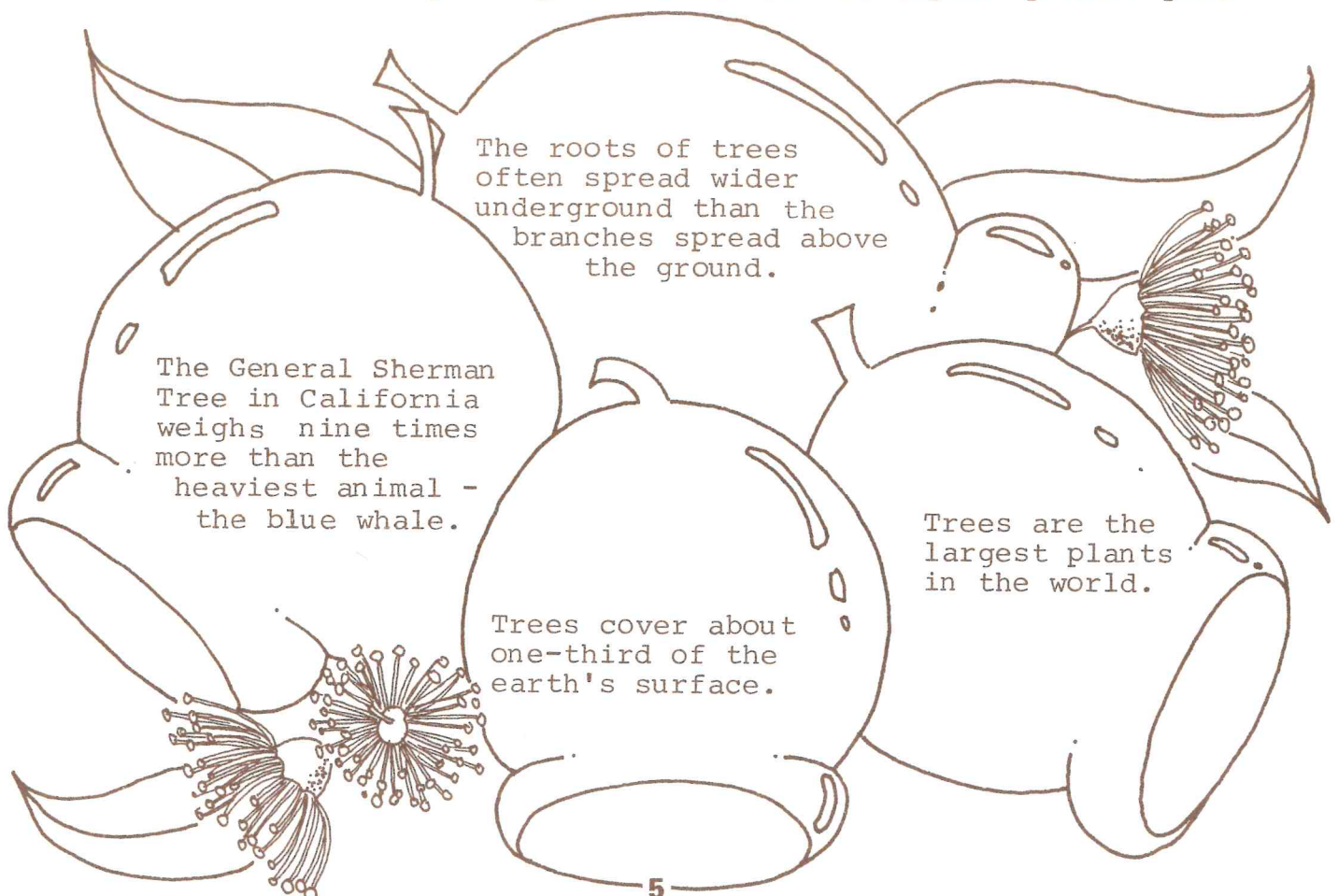


Make up some questions for a class quiz. Pop your questions in the special box provided.

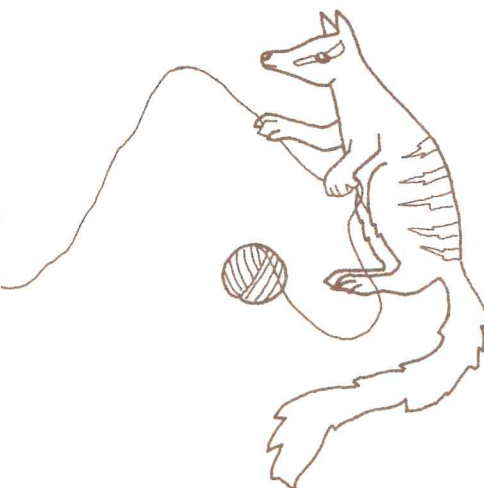
To find your questions, read about:

- How trees grow
- Different types of forests, such as woodlands, savannah, mulga scrub, sandalwood
- Animal life in forests
- Food from trees and forest plants
- The timber industry
- The conservation movement
- The history of farming

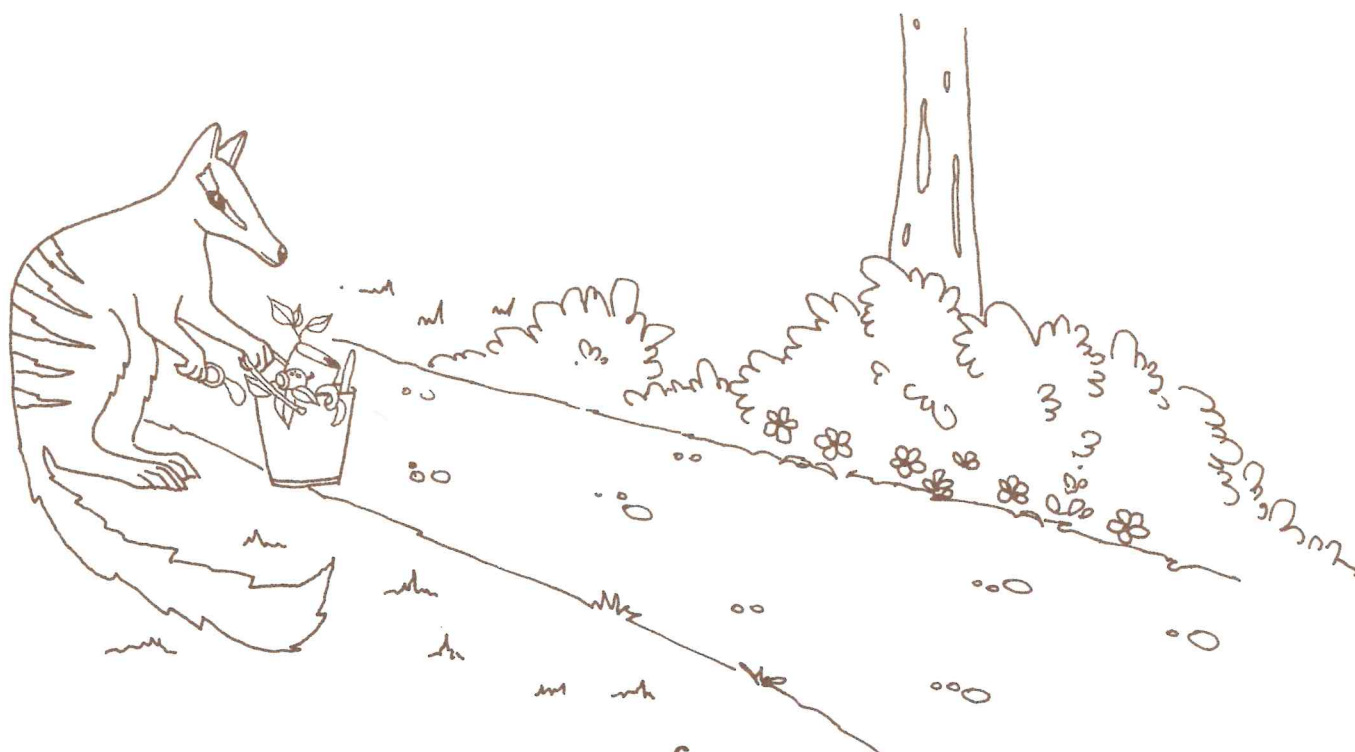
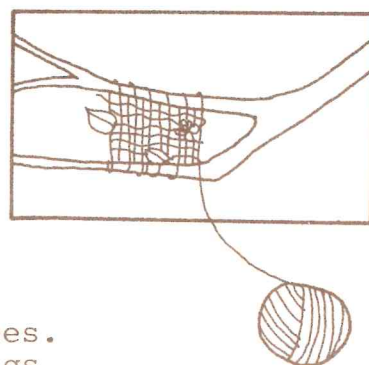
Here are some facts you might like to know if anyone quizzes you.



WEAVING



1. Find a strong branch that has a shape something like this.
2. Using a ball of string or wool, wind it around the two arms of the branch. This is called the warp.
3. Select an area round a group of trees. Pick up a variety of long thin things (both people-made or natural) to weave into the warp, e.g. leaves, grasses, twigs, straws, popsticks.
4. Does your weaving contain more natural or people-made objects? What does this tell you about the area of the school grounds that you selected?



CHANGE

Modern day logging differs greatly from past logging methods. Over the years, improvements have been made in areas such as:

- (a) timber felling
- (b) timber transport
- (c) timber milling

Look at the two photographs.



1890's



1980's

- o List the advantages and disadvantages of the modern method of logging.
- o Estimate how long the modern method takes.
 - the old method would have taken.
- o How much working time has been saved?
- o How much human effort do you think has been saved?
- o Is the forest affected more or less with the modern method of logging?
- o How does the clothing of the workers in the 1890's differ from the clothing of the workers in the 1980's?
- o Find some other old pictures or photographs of other aspects of timber production and research the changes that have taken place, e.g. in living conditions, safety standards.

- o Collect newspaper articles which give opinions or information about the following controversial issues:

- [illegible]

- 8



TREES

Trees of the fragrant forest,
With leaves of green unfurled,
Through summer's heat, through winter's cold,
What do you do for our world?

First -
Our green leaves catch the raindrops
That fall with swishing sound,
Then drop them slowly, slowly down;
'Tis better for the ground.

Second -
When, rushing down the hillside,
A mighty freshet foams,
Our giant trunks and spreading roots
Defend our happy homes.

Third -
From burning heat in summer,
We offer cool retreat,
Protect the land in winter's storm
From cold, and wind, and sleet.

Fourth -
Our falling leaves in autumn,
By breezes turned and tossed,
Will make a deep sponge carpet warm,
Which saves the ground from frost.

Fifth -
We give you pulp for paper,
Our fuel gives you heat,
We furnish timber for your homes,
And nuts and fruit to eat.

Sixth -
With strong and graceful outline,
With branches green or bare,
We fill the land through all the year
With beauty everywhere.

All -
So listen, from the forest
Each one a message sends
To children on this Arbor Day,
"We trees are your best friends."

Anon.

WRITE A POEM

Try writing a sense poem about a tree or the bush. e.g.

I see
I hear
I feel
I smell
I taste

Line 1 - 5 syllables
2 - 7 syllables
3 - 5 syllables

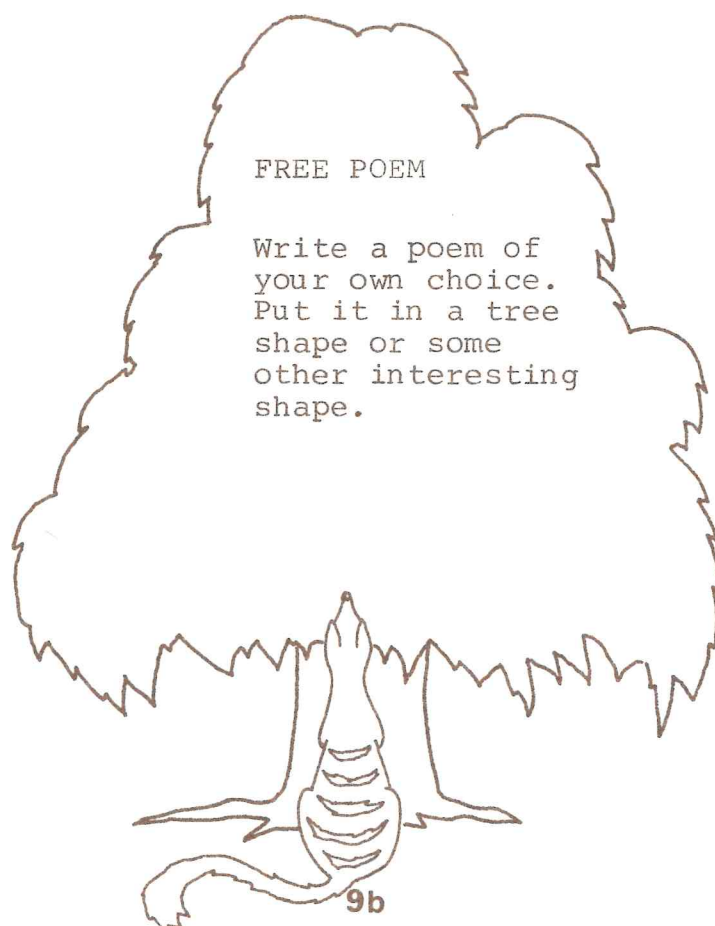
Try writing a Haiku poem.
Think of an idea, then divide
it into three parts e.g. sound,
size, action, or feeling, name,
use. Use each part for each
different line.

ACROSTIC POEM. Choose a word and start each line of
verse with the appropriate letter.

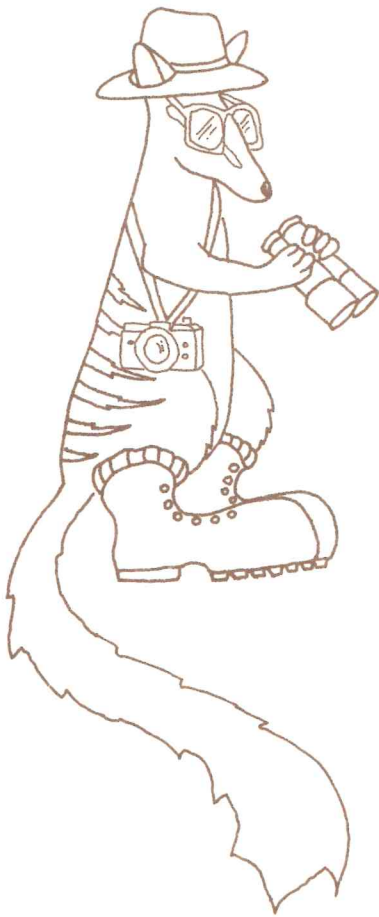
T	.....	F	.....
R	.....	O	.....
E	.....	R	.....
E	.....	E	.....
S	.....	S	.....
		T	.....

FREE POEM

Write a poem of
your own choice.
Put it in a tree
shape or some
other interesting
shape.



TOURIST BROCHURE



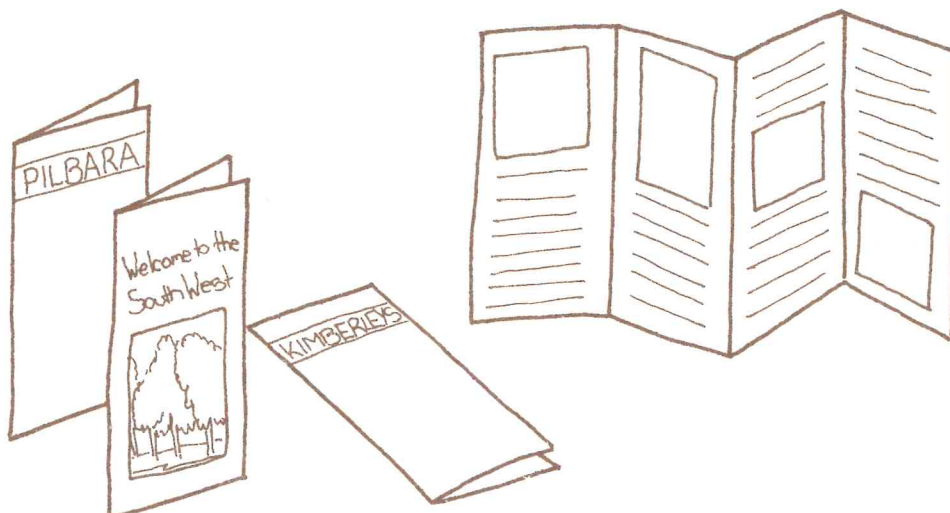
Design a brochure to encourage tourists to visit the forests of our South West, the wilderness of the Kimberley, gorges of the Murchison.

You might include:

- a) a map of the forest areas with the various towns to see and roads to travel.
- b) distances between towns and from Perth.
- c) types of transport available to various places e.g. coach, train, aircraft.
- d) facilities available e.g. hotels/motels, camping places.
- e) a summary of things to see and do.
- f) a section of information about the forests; the type of trees and their value and the type of industry which has evolved around them.
- g) a list of equipment and considerations necessary for a safe trip eg. first-aid.

REMEMBER!

You must give plenty of facts, presented in the most stimulating way possible. Find photos to include or draw pictures to illustrate your brochure.



MEASURING TREES

Method 1

Materials Needed :



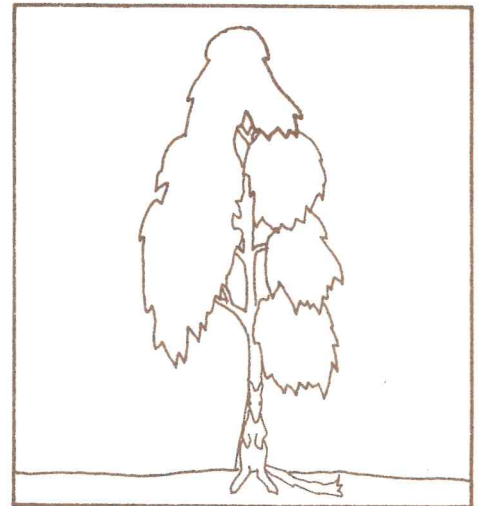
pencil



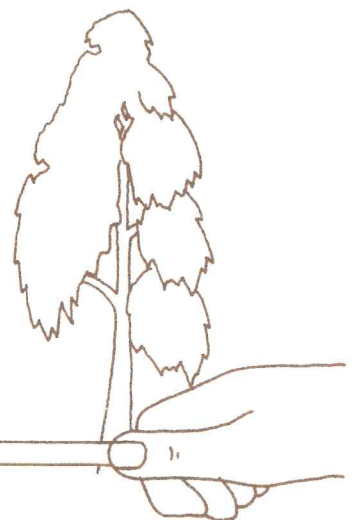
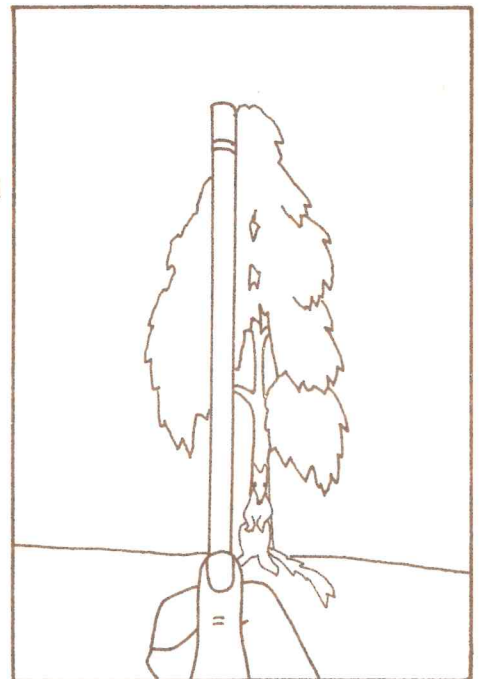
metre rule



or tape measure



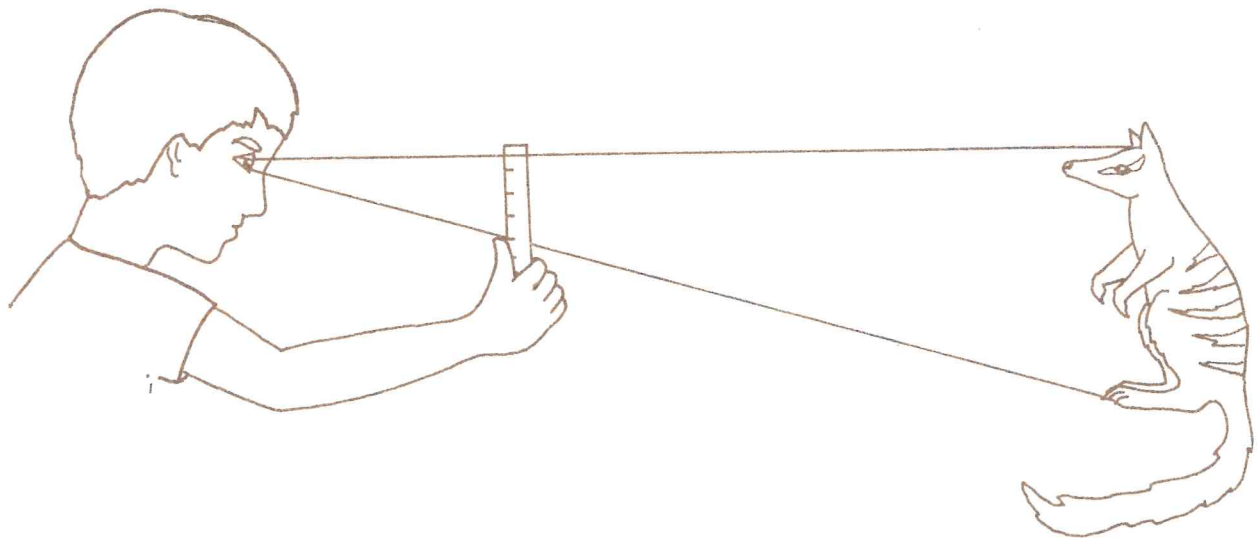
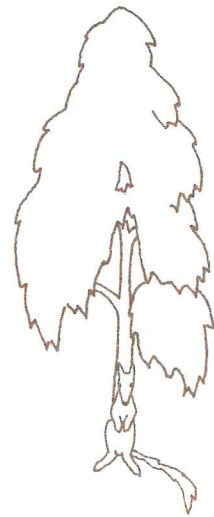
1. Take a friend, a pencil and a metre rule or tape measure. Ask your friend to stand facing you in front of the tree you want to measure.
2. Stand quite a distance away from the tree and hold the pencil out in front of you. Line up the top of the pencil with the top of the tree. Place your thumb on the pencil to mark the bottom of the tree.
3. Turn the pencil so that it is lying down. Keep your thumb lined up with the base of the tree. Ask your friend to walk to the side and you shout out "Stop" when he or she is in line with the top of the pencil.
4. Measure the distance (or count the paces) from your friend to the base of the tree. This is how tall your tree is.
5. Practise on several different trees.



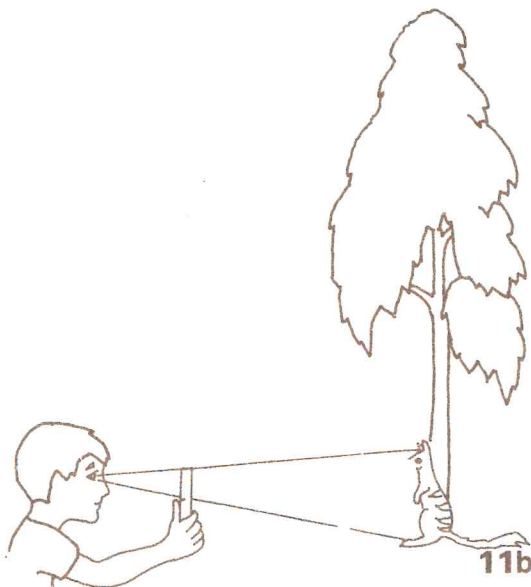
MEASURING TREES

Method 2

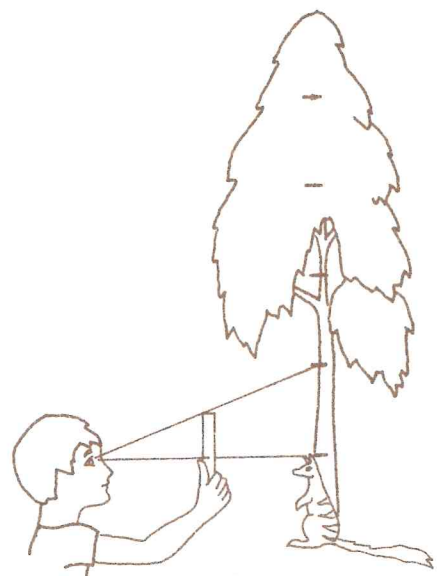
1. Take a friend to act as a marker by standing near the tree's trunk.
2. Move to where the marker (your friend) and the top of the tree can be seen.
3. Hold the ruler vertically at arm's length. Sight the tip of the ruler on your friend's head. Put your thumb on the ruler where your friend's feet are sighted. This gives a sighting length for the marker's height.



4. Sight up the tree counting how many times this sighting length is used to reach the top. This number multiplied by the marker's height will give the approximate height of the tree.



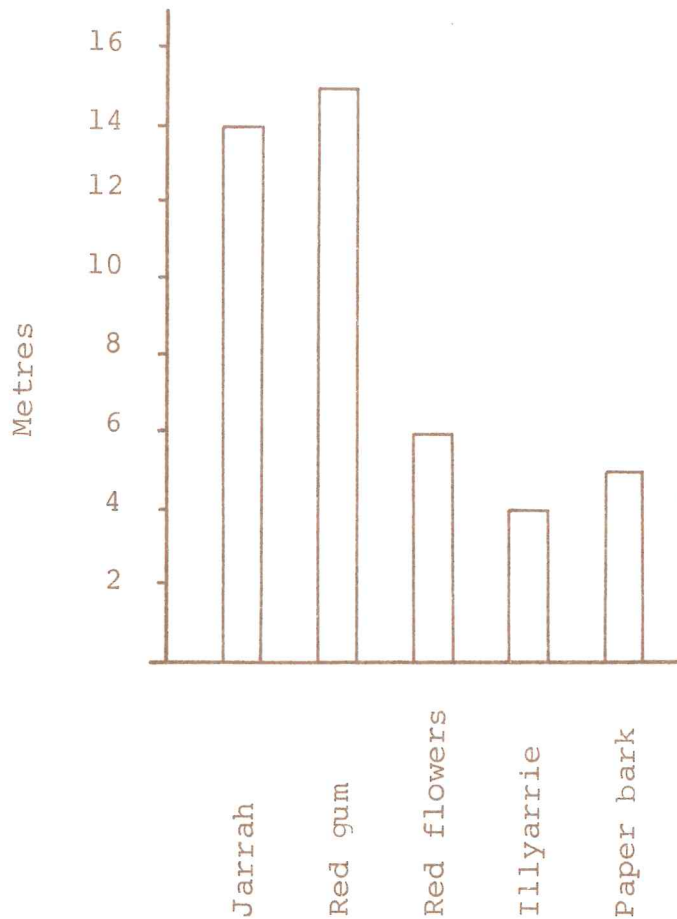
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MEASURING TREES



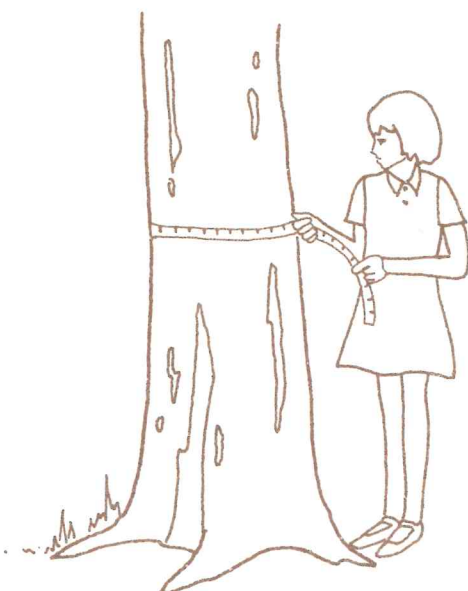
Measure the HEIGHT of several trees and make a graph of them.



How tall is the tallest tree in your school grounds?
Can you find a taller tree in your neighbourhood?

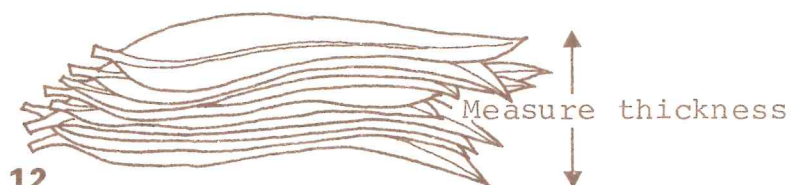
Select one kind of tree.
Measure several of this kind.
Graph these measurements.
What is the average height?
Add up the heights and divide by the number of trees you measured.
Select a different tree type and do the same.

Measure the GIRTH of several trees.
Measure around the tree trunk breast height up from the ground.
Does the tallest tree have the biggest girth?



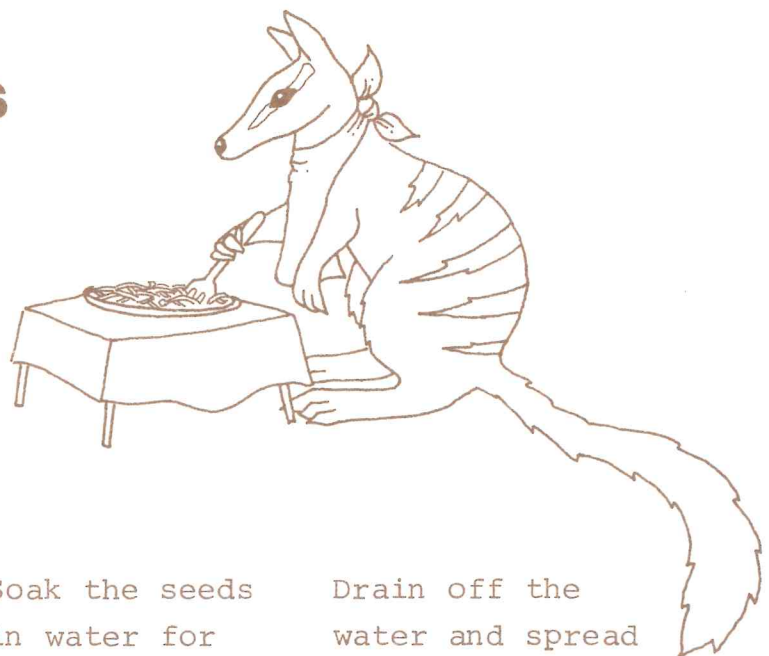
Measure the LENGTH of the leaves.
Collect any 10 leaves.
Measure their lengths.
Find the average length.

To measure the THICKNESS of the leaves pile the 10 leaves up and press down.
Measure the height of the pile and divide by 10 to get the thickness of one leaf.

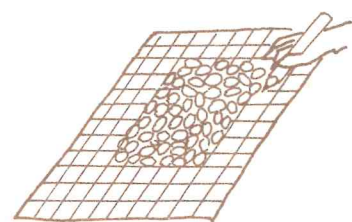
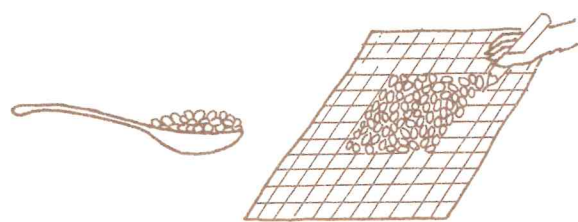


Investigating Seeds

Things needed: Mung beans
water, jar,
gauze or
stocking,
elastic band.



- (1) Take a teaspoon of seeds and spread them onto some squared paper.
- Soak the seeds in water for 2 hours.
- Drain off the water and spread the seeds onto the squared paper again.

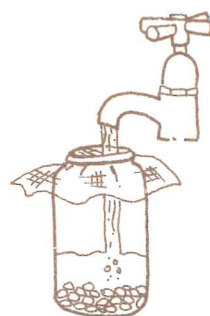


Draw around the seeds with a pencil. How many squares are covered by the seeds?

Draw around the seeds. How many squares are covered now?

What do you think may account for the difference?

- (2) Place mung beans in a jar, cover with gauze and secure it with elastic.



Water twice a day and pour surplus water off straight away.



- (3) Record your observations on a chart like this.

Date	Picture	Comments
2.9.84		A shoot has broken through the skin. It is 2 mm long.

Try to draw exactly what you see.
Which part grows first?
Do the roots and the stem grow at the same rate?
Try with other seeds.

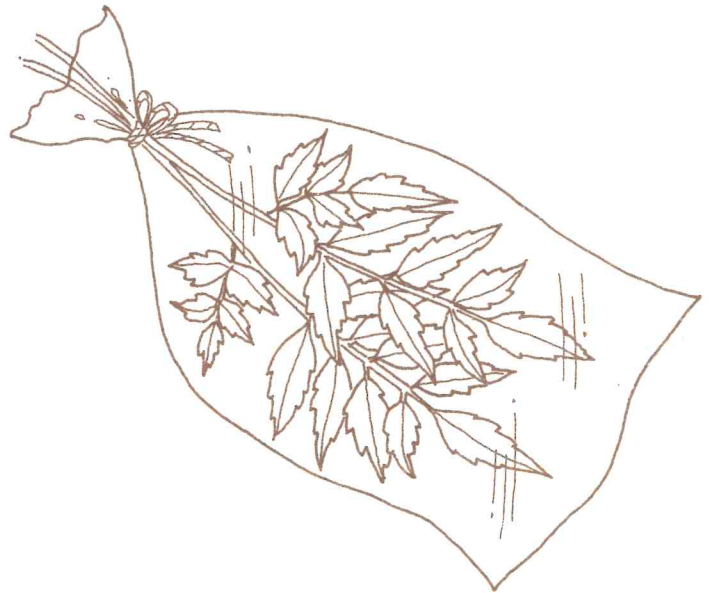
Investigating Leaves



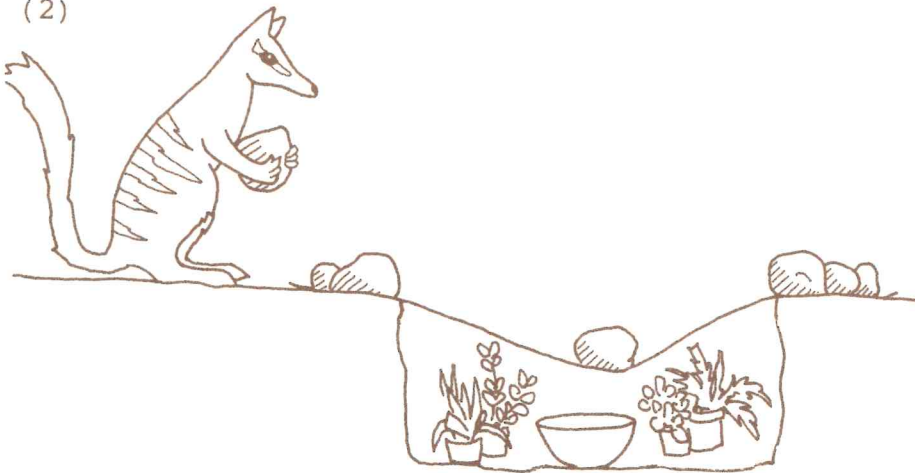
Materials needed:

- (1) clear plastic bag, string.
- (2) large sheet of clear plastic, bowl, rocks.
- (3) paper and pencil or crayons.

- (1) Place a plastic bag over a clump of leaves on a tree or a shrub. Secure it firmly but not too tightly with string. Leave for 2-3 hours. What do you find? What changes happen?



(2)

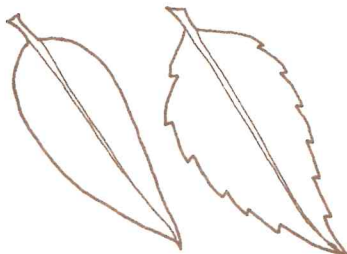


If you are able, dig a hole in the ground which is about 50 cm diameter and 40 cm deep. Put a bowl in the centre. Cover the hole with plastic, and hold this down with rock. Place a rock in the middle.

Leave it for 2-3 hours. Check to see if any water has been collected in the bowl.

- (3) Leaf search. Make a study of leaves which have different :

edges



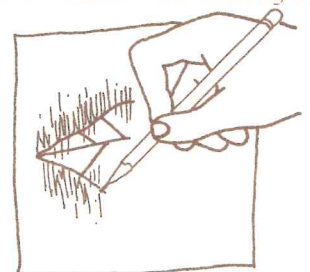
vein patterns



surfaces



Make leaf rubbings



A TREE IS A HOME

Materials needed:



Find some animals which use trees for homes.


Take a magnifying glass or a hand lens.

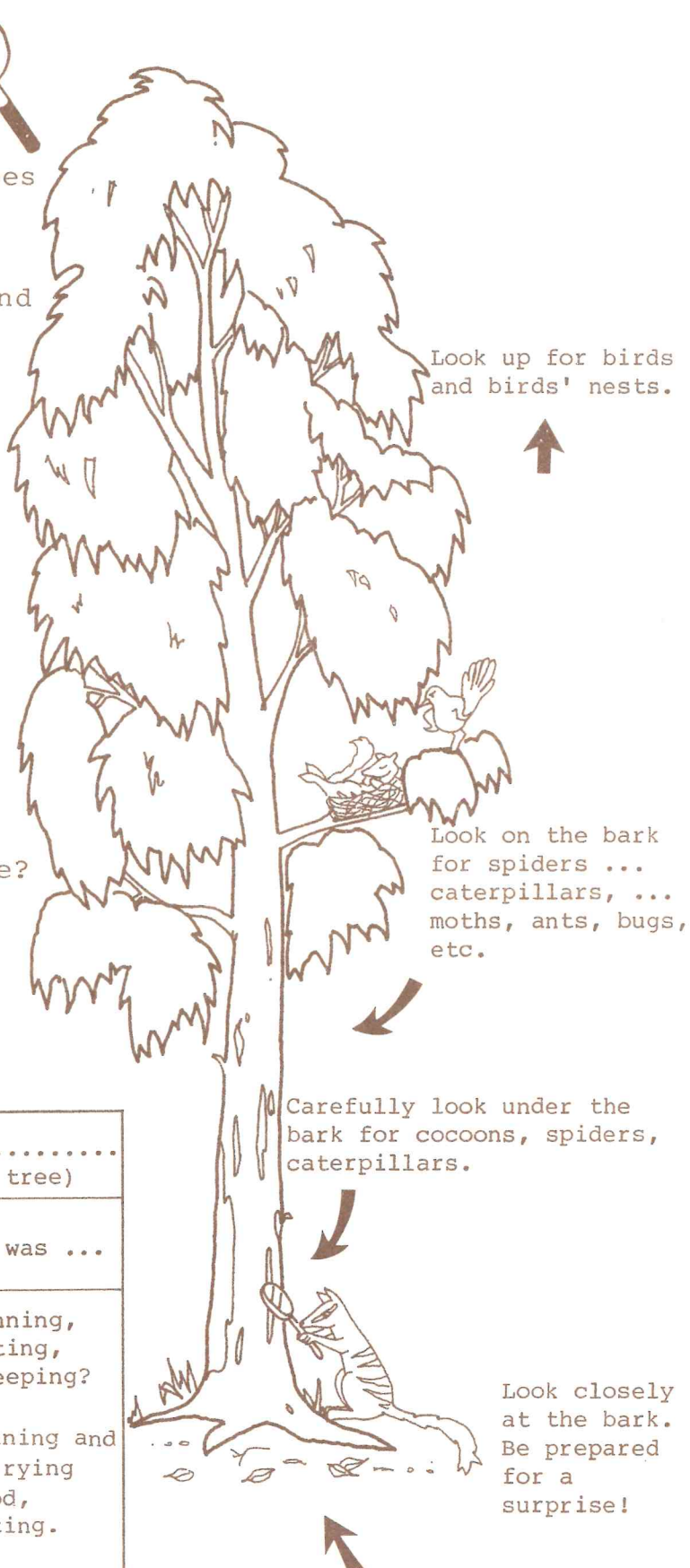
Choose a tree in the school grounds.

Look for any animals which may live in the tree ... big animals, flying animals, mini animals, 2, 4, 6, 8 legged animals.

Are there any animals which use the tree but live somewhere else?

Use a chart like this to record findings.

RESIDENTS OF (Where the tree is growing)		..... (name of tree)	
Name of resident	Part of tree it was found in	Number	It was ...
If you don't know, draw a picture.	leaves, bark.. everywhere.	1, 2, 10, lots	running, eating, sleeping?
 ant	bark	3	running and carrying food, eating.
	leaves		



DON'T TAKE ANY ANIMALS AWAY FROM THEIR HOME.

Investigating Flowers and Fruits



- (1) Observe flowers in the school grounds.
Try classifying them by :

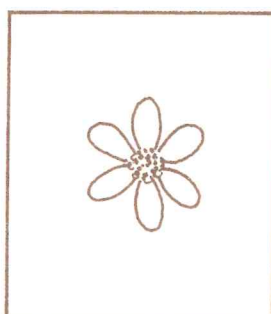
smell



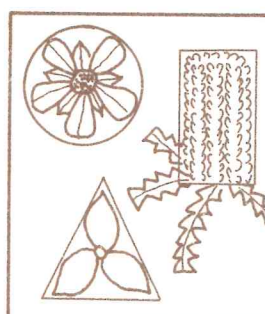
colour



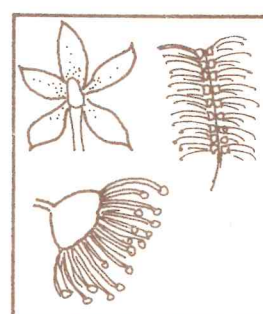
number of petals



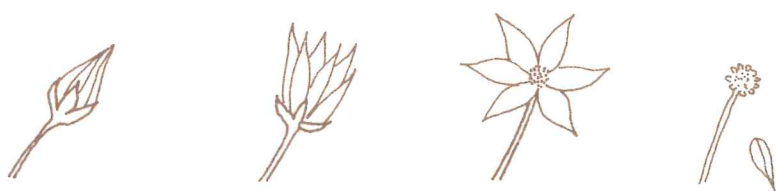
shape



petal arrangement



- (2) Find a flower bud growing in the school grounds.
Observe it daily until it has lost all its petals.

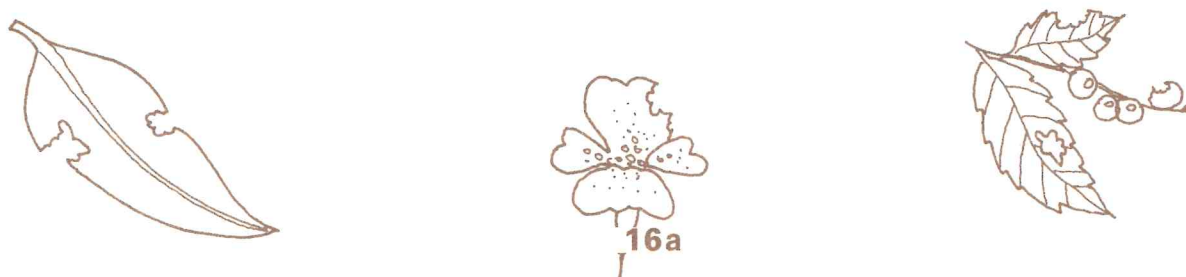


- (3) Find a EUCALYPT BUD and observe it in the same way. Draw the stages as it opens.

- (4) Look for animals on flowers.



- (5) Find some flowers and leaves which have been eaten.



INVESTIGATING FLOWERS AND FRUITS

Grow your
very own
tree

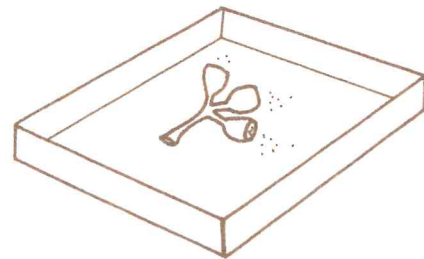


Collect some seed from trees in the school grounds.

1. Collect dry seed pods



2. Collect fruit
and allow them to
dry out. The
seeds will fall out.



Some seeds, like acacia, need to be scratched or heated before they will germinate. An acacia has small fluffy yellow flowers. Collect or buy some acacia seeds. Divide the seeds into 3 groups.

Group 1

Pour boiling water over and leave overnight

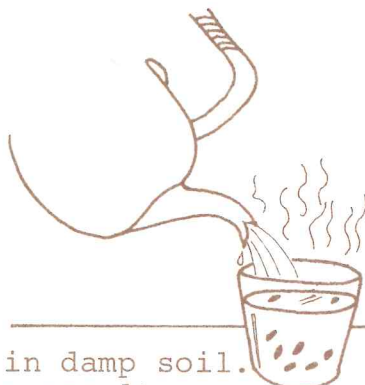
Group 2

Scratch one end on sand-paper just enough to break through the tough skin

Group 3

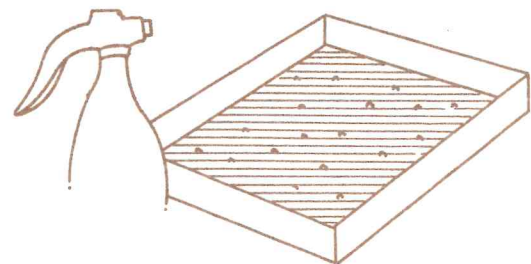
Do nothing

Throw out the seeds that float. (They are no good)



Plant seeds in damp soil. Wait for some results.

Prepare soil in trays. Thoroughly wet soil but there should be no puddles. Sprinkle seeds on soil and cover with another thin layer of soil. Dampen with spray, and keep moist during growth.



Make up a record sheet to record the rate of growth of the seeds.

WHAT'S IN A NAME ?

The botanical names of plants often seem hard to understand. They are usually named by using Latin and Greek words and if you know that, then it's really very easy.

Plants have a surname which usually commemorates a famous person (e.g. Banksia - after Joseph Banks the botanist). By adding 'ia' to your surname you can make a surname for a plant you have discovered. (e.g. Jones - Jonesia, Davidson - Davidsonia). This surname is put first just as it is on the class roll. Some plants' surnames refer to their family, e.g. Melaleuca - Paperbark, Acacia wattle, Eucalyptus - gum; Melaleuca citriodora means a paper bark with a citrus odour.



Next, look at the plant for a special feature (e.g. red flowers). Use the list overleaf to find suitable Latin or Greek words for red flowers, (e.g. rhodoflora). This name doesn't have a capital. So this plant can be called Jonesia rhodoflora.

Select a plant - make up a name for it using the lists overleaf as a guide. Does your plant have a special scent or odour, or a special colour, shape or texture?

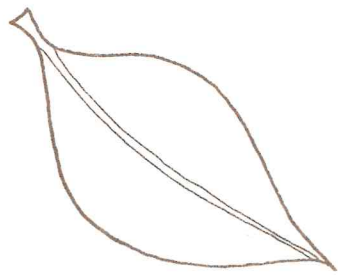
What could you say about a plant which is named

longifolia

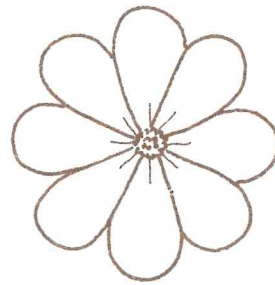
meliodora

violaflora

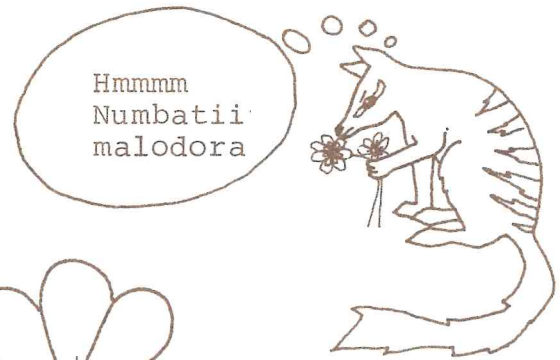
lepidofolia



leaf - folia




flower - flora




few = pauci 

many = poly 

small = micro/
parva 

large = mega/
macro 

long = longi 

broad = lati 

scent	=	odora
heavy	=	grave
good	=	bon
bad	=	mal
sweet	=	suave
honey	=	melio
citrus	=	citrio

Colours

white	=	leucos or alba
red	=	rhodos or rubri
green	=	chloros or virens
black	=	melos or niger
yellow	=	xanthus or luteus
gold	=	chrysos or aureus
blue	=	cyanos
purple	=	viola
pink	=	roseus

Texture

smooth	=	glabrous
hairy	=	hirsutus
wrinkled	=	rugosus
sticky	=	viscosus
dry	=	xeros
rough	=	scaber
sharp	=	pungens
woody	=	xylo
scaly	=	lepido

TREE WORDS

A Latin word which means TREE is ARBOR.

A possum is ARBOREAL. Where does a possum spend a lot of time?

.....

DENDRON is a Greek word meaning TREE.

LOGY means "the study of".

What does a DENDROLOGIST do?

.....

Mrs Forrest is interested in DENDROCHRONOLOGY.

What does she like to find out?

.....

RHODODENDRON = A

(See the sheet 'What's in a Name')

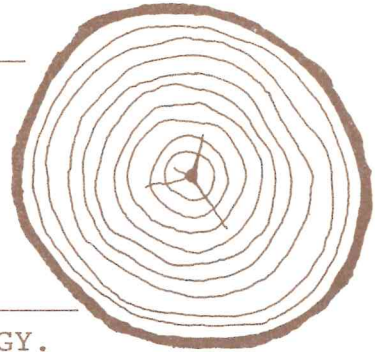
FLORA = Flower

A FLORAL arrangement is made of

A seller or grower of flowers is a

HORTUS = Garden

What is HORTICULTURE?



A person who tends to trees in the forest is a SILVICULTURIST.

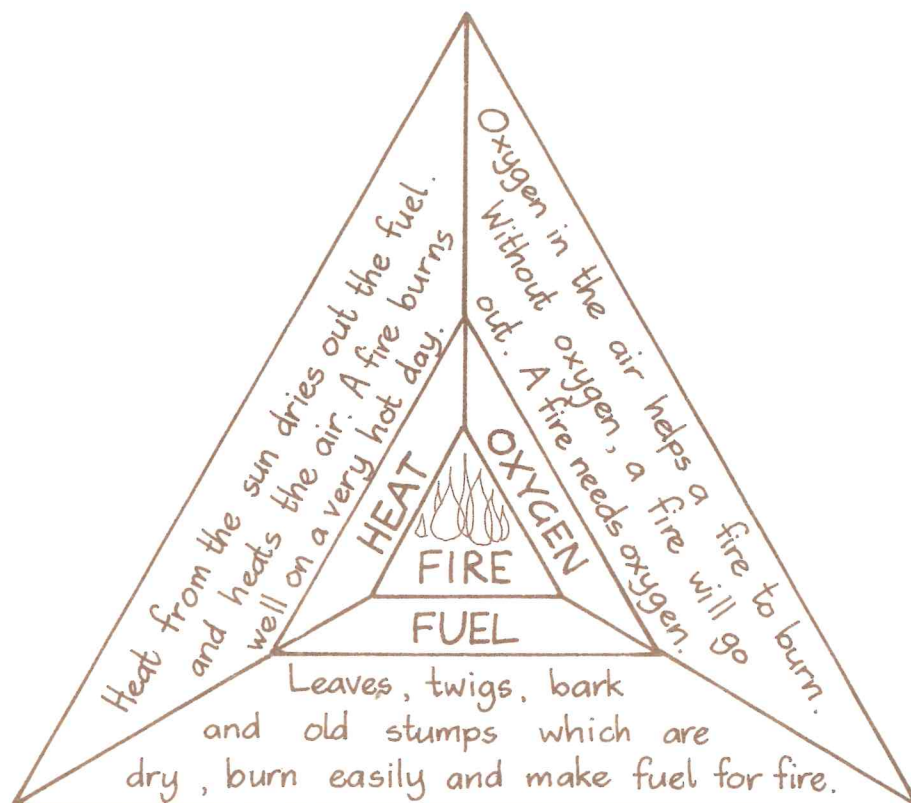
What is a SILVAN GLADE?.....
.....
.....

SILVA = a wood

FIRE IN THE FOREST

What causes fires in the forests? How much damage do they do? Are fires important to the forest?

Fire can be thought of as a combination of FUEL, OXYGEN and HEAT. This is known as the

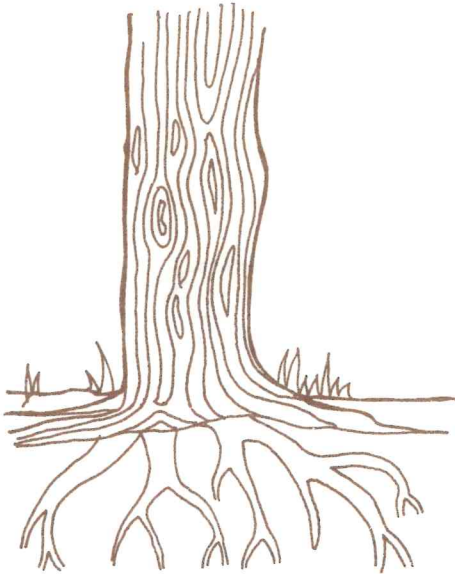


Complete this chart to show how different conditions may affect each part of the fire triangle.

CONDITION	FUEL	HEAT	OXYGEN
Winds	Move it around		Provide more
Rainfall		Cool it down	
Sunlight	Dry it out		
Spraying water on the fire			
Beating flames with wet bags			
Leaving litter to pile up			

ADAPTING TO FIRE

As fire is very common in many areas of Western Australian forest, some plants and animals have adapted and are able to cope with it. They have some clever ways of surviving a fire.

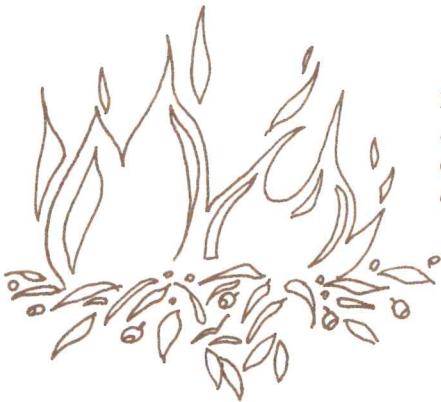


PLANTS

Rough, thick bark helps protect trees.

New shoots can grow from parts of the trunk when the tree is burnt.

Some trees have roots that are able to grow new shoots if the trunk is badly damaged.



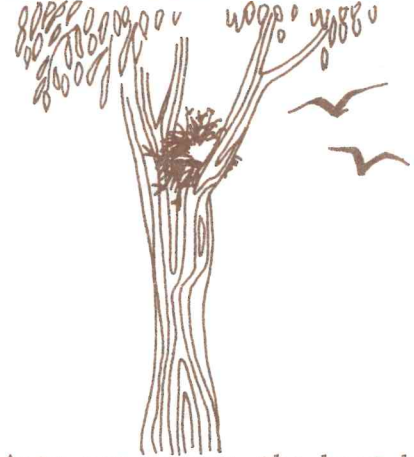
Fire turns leaves into ash and this helps enrich the soil for new growth.



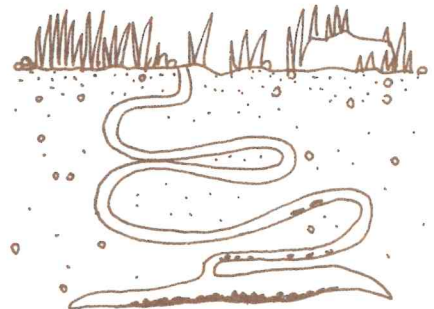
Some seeds have a really tough skin. They need heat to crack this skin so that water can get in to germinate them.

ANIMALS

Birds can fly away. Their nests may be burnt but they can build new ones.



Ants can escape the heat by hiding deep in their nests.



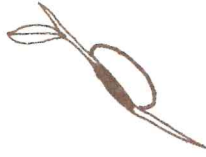
Kangaroos, snakes, lizards and other animals run to rivers and rocky areas to try and escape from fire.

A hollow log may not be a good place to shelter? Why?

Of course, some animals, and some kinds of plants ARE killed by fire.

ADAPTING TO FIRE

Seeds germinate with the first rains.



Fresh new shoots are delicious and are enjoyed by animals like the wallaby, kangaroo and possum.

Not by me though!
I'm an ant eater!



Animals trapped by fire try to run through the flames onto burnt areas. They can do this if the fire is not too fierce or large.



Discuss with your friends how certain animals, or plants might be able to cope with fire.

How do people protect themselves from fire? What can be done around the home to prevent damage by a bushfire?

What would you do if you were caught near a bushfire? Discuss this with your friends.

What can be done to help prevent bushfires?

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A FOREST IS AN ECOSYSTEM



Project Sheet

LEAF LITTER

Leaves and bark fall on the forest floor and after some time there is quite a deep layer. This layer of leaves is a home for many small animals.

CAMOUFLAGE

Many birds and other animals have colourings which are similar to the colourings of their living places. This helps them to hide from their predators.

CONSERVATION AND CARING

People use forest trees for many things. If all the trees were chopped down the forest ecosystem would be imbalanced. It is important to keep the forest ecosystem balanced by making careful decisions about which trees and how many trees are taken.

DECOMPOSERS

When plants and animals die, bacteria and fungi help to break them down and return the nutrients to the soil.

MINIBEASTS

Minibeasts like insects and insect larvae, spiders, worms, beetles and other small animals, use the forest for their homes and for food.

FURRY ANIMALS

The forest is home to many furry animals, like kangaroos, numbats, possums, wallabies.

CLIMATE

The amount of rain and when it falls, the winds, the sunlight and the temperature all contribute to the kind of forest.

SHRUBS AND WILDFLOWERS

Below the trees, the ground is covered in other kinds of plants. The plants provide food for a great number of animals. They also provide attractive flowers in springtime.

WATER

Water is present in the soil and in the creeks which cross the forest floor. The plants which grow near water are often quite different from others. All animals need water and some live in it.

TREES

There are many kinds of trees in a forest. They are at various stages of growth. Some are seedlings, some are mature and some are beginning to die.

A forest is more than a group of trees. It is a large community of animals and plants, both microscopic and large, which together with the other elements of the environment such as water, rocks, soils, minerals, sunlight and fire, make up a 'segment of nature' - an ecosystem -

SOIL AND ROCKS

The trees and other plants in the forest grow in soil. The kind of soil depends on the kind of rocks below.

FIRE

Some seeds can only germinate after a fire, so fire is an important part of the forest. Wildfires can damage a forest if they are very fierce.

SNAKES AND LIZARDS

Hollow logs, bark and leaf litter are some favourite places for these scaly animals.

BIRDS

Hollows and branches provide homes and shelter to a great variety of birds. Some birds eat plants, and some eat insects and others eat small animals.

