

NURTURE NATURE

LEARNING OUTCOMES

Having completed this badge the Adventurers/Sunbeams will:

- be able to identify some endangered Australian species;
- be able to list some local environmental issues;
- demonstrate knowledge of how to care for and protect the environment;
- have participated in an environmental activity.

BADGE REQUIREMENTS

1. Identify some Australian plants and animals that are endangered and know what is being done to prevent extinction.
2. Know the difference between native, feral and introduced species including how introduced species affect native wildlife.
3. Create a project about a local environmental issue including how it is being managed.
4. Show some practical ways to care for and protect the environment.
5. Participate in at least one environmental activity.

ADVENTURERS
SUNBEAMS

nurture
nature



CATEGORY

The World
and Me

TIME FRAME

Four - five
weeks

AIM

To help the
Adventurers/
Sunbeams
understand
the need to
care for the
environment.





Teaching ideas

Definitions of conservation status terms

When the number of a species, or kind, of animal or plant become low, they are facing the risk of becoming extinct.

Extinct means there are no more left.

Extinct in the wild means the species is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range.

Critically endangered indicates that the species is facing an extremely high risk of being extinct very soon.

Endangered means a species is in danger of becoming extinct.

Vulnerable means that the species is not yet classified as endangered, but numbers are continuing to drop.

Native means belonging to a specific country, e.g. Australian native - found originally only in Australia.

Introduced means a species or kind which was brought into a country, i.e. to Australia from overseas.

Feral is an 'introduced' species or kind which is allowed to run wild and becomes uncontrolled. Feral species cause a massive amount of destruction to the environment.



1. Identify some Australian plants and animals that are endangered and what is being done to prevent extinction.

Ask the members to suggest the names of Australian native animals and plants. Make a list on a chart/whiteboard from the member's suggestions under the headings 'Australian animals' and 'Australian plants'.

Display a list of endangered Australian native animals and plants (see reference section at the end of the **Teaching Ideas** for appropriate websites).

Compare the two sets of lists. Place a cross against any of the members' suggestions that are on the endangered list. What makes them endangered?

Factors that are endangering Australian species include:

- Habitat destruction – destroying the places where the species live;
- Introduction of exotic species – animals and plants brought from overseas;
- Over exploitation – too many of one thing are used by humans;
- Disease, pollution and limited distribution.

Ask the members how these animals and plants can be protected? Guide their ideas towards increased knowledge of what is happening, and planning and co-operation between government, industry and the community to develop ways to protect native plants and animals.

Challenge the members to research endangered Australian plants and animals and what is being done to prevent extinction.

7–8s 3 endangered species

9–10s 5 endangered species

Teaching ideas

This may be done by using **Handout 1** or playing the following games. See **Leader's resources** for some pictures and fact cards or you may wish to gather your own resources.

Research games

- Place numbered pictures of endangered and non-endangered Australian native plants and animals on the walls around your meeting room. Either individually or in pairs, give the members 'fact cards' and let them match the facts to the correct numbered picture. Set a time limit. Bring the children back together and allow them to share their findings with the group.
- Pass the parcel – use one picture/fact of Australian plants and animals in each layer. When the music stops the person with the 'parcel' undoes the top layer and reads the facts revealed about the native plant or animal. The game continues until all the layers and fact cards are read. (Optional – a prize in the centre of the parcel.)

Fun game

Play a 'Fruit Salad' style game using the names of endangered Australian plants and animals.



2. Know the difference between native, introduced and feral species including how introduced species affect native wildlife.

The meaning of the terms native, introduced and feral are defined at the beginning of the **Teaching Ideas**. Discuss the meaning of these terms with the members.

Make a list of introduced species.

Over millions of years Australian native plants and animals adapted to life on an isolated and dry continent. When the Europeans came to Australia they brought with them a range of animals and plants. The Australian native species have had to compete for habitat, food, shelter and existence with these introduced animals and plants. Some of the introduced animals have also become predators. Climate change, too, is an issue to be addressed. These pressures have caused great impacts on the country's soil and waterways as well as the plants and animals.

Make a list of 'feral' plants and animals. If possible show pictures of feral species and the problems that their existence causes.

Animals of concern include: cane toad, European wild rabbit, European red fox, camel, cat, goat, horse and donkey, pig and water buffalo.

Plants of concern: alligator weed, mimosa, lantana, gorse, Patterson's curse, prickly pear.

The website environment.gov.au/biodiversity/invasive/publications has good fact sheets on feral species. The en.wikipedia.org website is also very useful for all 'feral' information.

Members may use **Handout 2** to match the feral species to pictures of the environment destroyed by them.

A guest speaker could be invited from an organisation that is concerned with the welfare of our environment (see list at the end of **Teaching Ideas**).



TEACHING
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Teaching ideas

Members may be able to visit a local wildlife refuge, zoo or animal park. (Remember to apply for DHQ permission using the *Caring for Kids Manual* forms when taking the group on an outing away from your usual location.)



3. Create a project about a local environmental issue including how it is being managed.

Contact the local council regarding current issues that concern the environment in your immediate area.

Issues that exist could include:

- polluted rivers, waterways and environs;
- air pollution from industry and vehicle exhaust;
- lack of water conservation;
- soil erosion;
- land clearing;
- lack of pest control;
- over population of some species;
- energy consumption.

A guest speaker from the local council or an organisation that is involved with any of these issues could be invited to present information, and discuss what is being done to clean up or resolve the issue to prevent further problems to the environment.

Alternatively, the local or school library may have DVDs or videos that teach about the Australian environment, its harshness and the way many things are affected by climatic conditions, and human use and abuse.

Activity – choose **one** of the following:

- create a poster or collage about an environmental issue using the information given by the guest speaker/visual aid;
- Draw a detailed 'before' and 'after' picture of an environmental issue;
- Draw a picture about a sensitive environmental issue, then change/improve up to 10 things to create a second picture for a 'spot-the-difference' game.



4. Show some practical ways to care for and protect the environment.

Discuss with the members ways in which they can care for and protect the environment.

Make an 'Environmental care and protection' list. The following table may give some ideas.

Teaching ideas



TEACHING
IDEAS

Environmental concern	Preventative action	Practical ways to help
Pollution	Reduce	Compost garden and kitchen waste, worm farm
Air pollution	Recycle	Participate in council recycle programs Things are made into another product
Litter	Re-use	Make something useful from an unwanted item, e.g. make a plant terrarium from a plastic drink bottle
Air pollution	Less greenhouse gas emissions	Encourage industry to reduce emissions
	Cleaner fuels, less cars	Walk or use a bike
	No backyard burning	Recycle/reduce waste
Litter	Use public and private waste depots	Participate in an anti-litter campaign
Water misuse	Conserve water, use less	Turn off taps, shorter showers, replace worn washers in taps, check for leakage in pipes, water tanks, re-use grey water
	Use water more wisely	Know the water restrictions for your area
Energy use	Reduce the amount used	Turn off unnecessary lights, choose energy efficient appliances and light globes
Soil erosion	Plant more trees/plants to hold soil	Participate in a tree planting program, vegetate wisely
	Protect areas from wind/rain	Make wind breaks
	Less land clearing	Only clear land if necessary
Weeds	Weed eradication program	Keep good vegetation on ground, cover trailer when taking plant refuse to the tip
Over population of species	Culling by poisoning and shooting, fencing areas	Report any obvious problems to organisations who can help

Members should choose a number of practical activities to show they know how to care for and protect the environment. These activities can be done over the duration of the badge. The members may make some kind of record card (out of recycled materials!) on which to register their activities, dates worked on and the success of their efforts.



Teaching ideas

7–8s 3 activities, e.g. compost all garden and kitchen waste for 2 weeks; help sort the household garbage into normal waste and recycling; save water in as many ways as possible.

9–10s 5 activities, e.g. make a useful item from something unwanted; plant a tree; save electricity in the house; walk or ride a bicycle rather than use the car; compost vegetable waste.



5. Participate in at least one environmental activity.

Choose an activity to become involved in that involves working in a group or community program, e.g. Clean up Australia Day, community tree planting program, working bee at your Corps, or similar activity.

Internet references

www.environment.gov.au

www.kidcyber.com.au

www.fame.org.au

www.spx.nsw.edu.au

www.reptilepark.com.au

www.endangeredspecies.com

www.en.wikipedia.wiki.org






WWF-Australia

Environmental organisations

Landcare, Greencorp, Stream Watch, Native regeneration, Society for growing Australian Plants, Clean Up Australia, Wires, Water and Electricity authorities, zoos, Environmental Protection Authority, RSPCA, Wildlife Ark, National Parks and Wildlife Service






Leader's resource 1

Endangered animal fact cards

 <p>Greater Bilby</p>	<p>The <i>Lesser Bilby</i> has not been sighted since the 1960s, and is probably extinct. Its relative, the <i>Greater Bilby</i> is now endangered. Once common in central Australian desert areas, the numbers have been reduced by fire and foxes and its habitat affected by grazing cattle and rabbits.</p>
 <p>Leadbeater's Possum</p>	<p><i>Leadbeater's Possum</i> was not seen after 1909 and was thought to be extinct, but the possums were found again in 1961. They are endangered, and are only found in the Victorian central highlands, in old forest areas that are being logged. The animals nest in tree hollows, and these are only found in old trees.</p>
 <p>Dugong</p>	<p>A vulnerable marine mammal is the <i>Dugong</i>, found grazing on sea grasses in warm shallow water off the northern coast.</p>
 <p>Numbat</p>	<p>The <i>Numbat</i> is endangered because of habitat loss and foxes. Once common across the southern part of the continent, it is now only found in a few forests in southwest Western Australia.</p>
 <p>Eastern Barred Bandicoot</p>	<p>Some desert species of bandicoot are extinct and the remaining species are vulnerable. If their habitats change, they will become endangered. One kind is the <i>Western Barred Bandicoot</i>, now only found on a few islands in Shark Bay, Western Australia. The <i>Eastern Barred Bandicoot</i> is now found only Tasmania and in a few places in Victoria.</p>

Leader's resource 1 (contd.)

Endangered plant fact cards

 <p>Wollemi pine</p>	<p>40 adult and 200 seedlings of the <i>Wollemi Pine</i> were discovered by accident in the rugged wilderness of the Wollemi National Park, NSW in 1994. Humans are the greatest threat to this endangered species. Its true location has been kept secret and scientific visits kept to a minimum to prevent the introduction of fungi that could kill the trees. A cultivation and propagation program has been established.</p>
 <p>Davies' Waxflower</p>	<p>The <i>Davies' Waxflower</i> (critically endangered) is found nowhere else in the world except Tasmania's east coast. Most specimens are on private land next to pasture and are threatened by tramping cattle, high nutrient levels and hard soil. It is also in danger of root rot fungi. The St Helens community are planting and protecting this precious shrub.</p>
 <p>Spalding Blown Grass</p>	<p>The <i>Spalding Blown Grass</i> is endangered by a limited population size and grows only in a small area in a rare habitat site in the northern Lofty Ranges region of South Australia. It grows in grassy wetland on a clay loam soil, together with low-growing, soft-stemmed native species and common reeds. Threats are from weed invasion, grazing and railway maintenance activities. It is being protected by fencing off the two known sites.</p>
 <p>Tuggeranong Lignum</p>	<p>The <i>Tuggeranong Lignum</i> is a sprawling shrub located in the ACT in one known population. It grows on the flood plains of the Murrumbidgee River in areas of rocky outcrops in silty, sandy soil. It is threatened by land management and the action of visitors. Population growth is extremely difficult due to small quantities of seed production and its unusual transfer procedure of pollen. No tracks are being developed in the area to discourage visitors.</p>
 <p>Orange-flowered Wattle</p>	<p><i>Orange-flowered Wattle</i> is found in Western Australia with four known sites totalling 130 shrubs. Plants are found in depressions on a plain, growing in sandy clay, amongst mallee scrub or grassy eucalypt woodland. The plants are threatened by disturbed road and railway reserves, salinity, grazing, weed competition and inappropriate fire patterns. Awareness and weed programs have been established, with restocking of existing plants and translocating plants to a more secure site.</p>

Leader's resource 1 (contd)

Endangered animals and plant fact cards



Greater Bilby



Wollemi pine



Leadbeater's Possum



Davies' Waxflower



Dugong



Spalding Blown Grass



Numbat



Tuggeranong Lignum



Eastern Barred Bandicoot



orange-flowered wattle

Handout 1 -

Adventurers/sunbeams

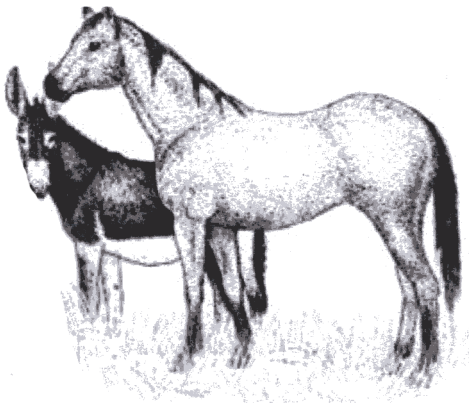
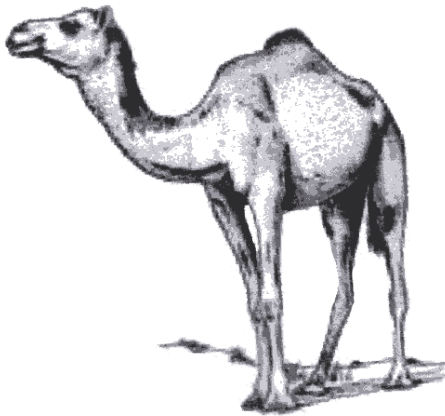
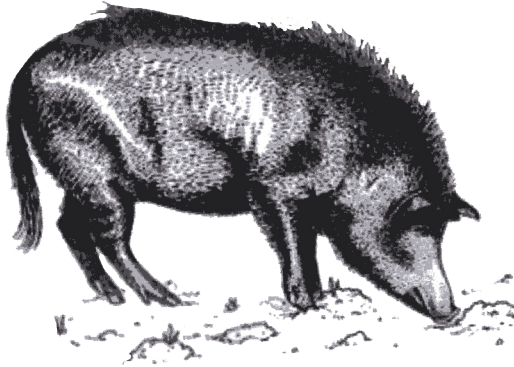
Photocopy one page for each endangered species - **7–8s** 3 species, **9–10s** 5 species.

<p>Paste a picture of an endangered plant or animal here</p>	<p>Why is it endangered?</p>
<p>What is happening to prevent extinction?</p>	

Handout 2 -

Adventurers/sunbeams

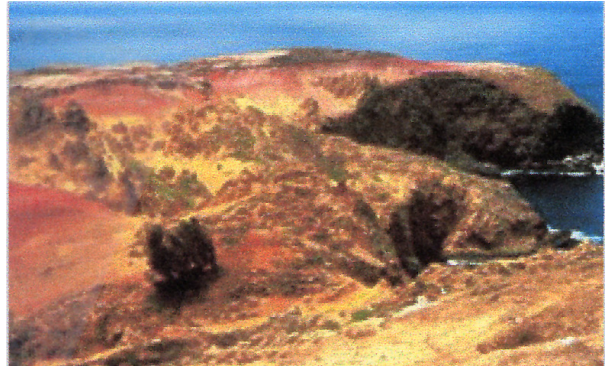
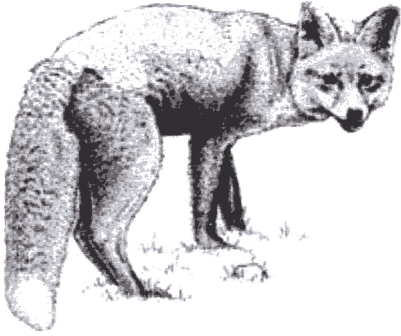
Match the feral animal to the picture of the damage it does.



Handout 2 - (contd)

Adventurers/sunbeams

Match the feral animal to the picture of the damage it does.



Devotional ideas



1. Title

God is close to everyone

Bible:

John 14:7 - 10

Thought:

We can know God close up because we know Jesus

Supplies:

A pair of binoculars, pictures of birds, picture of Jesus

One day Jenny and Tom were having a discussion with their Nan about the birds that visit their garden. Nanna said she was sad because there were hardly any birds visiting lately. 'Were they becoming extinct?' she wondered. She named a lot of birds she used to see all the time when she was little. Jenny and Tom hadn't even heard of some of them! They only ever saw sparrows.

Nan said that now the native bushes were growing bigger and flowering, the children should have more native birds coming around like rosellas and parrots and honey eaters. She got out a bird book to show us what they looked like. How good it would be to have such pretty birds visit.

'Maybe we could even put a bird-feeder box in one of the trees,' said Tom. So that was what Dad did.

Then the bottlebrush and the grevillea flowered and as Tom and Jenny watched they saw different kinds of birds come into the garden. When one was spotted they would call out, 'Quick, get the binoculars!'

Ask your members: Can you think why the children in the story would want binoculars? Hold your pair up and ask if anyone has ever used them. Ask the members to explain what binoculars do.

Binoculars make something that seems far away look close and easy to see.

Do you know that was what Jesus did for us so we could see God better! Before Jesus came to earth people thought that God was very far away. They felt they didn't really know Him. Was He powerful or weak? Was He kind or cruel? Was He good or bad? Did He really love people or was He just too far away?

Then Jesus came to live on earth. By looking at Jesus you could see God. He helped people and He was kind and good. People began to realise that if they looked at Jesus they could see God close up.

When Jesus was talking to His disciples the night before He died He told them that He was the way to get to the Father.

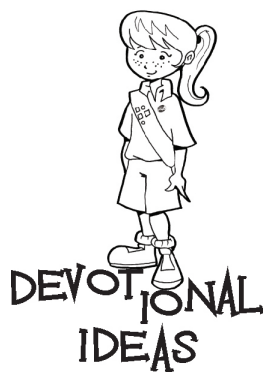
Read John 14: 7 'Now that you have known me,' he said to them, 'you will know my Father also and from now on you do know him and have seen him.'

Looking at Jesus was like seeing God close up. Maybe you have thought that God is far away but the good news is that He is just as close as Jesus. Look at Jesus and you will see God.

Prayer Dear God, I'm so pleased that you are my Heavenly Father and You love me. I'm glad that Jesus lived here on earth to show us how good You really are. Thank you, God for being close to us. Amen



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Devotional ideas



2. Title: God's good earth

Bible: Psalm 24:1; Genesis 2:15

Thought: We can all help to preserve God's good earth

Supplies: Display the charts that members have made about endangered species

Harry was sitting up in bed reading the book he'd borrowed from the library when Dad poked his head around the corner and asked him what he was doing. Harry let out a big sigh and Dad was surprised.

'What's the matter, Harry?' he asked. 'Is it a sad book?'

Harry shook his head. 'Not really, Dad, but in some ways it is, because it's about all the animals in Australia that are endangered and there's just too many of them!'

Dad came in and sat on the side of Harry's bed. 'You're right, Harry. It's sad that such things happen. Do you know why some animals become extinct?'

'I think so,' said Harry. 'There are a lot of reasons, Dad. They can get crowded out of their natural habitat by people building on more land, and so there is less bushland for them to live in and they begin to die out.'

Ask your group what other reasons Harry might have thought of to tell his Dad. E.g. introduced animals who became predators, farm animals who were let loose and became wild animals, forests logging for timber. Refer to the charts the group has made.

'They are all reasons and they are all sad aren't they? If people thought more about their actions they might be able to save some creatures.'

'What can I do, Dad?' asked Harry. 'I'm only one person.'

'That's true,' said Dad, 'and it is a bit overwhelming, but we can all do our bit to stop hurting the world.'

Have the group call out the things they can do to help make the world a better place, e.g. We can make sure we keep our environment clean, we can care for our pets and lock them up at night, we can sort the garbage carefully so what can be re-used goes into the right bin.

'It's what God expects us to do,' said Dad. 'He owns the world because He made it.'

Have a member read Psalm 24: 1 *The world and all that is in it belong to the Lord; the earth and all who live on it are his.*

God made the world and he expects us to look after it. Genesis 2:15 says *Then the Lord placed the man in the garden of Eden to cultivate it and guard it.*

Prayer Lord, thank you for this good world that we live in. Help me to do all I can to care for it. Amen.

Devotional ideas



3. Title:

Growing well

Bible:

Colossians 1:9, 10

Thought:

All growing things need care

Supplies:

Seeds (can be a mixture of bird seed and wheat), lids and cotton wool, Bible

Hold up a large jar full of seeds.

Tell the children that you bought it a month ago and the shop assistant said that the seeds should begin to sprout in a few days. But nothing has happened. I have kept them safely on the desk in my room and they are not growing one little bit. I don't know what the problem is! Can any of you help me?

(Ask the children to make suggestions and repeat them.)

_____ says I need to plant them. Do you agree?

_____ says I need to water them. Is that right?

_____ says I need to have them in the sunlight. Is that a good idea?

If I do this will I have some healthy growing plants?

Seeds are not the only things that need care to grow. Like a seed we all began life as a tiny baby and we had needs that had to be met so that we would grow strong and healthy. Do you know what they are? (Allow for responses.)

Read Colossians 1:9, 10.

All growing things need care and attention. For plants this means food and water. For us it also means food and water, and love and attention.

Paul shows his love and attention for the Christians in Colossae by his regular prayers for them. He prayed that they would grow in their knowledge of God.

Tell members about your prayers for them.

Prayer Dear God, thank you for loving us and helping us to grow healthy and strong. Help us to grow wise and kind as well. Amen.

Give each of the members a lid and some cotton wool. Place the cotton wool on the lid and wet it, then sprinkle some seeds on top.

Challenge the members to care for the seeds every day for one week giving them some sunshine and water. Invite the members to bring the results of their efforts back to show the group the following week.



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Devotional ideas



4. Title: God cares for you

Bible: Matthew 6:28 - 30

Thought: You are important to God

Supplies: Sweet smelling flowers – one for each member

Have the flowers behind your back and ask the group to guess what you have. Give them some clues, e.g. it is soft, it smells good, it is colourful. Bring them round to the front of you as soon as a child guesses and give one to each member.

Look closely at your flower and tell me if you agree with the clues I gave you. Is it soft, do you like its perfume, do you think it is colourful? (If you have some keen gardeners they might know the name of the flower or could tell you about their favourite flower.)

Ask the group to touch their flower. What does it feel like? It's very soft isn't it? Did you know that some flowers are so soft that if you touch them they will bruise? Flowers don't last for very long, do they?

Why did God make such beautiful flowers if they don't last for very long? Do you think that He made them for us to enjoy? Do you sometimes look at beautiful flowers as you are walking past people's gardens? Try doing it because it will remind you that God made flowers for us to enjoy.

Jesus said that flowers remind us of God's love for us.

Read Matthew 6:28 - 30 And why worry about clothes? Look how the wild flowers grow; they do not work or make clothes for themselves. But I tell you that not even King Solomon with all his wealth had clothes as beautiful as one of these flowers. It is God that clothes the wild grass - grass that is here today and gone tomorrow, burnt up in the oven. Won't he be all the more sure to clothe you? How little faith you have!

Jesus thought that the people were spending too much time worrying about what food they would eat or what clothes they would wear.

So He told them to look at the flowers growing in the fields. They were soft and fragrant and colourful - beautiful to look at and yet they lived for such a short time. If God takes such good care of flowers you can be sure that he will take good care of you!

That's really good to know!

Pray thanking God for the beautiful flowers that He gives us to enjoy and for the promise that He loves us more than flowers and will take care of us.