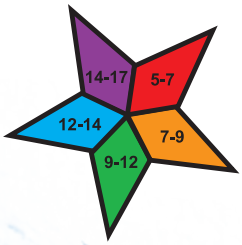

girls worldwide say 100 YEARS of changing lives
Girl Guides Australia

World Environment Day

Activity Pack

GIRL GUIDES AUSTRALIA

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GIRL GUIDES AUSTRALIA

Contents

1. Organisation of activities

1.1 Introduction

'A footprint means pressing down and global means world, so global footprint means pressing down on the world and we don't want to press too hard'

(child's definition of a Global Footprint)

The Global Footprint activities in this resource are hands on activities to encourage participants to explore the science of global warming / climate change, the impact people have on our environment and some easy solutions that can be implemented at home, school and/or in the Guide meeting place.

Facts have been provided for some of the activities so that participants do not need to find all of the information required for each activity. However participants are encouraged to further investigate any of the topics that they are interested in.

1.2 Delivery

The activities are broken into four parts and it is suggested that each part is run as a separate meeting. Programs for each developmental stage of the Australian Guide Program, and for the Olave Program have been developed. These programs can be used as is or the Patrol, Unit or group can develop their own program with any of the activities. If working with a Unit spanning more than one developmental stage then Leaders are encouraged to consider the needs of all Unit members. Appropriate developmental stages / age ranges are indicated for each activity but these can be modified depending on the participants' knowledge and interest.

Suggested times for each activity are only that—suggestions. An activity may take more time if the participants want to explore the topic or play the activity longer. This should be encouraged if possible. An activity may take less time if the participants are already aware of the issue or are not as interested in the topic.

1.3 Date

World Environment Day is set as 5 June every year. It is recommended that Units/groups participate in these activities around this date. They could be used to lead up to World Environment Day, they could be used on World Environment Day or World Environment Day could be used as the lead into these activities.

1.4 Take action

Girls worldwide say "save the planet" encourages Guides to ***speak out, do*** and ***educate*** about the issues facing the environment (urban as well as natural) that we live in. ***Take action!*** is used within activities to outline some simple ways participants can start to make changes to their lifestyles. It is recognised that they do not have control over how their homes, schools or Guide meeting places are managed and not everyone is in a position to make changes. However if they are passionate about saving the planet then they can start advocating about these issues to build a better world.

There are additional ***Take action!*** activities at the end of this pack to encourage further action and/or sharing of knowledge. These activities are a good way to extend a participant in an area she has found interesting. They may also provide ideas or a starting point for an environmental project.

2. Suggested programs

Meeting one—Introduction to global warming

Age	Activities	Suggested time
5-7	What is global warming? (Activity 1, Option A)	10 minutes
	Am I contributing to climate change? (Activity 2)	10 minutes
	Making carbon dioxide (Activity 3, Option A)	10 minutes
	Where does water come from? (Activity 5)	10 minutes
	Environmental balance (Activity 6)	10 minutes
7-9	What is global warming? (Activity 1, Option A)	10 minutes
	Making carbon dioxide (Activity 3, Option A)	10 minutes
	Why is climate change bad? (Activity 4)	15 minutes
	Where does it come from? (Activity 5)	10 minutes
	Environmental balance (Activity 6)	10 minutes
9-12	What is global warming? (Activity 1, Option B)	10 minutes
	Making carbon dioxide (Activity 3, Option A)	10 minutes
	Environmental facts (Activity 7)	15 minutes
	Why is climate change bad? (Activity 4)	20 minutes
12-14	Environmental balance (Activity 6)	10 minutes
	Making carbon dioxide (Activity 3, Option B)	15 minutes
	Environment mime (Activity 8)	10 minutes
	Environmental facts (Activity 7)	15 minutes
	A fair share (Activity 10)	10 minutes
	Environmental balance (Activity 6)	10 minutes
14-17	What is global warming? (Activity 1, Option B)	10 minutes
	Making carbon dioxide (Activity 3, Option B)	15 minutes
	A fair share (Activity 10)	10 minutes
	Community problem community solution (Activity 9)	20 minutes
	Environmental balance (Activity 6)	10 minutes
14-17 alternative	What is global warming? (Activity 1, Option B)	10 minutes
	Making carbon dioxide (Activity 3, Option B)	15 minutes
	Environment mime (Activity 8)	10 minutes
	Environmental facts (Activity 7)	15 minutes
	Environmental balance (Activity 6)	10 minutes
Olave Program	What is global warming? (Activity 1, either Option)	10 minutes
	Making carbon dioxide (Activity 3, Option B)	15 minutes
	A fair share (Activity 10)	10 minutes
	Community problem community solution (Activity 9)	20 minutes
	Environmental balance (Activity 6)	10 minutes

Meeting two—Water wise

Age	Activities	Suggested time
5-7	All the world's water (Activity 11)	10 minutes
	Water use (Activity 13)	15 minutes
	Water-on water-off (Activity 15)	10 minutes
	Water saving songs (Activity 16)	10 minutes
	Water conservation pledge (Activity 14)	20 minutes
7-9	All the world's water (Activity 11)	10 minutes
	Polluted water? (Activity 12)	10 minutes
	Water use (Activity 13)	15 minutes
	Water-on water-off (Activity 15)	10 minutes
	Water conservation pledge (Activity 14)	20 minutes
9-12	All the world's water (Activity 11)	10 minutes
	Polluted water? (Activity 12)	10 minutes
	Water walk (Activity 19)	20 minutes
	Water conservation pledge (Activity 14)	20 minutes
12-14	All the world's water (Activity 11)	10 minutes
	Water walk (Activity 19)	20 minutes
	Polluted water? (Activity 12)	10 minutes
	Virtual water (Activity 17)	20 minutes
14-17	All the world's water (Activity 11)	10 minutes
	Polluted water? (Activity 12)	10 minutes
	Virtual water (Activity 17)	20 minutes
	Getting the facts (Activity 18)	20 minutes
Olave Program	All the world's water (Activity 11)	10 minutes
	Virtual water (Activity 17)	20 minutes
	Getting the facts (Activity 18)	20 minutes
	Now act (Activity 20)	5 minutes

Meeting three—Resources

Age	Activities	Suggested time
5-7	*The lorax* (Activity 21)	30 minutes
	Reduce, reuse, and recycle (Activity 22)	15 minutes
	Triple bin challenge (Activity 23)	15 minutes
7-9	*The lorax* (Activity 21)	30 minutes
	Triple bin challenge (Activity 22)	15 minutes
	Chatterbox (Activity 24)	15 minutes
9-12	Triple bin challenge (Activity 22)	15 minutes
	Following food (Activity 25)	30 minutes
	Chatterbox (Activity 24)	15 minutes
12-14	Following food (Activity 25)	30 minutes
	How long is it in the environment? (Activity 26)	15 minutes
	Chatterbox (Activity 24)	15 minutes
14-17	Packaging challenge (Activity 27)	60 minutes
Olave Program	Packaging challenge (Activity 27)	60 minutes

Age	Activities	Suggested time
5-7	Guides carbon audit (Activity 29, Option A)	20 minutes
	Reducing carbon facts (Activity 30)	15 minutes
	Reducing my carbon output (Activity 31)	10 minutes
	Pledge planet (Activity 33)	15 minutes
7-9	Guides carbon audit (Activity 29, Option A)	20 minutes
	Reducing carbon facts (Activity 30)	15 minutes
	Whose greenhouse gas is it? (Activity 28)	15 minutes
	Pledge planet (Activity 33)	15 minutes
9-12	Guides carbon audit (Activity 29, Option B)	30 minutes
	Whose greenhouse gas is it? (Activity 28)	15 minutes
	Pledge planet (Activity 33)	15 minutes
12-14	Guides carbon audit (Activity 29, Option B)	30 minutes
	Energy and poverty (Activity 32)	15 minutes
	Pledge planet (Activity 33)	15 minutes
14-17	Guides carbon audit (Activity 29, Option B)	30 minutes
	Energy and poverty (Activity 32)	15 minutes
	Pledge planet (Activity 33)	15 minutes
Olave Program	Guides carbon audit (Activity 29, Option B)	30 minutes
	Energy and poverty (Activity 32)	15 minutes
	Pledge planet (Activity 33)	15 minutes

3. Activities

Activity 1 What is global warming?

Option A Candle explanation

Aim: To introduce the principle of global warming and develop the participants' understanding of what global warming is through a physical demonstration.

Age: 5-9, 7-9 and 18-30

Materials: Medium size container (of appropriate material)
Sand or other stabilising material
Candles
List of activities that contribute greenhouse gasses to our atmosphere (see below)

Time: 10 – 15 minutes

Set up:
Before the meeting, place sand in the bottom of the container. Note: your container needs to be only slightly taller than the candles you use but big enough that the number of candles you have will heat the air at the top of the container. You will be surprised how effectively birthday candles will heat the air.

Directions:

1. Begin by asking participants what they know about climate change; allow them to have their say. Explain that the terms 'global warming' and 'climate change' are interchangeable and used a lot these days (climate change is the scientific term, global warming is the term used by the media), but they are simply a reference to the effects of the air around the earth getting warmer due to a variety of reasons. People have an effect on how quickly this happens.
2. Explain that the container represents the world. Get participants to each feel the air at the top of the container—it will be room temperature at this stage. This is the natural temperature of the world's atmosphere.
3. There are many things that build up the temperature of the earth's atmosphere—some are natural and have been going on for a long, long time, i.e. landscape fires and volcanoes. Light one candle (or two depending on the size of your container) and carefully stand it up in the sand at the base of the container. Get participants to carefully feel the air at the top of this container. Ask them if the temperature has changed? At this stage the temperature should be relatively the same.
4. Many of the things that we as people do create greenhouse gases. Greenhouse gases cause the air to get warmer. (That is, these gasses act like a jumper on a person—the jumper keeps heat in around the person helping to keep them warm—and so the greenhouse gases help to keep the earth warm, potentially increasing surface temperatures (i.e. how warm it feels outside). Get participants to list all the things that contribute to the build up of greenhouse gases (see the list below for a few ideas). For each example, light a candle and add it to the container. Explain that over the years we have been making more and more greenhouse gases. Discuss the activities that the participants didn't mention and add candles for these activities too. Now get participants to feel the air just inside the top of the container. Is it warmer? At this point it should be a little warmer. This is what is happening to our planet as we do all the activities that the candles represented.

Activities that contribute greenhouse gases to our atmosphere:

- driving cars
- turning on electric lights
- using computers
- travelling in planes
- eating takeaway
- leaving the TV/computer on standby (not turning it off at the power point)
- not recycling material
- watching TV
- playing video games
- using mobile and cordless phones
- making clothes in factories
- buying food from a long way away
- using portable devices
- using everyday household appliances, such as washing machines, tumble dryers
- using a microwave, oven or stove
- making anything in a factory.

Option B Balloon explanation

Aim: To introduce the principle of global warming and develop the girls' understanding of what global warming is through a physical demonstration.

Age: 9-12, 12-14 and 14-18

Materials: Long taper or pillar candle
Three balloons plus spares—do not use metallic balloons

Time: 10 – 15 minutes

Set up:
Blow up the balloons before the activity (do not blow them up too much as they will pop too easily). This is an activity worth testing beforehand as it only works with some balloons.

Directions:
1. Begin by asking the girls what they know about climate change; encourage them to have their say. Explain that the terms 'global warming' and 'climate change' are interchangeable and used a lot these days (climate change is the scientific term, global warming is the term used by the media), but they are simply a reference to the air around the earth getting
2. warmer due to a variety of reasons. People have an effect on how quickly this happens. Each balloon represents the world. The first balloon is the world in its natural state with no
3. global warming—it will stay blown up and sitting there for a long time.
   The next balloon represents a world with the addition of a small amount of greenhouse gas (human existence for thousands of years, caused by increased fire regime, use of fossil fuels in industry, etc.). Put this balloon about 20 cm from the flame. Ask the girls if they think anything will happen to this balloon? The balloon will gradually go flat due to the heat of the
4. candle but it could take some time (i.e. the whole meeting) to see the effect.
   The final balloon represents the current world. Ask the girls if they know some of the things that have resulted in the increased rate of global warming? Things such as driving cars more, flying planes, using electricity. For each example move the balloon closer to the candle (starting off at about 20 cm and moving in). Once the balloon comes close to the candle it may begin to deflate quickly but most likely it will pop when it gets very close to the flame (exactly when this occurs will depend on your balloon and a range of other factors but be aware of this). The rate of deflation of the balloon represents the speed at which the earth is being warmed up, i.e. the rate of global warming. As we increase our activities the earth warms faster.

Note: this analogy can also be used to represent the rate of natural resource consumption (such as oil, petrol, natural gas) and how long these rates can be maintained is the length of time the balloon will remain inflated.

Activity 2 Am I contributing to climate change?

Aim: To learn what activities and lifestyle choices produce negative emissions and hence contribute to climate change, building on the 'What is global warming?' activity.

Age: 5-7

Materials: *Am I contributing carbon dioxide when I...* activity list

Time: 10 minutes

Directions:
1. Girls stand in the middle of the hall or activity area. Designate one side of the area as the YES side and the other as NO.
2. Read through the activity list provided below, pausing after each one to enable the girls to make a decision. If they personally believe that the activity mentioned contributes to climate change then they move to the YES side. Alternatively if they believe the activity does not then they move to the NO side (a typical 'vote with your feet' set up).
3. In some cases most girls will get the answers correct. Some activities are in there just for a little fun. If there is any where the majority of girls are wrong then pause for a little longer and

discuss the reasons for the correct answer. An example: did you think about this element of the activity that uses power? Although corded landline phones use some power it is the

4. 'climatically cheapest' version of phone communications.
   It is important that the girls not only know these facts but also understand the reasoning. You may like to encourage girls to justify their choices—get one girl to share this for each activity. This will create more discussion from the girls and possibly some debate if girls have chosen opposite responses.

Am I contributing carbon dioxide when I ....? activity list
(activities in **bold** and italics are contributing to climate change)
Drive in the car
Make a phone call on a landline (not a cordless phone)
Go for a walk
Travel in an airplane
Turn lights on
Watch TV
Play soccer
Buy a new toy
Fix an old toy by hand
Turn the heater up or air conditioner down
Put a jumper on
Take the dog for a walk
Make a phone call on my mobile
Have a hot shower

Activity 3 Making carbon dioxide

Option A Soda production

Aim: To produce a very small (insignificant) amount of carbon dioxide in a fun and dramatic way so as to illustrate that carbon dioxide is a real physical thing not an 'out there' concept.

Age: 5-7, 7-9 and 9-12

Materials: Vinegar
Bicarbonate of soda
Large glass or small jug
Area either outdoors or in the kitchen that can be easily cleaned

Time: 5-10 minutes

Directions:

1. Introduce the ingredients that you will be using–bicarbonate of soda and vinegar. Ask the girls what they think will happen when the two are mixed together. Allow time for the girls to share their ideas with each other.
2. Place one tablespoon of bicarbonate of soda into the glass and then pour 100 ml of vinegar into the glass. It will fizz. This well known experiment works because the bicarbonate of soda reacts with vinegar, releasing carbon dioxide which bubbles up through the solution.
3. Ask the girls whether they could SEE the carbon dioxide? Most likely the girls will answer no. Explain that the bubbles are the carbon dioxide.
4. Repeat the process again and allow the girls to watch the bubbles so that they can see the carbon dioxide. Explain that this is just a fun example to show that this is a real gas—with most of the things we do that produce carbon dioxide you can't see it but it is there. Ask

the girls where else they think they may have 'seen' carbon dioxide (for example, soft drinks, mineral water, Wiz fizz, Pop rocks and must other common products that have a fizzy flavour or feel).

Take action!
Did you know that bicarbonate of soda and vinegar can be used as a natural household cleaner? Give it a go at your Guide meeting place. Why not try this next time you need to clean the oven, bathroom, toilet, etc., instead of shop-bought chemical products but remember to check with an adult first.

Option B Soda and Mentos

Aim: To produce a very small (insignificant) amount of carbon dioxide in a fun and dramatic way so as to illustrate that carbon dioxide is a real physical thing, not an 'out there' concept.

Age: 14-18 and 18-30

Materials: 2 L bottle of diet soda (other fizzy drinks will work but are less spectacular than diet varieties)
Roll of Mentos mints
5 m area outdoors that can be easily cleaned
(Note: this is what is required for one eruption)

Time: 15 minutes

Directions:
1. Go outside to the middle of a lawn or garden.
2. Open the bottle of soda carefully. Position the bottle on the ground so that it will not tip over.
3. Unwrap a whole roll of Mentos. The goal is to drop all of the Mentos into the soda bottle simultaneously. One method is to roll a piece of paper into a tube just big enough to hold the Mentos. Put a card under the roll and on top of the bottle so you can pull out the card and the mints will all drop in at once. Alternatively, use scotch tape to wrap around the Mentos, making a stack.
4. Ensure participants stand well back.
5. Drop all Mentos into the bottle at the same time and then move away from the soda bottle as quickly as you can and watch the reaction.
6. Ask participants whether they could see the carbon dioxide? Most likely they will answer no. Explain that the bubbles are the carbon dioxide.

Note: this activity is not dangerous but can be very messy, hence the warning for all participants to stand well clear of the experiment.

Activity 4 Why is climate change so bad?

Aim: To give a visual example of some of the imbalances that can occur in the environment and society as a consequence of climate change.

Age: 7-9, 9-12 and 12-14

Materials: Set of wooden blocks (Duplo or other largish objects that can be easily moved and counted)
I am cards (template on CD)
Climate change facts and their effects list (see below)

Time: 20 minutes

Set up:
Cut out *I am* cards.

Directions:

1. Get girls to form pairs or groups of three.
2. Distribute the *I am* cards as evenly as possible across the groups. If you have very small numbers girls may work as individuals.
3. Explain that each group represents something in the world that will be changed with climate change. Ask each group to share what they are. Allocate the number of blocks to start with as shown in the table below. Each block represents their relative frequency in the world today.
4. Then read each of the climate change facts to the entire group. With each fact there is at least one accompanying effect. Depending on the knowledge of the girls they may be able to determine the effects themselves; otherwise you will need to read each effect out. The effect is represented by a change in number of blocks between groups. Not every group will be involved in every fact/effect.
5. Once you have read through all the climate change facts, get the girls to look at the groups that have increased their number of blocks and which groups have decreased. They should correspond with the final column in the table below.
   An increased number of blocks indicates that these things are becoming more common or benefiting by climate change. Things that lost blocks are being negatively impacted by climate change. Discuss with the girls how they think this would make the world around them. Would they like to live in this 'end' world?

I am card	Number of blocks at start	Number of blocks at end
Child in Australia	5	0
Child in developing country	5	1
Kangaroo	5	2
Flood	2	5
Orchid	5	0
Cyclone	2	8
Farmer	5	2
Drought	2	6
Illness and disease	2	4
Weed / pest animal	2	11
Coral reef	5	1

Climate change facts and their effects:

Fact 1. As the world's climate changes, sea levels are predicted to rise by about 0.5 m.

Effect 1a. Low lying countries will flood. *Flood* take three blocks from *Child in developing country.*

Effect 1b. Marine creatures such as coral reefs will have to adapt. *Cyclone* take two blocks from *Coral reef.*

Fact 2. Changes in temperature and weather will cause increased spread of many illnesses and diseases.

Effect 2. Many children will die as a result, especially in developing countries. *Diseases* take one block from *Child in Australia. Diseases* take one block from *Child in developing country*.

Fact 3. Animals will need to move from where they currently live as the environment changes.

Effect 3. Some animals can do this better than others especially pest species, such as foxes and rabbits in Australia. *Weed / pest animal* take three blocks from *Kangaroo*.

Fact 4. Plants will also have to change and adapt. Most plants are much slower at doing this so they will be affected more quickly.

Effect 4a. Some plants can do this better than others, especially weeds (can you think of any weeds). *Weed / pest animal* take five blocks from *Orchid.*

Effect 4b. As weeds spread, it will be harder to grow food and graze animals on farms. *Weed / pest animal* take one block from *Farmer.*

Fact 5. It is predicted that droughts, cyclones and other natural disasters will increase.

Effect 5a. These events have devastating effects on agriculture*. Drought* take two blocks from *Farmer.*

Effect 5b. Natural disasters can be dangerous and often have negative effects on people. *Drought* take two blocks from *Child in Australia*. *Cyclone* take two blocks from *Child in Australia*.

Fact 6. As the temperature of the sea changes, it is expected that many coral reef species will become extinct.

Effect 6a. As cyclones are closely linked to the sea temperatures this change will not only result in the loss of coral reef species but an increase in cyclones. *Cyclone* take two blocks from *Coral reef.*

Activity 5 Where does it come from?

Aim: To introduce the concept that the things we own and the things we do are linked to the environment in general.

Age: 5-7 and 7-9

Materials: *Every day* cards (template on CD)
Environmental scenes sheets (template on CD)

Time: 10 – 15 minutes

Set up:
Cut up the *Every day* cards. Provide enough sets of *Every day* cards and *Environmental scenes* sheets for each individual or group.

Directions:
This activity can be run with girls working individually or as a group.

1. Individually—provide each girl with a copy of the *Environmental scenes* sheets and the *Every day* cards. Girls are to place the *Every day* cards on to the natural scene (*Environmental scenes* sheets) that represents its source (e.g. fish from the ocean, wooden chair from the forests/trees). Then go to step three.
2. As small or large group—provide each group with a copy of the *Environmental scenes* sheets and the *Every day* cards. Within each group discuss where each of the *Every day* cards and the things needed for them come from. Place each of the *Every day* cards onto the natural scene (*Environmental scenes* sheets) that represents its source (e.g. fish from the ocean, wooden chair from the forests/trees). Then go to step three.
3. Come together to compare responses (refer to table below for correct answers). Discuss how these everyday items come from the natural environment initially. Discuss how being wasteful with these items can have a significant impact on the environment and how we might be able to reduce this impact by changing our habits.

Mining	Trees	Water	Farming
Diamonds / gem stones	Wooden chair	Ice cream (Water if sea weed in it)	Apple pie
Car tyre (Water if mining underwater)	Books	Fish	Ice cream *
Glass	Paper bag	Pearl	T-shirt
TV	Bed	Water	Milk
Hair brush (Trees if made of wood)	Hair brush *	Car tyre *	Bag
Coins			Honey
Aluminium can			Carrot
			Leather shoe
			Teddy bear / stuffed toys
			Sausages

** girls may have different ideas about some of these items as they may be made from different materials. This activity is about showing them that they all come from the environment not the exact details hence the overall ideas should be the focus.*

Activity 6 Environmental balance

Aim: To illustrate the importance of environmental balance and how small changes can have a big effect.

Age: 5-7, 7-9, 9-12, 12-14, 14-17 and 18-30

Materials: Short (5-8 m) rope with halfway point marked (by smaller rope, piece of wool, etc.)
Large open area
Environmentally friendly action labels (refer to note below)

Time: 10 minutes

Directions:

1. Divide the group into two evenly matched teams (i.e. as for a standard tug of war game).
2. Give the go ahead to pull. The rope and teams shouldn't move far after a few seconds. Stop.
3. Now changes in the environment occur. Remove one person from side A and place them on side B. Give the go ahead to pull. The teams still shouldn't move far. Stop.
4. Now move two people from side A and add to side B. The rope should start to move towards side B now. Repeat this until side A clearly can't hold against side B. This is what happens with our environment every time we misuse resources by producing too much greenhouse gas, not recycling, using too much water, not taking care of the bush, etc. Can participants think of other things that might tip this balance?

Note: you may like to make this more visual for the participants by labelling those on side A with environmentally friendly actions such as recycling plastic, reusing water, walking to school, reusable bags for shopping, turning the heater down, etc. As these participants move to side B turn their label over to say nothing. This will clearly demonstrate that although stopping one action by itself may seem to have little impact, the combined effect of not doing these actions is very significant.

Take action!

Identify simple actions that every member of the group could do to help ensure that environmental balance is maintained.

Activity 7 Environmental facts

Aim: To introduce some basic ecological and environmental facts whilst showing that finding accurate information relating to environmental issues can be hard due to the political and emotive behaviours that often go with these issues.

Age: 9-12, 12-14 and 14-18

Materials: Two copies of *Environmental facts* resource sheets (template on CD)
Safety pins

Time: 15 minutes

Set up:
Cut up one copy of the *Environmental facts* resource sheets so that there are thirty-two cards. Attach a safety pin to each card.

Directions:

1. Pin an *Environmental fact* card to the back of each girl. Ensure that you use pairs of fact cards. If you have an uneven number of girls, still provide all girls with a card and implement step eight at the appropriate time.
2. Each girl is to silently find their partner with the other half of their fact. However they cannot communicate directly to the person to whom they are trying to convey a message. For example, Jessica and Elizabeth want to know what their facts are. So Bethany can be the messenger and tell them each what the other's fact is, whilst Bethany is also trying to find her partner. (Elizabeth could say 'Bethany can you please tell Jessica the she has "Girl Guides are" on her back'. Jessica could say 'Bethany can you please tell Elizabeth that she has "always prepared" as her fact'.) This will most likely end in a lot of confusion and frustration. Allow this to continue for around two to five minutes depending on the size of the group and the girls.
3. Stop the girls and find out how many have found their partners. (Not likely to be many at this stage.)
4. Now allow the girls to repeat the activity but they are able to talk directly to each other. The girls will find that they can find their pairs much more easily and quickly.
5. After another few minutes (or earlier if everyone finds their partners) again stop and see how many pairs have formed. This time it should be more.
6. Get everyone to come back together—with their partner, if found. Look at how many of the girls found their correct partner. Were there any that were incorrect? Match up any unmatched facts at this point. Are the facts surprising?
7. Discuss with the girls which way was easier finding the facts—when they couldn't talk directly to each other or when they could? Why was it hard to find information when they had to ask someone else who was looking for their own information? Were there any cases of mixed messages?
   This often happens with environmental issues when not all of the facts are presented for political, emotive, personal or other reasons. This can lead to us only knowing half the facts or not having all of the information. For this reason we need to think about the information we hear and think about whether we need to find out more before we just believe it.
8. If you had an uneven number of girls, ask the girl who didn't have a pair how she found playing this game. In many cases in the media we are only told half of a story (good or bad) just as she wasn't told she didn't have a partner and only knew half of her fact. Get the girls to work out the other half of this fact. Were they correct? Discuss how the girls could find out more information about an issue that they care about.

Activity 8 Environment mime

Aim: To identify ways to reduce impact on the environment.

Age: 12-14 and 14-18

Time: 10 minutes

Directions:

1. Split girls into groups of two to four.
2. Ask each group to come up with an activity which they know has a negative impact on the environment and an action that will reduce this impact.
3. Each group mimes their negative impact activity only whilst the other groups guess what the activity is. Then the group acts out a way to reduce the impact.
4. Let each group have a go and continue until there are no new ideas.
5. After each group has had a turn or groups cannot think of any other ideas, discuss how simple the corrective actions were and that these are tangible things that they can do themselves at home, at the Guide meeting place and/or school. (**Take action!**)

A few examples to help:

- driving a car—riding a bike
- brushing your teeth with the tap running—turning the tap off whilst brushing
- leaving lights on whilst out—turning lights off
- leaving the lights on in every room—turning lights off in rooms that are not being used
- washing only couple of items in dishwasher / washing machine—filling the load or hand washing
- TV, stereo, i-pod, etc. on at same time—using only one item at a time
- hosing down the footpath—sweeping the footpath
- using the dishwasher—hand washing dishes.

Activity 9 Community problem, community solutions

Aim: To identify the role of the community in making a difference.

Age: 14-18 and 18-30

Materials: Butcher's paper
Pens

Time: 20 minutes

Directions:

While each of us should look at reducing our personal global footprint, these issues also require a whole community approach including business, government, community groups and individuals. We know that this can be difficult as people bring their own personal beliefs and knowledge to the discussion.

1. Divide the participants into four equal groups. Assign each group as either 'Individuals', 'Community groups', 'Business' or 'Government'. Give each group a piece of butcher's paper and get them to brainstorm their viewpoint on environmental impact. You may choose to limit their brainstorming to a more specific issue, i.e. global warming, use of plastic bags.
2. Each group should look at the following: their group's values (what they are representing and what they are trying to achieve), their impact on the environment and ways in which they can cause a change to reduce environmental impact, and solutions to the impact. Encourage them to think as broadly as possible. Give them approximately 10 minutes to discuss this.
3. Bring the groups back together and hold a community debate. Participants will represent their designated group at a community meeting to discuss how the environmental impact of a small

.

town/suburb can be reduced. Ask participants to look at what their values and solutions are and debate what will work for this town/suburb. This debate could be held as a formal debate or a community meeting or a council meeting or ... Participants can play act as mayors, councillors, etc. and you might need to appoint a mediator.

4. At the end of the debate get the participants to look at what solutions everyone agreed upon. Did everyone having a different set of values and approach to the problem make reaching a solution difficult? How much harder would it be to reach these solutions when you have all these groups in multiple communities (to come up with State and national solutions)? Consider the difficulty of developing solutions when many countries are involved, i.e. with the Kyoto Protocol regarding climate change.

Take action!

Make a note of any good ideas that they can implement personally or at a Unit, District or Region level. Forward these ideas to the advocacy webpage on the Girl Guides Australia website.

Activity 10 A fair share

Aim: To look at global carbon production and its distribution across different people.

Age: 12-14, 14-18 and 18-30

Time: 10 minutes

Directions:

1. Divide into groups of ten. Give each participant in each group a country name: UK, Bangladesh, Sweden, Brazil, USA, China, Zambia, Ghana, India and Australia. This game can still run if groups are smaller than ten—just ensure that groups are evenly sized and that all countries are represented throughout the groups, even if not in every group.
2. Within each group, discuss which country has the biggest carbon footprint per person. Which has the smallest? Form a line within each group indicating the country you think has the biggest footprint at the front and the smallest at the back. Now guess how much carbon dioxide the average person in each of the countries releases per year. Hint: it's measured in tonnes and the carbon footprint of the average person in the UK is 9.9 tonnes. The term tonne is seen on the weight of the anvil that is used in cartoons.
3. Look at the answers below. How did they do? Did the answers surprise you? Discuss why participants decided which countries had the bigger footprints compared to those with smaller footprints—what factors influenced their decisions.
4. Discuss whether it's fair that developed countries (like USA, Australia and UK) have the larger footprints, yet people in developing countries (like Bangladesh) are likely to be hit hardest by climate change (i.e. loss of land due to rising sea levels, increase of spread of disease). **That's not fair!** What suggestions do the girls have to make it fairer?
   The Kyoto Protocol (world agreement on climate change) suggests that rich countries compensate poor countries for the damage caused by climate change. They could give poor countries money to help them develop with less reliance on unsustainable environmental practices. Do you think this would make things fairer? Better? Report suggestions back to the advocacy webpage on the Girl Guides Australia website (**Take action!**).

Carbon (CO_2) footprint of average person per country per year (in size order):

USA = 20.5 tonnes	Brazil = 2 tonnes
Australia = 17.2 tonnes	India = 1.1 tonnes
UK = 9.9 tonnes	Ghana = 0.3 tonne
Sweden = 7.1 tonnes	Bangladesh = 0.3 tonne
China = 4 tonnes	Zambia = 0.2 tonne

Activity 11 All the world's water

Aim: To show how little of the water in the world is available for human use and how precious it is.

Age: 5-7, 7-9, 9-12, 12-14, 14-18 and 18-30

Materials: 1 L jug
Water
Salt
50 or 100 ml graduated jug/container (with 10 ml graduations)
Medicine cup (with 6 ml mark)
Ice cube tray
Eye dropper
Globe or map of world (optional)

Time: 10 minutes

Set up:
Read through the activity and become familiar with the process and the numbers. Have all the equipment together and a copy of the sheet with all the facts.

Background:
Of the world's water, 97% is salt water therefore only 3% is freshwater. Of the 3% freshwater, 80% is frozen in glaciers and ice caps. This leaves 0.6% of the total world's water that is fresh but not frozen. Of this 0.6% of the total world's water, 75% is underground and not easily accessible to humans. Of the freshwater that is not underground and inaccessible, only 0.2% is clean drinkable water. This equates to just 0.00003% of the world's water. That's not much to share between the world's population.

Directions:
1. Show the Unit/group a litre of water (in the litre jug) and tell them it represents all the water in the world. Ask where we find water on earth. Ask where most of the water on earth is located. They will have a lot of ideas. The majority of earth's water is in the oceans. Refer to a globe or map if available.
2. Measure 30 ml of the water into the graduated jug. This represents the earth's freshwater, about three percent of the total. Note: in this activity freshwater refers to water that is not salt water. It is not necessarily suitable for drinking. It is important to make this distinction.
3. Put salt into the remaining 970 ml (in the litre jug) to simulate water found in oceans and unfit for human consumption.
4. Return to the 'freshwater' jug. Ask where most of this 'freshwater' might be. Again encourage open discussion. Almost 80 percent of the earth's freshwater is frozen in ice caps and glaciers.
5. Measure 6 ml of the 'freshwater' in a medicine cup and place the remaining 'freshwater' (24 ml) in an ice cube tray.
6. The water in the medicine cup (around 0.6 percent of the total) represents non-frozen freshwater. Ask participants where this freshwater might be found—75% of this freshwater is underground. This equates to 4.5 ml of the water in the medicine cup. Many people use water from underground to live on; also to water crops and for animals to drink but not all of the groundwater is accessible.
7. Using the eyedropper, remove a single drop of water (0.003 ml) from the medicine cup and drop it into someone's hand. This represents clean, fresh surface water (from lakes and streams), which is not polluted or otherwise unavailable for use. This is about 0.00003 percent of the total! Therefore we must ensure that this precious drop is managed properly.

Activity 12 Polluted water?

Aim: To show that while water might be clear it is not clean.

Age: 7-9, 9-12 and 14-18

Materials: Five glasses
Teaspoons
Water
Salt
Vinegar
Sugar
Citric acid
Nice tasting snack for the end of the activity

Time: 10 – 15 minutes

Set up:
Number each glass. Fill each glass with the same amount of water, half to three-quarters full depending on the number of participants in this activity. In separate glasses, place one of each of the salt (approximately 2 teaspoons), vinegar (1 teaspoon), sugar (2-3 teaspoons) and citric acid (2 teaspoons). You may need to use warm water to mix some of these, i.e. salt. In these cases ensure that the water has cooled before doing the activity. Once mixed all glasses should look like clean water. Test ensuring you can taste the 'pollutants' but they are not too strong—add more of the ingredient or more water as required.

Directions:
1. Give girls a teaspoon each and get them to take a small teaspoon of water from each glass to taste.
2. At the end of each tasting they need to write down if they think the water is 'clean' or 'polluted'. They may be able to guess what is in the polluted water.
3. At the end give the girls something nice to eat so they are not distracted by bad tastes while you discuss this activity.
4. Identify which glass/es were 'polluted' and, if possible, with what. How did the girls go in recognising the 'polluted' water? Discuss the fact that all the water looked clean and therefore drinkable. This happens in the environment when hydrocarbons (organic compounds made from hydrogen and carbon that are most often derived from crude oil) get into the waterways. The water appears clean but is actually very unhealthy to drink and causes problems for fish and other aquatic animals as well as humans.

Activity 13 Water use

Aim: To look at how much water is being used by common everyday activities and some not so common activities.

Age: 5-7 and 7-9

Materials: *Water use* cards (template on CD)
Bucket cards (template on CD)
Blu tak

Time: 15 minutes

Set up:
Cut out *Water use* and *Bucket* cards. Arrange *Bucket* cards in order of lowest to highest. The bucket scale can be arranged on the floor or on a wall.

Directions:

1. Give each girl or pair of girls a *Water use* card (with description).
2. Ask them to place the picture on the bucket scale, i.e. at the number of buckets of water that activity will use. Note: buckets are approximately 8 litres in volume.
3. Once the *Water use* cards are all placed, discuss the location of each item. Is it in the correct place or are there other suggestions of where it should be located? After discussion, move each picture card to its correct location if required (as per table below).
4. Once all items are in the correct place on the bucket scale, ask if there are any surprises. Can the girls see things that they can do to reduce some of the water they use? These might include using a half full bath rather than a full bath, shorter showers, not buying bottled water (because it takes so much water to make the bottle). Talk about how they could introduce some of these actions at home, school or at Guide meeting places. **(Take action!)**

Item	# buckets
Brushing teeth with tap off	0.2
Brushing teeth with tap on	1.5
Making 1 L plastic bottle	2
Washing dishes by hand	2
Half flush of toilet	2
Five minute shower with water saving shower head	2.5
Washing car with bucket	3
Dishwasher cycle	5
Full flush of toilet	5
Five minute shower with normal shower head	6
Leaky tap for a day	6
Washing machine cycle	8
Full bath	10
Making 1 kg paper	38
Washing car with hose	80

Activity 14 Water Conservation Pledge

Aim: To develop a sense of ownership of the problem, but also to empower girls to recognise that to make a difference requires more than one night of activities at Guides.

Age: 5-7, 7-9 and 9-12

Materials: Enough copies of the *Water Conservation Pledge* for every girl or piece of paper for girls to write their own pledge (template on CD)
Pens, textas, etc.
Plastic pockets or laminator pockets

Time: 20 minutes

Directions:

1. Discuss the *Water Conservation Pledge* as provided. Is it realistic and achievable? How will the girls keep this pledge? What does it mean to tell other people?
2. If girls are going to use the prepared pledge get them to write and/or draw things on the pledge that they will commit to doing (i.e. taking a shorter shower). They can then decorate the pledge sheet as desired.

3. If the girls are going to write their own pledge get them to draft a pledge first then write their final pledge on a clean sheet of paper. The girls write/draw things on the pledge that they will commit to doing (i.e. not buying bottled water) and decorate their pledges.
4. Place each pledge in a plastic pocket or laminate for safe keeping. You may like to keep the pledges at your Guide meeting place and create a pledge wall—a reminder of the Guides commitment to change—or the girls can take them home to remind them of their commitment to making a difference.

Activity 15 Water on, water off

Aim: To explore water saving devices in an interesting and fun way.

Age: 5-7 and 7-9

Materials: Trigger nozzle for a hose

Time: 10 minutes

Directions:

1. Show the Unit the trigger nozzle for a hose. Ask the group what they know about them. Explain how the nozzle works and how these devices conserve water.
2. Designate a start and a finish line about 15 m apart.
3. Choose one girl to be the on-off nozzle. The 'nozzle' stands at midpoint on the finish line.
4. The other players arrange themselves along the starting line. They will play the role of the water. The 'nozzle' turns her back to the other players and begins calling 'Water on, water on, water on...'
6. The 'water' (other players) moves quickly but carefully toward the finish line.
7. Periodically, at random, the 'nozzle' calls 'Water off!' and whirls around.
8. When the other players hear 'water off!' they must stop and be completely motionless. Any player that the 'nozzle' catches moving must return to the starting line.
9. The first player to cross the finish line becomes the 'nozzle' for the next round.

Activity 16 Water saving songs

(source: http://fsc.tamu.edu/housing/4h/songs.pdf)

Age: 5-7

Time: 10 minutes

Water, water, wise
(to the tune of *Old MacDonald had a farm*)
In our house we have a sink,
Water, water, wise.
But we don't let the water run and run,
Water, water, wise.

Because ... (*draw out and pause*)
It takes a litre here and a litre there,
Here a litre, there a litre,
Drip, drop! Litre, litre!
We don't let that water run,
Water, water, wise.

In our house we have a tub,
Water, water, wise.
But we don't fill that tub real full,
Water, water, wise.

Because ... (*draw out and pause*)
It takes a litre here and a litre there,
Here a litre, there a litre,
Splish, splash! Litre, litre!
We don't fill that tub real full,
Water, water, wise.

In our house we have a shower,
Water, water, wise.
But we take our showers nice and quick,
Water, water, wise.

Because ... (*draw out and pause*)
It takes a litre here and a litre there,
Here a litre, there a litre,
Wish, wash! Litre, litre!
We take our showers nice and quick,
Water, water, wise.

In our house we have a toilet,
Water, water, wise.
But bugs and trash we don't flush down it,
Water, water, wise.

Because ... (*draw out and pause*)
It takes a litre here and a litre there,
Here a litre, there a litre,
Flush, flush! Litre, litre!
Bugs and trash we don't flush down it,
Water, water, wise.

Litres, litres, litres
(to the tune of *Row, row, row your boat*)
Drops, drops, drippety drops,
Drizzling down the drain,
It's my job to turn it off,
I want to save that rain!

Cups, cups, cups of water,
Running down the drain,
It's my job to turn it off,
I want to save that rain!

Litres, litres, litres of water
Rushing down the drain,
It's our job to turn it off,
We all have much to gain.

Activity 17 Virtual water

Aim: To identify how water is used to indirectly produce various items, i.e. grow the food we eat, make the paper we use, etc.

Age: 12-14, 14-18 and 18-30

Materials: *Virtual water* cards—one set for each Patrol/group (template on CD)

Time: 20 minutes

Set up:
Cut out the *Virtual water product* and *Water volume* cards.

Directions:
This activity is best done in Patrols or small groups but can be done as a large group.

1. Explain the concept of 'virtual water'. The statements below will help you do this.
   Virtual water is the water that goes into growing/making things but isn't actually used as water, i.e. the water a cow has to drink to grow or that a tree needs to produce fruit.
   Virtual water refers to the water used in the production of an item or service. For instance, it takes 1,300 cubic meters of water on average to produce one metric ton of wheat. The water is said to be virtual because once the wheat is grown, the real water used to grow it is no longer actually contained in the wheat. The concept of virtual water helps us realise how much water is needed to produce different goods and services.
   Virtual water content of a product is the volume of freshwater used to produce the product, measured at the place where the product was actually produced. It refers to the sum of the water used in the various steps of the production chain.
   Professor John Anthony Allan from King's College, London, and the School of Oriental and African Studies was the creator of the virtual water concept. This measures how water is embedded in the production and trade of food and consumer products. For his contributions he was awarded the 2008 Stockholm Water Prize.
   Virtual water has major impacts on global trade policy and research, especially in water-scarce regions, and has redefined discussion in water policy and management. By explaining how and why nations such as USA, Argentina and Brazil 'export' billions of litres of water each year, while others like Japan, Egypt and Italy 'import' billions, the virtual water concept has opened the door to more productive water use.
2. Provide each Patrol or group a set of the *Virtual water product* cards only. Each Patrol/group is to place the products in order of how much virtual water they think would be used in the production process for each item.
3. Once they have worked out an order, give them the *Virtual water volume* cards and ask them to now pair the volumes with the products. They may decide to change the order of products while doing this.
4. With all Patrols/groups together, compare the order each determined and their reasoning behind their decisions.
5. Give the participants the answers (as per table below). Discuss the answers. Have they ever thought about the amount of water it takes to make their favourite pair of jeans? Or what they have for breakfast? Or to have their favourite meal?

Product	Water use	Product	Water use
1 L plastic bottle	5 L	1 hamburger	2,400 L
4 L orange juice	100 L	1 kg chocolate	2,500 L
1 cup coffee	140 L	1 kg rice	3,000 L
1 kg wool	150 L	1 kg eggs	3,300 L
1 kg paper	300 L	1 medium cotton t-shirt	4,100 L
1 kg maize/corn	900 L	1 kg cheese	5,000 L
1 L milk	1,000 L	1 bed sheet	9,750 L
1 kg tropical fruit	1,000 L	1 pair of jeans	10,850 L
1 kg wheat	1,350 L	1 kg beef	16,000 L
200 g black tea (leaves)	2,000 L	1 average-sized car	400,000 L

Activity 18 Getting the facts

Aim: To inform participants about the effects of water shortages and predicted situations. A major part of being able to advocate on issues is ensuring that you have all the facts about an issue, from all sides of an issue.

Age: 14-18 and 18-30

Materials: Jenga set (otherwise make a tower of rectangular blocks—not connecting blocks like Lego—three blocks wide alternating the direction of the blocks)
Water facts cards (template on CD)

Time: 20 minutes

Set up:
Cut up the *Water facts* cards

Directions:
1. Set up the Jenga set in the centre of the group.
2. Place the *Water facts* cards upside-down in the centre of the group.
3. Each person takes it in turn to pick up a card and read the fact out to the group.
4. As a group, decide the 'influence' of this fact on the global situation, e.g. is it neutral, mildly negative, strongly negative or extremely negative. When considering the 'influence' of the fact, consider this from all angles: environmental effect, social impact and follow-on impact. When the group has made a decision on the 'influence' the person who picked up the card removes the corresponding number of blocks based on the 'influence'. If the 'influence' is:
   - positive or neutral—remove no blocks
   - mildly negative—remove one block
   - strongly negative—remove two blocks
   - extremely negative—remove three blocks

   Do not place any of the blocks back on top of the tower. A couple of examples have been provided below.
5. Repeat this process until all of the cards have been used or the tower collapses. This is what is happening in our world. The impacts of climate change and ecological shift have resulted in major problems in the earth's water resources. These have a range of flow-on effects beyond the environment into social and economic areas.

For further investigation of water facts refer participants to:
http://youth.afairerworld.org/global/water.html

Examples:
Fact. Many girls can't go to school because they need to spend large parts of their day collecting water.

Impact. This has an extremely negative impact as these girls are not going to school. As they are not getting an education they do not learn valuable skills that would enable them to move forward. Then they have daughters and the cycle continues.

Fact. 'Millennium Development Goal 7: Reduce by half the proportion of people without sustainable access to safe drinking water by 2015' United Nations.

Impact. This is a neutral influence; action which, if achieved, is obviously extremely positive.

Fact. Our global water use is increasing.

Impact. This has a mildly negative impact. While it is bad we have the ability to change this. Individuals can act to invoke great change.

Activity 19 Water walk

Aim: To look at how water is being used and which actions are considered to be responsible uses of water.

Age: 9-12 and 12-14

Materials: Paper
Pens

Time: 20 minutes

Directions:
You can do this as a Unit or as Patrols if sufficient adult supervision is available.

1. Give each person a piece of paper and ask them to divide it in half with the title 'Responsible water use' on one half and 'Irresponsible water use' on the other half.
2. As a Unit go for a walk around the area surrounding your local meeting hall (and even the hall if you have time).
3. As the girls walk, get them to write down actions they see that fall into each category and results of actions that fall into each category (i.e. green lawn or sports field indicates that it has been watered; local pool which is full of water, etc.), and to take notice of water / energy saving devices such as water tanks and the use of trigger nozzles.
4. When you arrive back at the hall spend a few minutes discussing what the girls have written and if they can suggest ways to stop the inappropriate behaviours they have seen.

Take action!
Encourage girls to take action on the inappropriate behaviours they have seen on their walk. Could they develop a local community campaign to educate people on inappropriate use of water? Could they write a letter to the local school, sports facility, MP, mayor to identify the issue and indicate that they want change?

Activity 20 Now act

Aim: To identify simple actions to reduce our water use.

Age: 18-30

Materials: Soft ball

Time: 5 minutes

Directions:
This activity should be fun and quick.

1. Moving quickly throw the ball around the room.
2. As each person catches the ball they identify the action they will take this week to reduce their water consumption (actual and virtual).

Activity 21 *The lorax*

Aim: To introduce ecological sustainability.

Age: 5-7 and 7-9

Materials: Copy of *The lorax* by Dr Seuss (or the cartoon adaption of the book available at http://treeday.planetark.org/kids/lorax.cfm or http://www.videosift.com/video/The-Lorax-Dr-Seuss-2449)

Time: 30 minutes

Directions:
The lorax is written in typical Dr Suess fashion but the concept portrayed is the most important message that we can learn—the earth cannot support us indefinitely.

1. Read through the book *The lorax* or show the video.
2. Discuss how this story relates to our world and the things we do. The key points from this story are that as humans we use things from the environment (think back to 'Where does it come from?', Activity 5). Sometimes people use natural resources without consideration of the impacts of this use. But if we are careful with how we use these resources then we can continue to use them sustainably.

Activity 22 Reduce, reuse, recycle

Aim: To better understand the process 'reduce, reuse and recycle' and why we cannot just recycle.

Age: 5-7

Materials: Small cardboard box (e.g. small gift box; 10 cm)
Medium cardboard box (e.g. fruit box; 50 cm)
Large cardboard box (e.g. 100 cm)
Pens/textas/pencils

Time: 20 minutes

Set up:
Label the small box RECYCLE, the medium box REUSE and the large box REDUCE.

Directions:
'Reduce, reuse and recycle' is a process. The process is set out in this order for a reason. To have the desired effect, we must first reduce how much we use then reuse what we can and recycle what cannot be reduced or reused. This is effectively a pyramid. If done in this order then we have a stable process.

1. We create a lack of stability by focussing on recycling only. This can be seen by stacking the boxes with the small Recycle box on the bottom, the Reuse box on top of the Recycle box and then the Reduce box on the very top.
2. Get the girls to look at how stable this inverted pyramid is—because it is upside down it isn't very stable. This is the case if we work at recycling stuff first and then work on reducing and reusing—it will not work. Recycling still requires large amounts of energy and additional resources which is not as effective as reducing how much we use originally and reusing what we already have.
3. Divide the girls into three groups and give each group a box. Get each girl to write on their box all the things that they can do to contribute to their box, i.e. what they can reduce their use of or things they can reuse or recycle.
4. Now restack the boxes with the Reduce box at the bottom, the Reuse box in the middle and the Recycle box on top. Discuss how much more stable this is and how much more effective the process will be.

Variation:
Have a range of items that may be reduced, reused or recycled. Get the girls to fit them in each of the boxes getting as much in the Reduce box as possible, less in the Reuse and the least in the Recycle box.

Take action!
Everyone identifies one change that they can make to improve the implementation of the 'reduce, reuse and recycle' process, i.e. instead of buying a bottle of water and recycling the bottle you take your own water bottle. Put this into practice.

Activity 23 Triple bin challenge

Aim: To introduce the concept of recycling different materials and separating different material before recycling.

Age: 5-7 and 7-9

Time: 15 minutes

Background:
A big part of being able to recycle products is first separating recyclable products. A common way is to use the 'triple bin' system. The 'triple bin' system refers to the three colours often seen for recycling (for example, red for rubbish, yellow for plastic and aluminium containers, blue for paper). Emphasising the colour system is a fun way for the girls to learn and adopt recycling behaviours. There is no strict rule as to which colours go with which action or in fact limiting it to three bins. Clean Up Australia encourages groups to also recycle organics within their school through compost or worm farms.

There are two variations to this activity. Either is suitable for both age ranges.

Variation A

Materials: Pictures of three bins each labelled as indicated in background section—use four bins if you want to include compost (template on CD)
Pens/pencils/texas
Magazines
Glue

Directions:
1. Place the pictures of the bins on a wall or floor in the middle of the group.
2. Ask each girl to look in the magazines to find an item which can be placed in any of the bins.
3. Paste the picture onto the relevant bin.

Variation B

Materials: Four boxes (painted in triple bin colours or with triple bin signs, along with compost)
Clean rubbish (collection of mainly recyclable rubbish items that can be separated out into recycling types)

Directions:
- Place the rubbish in the centre of the group.
- Girls work through the pile and put each item into the correct 'bin'.

Alternatively you could run this as a relay in Patrols.
1. Split the rubbish into even piles for each Patrol and place them halfway along the hall with the 'bins' at the other end.
2. Each girl, starting from one end of the hall, runs to the pile, picks up a piece of rubbish and places it into the correct bin before running back and tagging the next person.

Take action!
Carry out the Triple bin challenge (see end of resource pack) to implement this process at your Guide meeting place.

Activity 24 Chatterbox

Aim: To look at, in a fun way, where different items come from.

Age: 7-9, 9-12 and 12-14

Materials: *Making a chatterbox* sheet (1 per girl) and a copy of the instructions (template on CD)

Time: 15 minutes

Directions:
1. Make up the 'chatterbox' as per instructions and decorate as appropriate.
2. Encourage the girls to play with the 'chatterboxes' so as to read and discuss the information contained in them.

Activity 25 Following food

Aim: To provide an insight into how food gets into a kitchen by looking at the processes by which food is produced and reaches our kitchens, and how carbon dioxide, waste and jobs are created in the process.

Age: 9-12 and 12-14

Materials: *Following food* resource sheets (template on CD)

Time: 30 minutes

Set up:
Cut out *Following food* tokens and set up the *Following food* table (pages 1 and 2 to be stuck together to make an A3 table).

Directions:
1. Look at the *Following food* table. Identify each stage of the process (as per the column headings in the table) in the production of food—in this case, bananas.
2. Then arrange the *Following food* tokens onto the table (or tick appropriate options) to show the use of energy, production of carbon dioxide, creation of jobs and production of waste during the process of food production.
3. Discuss how the use of energy, production of carbon dioxide, creation of jobs and production of waste would change if the food was produced locally. What are the benefits of eating produce that is produced locally (within 10 km radius, within 100 km radius)?

Activity 26 How long is it in the environment?

Aim: To identify how long different products remain in the environment once discarded.

Age: 12-14

Materials:

Banana	Leather boot
Tin can	Paper bag
Styrofoam cup	Plastic jug
Rubber-soled shoe	Cotton t-shirt
Glass bottle	Wool sock
Plastic 6-pack rings	Aluminium soft drink can

Time: 15 minutes

Directions:
1. Place all of the items on display.
2. Ask the girls to place the items in a line based on how long they think it will take for the item to degrade (leave the environment); least time to longest time.
3. Then get them to make an estimate of how long they think this will be (at least the shortest and longest times).
4. Refer to the answers below which are scientists' best predictions for the breakdown of these items. How does this make the girls feel? For example, a soft drink can that they use (and don't recycle today) will be around for their grandchildren's grandchildren to see. And if Lord BP had a tin can at the Crystal Palace Rally it could still be here today. What actions can they take individually and/or as a Unit to ensure that they reduce their impact?

How long is it in the environment? list:

Banana	3-4 weeks	Tin can	80-100 years
Paper bag	1 month	Aluminium soft drink can	300 years
Cotton t-shirt	5 months	Plastic 6-pack rings	450 years
Wool sock	1 year	Plastic jug	1 million years
Leather boot	40-50 years	Styrofoam cup/glass bottle	unknown/forever
Rubber-soled shoe	50-80 years		

Activity 27 Packaging challenge

Aim: To investigate the packaging of household products, the recyclability of this packaging and any excess waste associated with packaging.

Age: 14-18 and 18-30

Materials: Paper
Pens/pencils
Local supermarket

Time: 1 hour

Set up:
Organise to hold your meeting at a local supermarket. It might be wise to contact the Store Manager beforehand to let her/him know what you are doing.

Directions:
1. Split the participants into groups and get each group to look at a different area or product type in the supermarket (e.g. cleaning products, frozen foods, snack foods).
2. Each group is to assess the packaging of the products. They should take note of how much packaging is currently being used; how much packaging is really necessary; how much is for show/marketing or surplus; how much is recyclable; etc. Refer to the list below for some more questions/issues to address when investigating this issue.
3. Get each group to share their findings. Were any product areas more environmentally friendly/sustainable than others?

Issues to investigate:
- Are there items in which non-recyclable / non-environmentally friendly packaging could be replaced by environmentally-sound options?
- Are refill packs recyclable? Is it environmentally-friendly to buy refill packs or are they just a gimmick? Do they really help the environment and/or save money?
- Some countries have a big emphasis on returnable/reusable packaging. How could this be done in Australia? Which items will this work with?

Take action!
Try these options:
- Use the information you have gathered and develop a packaging poster, flyers and other information which you can display around your meeting place and give out to Guides and Guiding families.
- Use the information you found to make some recommendations on how packaging can be improved. Write and tell major brands about how you think they could become greener with their packaging.
- Use the information you have found and write an article for a local paper about how to shop wisely in relation to packaging.
- Come up with a creative way to share what you have found with others, so that more people know how to make wise packaging choices.

Activity 28 Whose greenhouse gas is it?

Aim: To identify how different lifestyles contribute to global warming and what the impact of these different activities are.

Age: 7-9 and 9-12

Materials: Large open space
Whose greenhouse gas is it? scenarios (template on CD)

Time: 10 minutes

Directions:

1. Give each girl a scenario which outlines a character including several elements of their character's lifestyle. If you have more girls than cards, the remaining girls can play based on their own lifestyle or you can use multiple copies of the scenarios.
2. Everyone lines up at one end of the area. Read through the list of lifestyle activities as below. Each girl takes the corresponding number of steps forward depending on the impact of their lifestyle on the environment.
3. At the end of this activity you will have girls at a full range of locations.
4. Get the girls to sit down in their current location and then get each girl to read out her character's circumstances. Identify how the lifestyles link to their environmental impact (i.e. the further away from the starting point the greater the impact on the environment).
5. While still sitting in their final locations discuss the following:
   People living in developing countries are more likely to be the people most affected by climate change, yet their lifestyles are least likely to contribute to climate change. Why? Is this fair? How does this make you feel? What options are there to make this situation fairer? Attempt to open up discussion about this as an unequal global problem. There is no one solution but it requires us all to think and work together. Ensure that at the end of the discussion girls realise that their action can help and that they can be involved in the change to a fairer world.

Lifestyle activities and their impacts:

Number of TVs
- no TVs—take one step back
- have x TVs—take one step forward for each TV

Number of cars
- no cars—take no steps
- own x cars—take two steps forward for every car

Takeaway food
- never eat takeaway food—take no steps
- have takeaway food once a week—take one step forward
- have takeaway food twice a week—take two steps forward
- have takeaway food three times a week—take five steps forward
- have takeaway food four plus times a week—take seven steps forward

Computers
- no computers—take no steps
- have x computers—take two steps forward for each computer

Heating
- don't have a heater / air conditioner—take no steps
- never have the heater / air conditioner on—take no steps

- rarely have the heater / air conditioner on—take one step forward
- sometimes have the heater / air conditioner on—take two steps forward
- always have the heater / air conditioner on—take four steps forward

Walking vs. cars
- walk to school—take no steps
- get driven to school—take two steps forward

Aeroplanes
- never flown—take no steps
- flown x times this year—take four steps for each flight

Consumed meat
- have meat once a week (or less)—take no steps
- have meat for some meals—take two steps forwards
- have meat for most meals—take five steps forwards
- have meat for every meal—take seven steps forwards

Recycling
- recycle everything—take one step backwards
- recycle some things but not everything—take one step forward
- don't recycle much—take two steps forward

Public transport
- walk everywhere—take no steps
- often catch a bus / public transport—take one step forward
- rarely catch a bus / public transport—take five steps forward
- never catch a bus / public transport—take seven steps forward

Energy-efficient lights
- don't have lights—take no steps
- use energy-efficient light bulbs in all lights—take one step forward
- use energy-efficient light bulbs in some lights—take two steps forward
- don't use energy-efficient light bulbs—take three steps forward

Activity 29 Guides carbon audit

Option A

Aim: To calculate the ecological footprint of your regular Guide meetings and to identify actions that can reduce your footprint.

Age: 5-7 and 7-9

Materials: *Guide carbon audit option A* sheet—copy per individual or group (template on CD)

Time: 15 - 20 minutes

Directions:
This is can be done in Patrols / small groups or as a Unit so that a Leader can assist in working through the activities.

1. Work through the *Guide carbon audit option A* sheet for an average Guide meeting.
2. Add the subtotal together to determine the grand total and then divide this number by 350. The final number indicates the number of Earths the global population would require to sustain the entire population if everyone did the same thing—and this is just for Guide meetings!

3. Use the last column on the chart to identify actions that could be modified/changed to reduce the ecological footprint of your Guide meetings. How many Earths could you save with these changes?

Take action!
Carry out *Green hall action challenge* (see end of resource) to implement the changes you identified to reduce the ecological footprint of your Guide meetings.

Option B

Aim: To calculate the ecological footprint of your regular Guide meetings, special meetings / Region events and camps, and to identify actions that can reduce your footprint.

Age: 9-12, 12-14, 14-18 and 18-30

Materials: *Guide carbon audit option A* sheet—copy per group (template on CD)
Guide carbon audit option B sheet—copy per individual (template on CD)

Time: 30 minutes

Directions:
1. Split the participants into two or three groups and allocate each group a type of Guide activity: regular Guide meeting, special meeting or Region event, camp.
2. Each group works through the *Guide carbon audit option A* sheet.
3. Then ask the participants to compare the results of the different activities. Identify actions that will help to reduce the ecological footprint of these activities.

   Note: obviously for the special events and camps this isn't how we live our everyday lives so the number of 'Earths' is not entirely accurate. But it does show us that in all aspects of our life there are things we can do to reduce the impact we are having on our world.

4. Provide a copy of the *Guide carbon audit option B* sheet to every individual to complete. Once completed discuss actions that will help to reduce each individual's ecological footprint.

Take action!
Carry out *Green hall action challenge* (see end of resource) to implement the changes you identified to reduce the ecological footprint of your Guide meetings and other Guide activities.

Activity 30 Reducing carbon facts

Aim: To show how simple actions can reduce the amount of carbon individuals produce.

Age: 5-7 and 7-9

Materials: *Reducing carbon facts* cards (template on CD)

Time: 15 minutes

Set up:
This activity needs to be set up while the girls are not actively watching. Place *Reducing carbon facts* cards in an appropriate location for the facts (e.g. the fact about lights on a light switch, the fact about heating on a heater or a blanket).

Directions:
This is a quick treasure hunt game in which girls will look at areas of the Guide meeting place where actions can reduce carbon outputs then as a group assess what these actions are. This activity is intended to be short and an introduction to what actions can be taken—it is not important to get too deep into the reasoning or science; only that their actions can make a difference.

1. Once the cards are placed around the hall send the girls out to find the cards. Each girl must remember where they found their card. In very large Units you may need to send pairs to find the cards or develop some other simple action cards that could be used.
2. Once they have each found a card, come back as a group and read what their card says and report back as to where the card was found.
3. Discuss which actions could be implemented immediately (if not already) and which ones Unit members will make an effort to action in the future.

Activity 31 Reducing my carbon output

Aim: To identify simple actions that can be taken to reduce personal carbon output.

Age: 5-7

Materials: Music
Small ball, bean bag, soft toy or other appropriate item

Time: 10 minutes

Directions:
1. Girls stand in a circle.
2. Play music while the ball is thrown randomly around the circle from girl to girl.
3. Stop the music at a random point in time (as with pass the parcel or musical chairs).
4. The girl who is holding the ball must give one example of something simple THEY personally can do to reduce their carbon footprint. These actions should be achievable by the girls without adult assistance or help. Some examples of these: always turn off the lights when I leave my bedroom, only boil enough water for the drink I want / am making, turn my electric blanket down a level, turn things (radios, computers, TVs, etc.) in my room off at the power point.

Take action!
Someone in the Unit makes a list of all the suggestions made and then provides a copy of this list for each girl to take home and action. And/or set up a Patrol challenge as to which Patrol achieves the most actions each week or challenge another Unit to do the same.

Activity 32 Energy and poverty

Aim: To introduce the interconnectedness between lack of access to energy and poverty, emphasising how decisions made by developed countries have an impact on life in developing countries.

Age: 12-14, 14-18 and 18-30

Materials: Butcher's paper
Pens

Time: 15 minutes

Background:
There is a direct relationship between not having access to electricity and living in poverty. Here are some examples:
- Teachers are reluctant to go and work in areas without electricity so children don't get educated.
- Many children living in areas without energy, especially girls, do not attend school because they have to work for the family carrying wood and water.
- Many women spend much time collecting firewood and water when they could be carrying out income-earning activities which enable them to feed their families.

- There are threats to health. For example, water can't easily be boiled to make it safe to drink and lung disease can be caused by breathing in smoke from traditional fuels such as wood and dung.
- Lack of electricity in health clinics can prevent people being properly treated; doctors and nurses need electricity for lighting, refrigeration and sterilisation in order to deliver effective health services.
- Radios and television, powered by electricity, can spread important public health information to combat diseases.

Directions:

1. As a group brain storm all the ways in which lack of electricity leads to poverty. Can you think of any other examples?
2. Can you see a cycle in this, things that stop people from moving forward? Draw up a few of these cycles relating to the lack of access to electricity.
3. What can be done to break these cycles?

Activity 33 Pledge planet

Aim: To make a commitment to taking action to reduce personal impact on the world.

Age: 5-7, 7-9, 9-12, 12-14, 14-17 and 18-30

Materials: Sticky notes (e.g. Post-its)
Textas/pens/pencils
Map of the world (A3 minimum or a globe)

Time: 15 minutes

Directions:

1. Begin by putting participants into small groups. Mix the groups up so that they are different from the normal groups that are commonly used in your meetings, i.e. Patrols or age groups.
2. Ask each group to discuss what practical and realistic actions they can do to reduce their personal carbon footprint and their personal global footprint.
3. Ask each group to look at what simple action can be adopted by the Guide Unit/group to reduce the Unit's/group's global footprint. Come back together and as a Unit/group decide on an action/actions to be taken by the Unit/group to reduce their impact.
4. Write this onto one of the sticky notes and place it in the centre of your globe/world map.
5. Now ask the participants to each go off to their own space and look at the ideas they discussed as a group and write down, on a sticky note, an action that they will pledge to keep to reduce their impact. It is important that Leaders work with girls in the original discussion to ensure that these activities are achievable for the girls. This activity is about following through on their commitment to make a change individually rather than single-handedly changing the world.
6. Get participants to read out their action to the rest of the group as they stick it on the world map.
7. Once all pledges are stuck to the map, display this in your Unit/group space.

Variation for girls and young women 12+:
When identifying practical and realistic actions to reduce carbon and global footprints, break actions into environmental and social actions and include an action from each category in the Unit/group and personal pledges.

Take action!
In Patrol time or for a few minutes in future meetings, follow-up how participants are going with their commitments and assess how the Unit/group is going at keeping its pledge.

Triple bin action challenge

Background:

A big part of being able to recycle products is first separating recyclable products. A common way is to use the 'triple bin' system. The 'triple bin' system refers to the three colours often seen for recycling (for example: red for rubbish, yellow for plastic and aluminium containers, blue for paper). Emphasising the colour system is a fun way for participants to learn and adopt recycling behaviours. There is no strict rule as to which colours go with which action or in fact limiting it to three bins. Clean Up Australia encourages groups to also recycle organics within their school through compost or worm farms.

Challenge: To implement the 'triple bin' system at your Guide meeting place.

Activity:

1. Introduce the *Triple bin challenge* (Activity 23) if not already completed.
2. Participants look at what rubbish there is at their meeting place and identify which bin each piece of rubbish would go into.
3. Participants then develop a recycling system for their meeting place based on the triple bin system. They are not limited to three bins but can have as many bins as they like. These bins are normally coloured red for rubbish, yellow for plastic and aluminium containers, blue for paper. Any colours or patterns can be used based on bold colours to distinguish rubbish from recyclables.
4. Over the following weeks implement this new system in your meeting place. This may include painting bins, making posters to explain to other hall users the system, etc.

Speak out, do, educate:

- Tell the media about your new recycling system. Send them photos of participants setting the system up and using it.
- Encourage participants to write to your local council telling them about your triple bin system and encouraging the council to implement a triple bin concept in your local area.

Paint for the planet

Background:

United Nations Environment Programme (UNEP) held an international painting competition in which children were encouraged to paint pictures expressing their view on the future of the world, both with the current situation and what they would like it to be. An exhibition was set up featuring a selection of paintings from the competition showcasing children's fears and hopes for the planet. The paintings were a powerful plea from children for leadership on climate change before it is too late.

http://www.unep.org/paint4planet/

Challenge: To hold a local *Paint for the planet*

Activity:

1. Begin by holding a Unit/group discussion on how they would like to run this challenge. Refer to additional options in the *Speak out, do, educate* section below.
2. As a Unit/group, plan the challenge and exhibition.
3. Paint!
4. Follow through on the display method participants selected and promote the event to family, friends and the general public.

Speak out, do, educate:

- As a Unit/group, paint pictures and display them around your meeting place with information explaining what they show and why this is important.
- Encourage members from other Units/groups in your area to paint pictures and display them in your exhibition.

- With Guides from your District, paint your pictures. Talk to your local council about having them displayed in a public area of your local council office.
- THINK BIG! Remember that part of advocacy is about getting the message out there. Think of some ways which you can use this idea to spread the word and get your message out there.

Green hall action challenge

Challenge: To create a 'green' meeting place or camp. Look at everything you have learned over the past few weeks and put it into action to reduce the impact of your Guide meeting place and meetings.

Activity:

1. Look at the results from Activity 29 (*Guides carbon audit*) and identify the activities that contribute to the ecological footprint, such as water use.
2. Identify ways to reduce these impacts and make a list of actions that could be implemented in your meeting place. It may include replacing normal light globes with energy-saving light globes, using water saving devices, etc. Some of the actions may cost money so look at what the Unit/group can do to raise funds to support these actions.
3. Implement these changes.
4. Then hold a 'no waste' Guide meeting. Plan a program that has no waste and has the smallest possible environmental impact.

Speak out, do, educate:

- Write and tell the local paper about how you have developed a 'green' meeting place or camp.
- Create a range of posters about what you have done to reduce the impact of the meeting place. Display these in your meeting place or other public place to show others what they can do.
- Organise a presentation which you can show other Units, Guide groups, community groups and others about how you have created a green meeting place and how they too can make these changes.
- Come up with another creative way to share what you have been doing with others.

Other options for speaking out, doing and educating

Here are some other actions that you might like to do:

- Create or get involved in a local Community Garden Project.
- Hold a 'no waste' camp or 'low environmental impact' camp.
- Organise a poster campaign for your local council office or other public place on the actions we can all take to reduce our environmental footprint.
- Create an environmentally friendly art work which you can display to share your message with other people. This could be a sculpture from recycled material, a series of mosaic tiles, etc.
- Come up with other creative ways to put what you have learned into practice and share your knowledge with others. Don't forget to 'Speak out, do and educate'!

What does this symbol mean?
What does this organisation represent?

GIRL GUIDES
AUSTRALIA