

# **ENVIROGUIDE**

## *Tacklebox*

**SAMPLE PROGRAMS  
AND IDEAS FOR GUIDES**

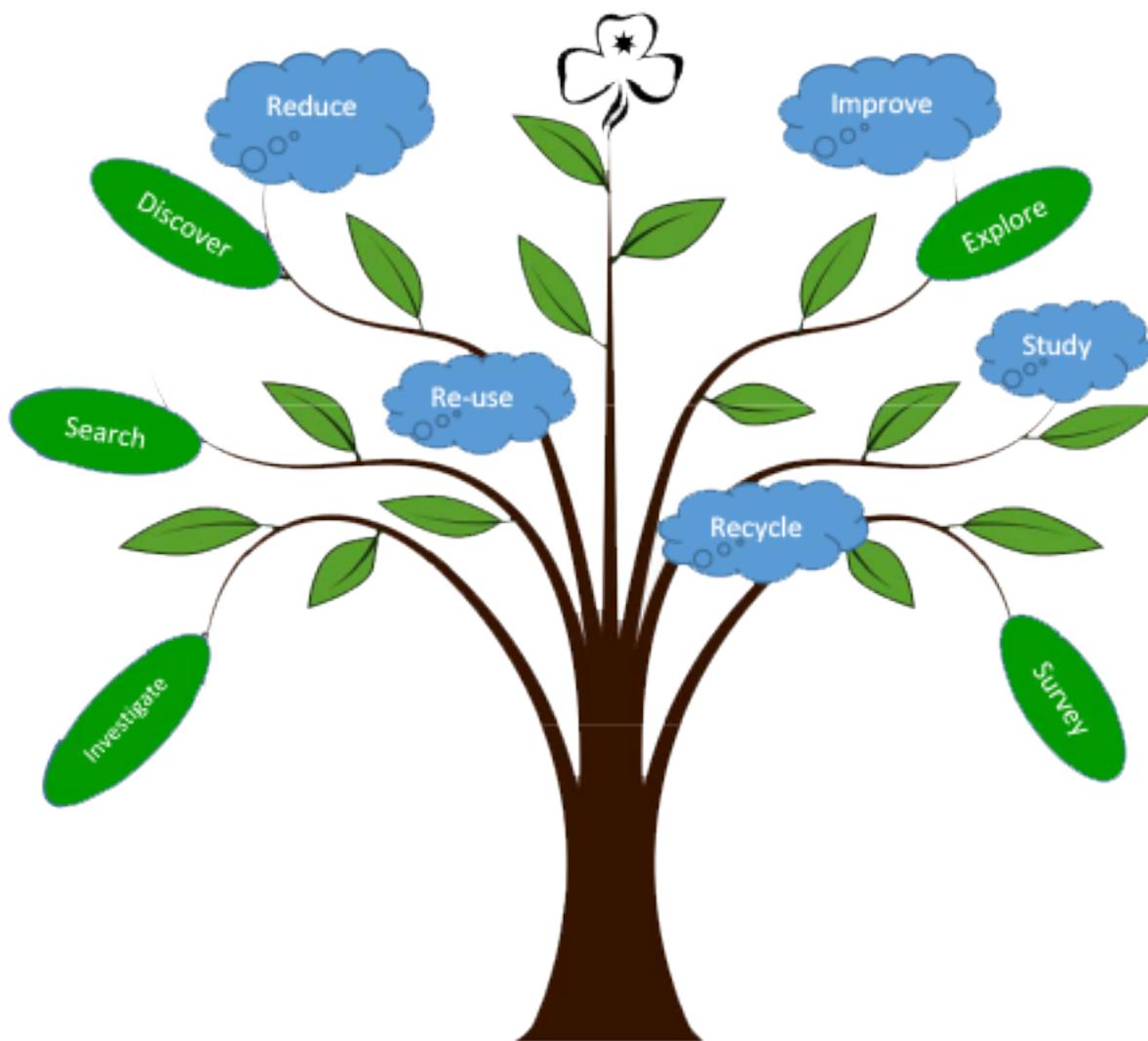


**GIRL GUIDES**  

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**AUSTRALIA**

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## Awareness

Trees  
Trails  
My Patch  
Things in the air  
Things in the garden  
Waterways  
Supermarket Savvy  
Food Miles



## Action

Improve Lifestyle  
Composting  
Bug Hotels  
Recycle water  
Recycle Clothes  
Leftover Food



## Service

Reduce Waste  
10% Campaign  
Earth Hour  
Weeds & Pests  
Climate Watch  
Living below the line



## Impact

Special Days  
Endangered species  
Plastic Free July  
Beeswax wraps  
Rocks and soil  
Swap Parties

# EnviroGuide

This booklet is designed to help you out when you are looking for inspiration of what to do in your Guide Unit to help girls develop awareness of our environment, the impact we make and then to take action and give service, particularly when you are busy and need some instant programs.

The topic 'Outdoors' is a fundamental of the Australian Guide Program. Getting out to explore the environment is important in Guiding. It is fun to be in a Patrol and do things together that are chosen just for the group, or to learn skills that can only be achieved given time and the chance to practise things learned in a fun way...

A weekly program can be any duration from one hour to two hours depending on the age of girls in a Unit, the time of day you meet and local decisions. All these activities have ideas suitable for a single day or night, or they could be used in small parts for a short time over several meetings.

There are likely to be other activities as well as those suggested here in a program. Girls may suggest things they would like to find out about.

- ▶ Girls can choose activities that suit them (Remember the Guide program is chosen by the Guides to suit their interests and needs)
- ▶ The choice of challenges the girls make can be of varying difficulty depending on their developmental stage and where they are in the Patrol cycle
- ▶ If Guides become very involved and interested in a particular program, there is the possibility of extending it and doing more, so be flexible!
- ▶ Lots of options here means there is a back-up plan if something doesn't work...

There are several challenges and awards that Guides can work towards while completing these programs. They may like to consider

- ▶ Outdoors Explore-a-Challenge
- ▶ Outdoors Achieve-a-Challenge
- ▶ Advocacy Explore-a-Challenge
- ▶ Science and Technology Explore-a-Challenge
- ▶ World Guiding Achieve-a-Challenge

## Themes

The programs are designed with a theme so that Guides are doing things with a purpose or to achieve a small reward. The next page also lists action days that you can use. It is perfectly ok to just pick out things to learn if that is how the Unit likes to work.

Many of these activities work best when girls are doing them as a Patrol. Patrol activities are ones that are most easily achieved if more than one person is involved, so girls have the opportunity to lead their patrol with everyone having a role to play in order to complete tasks. Leader's roles will be to give girls time to improve skills and make timely suggestions.

**Have fun!**

## The Environmental Calendar

	Things to Explore	An example to try
March 3	World Wildlife Day <a href="http://www.un.org/en/events/wildlifeday">www.un.org/en/events/wildlifeday</a>	Create and sell animal jigsaw puzzles
March 1 <sup>st</sup> Sun	Clean Up Australia Day <a href="http://www.cleanup.org.au/au">www.cleanup.org.au/au</a>	Glove up and go
March 3 <sup>rd</sup> Sat	Earth Hour <a href="http://www.earthhour.org">www.earthhour.org</a>	Spend a no energy evening
March 21	International Day of Forests <a href="http://www.un.org/en/events/forestsday">www.un.org/en/events/forestsday</a>	Go bushwalking and do a tree count
March 22	World Water Day <a href="http://www.un.org/en/events/waterday">www.un.org/en/events/waterday</a>	Visit a water treatment plant
April 22	Earth Day & Mother Earth Day <a href="http://www.earthday.org">www.earthday.org</a> <a href="http://www.un.org/en/events/motherearthday">www.un.org/en/events/motherearthday</a>	Eat a low food mile dinner
May 17	RSPCA Million Paws Walk <a href="http://www.millionpawswalk.com.au">www.millionpawswalk.com.au</a>	Take your dog out and support the cause
May 22	BioDiversity Day <a href="http://www.cbd.int/idb">www.cbd.int/idb</a>	Survey a habitat
June 5	World Environment Day <a href="http://www.un.org/en/events/environmentday">www.un.org/en/events/environmentday</a>	Environment action day
June 8	World Oceans Day <a href="http://www.un.org/en/events/oceansday">www.un.org/en/events/oceansday</a>	Visit the coast, go fishing
July	Plastic Free July <a href="http://www.plasticfreejuly.org">www.plasticfreejuly.org</a>	Run a top 4 no use campaign
Last Sunday	National Tree Day <a href="http://treeday.planetark.org">http://treeday.planetark.org</a>	Plant some plants
August 4 <sup>th</sup> Week	Keep Australia Beautiful Week <a href="http://kab.org.au/">http://kab.org.au/</a> <a href="http://keepaustraliabeautifulweek">keepaustraliabeautifulweek</a>	There is a new focus each year
Sept	National Biodiversity Month <a href="http://www.environment.gov.au/biodiversity/biodiversitymonth">www.environment.gov.au/biodiversity/biodiversitymonth</a>	Save the koala Weed-away project
Sept 1	National Wattle Day <a href="http://www.wattleday.asn.au">www.wattleday.asn.au</a>	Run a green and gold day
Sept 7	National Threatened Species Day <a href="http://www.environment.gov.au/resource/time-act-threatened-species-day-fact-sheet">www.environment.gov.au/resource/time-act-threatened-species-day-fact-sheet</a>	Run a black and white day
Oct 1 <sup>st</sup> Monday	World Habitat Day <a href="http://www.un.org/en/events/habitatday">www.un.org/en/events/habitatday</a>	Save the koala Weed-away project
Oct 3 <sup>rd</sup> Week	Aussie Backyard Bird Count <a href="http://aussiebirdcount.org.au">http://aussiebirdcount.org.au</a>	Binoculars are the go
Nov 19	World Toilet Day <a href="http://www.worldtoiletday.info">www.worldtoiletday.info</a>	Make tippy taps
Nov 2 <sup>nd</sup> Week	National Recycling Week <a href="http://recyclingweek.planetark.org">http://recyclingweek.planetark.org</a>	Promote, collect, and recycle at a swap party
Dec 5	World Soil Day <a href="http://www.un.org/en/events/soilday">www.un.org/en/events/soilday</a>	Make compost towers



# 1. Awareness

## EXPLORE A SPECIAL PLACE

**Tree, this is your life!** Explain to the Patrols that they are actors in an important play. However apologise for forgetting the props, and ask that they use their imagination and act out the relevant things instead. Have the guides kneel down in front of you, and then practice together. Make a big deal of how important the play is, how lucky they are to have this amazing opportunity etc. Once they have got the hang of the actions, explain to them that you will read a story, and they need to do the appropriate action when you mention it. You might need to go through it a couple of times.

Once they are ready, explain that they will be performing in a special theatre, which is our environment.

Patrols stand in a rough circle around an outdoor space and present their drama.



### Tree, this is your life

Once upon a time there was a seed. A seed so tiny that it lay in the dirt while everyone walked over the top of it. But one day, the seed began to sprout. It pushed its first little leaf up through the soil.

The sun shone down on the little plant. Sometimes the rain came, bringing water to the little plant. And the plant was clever, because it was able to get nutrients from the soil through its roots. And its leaves took in air and breathed out oxygen for the people to use. With all the sun and air and water and nutrients, the plant wasn't so little any more.

Year after year, the plant grew bigger and stronger, with the help of the sun and the air and the water and the soil. Many, many years later, the little plant had grown into a huge tree. The long roots burrowed deep into the soil to suck up nutrients. The big branches reached out and the many leaves collected sunlight energy. The tree continued to breathe, and return oxygen to the people. And when the rain came, the leaves and roots drank up the water falling from the sky. And so it became a great tree.

### Adopt a Tree

Go for a walk and find a tree nearby. Choose one you really like!

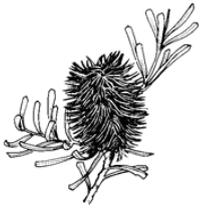
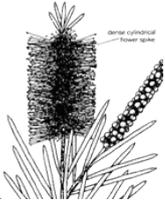
Gather some special things from your tree. Maybe you could take her picture? Get a bark rubbing by putting paper on the trunk and rubbing on the paper with crayon. Collect a fallen leaf. Put your ear to the tree trunk. Can you hear your tree 'drinking'? Lie on the ground under your tree and look up through the branches – is your tree open with a lace of branches or thick with many overlapping stems? Who shares your tree? Are there any ants or spider webs hiding in the bark? Do the leaves have holes where insects have had a meal?

Turn your tree into a Poet Tree – write a short poem about her on a piece of paper and hang it from a branch with cotton or string.

**Tree-mobile art:** Look around under a tree and collect some interesting pieces – leaves, nuts, twigs, bark pieces and so on. Find a larger twig and use string and glue to hang your collection as a mobile.

**Australian Plants: Things to look out for**

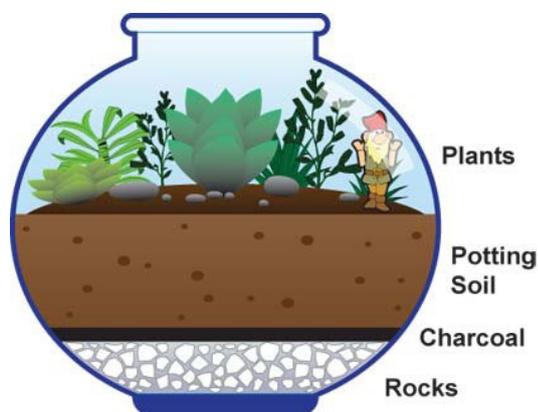
Exploring our bush is a great way to see how plants adapt to different climates. Our plants have amazing leaf shapes, flower types, fruits and bark patterns. The smell of oils in the plants can be interesting as well. Eucalyptus oil and tea tree oil are famous.

Wattle (Acacia) 	Eucalyptus 	Banksia 
Bottlebrush (Callistemon) 	Grevillia 	Tea tree (Melaleuca) 
Lilly Pilly 	She oak (Casuarina) 	Native cherry 

**Bark art:** Try rubbing different coloured crayons on paper placed over the bark of a range of plants. Cut the best square of each rubbing to be the same size, and glue them on a backing paper. A similar piece of art can be made using leaf rubbings.

**Animal Tracks:** Search the ground as you walk along. Animals leave clues behind – tracks in soft soil or wet patches, droppings (called scat). Who is sharing the bush?

Koala 	Wombat 	Kangaroo 	Echidna 
			



**Make a forest in a jar**—you will need several things to keep your ‘forest’ healthy. Start with a large glass jar with a wide mouth. Add a 2 cm layer of washed small stones covered with 1 cm layer of gardening charcoal. Cover this with a layer of old nylon stocking, then a 4 cm deep layer of soil. Carefully poke 3 -4 small holes in the soil and add a plant to each. Press the soil down and water it lightly. Finish by adding forest litter – tree leaves, tiny pieces of driftwood, small pebbles.

Your forest should live in a place with indirect light. Keep a lid on so water in the charcoal layer can cycle through the plant.

**The Rainforest Game** – Select four players to be trees. Two other players pretend to be bulldozers. The bulldozers have to clear the rainforest, which they do by chasing and tagging trees. One tagged, the players have to stand still with their legs apart. The tagged trees can be made ‘alive’ again if another tree crawls through their legs. [Change the number of trees and bulldozers to test how many trees you need to keep your forest alive.]

**Bush Trails** – Make a list of twenty things to look for on your walk through some bush. Possible things might include all the rainbow colours, stripes, bumps or spots, different shades, bone, feathers, pebbles, particular shapes, particular textures. Bring items back with you to a meeting place and set them up as an ‘Art Gallery’ in your hall. Now everyone can become an art critic and comment on the amazing artwork on display!

**Photo Gallery** – Perhaps your Unit visits a park near your meeting place on a regular basis. Each Patrol can have a special area in the park. Take a series of twenty photos of that special place. Print them off and develop a ‘photo gallery’ or ‘brag book’ for the spot. Can other Patrols work out where the spot is just by looking at the photos?

**A Home Is...** Let’s explore what makes a home special. You can decide what it is like. Different people all around the world live in a house with different features. They may be in a refugee tent, or a reed hut, or a small flat or a large brick house. Try a harder challenge by finding out about houses in another country. Each Patrol can make a house for a different place.

Start with: Large cardboard boxes (one for each room). Add

1. Outside walls – brick (dolls house paper or draw a grid), mud (soil mixed with PVA glue), logs (icypole sticks), bamboo (reed place mat), corrugated iron (corrugated paper)
2. Inside furniture – access to a junk box to make tables, chairs, beds, flooring, etc.
3. Extras – people, animals, gardens

When you finish, discuss whether all the homes give the same standard of living, how it might feel to have no animals or garden, what we now consider essential e.g. electricity, what makes our own home a special place. What do you think a wombat home looks like? Or a platypus home?





## 2. Awareness

### DISCOVER THINGS

**Opening:** Girls start out wide and one girl walks around the edge of the room, forming a line of joined hands and picking up everyone. When all are in a line, move in and around to form a small circle. Explain we are going to go out and about to discover things about our environment.

**Elements Game:** You will need a bean bag or small ball. Girls stand in a circle with one girl (the caller) in the centre. The caller has the bean bag and she throws it at random to girls in the circle, calling Earth, Air, Fire or Water. Girls catch the bean bag and have a few seconds to name something that lives in that place (e.g. Earth = snake, Air = kookaburra, Water = trout). When she calls Fire, the bean bag is thrown straight back. Once an answer is given, it can't be used again that turn. If the catcher doesn't have an answer, she becomes the caller.

#### Things in the Air

**Particles:** We need clean air to breathe in oxygen, and we breathe out carbon dioxide. However, today, in many areas of the world, our air is polluted. This means that when we breathe in we are breathing in polluted air. Test the air where you live to find out if the air in your community is polluted or clean. There are two methods described here. You choose which one!

#### Rubber Band Air Tester

You will need:

Eight natural rubber bands, two thin wire coat hangers, a large plastic bag, tape, a magnifying glass, and a shady outdoor area  
Here's what you do:

Bend each coat hanger into a rectangle. Slide four rubber bands onto each rectangle. Be sure they are stretched tight. Bend the rectangles to make the bands fit if you need to.

Hang one rectangle up outside in the shady place. Be sure it is shady all the time.



Put the other rectangle in the plastic bag. Seal the bag tightly with tape. Keep the sealed bag indoors in a drawer. Wait a week or two.

When a week is up, check out the rubber bands with the magnifying glass. Pull on one of them to stretch it. Is there anything on the rubber and what happens when you stretch the rubber band?

If the rubber bands from outdoors are still in good shape, hang them outside for a few more weeks. Watch what happens to them.

If the air in your community is dirty, the rubber bands will break down and come apart very quickly, in just a few weeks. If the air is clean, the rubber bands will eventually come apart but it will take a very long time.

#### Waxed Paper Air Tester

You will need:

Masking tape, 4 squares of waxed paper 10cm x 10cm, 4 squares of cardboard 12cm x 12cm, petroleum jelly (e.g. Vaseline), magnifying glass

Here's what you do:

Tape the waxed paper on the cardboard pieces. Smear the waxed paper with petroleum jelly so they are sticky. Place each square in a different location e.g. hanging in a tree near a busy road, in your backyard, outside your Guide meeting place. Wait a week or two. Use a magnifying glass to find what types of particles landed on each sheet.

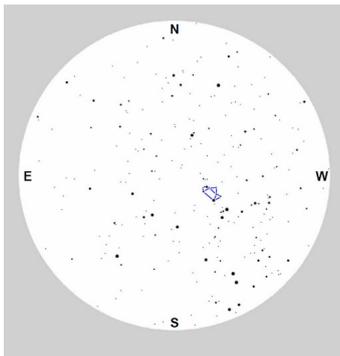
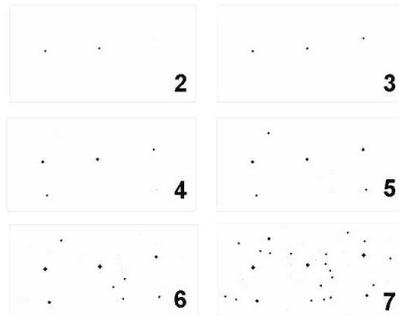
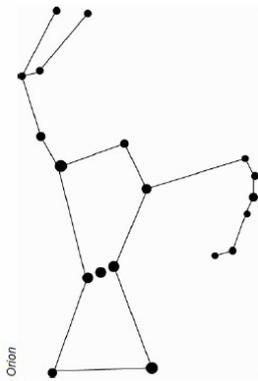


**Light:** Most plants and animals rely on day and night patterns to control when to look for food, sleep, protection from predators and timing of reproduction e.g. flowers in spring. We have so many lights on today, especially in cities, that it affects many living things.

How much light is there where you live at night? An easy way to look for light pollution is to look at the stars on a clear, dark moonless night. There should be about 3000 stars visible if there is no light pollution.

Find Orion (also called the Hunter or the Saucepan) around March and look for the stars in the 'belt'. Most times it is easy to see three stars (Level 3) however if there is no light pollution you may be able to see twenty five stars (Level 7)!

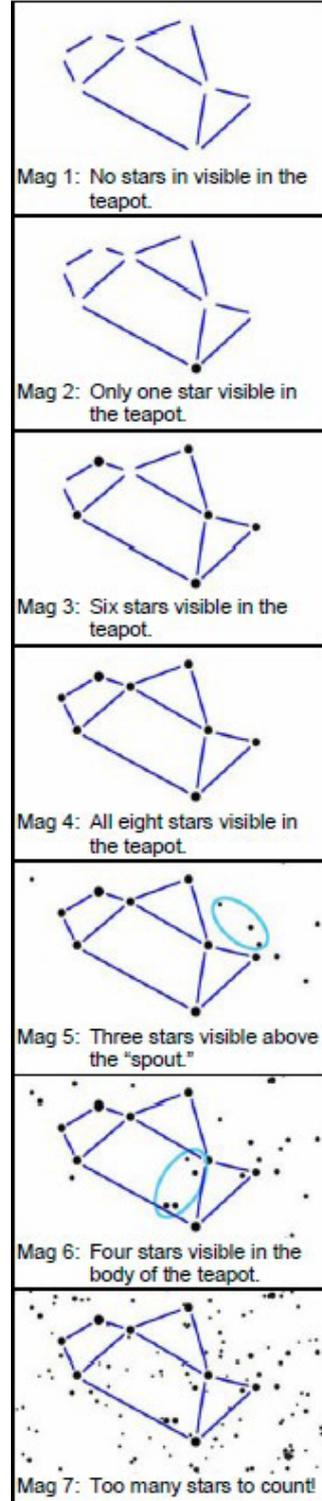
Stars in the belt:



Find Sagittarius (also called the Archer) around October and look for the stars in the 'teapot'.

The more stars that can be seen the better. The seven levels are shown in the strip.

There are web sites that give more information on both these star systems so check them out for more information.



## Things in the Garden

We share our homes with many, many living things. Get out and up close and personal!

**My Patch:** Find a square metre of ground that means something special to you. Visit it every week, take its photo, check if anything else lives there, keep it safe.

**Food Chain Game** You will need to make a chart with actions for each living thing so girls can learn the actions. All the girls start out as Roses. Without saying a word, they mingle and find other girls doing the same actions. Once they find each other, play 'Rock, Paper, Scissors'.

The winner will become the next organism in the chart e.g. Rose becomes Aphid. The loser moves down the food chain e.g. Aphid becomes Rose. However Rose is the lowest so she stays on that level. The goal is for someone to become a magpie.

Organism	Action
<b>Rose</b>	Arms on your head, slowly uncurling upwards and curling back
<b>Aphid</b> eats rose sap	Point your nose in the air and nod up and down
<b>Ladybug</b> eats aphids	Wiggle your hips and shuffle along
<b>Spider</b> eats ladybugs	Put your arms out to the sides with hands up, move them to hands down
<b>Magpie</b> eats spiders	Put your hands on the side of your body like wings; sing a bird song



**Bug Catchers:** Make a small hole in a garden bed around the size of a food tin. Cover it with a sheet of cardboard or wood and weigh the lid down. Check every day to see if creatures have come to live in your room.



If there are insects like mosquitoes or flies that you want to catch and destroy, make a soda bottle bug catcher: Clean a large bottle and cut the top quarter off. Turn it upside down and sit it inside the bottom piece. Tape it in place all the way round. Pour in a few spoons of brown sugar (for mosquitoes) or table sugar (for flies) and cover with water. Bugs can get into the bottle but then they can't get out.



**Newspaper plant pots:** Fold a sheet of newspaper in half and roll it around a bottle, cup or tin at least twice with 5 cm sticking out the underneath of the bottle. Tie string around the outside. Tuck the paper under the bottle so it closes and makes a pot base. Slip the paper off the cup. Fill the paper pot with potting mix (be careful). Sow seeds or seedlings in your pot. Good choices are marigold seeds, parsley seeds, cactus pieces or bean seeds. Sit in a shallow tray and keep the pot damp. The whole pot can be planted in the garden when the plant has grown to a few cm high.

**Lap Sit Game:** This game shows what happens if something in a habitat is missing. Girls stand in a circle, everyone facing the centre with shoulders touching. Number girls around the circle as 'food', 'water', 'shelter', 'space', repeating until everyone has a name. Everyone turns to the right so each girl faces the back of the girl in front and puts their hands on the shoulders of that girl. On the count of three, each girl slowly sits down on to the lap of the girl behind her. If every part of the 'habitat' is working together, it makes a circle lap sit. Next, imagine the 'water' has dried up in a drought. Ask 'water' girls to move into the circle centre. Girls left in the circle now try to circle sit without closing the gaps. You will see that the circle collapses!

**Food Web Game:** You will need 6 hoops or large rope circles, and a bell or a whistle. Place the hoops in different parts of an area of bush. Explain that the hoops represent insect holes. Girls choose to be a bug e.g. fly, grasshopper, spider or mite and practise moving around as that animal would. For example, a grasshopper will jump. On a starting bell, they move around the bush searching for food. If a spider meets a fly, the spider 'eats' it and they move around with arms linked. Another signal warns that a bird is in the area and they must quickly return to their nest. A Patrol Leader could be the bird and try to catch insects.



# 3. Awareness

## SEARCH OUT THE FACTS

**What's in that pond?** Make a pond net using a metal coat hanger, leg of a stocking, bamboo stake and strong string. Re-bend the coat hanger to make a 20 cm wide circle. Pull the stocking over the circle. Attach the coat hanger to the bamboo stake using string. Or try a pond peeper (right).

Find a suitable pond, creek or rock pool. Dip your net in the water so it drags along the bottom. Tip anything in the net into a shallow tray (cat litter trays work well). Look closely to see what lived in the water. The animals will be small! Remember to return them when you finish. The game below can be played at your water spot.

### Flinders Pond Wide Game

Flinders Pond is a large area of water out in the country. It is beside our Guide Camp Site and there are four other people whose property borders the pond:

Mr Fish	dairy farmer
Mrs Pole	retired secretary
Ms. Reed	market gardener
Miss Pebble	lawyer

Every time we visit the camp site, we love to go down to the pond's edge and watch the creatures that live there – ducks, tadpoles and frogs, dragonflies, fish, native hens, backswimmers and other small creatures. Recently, you have noticed that the frogs and fish are much fewer and dragonflies don't flit across the surface. What is wrong??? Is someone destroying Flinders Pond??? It is up to you to investigate the crime scene!

### Mr Fish and the dairy

Mr Fish runs a dairy farm. Recently, there was a problem with his milk tank and the collection pipe snapped off. A large quantity of milk ran out, into the ditch, along to the creek and then into Flinders Pond. This was enough milk to make a concentration of 1 teaspoon of milk in a litre of water. Is this enough to cause the problem in the pond???

**The 'Milk' Search:** Cut back the amount of 'milk' that you add to other yeast mixes. What is the smallest amount that will make the yeast bubble? Could Farmer Fish be guilty?



### Making a Pond Peeper

You Will Need:

- An ice cream container (the 1L round ones work well)
- Clear Perspex or thick plastic sheet to fit the base
- Hot glue gun for Perspex
- Waterproof tape for plastic sheet

Cut a large hole in the bottom of the container. Cover the hole with Perspex or plastic sheeting, pulling it tight. Hold it in place with glue or the sticky tape.

Push the sealed end into the water. Peep through the other end to see what's going on

### A Job for Detective White

Collect: A packet of yeast

A small jar of sugar

Click seal plastic sandwich bags

Yeast is actually a tiny living thing that 'sleeps' when there is no water or food and 'wakes up' when conditions are right. You can tell when yeast is active because it makes bubbles of carbon dioxide gas. If there is enough sugar to make yeast active, then it will make a pond sick. It will make too many small living things grow and cause an algal bloom.

Your job, Detective White, is to check if a teaspoon of milk per litre of water is safe for the pond.

What to do:

Put ¼ cup of warm water (40°C) and 1 teaspoon of yeast (this is our 'algae') in a sandwich bag. Swirl it around a little.

Add 1 tablespoon of sugar (this is our 'milk'). Push all the air out of the bag and seal it shut. Sit it in a warm place.

If all the equipment is working, the yeast should start to bubble after about ¼ hour.

### Mrs Pole and the laundry

Mrs Pole has just retired to her country cottage. She is taking in washing for people to help her raise money to fix up her cottage. Unfortunately, she is using too much detergent and some is going down the plug hole, out into the stream and down to the pond. This is enough detergent to make a concentration of 1 teaspoon of detergent in a litre of water. Is this enough to cause the problem in the pond???



#### The 'Detergent' Search:

What happens if you use less detergent? When does the mix stop blowing bubbles? Cut back the amount of detergent that you add to other bubble mixes. What is the

smallest amount that will make the mix bubble? Could Mrs Pole be guilty?

### Ms. Reed and the garden

Ms. Reed has a market garden. This is great because she lets us go and collect yummy fresh vegetables for camp. Recently, there was a problem with her fertilizer drum and the tap at the bottom was left open. A large quantity of liquid manure ran out, into the ditch, along to the creek and then into Flinders Pond. This was enough fertilizer to make a concentration of 1 teaspoon of liquid fertilizer in a litre of water. Is this enough to cause the problem in the pond???

#### The 'Fertiliser' Search:

Put a teaspoon of fertiliser in a 100ml jar. Fill it up with water. Put the lid on and shake.

Fill the first of your cans with this mix, leaving a teaspoon of the mix in the jar.

Fill it up again with water, put the lid on and shake.

Fill the second can with mix and leave a teaspoon of mix in the jar again. Fill it up with water, put the lid on and shake.



Fill the third can with mix and leave a teaspoon of mix in the jar again. Fill it up with water, put the lid on and shake. Fill up the last can. You should now have four cans with different concentrations of fertilizer.

Sit a grass head upside down on each canister so the cloth ends dangle into the water. The liquid will move up the cloth and when the grass seeds are wet they will start to grow. Leave in a safe spot for a few weeks.

What is the fertilizer level that grows grass properly? Could Ms Reed be guilty?

### A Job for Detective Green

Collect: A bottle of Palmolive detergent  
A small shallow tray  
A 1L jug Chenille sticks folded to make bubble wands

Bubbles can be blown using bubble mix. Bubble mix is made by mixing detergent and water. If there is enough detergent in the water to blow a 1 cm size bubble, then it is enough detergent to damage the surface tension in the pond.

Your job, Detective Green, is to check if a teaspoon of detergent per litre of water is safe for the pond.

What to do:

Make bubble mix by putting 500ml water, 100ml detergent and 1 teaspoon sugar in a wide mouthed bottle, then swirl gently to mix. Dip in the bubble wand and blow!.

### A Job for Detective Brown

Collect: A small bottle of liquid fertilizer  
Small pieces of Chux cloth (10 cm square)  
Cotton wool balls Grass seed  
4 Small cans e.g. 90g corn or similar jars

To make Grass Heads:

Fertilizer in the correct amount helps plants grow, but if there is too much then chemicals in the fertilizer will kill plants. Set up four grass head men as trials:

Take a square of Chux. Sprinkle the centre with grass seeds, put 4 cotton balls on top of the seeds then gather up the cloth and tie it closed with string to make a small ball. Repeat to make 4 'heads'.

### Miss Pebble and the building site

Miss Pebble has recently purchased some land from her Dad and she is setting up a small retreat beside the pond. She has paid a contractor to build a road along the edge of her property. In the process, a heavy rain storm washed soil at the building site into the ditch, along to the creek and then into Flinders Pond. This was enough soil to make a concentration of 1 teaspoon of fine silt in a litre of water. The soil is gradually settling to the bottom of the pond. Is this enough to cause the problem in the pond???

### The 'Silt' Search:

Put 1 litre of water in the bucket. Add ¼ level teaspoon of talcum powder to the bucket and stir well. Fill the jar with this mixture and try to read this writing through the jar. Since the mixture is milky, this will be impossible at this stage. Tip the mixture back into the bucket.

Add another litre of water and stir. Fill the jar again and try the reading test. No luck? Pour the mix back in the bucket. Keep adding a litre of water, stirring, and testing until you can read at least five words clearly.

Did Miss Pebble spill too much soil? Could she be guilty?



**Finishing the mystery** As responsible detectives, you need to set up a diagram showing the scene of the crime. Make pictures of all of the living things that could live in the pond and arrange them to make a food web. Use animal and plant pictures. Join them together with wool to show what is eaten by each animal.

Which living things will be affected if the problem is no light?

Which living things will be affected if the problem is no oxygen?

Which things will be affected if the problem is food?

As the evidence is delivered by each detective, add the information to the crime board. Who could be guilty?

### A Job for Detective Grey

Collect: A container of talcum powder  
A small bucket  
1L jug  
¼ teaspoon measure  
Clear glass jar

To make Mock Silt:

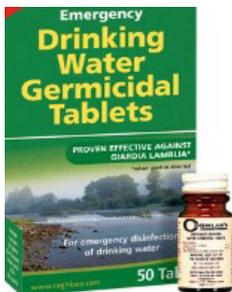
Fine silt stops light from getting into the pond. The plants in the pond are then not able to make any food. Instead of using silt, you are going to test talcum powder. This powder is much better at stopping light because it is very fine. 1 teaspoon of talcum powder has the same effect as 8 teaspoons of fine silt.

### Water Purifiers

Most of us live in cities or towns where the water we drink comes from a tap after it has been treated in a water treatment plant. Out in the bush or on a farm, water is available but it hasn't been treated with chemicals. How do we purify water? First of all, it may be high purity already. Clear running water in a forest with no algae growing in it, found in a fast flowing stream or from a spring is usually good. But water can be polluted by vehicles, mine sites, industries, fertilisers and pesticides. It can be discoloured with lots of fine silt. If an animal has died in the water there will be traces of its remains.



**Water filters** will remove the larger impurities we can see. Make a water filter by creating layers in a water bottle. Cut the base off the bottle and use a nail to make a hole in the lid. Put filtering layers in the bottle – a coffee filter or three cotton balls, then some fine washed sand, then some finely crushed activated charcoal, then some fine gravel. Leave around a third of the bottle empty so there is room to add dirty water.



Pour muddy water in the top and after some time clear water will flow out the bottom. The slower it flows through the better so more things get caught.

Remember of course that most of the bad things in water are too small to be caught by a water filter. There might be too much salt, bacteria, microscopic parasites, and poisons such as too much

pesticide. You can kill bacteria and parasites by boiling the water for at least five minutes.

A quicker way to destroy parasites and microorganisms is to add chlorine-dioxide drops or tablets to the water.

If there is too much salt or another dissolved pollutant in the water neither filtering or purification tablets will fix the problem. You can obtain pure water by setting up a water still.



**Water stills** take dirty water and make it evaporate either by boiling the water and collecting the steam as shown here, or by leaving the water in the sun to evaporate and then collecting the vapour as condensation. All the bad stuff like salt in the water stays behind and only the pure water ends up in the collection container.

Out in an area with little water, a solar water still can be used to collect water. You need to dig a pit about 1 metre wide and 1 metre deep. Choose a spot in a gully where there might be underground water. Sit a small water bowl in the centre of the floor. If you have some salty water that needs purifying, sit it at the outer edge of the floor in an open container. Cover the whole space with a large 2 m square plastic sheet.

Place a small rounded rock gently in the centre of the plastic so it falls partly into the hole and sits 20 cm above the water container. Weigh down the edges completely with rocks and dirt.

Any water will evaporate then condense on the plastic and run down into the bowl. If the soil is damp, a solar still can produce about a litre of water on a sunny day.

#### Hold a Water Conservation Week:

Each morning, allocate a limited amount of water for you to use for the day. This does not include drinking water. Look at the weather. Do you need to water the garden? Is it a good day to wash clothes? Try washing a few items in a plastic bag—put them in, add just enough water to make wet, add liquid detergent and squeeze the bag. Tip out any liquid, add fresh water to rinse and dry them in the wind. What is the smallest amount of water you need to clean your teeth? Keep a diary of what you discovered and share the results.

#### Hold a Garbage Week:

Each evening, check what garbage you have made.

- ▶ What near-new items can be given to a recycling shop so they have a second life?
- ▶ What items can be composted to improve the soil? These ones will need to be natural materials that break down quickly.
- ▶ How much can you recycle? These items need to fit the guidelines of the recycler by being clean and the correct type e.g. hard plastic rather than soft plastic.
- ▶ What items end up in the bin going to landfill? Check these items out and find out how long it will take for them to break down. Have a competition in your Patrol. Everyone measures the amount of landfill garbage and tries to reduce it in the following week.



# 4. Awareness

## BE FOOD-WISE

### Food Miles

With your Patrol, sit down and choose a menu for a main meal, then make an ingredient list. Then it's off to the supermarket! Check out each of the ingredients by looking at labels, signs and packaging. Where did the item grow and where was it packed? See if you can calculate the distance all the ingredients travelled to get to the supermarket. Look at the packaging on the food. Was it made locally or did the packaging travel too?



Find out about food grown in your local area and how you could make the food you eat fresher and making less impact on transport and manufacture costs.



### Supermarket Challenge

Statistics tell us that Australians discard up to 20% of the food they purchase. That's \$8 billion worth of edible food every year. It's fresh food, leftovers, long-life products, drinks, frozen food and takeaways. You can be the person to make a difference in your household!

### Food Tips

Buy the food that is odd-shaped or speckled or the wrong size, to stop it being wasted.  
 Check that your family is cooking just enough for everyone to eat.  
 Eat leftovers from a meal the next day. Find some creative recipes for any leftovers.

Keep an eye on use by dates so products get eaten in time. Eat food past its best before date – its often still fine to eat even if its not super-crunchy or looking its best. Plan to buy takeaways e.g. a treat every Friday, rather than doing this when there is food at home. Check in the freezer and pantry shelves every now and then and use these items for meals.

### Ways to be Supermarket Savvy

1. Have a list of items you need to buy
2. Buy special offers if you know you will use them, or consider freezing items that are extra good value
3. Shop when you aren't hungry such as just after a meal
4. Don't buy an item just because the packaging looks good



### Let's Shop:

Give each Guide a pen and paper and ask them to design a healthy waste-free lunch. Make a list of all the things that will be needed to make the food.

Now visit a supermarket and cost the ingredients. Let's say you decided to cook ham and zucchini muffins. Look especially at whether you can buy the exact amount of food needed.

Can you include some extra vegetables such as grated carrot to make it super tasty, healthier and better for the environment? Score points for your menu – you can buy the right size, it is healthy, it is economical, it uses fresh ingredients. Are you a 5 star shopper?



# 5. Action

## TAKE ACTION TOGETHER!

Look around our communities and choose an area that you would like to change for the better.

There are lots of places to visit such as an aquarium, planetarium or national park. Many of these places welcome assistance with small projects. There may also be a chance to visit the local landfill, waste treatment facility or recycling centre. Let's all be aware of what can be used again rather than thrown into the ground.

Every little bit makes a difference...

What is im-portant?	What will we do to be the change?
Thank people who are helping the community	Bake biscuits and bring them to your local recycling shop. Ar-range flowers and bring them to a hospital for the staff. Make cards and present them to welfare workers.
Share toys	Bring toys to children in the cancer ward of a hospital. Hold a teddy bear drive for foster children, fire victims, etc. Make games such as tic tac toe boards or finger puppets.
Support people in crisis	Gather clothing from your neighbours and donate it to a local group. Make "I Care" kits with combs, toothbrushes, shampoo, etc. for people in crisis. Organize a canned goods drive.
Care for a habitat	Plant flowers, a garden or tree where the whole neighbourhood can enjoy it. Adopt an area of a reserve and create a home for wildlife such as a pond or bushy area.
Clean up a space	Paint a mural to put over graffiti. Clean up rubbish along a riv-er, beach, or in a park.
Encourage fitness	Create a campaign to encourage biking and walking then run a start-up day. Participate in a walkathon for your favourite charity.
Care for animals	Volunteer for your local animal shelter or group. You could make cage toys for cats, artificial penguin burrows, or bird houses to place in trees.
Recycle	Donate your old computer to a community group. Recycle plas-tic bottles as mini gardens then donate them.
Care about an issue	Write a letter to the editor about an issue you care about. Hold a march in a public space to share your concerns.
Care about our heritage	Take a historical tour of your community or promote a histori-cal anniversary.
Your idea:	Your idea:



# 6. Action

## IMPROVE YOUR LIFE AT HOME



Lifestyle is the way we live our life, and to show we care for our environment we need to tailor our lifestyle so we 'tread lightly.'

Even though we are talking here about taking action, it is often more about NOT doing something. You can be

a 'couch potato' and fail to help others or advocate for change, but once you are aware that the environment around us is influenced by the actions of people you can take action in small ways.

Things to try –

- Walk to school
- Ask for one birthday present
- Turn off the lights when you leave a room
- Borrow books from the library
- Watch television together in the lounge
- Choose one set of good clothes
- Repair a torn t shirt

Take a two minute shower

- NOT use a car
- NOT ten things you don't really need
- NOT leave every room lit up
- NOT buy a new book you will only read once
- NOT by yourself in your room
- NOT a set of fashion items
- NOT throw it out and buy a new one
- NOT a ten minute sauna

### Recycle water

Shower with a bucket – the water that collects in the bucket can be given to thirsty plants outside rather than the water running down the drain. Or a bit closer by, the water can be tipped into the toilet to flush it rather than using fresh water to flush.

If you are washing the car, wash it on a lawn so the water gives the grass a drink.

Set a large bin or barrel under the downpipe from the roof of your house. Use a watering can to dip out water and use it on the garden.

Collect water from washing vegetables and from boiling food to use in the garden or to flush the toilet.

We are all different so there will be different ways each of us can improve. As a Patrol come up with a list of things to try. There are sure to be good ideas suggested that you hadn't considered.

### Composting

Nature recycles leaves and plants. Over time they are converted into nutrients in the soil that feed other plants. You can keep up the good work at your home. If your family already does this, well done! If not, then give it a go.

#### Compost recipe

You need brown stuff (dead dried plant parts like leaves and pine needles or shredded newspaper), green stuff (grass clippings, kitchen fruit and vegetable scraps, weeds, and other plants), air and water. Don't use meat, milk products, oils, pet droppings or diseased plants.

#### Family Compost Bin

Make a wire or wooden frame that sits on the ground. It could be square or round. There must be spaces for air to get in.

Make layers of ingredients – brown stuff 10 cm thick, green stuff 10 cm thick, a shovel full of soil or compost. Water it well and then repeat the layers until the bin is full. Leave it several months for the soil microbes to turn the mixture into compost.

#### Compost Pockets

Dig a hole 50 cm deep. Place a bucket full of mixed up brown stuff and green stuff in the hole and cover it with the soil you dug out. You can plant something on top after a month or two then stand back and watch your plant grow!



### Next Jean-eration

When the knees wear out in your jeans or they just get much too short or tight, think about turning them into other useful items. Do you have more clothes than uses for them? Items like this are good sellers at market stalls if you want to raise some money for a cause.

Woven bag



Mini Pot



Pillow



Charger bag



### Leftover food

Does your family often have food leftover from a meal? Make yourself the trendy leftover cook! Many food items can make a great snack, or even a new meal.

#### Savoury slice

Mix 2 cups leftover finely chopped meat and vegetables with 2 beaten eggs, a handful of grated cheese, 1 cup of SR flour and enough milk to make a thick batter. Spread in a greased slice pan and bake in a moderate oven until golden brown on top.



#### Savoury frittata

Finely chop and fry an onion in a little oil, using a shallow pan such as a roasting pan that will fit under your grill. Tip in 2 cups of cooked and cubed potato or pasta or rice, 2 cups of cooked and cubed veggies, 1 cup of finely chopped meat, and 1 cup grated cheese. Beat 9 eggs and pour over everything in the pan, stirring gently until well mixed. Cook on the stove over very low heat until almost firm. Put under the grill and cook until the top is golden.





# 7. Action

## WILDLIFE

### Bird Watching

You will need:  
A book, web site ([www.birdsinbackyards.net/finder](http://www.birdsinbackyards.net/finder)) or poster of local birds, mini pads or folded mini books to record what is found. This could be treasure hunt list of common birds to be ticked off. Listen for bird calls, look for nests and feathers, there may be tracks in soft mud, and of course you can see actual birds!



### A way to help:

Plant native bushes in your garden to provide natural bird food. Birds will look for food and find spots for a nest. This is the best thing you can do!

Build a bird feeder or bird house to hang in a tree. You are giving the bird a special treat. Each bird needs exactly the right food to eat and space to live in. You will need to research the details so you can put just the right structure in place.



A simple bird feeder can be made by using an orange half after you eat it, threading through some twine, and filling it with food. And just put in a small amount of food and put it the right place! Rotting food is not good.

And a bird attacked easily while feeding or nesting is not going to raise any chicks.

### Bug Hotels

We share our backyards with many creatures – lady bugs, butterflies, bees and maybe snails and slugs. These creatures do lots of jobs around the place. Some pollinate flowers so they can grow fruit. Others eat waste items and clean things up. Others eat pests like aphids and keep their numbers down.



Some of the bugs live in compost heaps. Others need narrow spaces to crawl into to escape cold, wet or hot conditions. There used to be lots of places like this for bugs. If you visit the bush you can see them everywhere. But in a city or town, there may be nowhere for bugs to live. We sweep up rubbish, clear away fallen plant material, remove road kill, use sewerage systems instead of septic tanks, and clear rotting timber.



Bug hotels can give tiny animals a safe place to live so they can keep doing their jobs for us. To make a bug hotel, you will need:



- ▶ A shape with a roof to hold your hotel 'rooms' – a wooden box turned on its side, a hollow piece of log, a solid block of wood, a tube of some kind e.g. a drink bottle.
- ▶ Something to make 'rooms' – twigs, rolled up paper, hollow bamboo, tin cardboard tubing, holes of different sizes drilled into wood.
- ▶ Are you keen to make a bug palace? Find a used doll's house or create a ball with two hanging planter frames and fill all the rooms to make it bug-friendly.

Place your hotel in a sheltered spot in the garden, on a fence or under your house. Check every now and then to see what's moved in. You might want to change the size of tubes to attract different creatures.

### How do Aboriginal hunters track native animals?

Try yourself

### Endangered Species

Many plants and animals are in danger because we have changed their habitat just a little. For example, the swift parrot in Tasmania is in danger because someone introduced sugar glider possums to the state and the sugar gliders love to catch and eat swift parrot eggs and nestlings.



We are trying to save the swift parrot by making hollows in dead trees and placing nest boxes in places where there is food for the parrots and no sugar gliders.

Find out about an endangered species in your area and what is being done to save it.

Rachel Lowry of Zoos Victoria says "People are getting busier and busier, spending less and less time in nature. They know less about our native species and they're not recognising when we are losing species, so they're slipping away silently."

Visit a zoo, go to a national park, invite a guest speaker to visit or do some research on line and share what you discover.

You could choose (unfortunately) many different living things:



### Survey a Site

**Adopt a Spot:** Very close to where you live, there is likely to be a spot that is bush or park or coast or wetland or a water system.

Have a close look – get down and close to the ground, get out a magnifying glass, sit quietly and listen for life on the site.

Explore mud, dirt, sticks, tree climbing, rock climbing, beach combing, connecting with nature

Consider becoming 'Friends' of a local park or wetland, visiting it every term and maybe inviting others to join you. There may be a local kindergarten or child care group that would like to join you! Set up Nature School for a day – roam through the bush, play music, make bush crafts, build shelters.



**Barking Up the Wrong Tree:** While blindfolded, lead girls to one or more trees. Let them feel the tree for a short time then take them back to the starting point. Can they identify their new tree friend?

**Shell treasure chests:** Give pairs of girls a two metre length of string tied in a loop. Their task is to find a spot on the beach with the most shells / biggest range of shells. Share treasure chests after a set time to find the best site.

**Pattern Power:** Give everyone a treasure hunt list of things to find with different patterns (zigzags, checks, stripes, beadings, spots, blotches, frills, rings, or serrations).

**Pace it Out:** Everyone spreads out in a set area. Ask everyone to take ten steps in random directions, maybe

with their eyes closed if it is safe. They stop and count how many different objects they can touch without moving their feet.

**Flag Trail:** Give everyone a flag and ask them to walk along a bush trail and mark a spot where there is something interesting to see. As a group, walk the trail again and try to spot why all the sites were interesting. Extend this by writing a question to answer at each flag. Suggestions include 'How many different shades of green can you see?', 'What is wrong with this tree?'

**Forest Scopes:** Use a paper towel roll to roll a sheet of A4 paper around and tape to make a tube. This is your forest scope. Look through it to sight trees, understory shrubs, grasses, ferns and so on. If you are a good artist you might choose to make botanical drawings of the plants you see.

**Hollow Magic:** Find an old tree, either dead or alive, which has lost several branches. Take up a position as far away as possible that gives a clear view of a hollow in a branch. Think about how the hollow formed, what could live there, how new the hollow is, whether there is any sign of life.

**Touch and Tell:** Everyone walks around your adopted spot and collects a small item such as a shell, piece of seaweed, dead leaf, smooth pebble, or tiny twig. Make a 'feel box' by cutting a round hole in a shoe box. Girls sit in a circle. An object is placed in the box by a leader. In turns, the girls feel what is in the box, and describes it in some way. After everyone has a go, all guess what the object was.

**Tracking Tunnels:** Find out what visits a site at night by making a tracking tunnel. Take a 3L plastic milk bottle and cut off the base. Cover the outside with black plastic e.g. from a garbage bag. Take a paper tissue, sit it on the bottle base and soak it with red food colouring and water. Put a small piece of wood inside the bottle, sit white paper on the wood then the plastic base.



Add a spoonful of peanut butter to the tray and leave overnight. Next day the food will be gone and the footprints of the creature that ate it will be on the paper. Experiment! To find tracks of different animals, you will need to change the food and the size of the feed pad.

**National Parks Game:** You will need 15 or more girls for this game to work well. All stand in a circle holding hands. The hands form the national park fence and animals can move freely under the hands to go in and out of the park. Select three players –  
 A ranger (who can only be inside the circle in the 'national park')  
 A feral cat (who is outside the circle to start and can run through inside but not stop there)  
 A bandicoot (who can go anywhere)  
 The ranger tries to catch the feral cat. The feral cat tries to catch the bandicoot. The bandicoot tries to keep away from the cat. Once either the cat or the bandicoot has been caught, swap players so everyone has a chance to be in one of the roles.

**Miniparks:** Each Patrol marks out an area with string. A useful size may be one that contains three trees, or several rock pools. Ensure girls know not to pick any plants or remove any animals. Each Patrol thinks of a name for its park, labels some interesting items in the park and thinks of some interesting facts (either natural, imaginary or constructed). It is fun to invent some things that could live in the spot. The patrol divides in half. One half becomes 'tour guides' for their park and the other half becomes 'tourists' and visits other parks. Tourists can ask questions e.g. –  
 Are there many predators in your park?  
 Where can you go on an overnight hike here?  
 What food is there to eat?  
 How do visitors cause issues in this park?  
 Swap over half way through so everyone gets a chance to see the parks.

### Care Code for Outdoors

Care and respect the environment. We are guardians of the forest or coast and all of the plants, birds, invertebrates and other animals that live within it.

- ▶ Be very gentle if handling live creatures and return them to where you found them.
- ▶ Avoid damaging living plants.
- ▶ Avoid disturbing nesting birds.
- ▶ If you turn over a rock or a log to see what's underneath, always turn it back.
- ▶ Consider other people's enjoyment of the area.
- ▶ Collect only dead materials for art and craft, and take only what you need.
- ▶ Take your own rubbish home.

### Food Webs

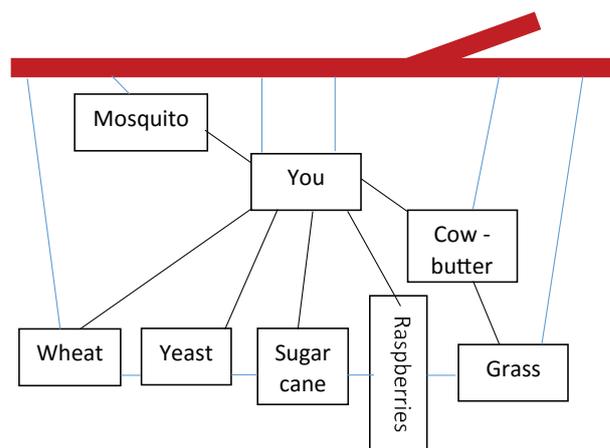
We are all part of a food web. We are linked to other living things by what we choose to eat, and other things depend on us for food (like mosquitos!) Make your own personal web to remind you of how every living thing is connected.

You will need:

- A small dead branch
- Wool
- Hole punch
- Sticky tape Card, pictures or photos
- Several heavy items like small pebbles

Start by thinking about what you have eaten in the last 24 hours. You need pictures, photos or drawings of all these things. Toast for breakfast? You need wheat and yeast to make bread, a cow to make butter and some raspberry canes and sugar cane to make jam. And what did the cow eat? You will need some grass for the cow.

Just breakfast looks like this:



The blue wool is just to hold the web in place. The black wool shows the things that you need. Tape some pebbles on the back of some of the plants to keep your web hanging properly. Will you ever eat a slice of jam on toast the same way again?



# 8. Service

## TAKE PART IN A CAMPAIGN FOR THE EARTH

Starter activities are a selection from the Advocacy Action Award (Girl Guides Australia web site). See this resource for more ideas.

**Beating Barriers** Split the Girls up into teams, and tell them their aim is to get from one side of the meeting place to the other, getting through all barriers put in their way. The barriers could be physical, or could require a certain answer to get through. Each must require the teams to work together to get to the other side. Discuss the conclusion of the game: any difficulty of getting somewhere e.g. school – can be overcome if people work together.

**Using Your Voice:** Play this game to get girls used to using their voices to affect the world around them. Create an obstacle course around your meeting place and put girls into teams of three. One in each team is blindfolded, and the others must guide her with their voices only – they cannot touch her! The winning team is the one to get through the course in the fastest time.

**We All Have Equal Rights:** Choose a short game to play e.g. tug of war. Divide the Unit into three groups – ‘well-off’, ‘poor’ and ‘authorities’. Give counters or paper slips to each person – 6 for ‘well off’, 3 for ‘poor’ and 10 for ‘authorities’. Now say only those with at least 6 counters can play. The rest must watch. Play the game.

Reflection:

Was it fair? Has anyone realised the authorities have extra counters to share? What could the authorities have done to enable everyone to play? What could the other groups have done? Can anyone identify similar situations in real life? What can be done to make things fairer?

**Sustainable Development Jewellery:** Share the Sustainable Development Global Goal poster with the girls and link the colours to each goal. Provide the girls with beads of some of the colours and let them design and make a piece of jewellery such as a bracelet or necklace.

**Three Aspects of Advocacy** – remind the girls that advocacy involves educating yourself, speaking out about what you learn, then taking action. Ask them to choose issues that they think need to be addressed in their community. Place some cards out to start the discussion (equality, poverty, personal safety, peace, clean environment, obesity, water conservation, shelter, transport, litter). As a Unit, choose one issue. Plan how to find out about it, how everyone could speak out and what action you could take. This is obviously going to be the content of another meeting!

**Right Old Journey:** As a Unit, imagine you are on a boat journey around the world to deliver rights to all the children. There is a problem.

There was a storm overnight and the ship has sprung a leak! Water is pouring in and the ship is starting to sink. To make it lighter, the crew need to start throwing rights overboard. Divide into patrols and give each patrol a set of Rights cards (clothes, money, food, peace, shelter, safety, play, privacy, own culture, health services, family, transport, own choice). Each girl takes a turn to throw a right out of the boat. When there is only one left, the patrol ‘returns to shore’. Each patrol explains why they kept that right.



### The Ten Per Cent Campaign

This project is based on a similar program developed and run in Hong Kong in 2010, as a partnership between Girl Guides and Rotary. The 10% campaign was about electricity use.

“Following the declaration, an electricity conservation campaign for the duration of four months will be launched starting on March 1, 2010. Any participants who can achieve significant reduction of their household electricity consumption will receive recognitions according to the following scheme:

- a) Bronze badge or pin for more than 10% reduction;
- b) Silver badge or pin for more than 20% reduction;
- c) Gold badge or pin for more than 30% reduction.”

Australia generates more pollution per person than any developed country, including the United States. We produce more pollution per person than India and China. The pollution by carbon dioxide emissions in 2009 was

Energy (electricity and transport)	74%
Agriculture	15%
Industries	5%
Waste	3%
Land clearing	3%

It’s pretty obvious that electricity and transport are the biggest problem! Since 2009, emissions per person have gone down but in 2014 they were still 17.3 tonnes per person. Our electricity is mostly made using coal (77%) and we smelt aluminium which uses 15% of our electricity.

### Ten Tips to reduce pollution

1. Use less hot water (short showers)
2. Switch off lights
3. Reduce your garbage
4. Plant trees
5. Start a fruit and vegetable patch
6. Walk, ride or use public transport
7. Dry washing on a line
8. Turn off appliances
9. Recycle, donate or reuse items
10. Dress for the weather

This project is about reducing electricity use. We can all read our electricity use by checking the electricity account or reading the meter. Then it is a matter of trying out some of the ways to reduce energy use and see the effect in the meter readings. Getting the whole family involved is an example of advocacy - we need to do our bit and encourage others to do the same!

And when the electricity use goes down at home, run a campaign at school to reduce the use.

### Clean Up Australia



Is there a place near you that needs a clean up? Places that benefit include beaches and parks that don't get a regular clean. Go to [www.cleanupaustraliaday.org.au/get-involved](http://www.cleanupaustraliaday.org.au/get-involved) for information.

The southern clean up day is the beginning of March and the Far North cleans up in September.

Why not make the day fun with a litter treasure hunt? Things like bottles, cans, rope, supermarket bag, cigarette but....

### Earth Hour

There is a special time in March when we encourage you to experience what it is like with no electricity. Spend just one hour on the evening of Earth Hour with the lights off and no electricity being used.

#### Things you can do:

- ▶ Play cards by candlelight
- ▶ Tell stories of your childhood
- ▶ Play hide and seek by touch
- ▶ Try to draw a picture
- ▶ Try to build a Lego house



Have a go at doing something we usually do using an electrical machine e.g. wash a shirt without a washing machine, repair a hem on a shirt without a sewing machine, play solitaire with real cards instead of a computer or phone.

### My Meeting Place

Do you have a meeting place, campsite or similar area that you can improve? How about raising some money to plant some native shrubs? If you have lots of patience, try collecting native seeds – put nuts from tea tree or bottlebrush in a paper bag, leave until the nuts dry and open, then plant the seeds in bush soil. Could you put in a rock garden or pebble pathway?

### Ways to reduce your energy use

- ▶ Make sure all light globes are energy-efficient
- ▶ Turn off lights when not in use
- ▶ Turn down the thermostat on the hot water cylinder (to 50°C) and turn up the thermostat on your refrigerator (to 4 °C)
- ▶ Use less hot water - short showers, water-saving shower heads
- ▶ Set the washing machine to use cold water when possible
- ▶ Heat living spaces, not the whole house
- ▶ Use heaters that are the right size for a space
- ▶ Turn off appliances when not in use, especially if they have a remote control (washing machines, dryers, computers, fans, ...)
- ▶ Keep windows and doors closed in winter to trap warm air
- ▶ Set air conditioners to heat to 18 °C in winter
- ▶ Set air conditioners to cool to 25 °C in summer
- ▶ Buy appliances with a low energy rating
- ▶ Wear clothes for the weather - t shirts in summer, jumpers in winter
- ▶ Cook with the smallest number of pans, and keep the lid on

## EARTH HELPER

### A Story of the Earth

The little girl walked dejectedly down the cracked pavement. Her backpack was heavy and her feet were slow. She stayed to the path, pausing every now and then only to pick out a new can or wad of paper to kick as she went along her way. Her heart felt as heavy as her backpack as she opened the door to her house and went inside.

Her mother was in the kitchen, taking biscuits out of the oven. She smiled as she turned around but stopped when she saw her face. "Tania, what happened? Is everything okay?" "Nothing is okay, mum. Nothing will ever be okay again." She stood in the middle of the kitchen as her mother came over to the kitchen table. "Sounds like you had a rough day, Tania. Is there anything I can do to help?"

"That's just the thing, Mom. We can't help. There's nothing we can do." She sat down at the table and put her head in her hands. Her mother sat down and waited a moment until Tania began to speak again. "Today, in science, the teacher was talking about Clean Up Australia Day and the environment. The Day is supposed to be a day when every person promises to do something to help take care of our world. Mrs. Green was telling us how many companies are not careful about how they get rid of their industrial waste. She said that our world is getting dirtier and that many animals and plants are dying. She wants us to think of something we can do to help and I thought all the way home and there is nothing I can do. I can't stop the companies from polluting our air and water and I can't save all of the animals! There is not anything that I can do to make a difference."

Her mother sat for a minute, thinking. "You sound like this really concerns you and that you have put a lot of thought into it, Tania." Tania nodded. "Let me tell you a story that your grandfather told me. I don't know where he heard it, but I think that it might help you think about your problem in a different way."

She began, "one morning a man was walking down a beach that was covered in dying starfish. The tide the night before had been especially strong and thousands of starfish had been washed up on shore, too far up for them to make it back into the water by themselves. The man shook his head as he trudged along thinking what a shame it was that all of those starfish would

die on the beach. He came upon a boy who was throwing starfish back into the ocean as fast as he could. He was out of breath and it was obvious that he had been at this task for a while. "Son," the man said, "you might as well quit. There are thousands of them. They are washed up all over the beach as far as you can see. There is no way you can make any sort of a difference." The boy did not even pause in what he was doing. He kept bending and throwing but as he did, he spoke to the man, "I can make a difference to this one, and this one, and this one." And the man thought, and he knew the boy was right. He began to help return the animals to their home, smiling at how life's biggest lessons sometimes came from the smallest people."

Tania stared intently at her mother. "But he did make a difference, didn't he? To every starfish that he threw back in?" His mother nodded, smiling. She sat for a moment, thinking about what her mother had said. "So, what it means is that even though I can't change everything, I can make a big difference by doing the little things that matter?" "That," she said, sliding him the plate of biscuits, "is exactly what I am saying." Tania grinned and took a biscuit from the plate. "That gives me an idea." Her mother smiled even bigger and said, "I kind of thought that it might." The next morning on the way to school, her feet hardly touched the ground. She told her teacher the story of the starfish and her idea. Mrs. Green thought it was a great idea, and decided to let Tania share the story and her idea with the class. Everyone got to work immediately, cutting out the large green leaves.

On Clean Up Australia Day, there was an assembly and everyone in the community was invited. Many of those gathered were startled to see the large brown tree trunk affixed to the hall wall. They sat, puzzled, and waited for the program to begin. A girl, dressed up to look like a man, walked across a stage filled with starfish. The play went on as Tania and her class told the story taking place. When it was over the audience applauded as Tania stood at the stage.

"We were all thinking, and it was frustrating because we didn't think that we could do anything. The problems seemed too big for us to do anything about them."



But we decided that together, even the little things we do could add up to mean a lot to our world." The kids began passing out the green leaves and pens to the audience. "We want every person to think of one thing they can do that could make a difference to our world. Even if it seems like something small, it will matter."

The audience began writing, and soon the tree was covered with the green leaves. Tania and her class read many of them as they attached them to the tree. "I will walk to work." "I will use both sides of my paper to save trees." "I will have my pet neutered so there won't be any puppies born that won't have a home." "I will plant a tree every year." "I will start recycling my newspapers." Tania thought, and bent to write her promise on the leaf. Soon, the tree was beautiful and green and covered with the Clean Up Australia Day promises. People were laughing and talking as they left, thinking of what they had promised to do.

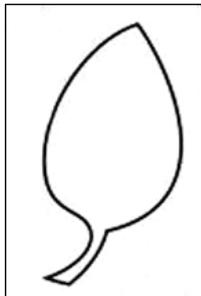
When the dismissal bell rang, Tania got her backpack and began the short walk home. As she reached the side road, she pulled an old grocery bag from her backpack. She began picking up the rubbish as she made her way home, instead of kicking it. She smiled all the way, thinking of the difference they would make.

[Adapted from a story by Kim Moon  
[www.kidsdomain.com/holiday/earthday/cando.html](http://www.kidsdomain.com/holiday/earthday/cando.html) ]

### Try this with your Unit

Make a template for a leaf then give everyone a piece of green paper. Each Guide makes a leaf and writes on it her promise for helping the earth. Find a small dead branch from a tree, 'plant' it in a large tin or bucket filled with soil then hang your leaves. You may like to decorate the tin or bucket with starfish to remind you of the story.

Look at your leaves a month later to see how you are going at making a difference.



### Climate Watch

This is your chance to contribute to how scientists understand seasonal changes in animals and plants around Australia. There are selected trails you can visit or you can add a spot of your own. Trails go through parks, bush, beaches and along rocky intertidal platforms. There are also selected animals and plants that you can look for and record. The idea is to build up information and look for patterns in when living things are about and how many there are. [www.climatewatch.org.au](http://www.climatewatch.org.au). More effort is needed for this service as you will have to check out the trail regularly.



### Weed Pull

How about inviting a gardener to visit your Unit so you can discover the worst weeds in your area? Follow up by organising a Weed Pull day in your area. You might be surprised about what is a weed – some of our garden plants are bad news if they escape to the bush!



## 9. Service

### WAYS TO HELP OUT

#### Living below the Line

Live Below the Line is a fundraising campaign that helps us take action on poverty. You may like to follow through and take the challenge after becoming aware of how much food costs and our impact on the environment in preparing food. When you only have \$10 to spend for five days of food, you need to be creative! Check out a specials catalogue or visit a supermarket.

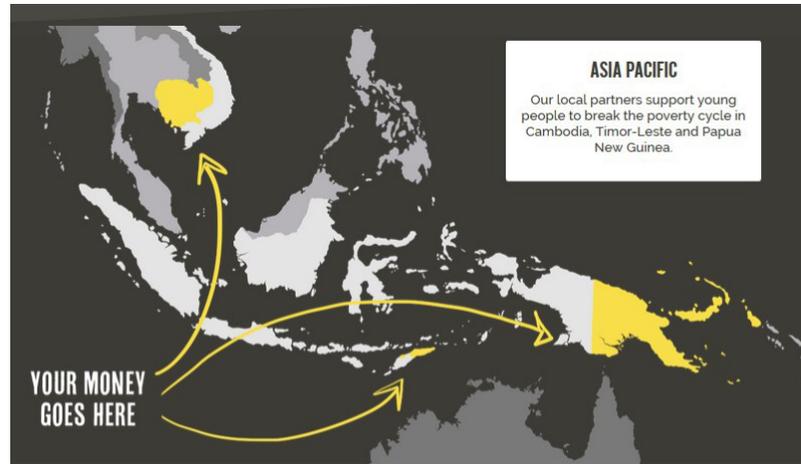
Choose low cost filling foods as the base of several meals. Good starters are baked beans, mixed beans, lentils, chick peas, sweet corn, pumpkin, carrot, eggs, sausages or dried peas. Add some carb – potato, rice, pasta or sweet potato. Use small amounts of flavour to make the food interesting and different each day. You could use garlic, tomato paste, curry powder, milk powder, or soy sauce.

Look out for what is in season, what's on special, or super low prices at the end of the day. It's not easy to find good cheap food. We are very lucky to be able to have choices and to have the money to buy yummy food.

Can you feed a patrol of five people for a whole day using just \$10?

You can register for this campaign then ask your friends to sponsor you. It runs continuously so choose a time when you can spend lots of hours to spread the word about why it is important for us all to have nutritious food.

You can donate the money you saved by eating less food as well. Your contribution will help those people who live in poverty.



#### Chili Shepherd's Pie

1 sausage, 220g can baked beans, chili powder, 1 large potato

Chop the potato finely leaving the skin on. Boil then mash. Cook the sausage then cut in small chunks, put in a heatproof bowl with baked beans and chili. Cover with mashed potato and reheat.

#### Minestrone

1 carrot, 1 stalk celery, 1 onion, ½ cup economy bacon pieces, 1 can chick peas, 1 can tomato pieces, 1 cup pasta e.g. penne

Sauté bacon and onion in a little oil in a pot, chop vegetables, and add everything else. Add water to make a soup, simmer 20 mins.

#### Omelette

2 eggs, 1 tablespoon parmesan cheese, 220g can drained corn

Put a pan of water on to boil. Put the eggs in a snap lock snack bag, seal then massage until the eggs are broken up. Add cheese and corn then seal the bag with no air inside. Cook the bag in hot water 10 mins.

#### Damper Pizza

½ cup SR flour, little milk, 2 T tomato sauce, mixed vegetables cut in very small chunks e.g. pumpkin, corn, peas; 2T grated cheese

Boil vegetables. Make a thin round of damper with flour and milk. Bake in oven. Smear on sauce, add veggies then cheese. Bake until hot.



# 10. Impact

## INVESTIGATE IMPORTANT IDEAS

### Special Days and Weeks

There are many days, weeks and months that have a special focus on the environment. And many of us want to make a difference, we just need to find out how to do something. Choose a date from the list below and spend some time finding out about the cause.

Start by using the UN's Global Goals for Sustainable Development. These can be accessed online at [www.globalgoals.org](http://www.globalgoals.org) where at least seven of the seventeen goals have an environmental focus. At the site you will find links to cards and cartoons that you can print out. In 2015, our global leaders agreed there were 17 ways we could work together to improve our world. To achieve this, everyone no matter how small or large needs to work together. So that's you!

### Play Global Goals Relay (10 mins):

Patrols line up at one end of the hall. All the global goals cards are at the other end all jumbled up. In turn, girls run up and get one card. The aim is to make a complete set.

### Global Goals Collage (20 mins):

Patrols have one or two global goals cartoons of their choice, sheets of butchers paper or similar, craft materials and magazines. The aim is to make an art gallery of goals by adding pictures, words, pictures from magazines and so on.

### Where do we stand? (10 mins)

Everyone goes to the centre of the hall. To the right is 'Life is like that here'. To the left is 'This does not sound like here at all.' A leader reads out lots of situations. Stand anywhere you like to show where you think we stand in our community. Chat about whether everyone felt the same. Find out what girls thought was a reason for where they stood. Now repeat the questions, but this time think about the whole world.

- ▶ Everyone has enough food to eat
- ▶ We treat the environment with respect
- ▶ Everyone has a chance of a decent job
- ▶ Boys and girls are both treated equally and with respect
- ▶ Everyone can grow and choose to eat healthy food
- ▶ We are peaceful and treat everyone fairly
- ▶ We work hard to stop climate change
- ▶ People live healthy lives in body and mind
- ▶ No-one is living in poverty

As you can imagine, these are VERY BIG ISSUES! As a single person it is hard to make any improvements. But as a team it is easier. And if a whole country works to improve something, WOW...

Take advantage of an existing campaign to do something that makes a difference. How about selecting a date and exploring a theme that is special to you, then planning an event.



# 11. Impact

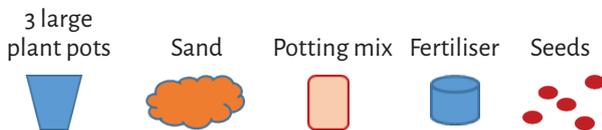
## LITTLE WAYS TO MAKE A BIG DIFFERENCE

**Opening:** Start with a special ceremony, play a quick favourite game, then move on to your project.

### Growing Food: Rocks and Soil

Good quality soil is essential! The rocks that make up our earth get ground down and mixed with other materials like animal manure and plant waste to make soil. To grow good plants we need soil that contains the right ingredients to feed the plants. And plants need water too! Have a go at growing some seeds in soil of different quality and you will see how important it is. Good choices to grow are radishes, beans or carrots.

You will need:



Make up three lots of soil – one just sand, one half sand and half potting mix, and the third just potting mix. Plant your seeds just below the surface and make sure the soil is damp. Place in a sunny spot and check regularly that the soil stays damp. How did the seeds grow? Did you get some food?

### Wrapping Food: Beeswax wrap

Do you use plastic wrap every day to prepare your packed lunch? Plastic is made from oil, a fuel which will eventually run out on our planet. Things like plastic wrap that get used once and then thrown out are a poor use of this resource when there is a great alternative.

Plastic pollution is a growing epidemic that shows no signs of stopping. In the last ten years, we produced more plastic than in the previous 50. The problem with plastic is that it never biodegrades; instead, it breaks into smaller and smaller pieces, which usually find their way into our water streams and the stomachs of our marine life. This means that every piece of plastic ever made is still in existence today.

When it comes to cling wrap it's one of the plastics that are rarely ever recycled. Plastic wrap can't go into normal household plastic recycling bins as it melts at a different temperature to the other plastics and causes problems with the machines.

So what is beeswax wrap? It's a piece of cotton material with wax, rosin and oil melted into the fibres. The material stays flexible and wraps around food or on a bowl to keep the contents fresh.

### You will need:

Squares of thin 100% cotton fabric (lawn or gingham or bed sheeting work well), cut with pinking shears

Beeswax

To make a cling wrap: Powdered rosin and jojoba oil as well as beeswax

(The method works with just beeswax but the wraps are more 'clingy' if you use all 3 ingredients)

### To make them:

A clean paintbrush

Cheese grater

Baking tray covered with baking paper

Tongs

For a 25cm square:

2 teaspoons grated packed beeswax

2 teaspoons powdered pine resin

½ teaspoon jojoba oil

For a 35cm square:

6 teaspoons grated packed beeswax

6 teaspoons powdered pine resin

2.5 teaspoons jojoba oil

### Oven method:

1. Heat an oven to 100 °C
2. Lay the baking paper on the tray, put the fabric on top and sprinkle the mixture of beeswax, resin and oil over the top.
3. Place in the oven until the mixture has melted – around 5–10 minutes.
4. Pull the tray out and use the paintbrush to spread the mixture evenly over the fabric. Put it back in the oven for another minute or so.
5. Take the tray out and lift the fabric off with tongs. It will be tacky and needs to hang on a line to set.

### Hot iron method:

1. Lay down an old towel (it will get waxy), turn on the iron.
2. Place baking paper on the towel and lay a fabric square on top.
3. Sprinkle the beeswax, resin and oil on the top.
4. Place more baking paper on top of the wax and cotton square and iron over it.
5. Peel back the paper and check it is evenly melted. Add more wax in spots if needed, and iron again.
6. Lift off the paper and peg it on a line of string to dry.



**To use the wrap**, just place over a bowl or wrap around food like fruit and sandwiches, or fold to make a snack bag. The warmth of your hands will mould the wrap. After use, the wrap can be washed with cold or lukewarm water and soap.

### The don'ts

Don't wash in hot water, use in the microwave or wrap hot foods or the wax will melt!

Don't wrap meat as anything wrapping meat has to be cleaned with hot water.

### The Popcorn Game

The items we need in our lives can be divided into two groups – renewable and non-renewable. An item that is renewable means that it will break down and can be recycled with new items being made, all in a short time. An example of a renewable resource is cotton. Cotton grows on a bush and turns into fabric, is used, then breaks down to make soil if it is composted. New cotton can be grown every year. An example of a non-renewable resource is plastic. Plastic is made in a factory from oil that is taken from the ground. It can be made into sheets, used, and then buried in landfill. It doesn't break down though it might get to be smaller pieces. Oil is replaced in the ground very, very slowly.

You will need a bag of popcorn. Each Patrol gets a bowl with 16 pieces of popcorn, a sheet of paper towel per person and a pencil and paper. Each round, each person needs at least one piece of popcorn per round to survive and may take as much as they like. One Patrol member writes down how much popcorn is eaten. After each round, the popcorn resource is 'renewed' by half by a Leader i.e. if there are 8 pieces of popcorn left, the Patrol gets 4 more pieces; if there are 10 pieces of popcorn left, the Patrol gets 5 more pieces. Continue for six rounds. Did everyone survive? What did you do to keep alive?

### Plastic Free July

The Plastic-Free July Challenge was born in Perth WA in 2011 and has since gone global. Go to [www.plasticfreejuly.org](http://www.plasticfreejuly.org) to find ideas you can use. Why not make 'nude' lunch boxes for school with no plastic wrap or sandwich bags? Or make designer shopping bags for collecting groceries? What about a Plastic Free Morning Tea? Can you think of a good way to show the amount of unnecessary plastic used to wrap items?



### Swap Parties

A great way to have an impact in your local community is to organise a swap party. You will need some tables and maybe hanging racks depending on what you decide to include. You can start by running a swap party in your Unit or District. Many schools are likely to let you run this activity at lunchtime if you ask. Or you could advertise a swap party at your meeting place and send out invitations.

Swapping is good for the environment! It takes items you have finished using and puts them back to use. When you run a swap party, make sure you tell everyone how they are helping to care for the environment by swapping instead of throwing out and buying new replacement items.

National recycling Week in November may be a good date to choose. There are ideas to get you started at the Planet Ark site <http://recyclingweek.planetark.org/bas/host-a-swap.cfm>.

Decide what you are going to swap. Items that are usually popular include books, good quality toys, jewellery, DVDs, and clothes. Register items as they arrive by swapping them for a token. People browse through what others have brought and swap their tokens back for new items. Set the mood too! Add music, colour and maybe a few fun games to set the atmosphere.

### Games with Recycled Materials

**Ten Pin Bowling set:** Collect ten 2L plastic bottles. Peel off the labels. Put a little sand or soil inside to make them stand well. Fill the rest of the bottle with scraps of used wrapping paper. Find a ball of the right weight to knock over the pins. Go bowling...

**Catch Cups:** Collect two 3L milk bottles or laundry detergent bottles. You need the ones with handles going down the side. Wash and dry the bottles. Cut off the base, then cut the side near the handle at an angle to make a 'U' shape. Cover the cut plastic edges with electrical tape. A tennis ball or other lightweight ball is a good size for throwing using your new catch cups.



**Other ideas:** A doll's house made from a shoe box, a board game made on a cereal box side, a tossing game throwing bottle lids into egg carton holes with different point values, sock puppets, tin can stilts, mini basketball using a paper cup joined to a cereal box backing board and a crumpled paper ball, mazes in a box, marble runs, ball in a cup throws.