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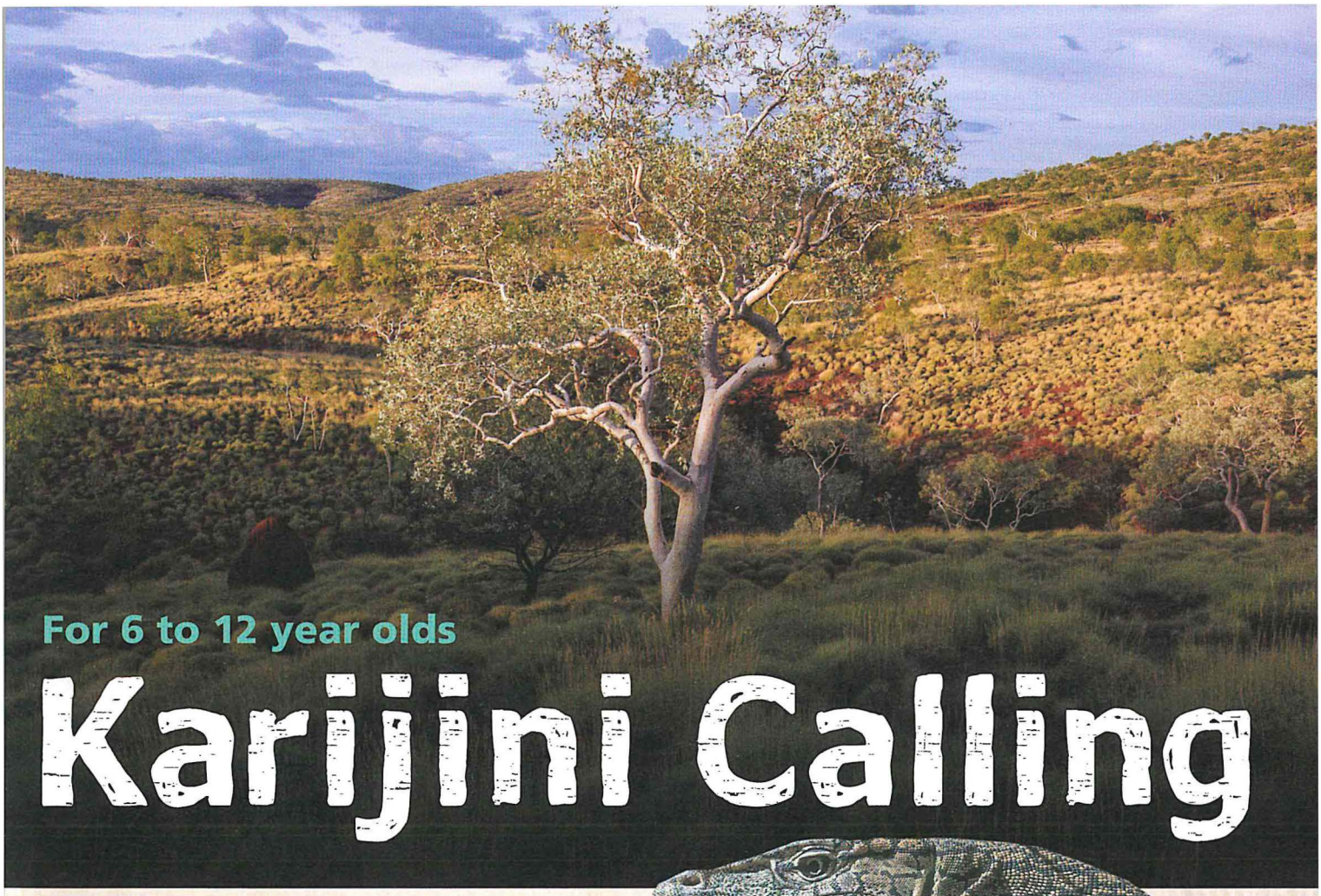
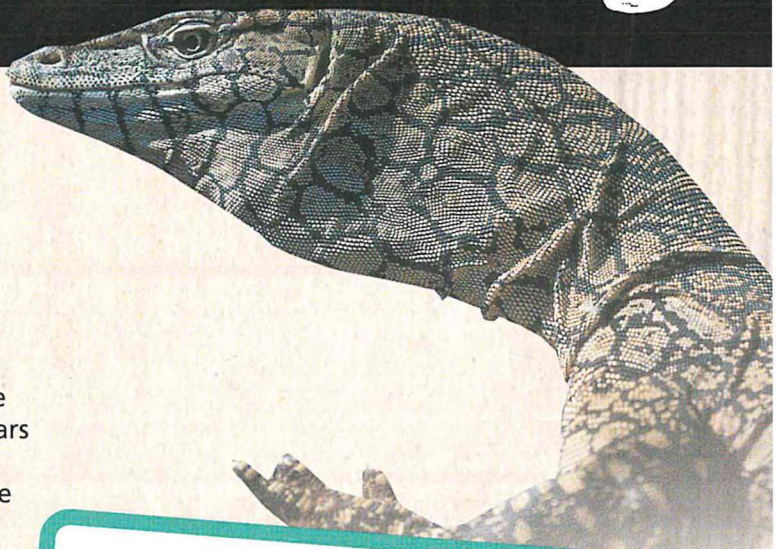


For 6 to 12 year olds

Karijini Calling



What it means to be a Karijini National Park junior ranger

BECOME A JUNIOR RANGER and you can help preserve **Karijini National Park** so it's still in great shape 100 years from now. By observing park rules, picking up litter and learning how to care for the park, you can help make the ranger's job a little easier.

Karijini is the name given to the **Hamersley Range** by the **Banyjima**, **Yinhawangka** and **Kurrama Aboriginal** people, whose traditional homelands include the park. These people have been associated with the area for more than 30,000 years.

Karijini covers more than **600,000 hectares**, and contains some of the oldest exposed rock formations on the Australian continent.

Karijini National Park Visitor Centre
Pilbara Region: (08) 9189 8121

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

PARKS AND WILDLIFE SERVICE

The Karijini junior ranger oath

As a Karijini junior ranger I will do my best to preserve and protect the wildlife and natural features. I will set a good example for others to follow. I will continue to learn as much as I can about the natural world.

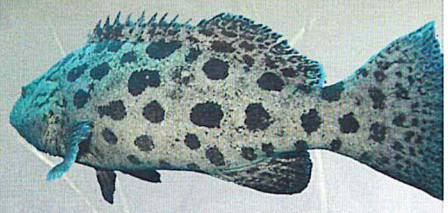
Name: _____

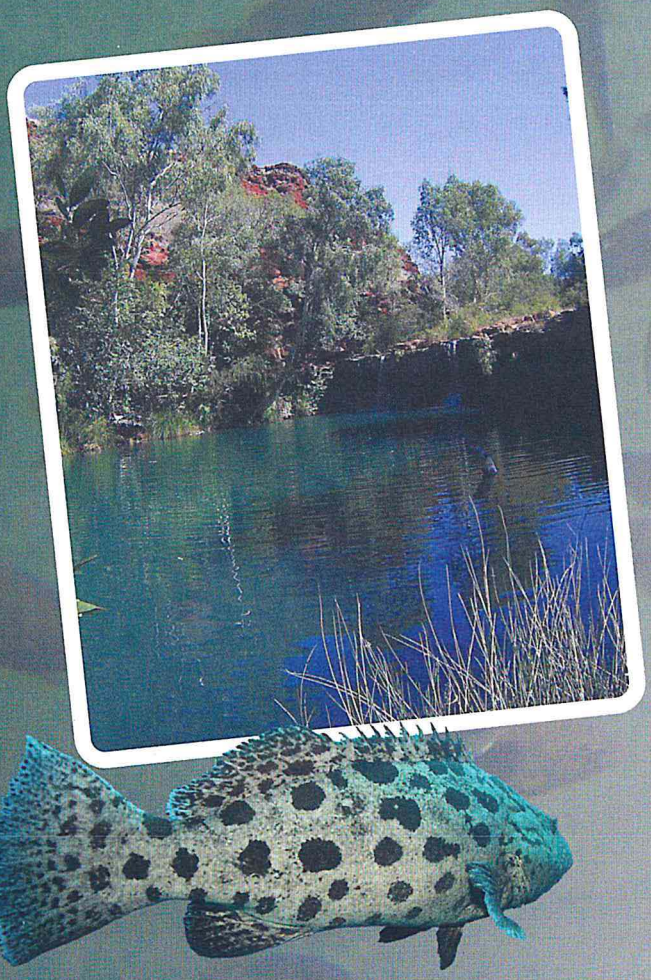
Date: _____

Water-
how we depend on it

DID YOU KNOW that pools and creeks, like the ones in Karijini, are some of the most important areas we must protect? Water is the source of life, and supports the basis of food webs involving many animals and plants. Do you know what a food web is? Here are a few clues: water allows plants to grow... tiny animals and insects feed on the plants... fish eat the tiny animals, insects and plants... waterbirds eat the fish, plants, insects and tiny animals... hawks and Pilbara olive pythons kill and eat the waterbirds.

As you can see, if it wasn't for the water in the pools and creeks, few of the tiny plants, animals, fish, waterbirds or hawks could survive.





What's in the water?

WALK QUIETLY past the rock pools at **Kalamina Gorge** to see the colourful rainbow fish. If you sit still alongside the pools in **Hamersley Gorge**, you may see the dinner plate turtles coming to the surface to breathe.

These turtles can stay under water for two to three hours. They eat small fish, crickets, water snails, insects and insect larvae When hiding, the head and neck are folded and tucked under the front edge of the shell.

Look closely, you may also see the common eel-tailed catfish. These fish have spines that can give a very painful sting, **so be careful**.

Freshwater herring can also be seen in larger pools here. They are usually the first to die when streams stop flowing and pools stagnate.

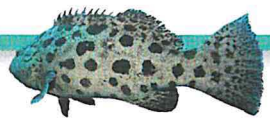
In **Dales Gorge,** spangled perch may be found. They often live ir brackish (sort of salty) water and perhaps even survive in mud during times of drought, waiting for the next rainfall.

In **Joffre Gorge** it is not uncommon to see mulga snakes swimming across gorge pools.

Main Hamersley Gorge (*Minhthukundi*). Photo – Rick Dawson/DBCA
Inset Fern Pool (*Jubura*). Photo – Cathy Zwick/DBCA

Draw a food web

Use the information on the previous page to work out what to draw. Link them with lines to show who eats who.



Brilliant biodiversity

Can you find the 10 animals hiding in this picture?

hopping mouse

bat

bird

skink

snail

dragonfly

dinner plate turtle

water strider

pilbara olive python

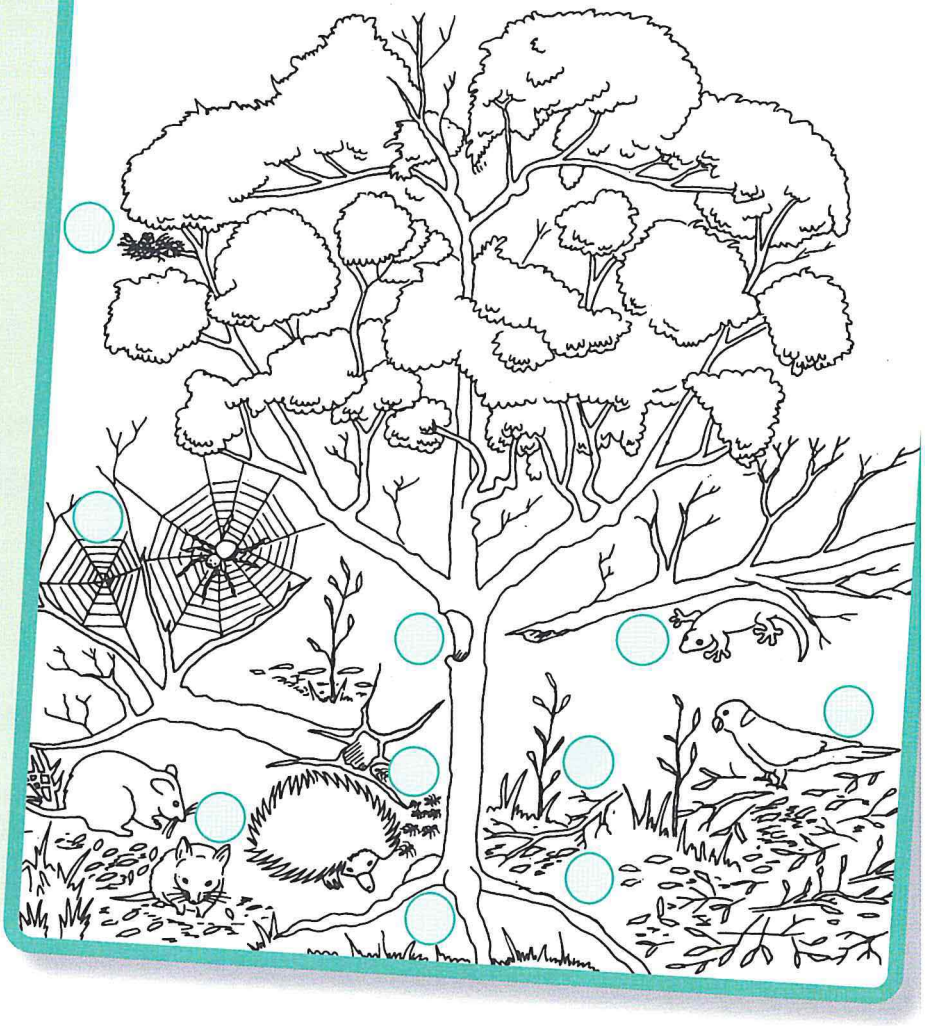
fish

How much do you know about the plants and animals of Karijini?

Study this picture then write the correct numbers in the circles around the tree.

1. Birds use twigs for nests.
2. Hollows form nesting homes for birds.
3. Ants nest in and under hollow logs, and are food for echidnas.
4. Logs form homes for small animals such as spiders.
5. Fallen logs are hiding places for the hunted, such as geckos and frogs.
6. Branches and leaves fall to the ground to form leaf litter and fallen logs.
7. Birds forage in the twig and leaf litter for small bugs to eat.
8. Nutrients are taken up by plant roots for plant growth.
9. Small animals and fungi turn the leaf litter into soil-rich nutrients.
10. Leaf litter keeps moisture in the soil for plant growth.

Label this tree



Hide and seek

Colour in this picture

Often the colour of animals' fur and birds' feathers match the places where they live. This helps them blend in and hide from predators. Are your animals and birds safe, or likely to be someone's dinner?

In nature these animals and birds are not always easy to see. You may need to go on a 'stake out' to spot them. Try this in your backyard. Find a shady spot in the garden, sit quietly and see what sort of animal or bird activity you can see.

What am I?

Across

2. I am an echidna and I eat these.

4. I am a big lizard the Aboriginal people used to hunt and eat.

5. This home for small animals and insects is a prickly grass.

7. Are all native animals in our national parks protected?

Down

1. I am a big bird with long legs. I can run fast but I can't fly.

3. We build big mounds from mud and spinifex for our homes.

4. We have wings, feathers, and lay eggs.

6. At present I am a tadpole but soon I will be a ....?

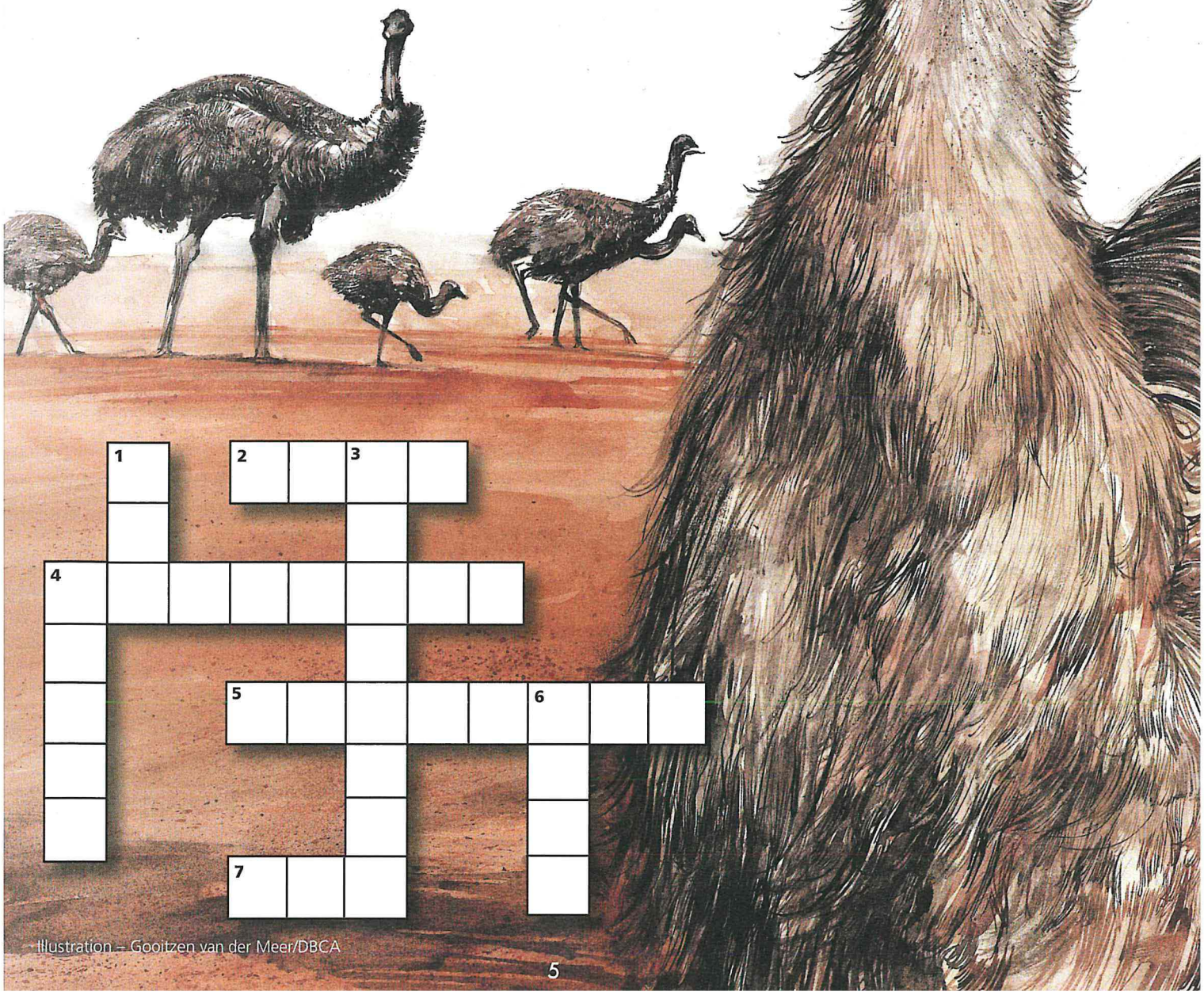


Illustration – Gooitzen van der Meer/DBCA

Karijini creatures

THERE ARE MANY ANIMALS that live in Karijini. These include birds, mammals reptiles, frogs, insects and spiders.

Bats, owls, native mice and rock rats, are **nocturnal** so sleep during the day and feed at night. Marsupial mammals like kangaroos, euros (the common kangaroo of the rocky country) and rock-wallabies are **crepuscular**. This means they sleep during the day and feed at dawn and dusk when temperatures are cooler.

Lizards, snakes and most birds are **diurnal**. This means they are active during the day. It is not unusual to see one of the park's many dragon lizards basking in the sun; dragonflies hovering over gorge pools; or birds flying overhead.

Dingos can sometimes be seen and heard near Dales Campground.

Remember these are wild animals and they should not be fed.

There is no place like home!

There are a few unusual wildlife homes in the park. Some are obvious, like the huge termite mounds, and others are a little more hidden, like the rock piles of the pebble-mound mouse. You might find one of these interesting homes while you are out walking. If you do, please do not disturb them. Look closely, but don't touch.

Photos – Babs and Bert Wells/DBCA

Pebble-mound mouse (*Ngadji*)

The pebble-mound mouse only weighs 10 grams, but it can build a mound of small rounded pebbles over a metre wide. It carries pebbles up to half its own weight in its mouth and arranges these in piles, shuffling them into position with its forelimbs.

The mounds are usually built on the slopes of hills amongst spinifex. There are entry holes from the mounds down into tunnels beneath the mound, and these lead to nest chambers and connect with other entry holes. It is believed the mice lick the dew from the rocks for moisture. Pebble-mound mice eat seeds from native grasses.

Termites (*Manthu*)

Termite mounds are like apartment blocks. They can house a number of other animals. Termites live in the centre of the mound, but a series of 'caves' or rooms around the outside are used by nesting birds, pygmy pythons, bungarras, geckos, blind snakes and scorpions. The blind snakes live here because they love to eat termites, but other animals use the mounds for nesting and shelter.

When termite mounds are over a metre or so high, the workers remove the earth from the middle of the mound and replace it with a material called 'carton'. This is made from termite excrement (sometimes called scat) containing digested plant material, micro-organisms and earth, and is fashioned into a strong, wafer-like honeycomb.

The royal chamber, where the king and queen live, is in the middle of the nest.

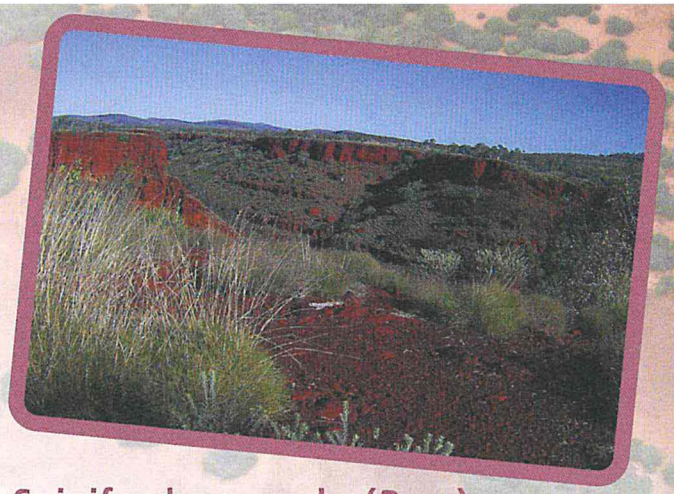
Worker termites care for the younger termites in the nursery which is below the royal chamber.

Soldier termites protect the worker termites when they leave the nest to cut grass and collect seeds. They store food in a chamber in the middle of the nest. Don't get too close to the nest as a maze of tunnels spreads out from here.

Native bees

Native bees are often called sweat bees or stingless bees. The native bees at Karijini are small black bees, about 2–5mm long, and live in large colonies of hundreds or even thousands. Their nests can be found hidden in snappy gum trees, but you will need to look closely to spot them. As they have no sting, they have to hide the entry to their nest, and often do so by surrounding it with sticky resin and dead ants like in the photo below.

Photos – Babs and Bert Wells/DBCA



Spinifex hummocks (*Baru*)

Spinifex is the prickly grass that sticks in your feet and legs. Usually it is a hummock (or hump shape). As it gets older, the leaves in the heart of the hummock die. In this sheltered centre live a whole community of animals.

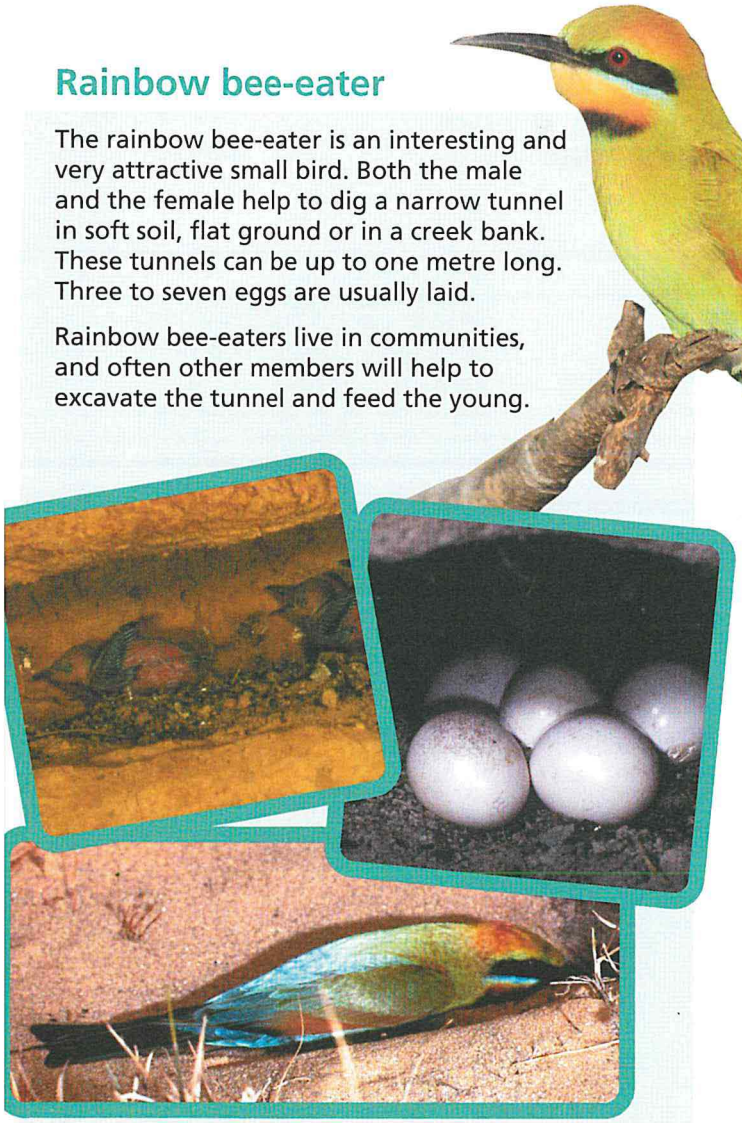
Insects feed on the decaying spinifex; small marsupials and lizards feed on the insects, and snakes and larger animals feed on them. The skinks are very good at 'swimming' through the spinifex and can quickly disappear out of the sight of predators.

Photos – Cathy Zwick and Scott Godley/DBCA

Rainbow bee-eater

The rainbow bee-eater is an interesting and very attractive small bird. Both the male and the female help to dig a narrow tunnel in soft soil, flat ground or in a creek bank. These tunnels can be up to one metre long. Three to seven eggs are usually laid.

Rainbow bee-eaters live in communities, and often other members will help to excavate the tunnel and feed the young.



Above – Babs and Bert Wells/DBCA. Top right – Matt Swan/DBCA.

Write down what animals you have seen during your visit to the park.

Do you know what their homes might look like?

"Where do you think I live? Here are a few clues. I live up high where it's nice and dry, in the dark, under some ?....."

Have you seen these?

d	y	l	f	l	e	s	m	a	d	v	y	w	a	t	p	v	j
n	r	m	m	b	g	b	n	d	n	b	c	r	g	e	b	h	u
o	j	a	p	u	u	a	r	a	a	d	r	m	b	r	o	a	h
c	c	w	z	s	g	a	l	l	p	a	i	b	d	m	w	b	s
l	e	h	t	i	g	r	l	a	g	p	l	h	s	i	e	i	i
a	u	a	v	o	l	a	e	n	h	e	y	a	c	t	r	l	f
f	r	i	n	z	w	n	u	v	m	f	n	g	g	e	b	o	w
d	o	f	h	k	w	b	o	o	i	n	f	e	u	s	i	o	o
r	l	i	c	o	d	r	u	g	e	r	c	p	c	m	r	c	b
y	r	o	n	w	g	n	z	s	a	k	n	i	k	s	d	g	n
k	r	m	i	p	d	n	g	b	o	r	p	y	t	h	o	n	i
g	a	c	f	m	p	r	i	s	d	p	d	x	s	g	g	m	a
f	g	n	o	e	g	i	p	d	e	t	s	e	r	c	m	u	r
i	f	u	g	n	v	m	u	l	l	a	m	u	l	l	a	l	x
b	s	r	r	a	x	g	s	p	i	n	i	f	e	x	o	g	q
e	y	e	o	y	r	c	t	u	p	e	j	a	c	b	l	a	p
h	f	s	y	g	d	o	t	h	s	u	k	x	a	k	g	o	x
e	w	f	i	g	s	v	o	w	h	w	e	t	c	u	t	n	j

Above Spinifex pigeons. Photo – Rick Dawson

Find the plants and animals hidder in the Karijini word puzzle below.

Use the list of words provided to help. Check off each one as you find it in the space next to its name. If you don't know what they are ask your parents or carer. Perhaps the ranger may be able to help you or suggest where you may go to see something on the list.

bat
bowerbird
bungarra
bustard
cajeput
coolibah
crested pigeon
damselfly
dingo
dragonfly
dragon lizard
echidna
euro
falcon
fern
figs
finch
frog
galah
gecko
kangaroo
mulga
mulla mulla
pebble mound mouse
python
rainbow fish
rivergum
rock wallaby
sennas
skink
snappy gum
spinifex
termites

Fabulous flora

KARIJINI'S HILLS, PLATEAUX AND RIDGES are covered with spinifex hummocks, scattered eucalypts, and a number of wattles and mulla mullas. Many of these flower from June to August, especially if the park has had heavy summer rain. The white–barked gum tree you see growing on the gentle slopes is the snappy gum. They often provide homes for native bees.

The gorges protect plants like paperbarks, rock figs and delicate maiden hair ferns. These ferns flourish around Circular Pool where the water seeps from the rocks. Rock figs can be seen clinging to rock ledges, and their roots can travel many metres down the gorge walls in search of water. Paperbark trees love water, and these are usually found around the gorge pools.

Between the hills there are broad valleys covered in small trees called mulga. These areas are known as mulga woodlands. Mulga *Windamarra* trees are well adapted to living in hot dry areas. Their leaves (which are actually flattened stems) and branches all angle toward the sky so when it rains water is channelled directly down them to the root zone. By doing this, the tree receives three times as much water as it would have if it had large flat leaves.

The mulga woodlands are home to a number of plants and animals. They provide shelter for mulga ants, mulga parrots, lizards, and many more creatures. You can also find interesting plants growing in the shade of the mulga like pink native daisies, native fuschias and yellow sennas.

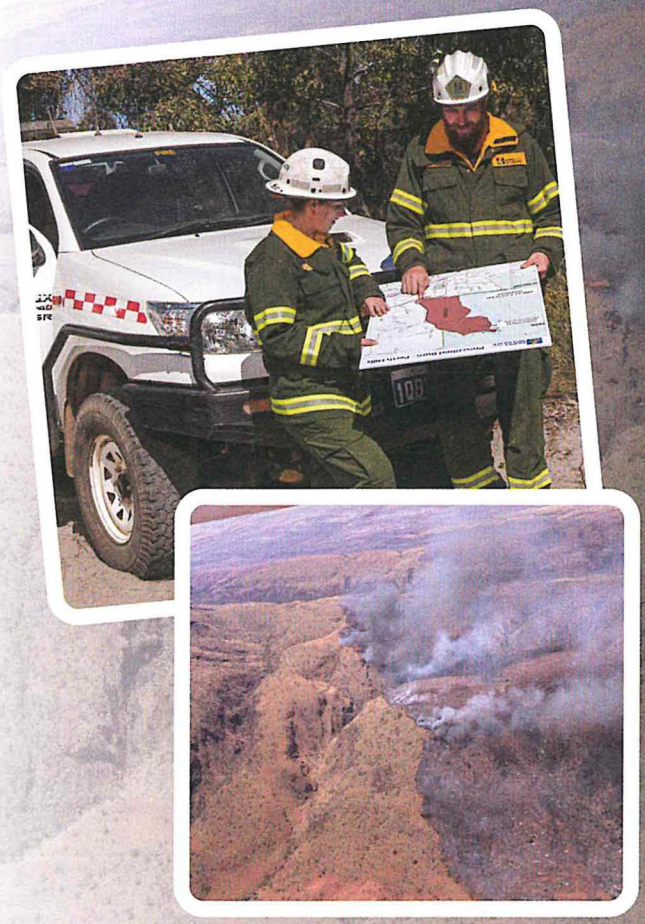
Snappy gums (*Milykan*)

Mulga woodlands (*Windamarra*)

Rock figs in gorge (*Kurrujura*)

Paperbarks (*Mirli*) in gorge

Bushfire aware



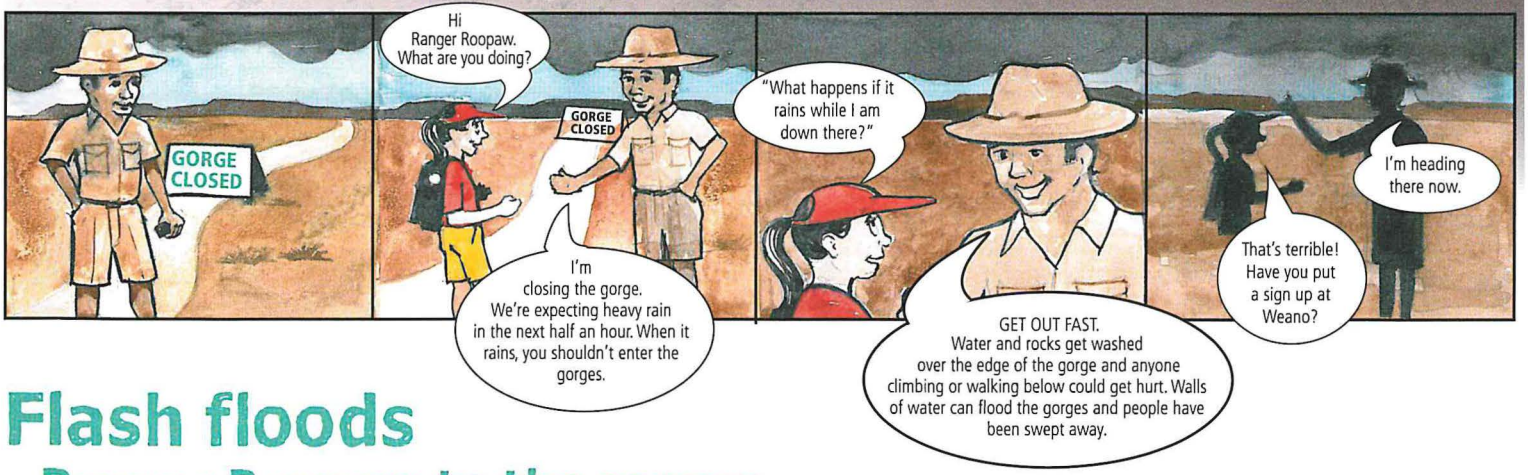
BUSHFIRES IN THE PARK CAN BE DANGEROUS. Not only do bushfires burn old and dead wood, but they can move very quickly, pushed along by the wind, and can become dangerous to people, tents, caravans, cars, buildings and plants and animals.

In Karijini National Park, some fires are started by lightning, particularly over the summer when the spinifex grass is dry and the weather is hot and dry. These fires are put out by Parks and Wildlife Service national park rangers and staff, with the help of many volunteers.

Each year, staff at Karijini try to carry out controlled burns, also known as prescribed burns. This means they burn small areas, or patches, of land. Then, should lightning start a fire in the park, it will run into one of these burnt patches and either be slowed down or go out.

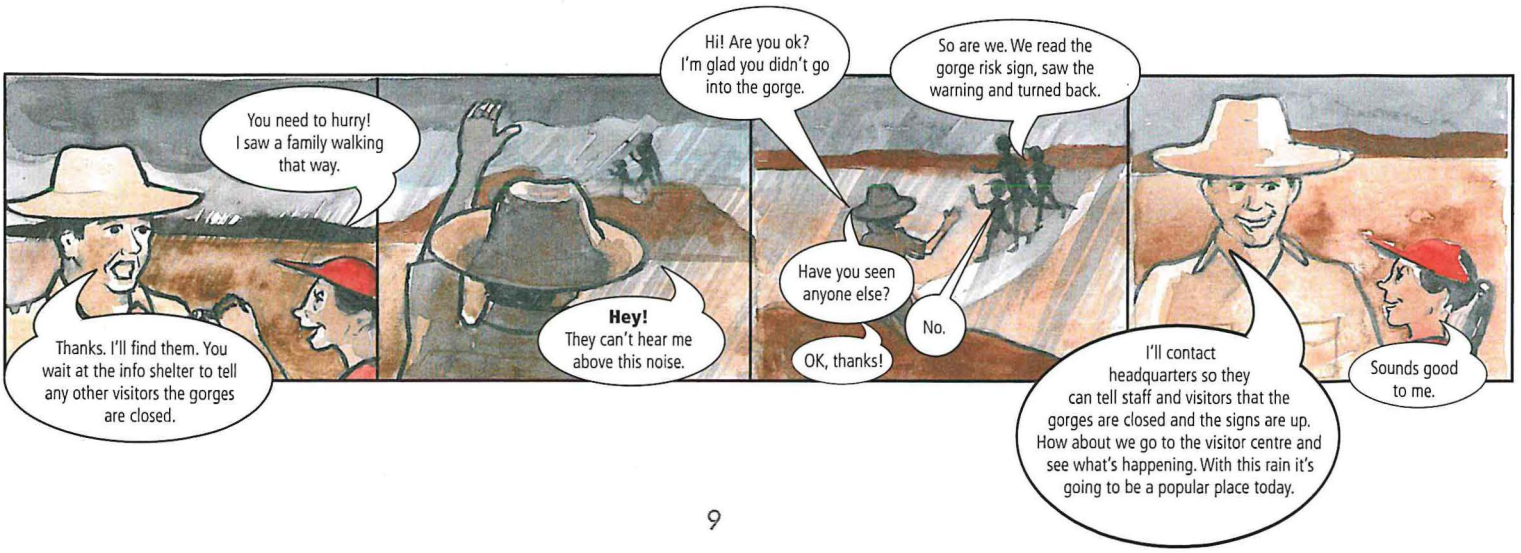
Gas barbecues are provided in the park for people to use, or they can bring their own portable gas stoves.

Wood fires or solid fuel fires that use heat beads are not permitted in Pilbara parks. The old and dead wood that may look like firewood is used by many animals for shelter, protection and sometimes even food. In Western Australia all plants and animals are protected so **it is against the law to break branches from trees** to use as firewood.



Flash floods

Ranger Roopaw to the rescue



Caring for Karijini

DID YOU KNOW that in Western Australia cigarette butts comprise more than 50 per cent of all the litter dropped?

Cigarette butts are commonly mistaken by animals for food, and are responsible for around 8–10 per cent of bushfires in country areas.

How long will litter last?

Plastic bottles and Styrofoam	**indefinitely**
Glass bottles	**1,000 years**
Aluminium cans and tabs	**500 years**
Plastic six pack holders	**100 years**
Tin cans	**50 years**
Leather	**up to 50 years**
Nylon fabric	**30 to 40 years**
Cigarette butts	**12 to 15 years**
Plastic bags	**10 to 20 years**
Plastic coated paper	**5 years**
Orange and banana peels	**up to 2 years**
Wool socks	**1 to 2 years**

Why worry about litter?

- **Litter hurts the environment**
- **Litter is ugly**
- **Litter can be dangerous**
- **Litter can harm or kill wildlife**

What can I do?

Keep Australia Beautiful WA

BIN IT You know it's the right thing to do

Take care with litter, rubbish and wildlife

SOMETIMES IN THE PARK you may find a spot that makes you feel as if no one has ever been there before – until you look more closely. You might see a cigarette butt, aluminium can, or maybe a glass bottle hidden by the vegetation.

Inquisitive small mammals and reptiles often pop their heads into cans, looking for moisture or just being nosey. Once their heads are in they are unable to pull them out. They will wander around like this until they starve to death. The same can happen to animals who are inquisitive enough to squeeze their way into glass bottles thrown away by careless people. Although animals can get in, the smoothness and slope of the bottles neck often means they are unable to get out and soon die. Skeletons of animals have been found intact in bottles.

If we can carry our supplies into the park with us, we should be able to take our rubbish home too to make sure we don't inadvertently hurt any of the creatures. Perhaps you could tuck a little bag in your pocket and pick up rubbish as you see it. This is one way you can help the animals and the ranger.

True or false?

Circle true or false to the questions below:

1. The park needs the help of all park visitors to stay clean and natural. True False
2. Park rangers are here to protect visitors as well as animals and natural features. True False
3. If you are lost it is better to stay where you are. True False
4. Animals in national parks must never be fed by people because they may become sick and die. True False
5. It is okay to use soap in pools and streams. True False
6. Taking short cuts instead of using trails can cause erosion of trails and hillsides. True False
7. Walking on spinifex clumps can kill them. True False

Caring for Karijini

Can you care for yourself and Karijini like these people?

Draw a picture of Sally Sensible

Sally Sensible protects herself from the sun, carries adequate water, wears suitable clothes, sturdy shoes and a hat, and carries her gear in a backpack. She keeps her hands free to hold onto things as she walks the trails and never runs ahead of her group.

Draw a picture of Warren Wise

Warren Wise knows not to use soap or sunscreen in the pools. He uses the lookouts in the park to view the gorges, and does not throw rocks into the gorges as he knows people may be walking below.

Kalamina Gorge. Photo – Rick Dawson

Bush tucker walk

ABORIGINAL PEOPLE have lived in Karijini for around 30 000 years. Many of the plants growing in the park are used as bush tucker and medicine or to make tools and shelter.

✓ Tick off these plants when you see them as you walk around the park.

Cajeput or silver paperbark (*Mirli*)

The cajeput trees in the gorges was used for shelter and to make trays for carrying food.

Photo – Jiri Lochman

Native fig (*Kurrujura*)

The small fruit from the native fig tree growing in the gorges, is edible and ripe when it turns orange.

Corkwood (*Gadanyba*)

Banjima people suck the nectar from the flowers or put them in water to make a sweet drink.

Look for the plant amongst the spinifex.

Photo – Geoff Byrne

Vicks bush (*Minyjara*)

This plant is found near creeks and pools. It is strong smelling and used as a remedy for coughs and colds. Dry leaves could be boiled and applied as a lotion around infected eyes and skin.

A web of gold

WHILE EXPLORING KARIJINI you might bump into the web of the golden orb-weaving spider. They have a dark-brown carapace (the "head") a cream coloured abdomen and yellow banded legs. The female spider can grow up to 4cm and is easy to see in the web. The male is tiny at only 6mm and very hard to spot.

They can be found all over Australia and build large webs up to a metre wide, with yellow silk which shines like gold.

The silk from the spider is used as a safety-line, to catch prey, wrap up prey and to make egg sacs. It is also used for transport, shelter and courtship.

This spider is not lethal for humans, but a bite can cause mild local pain, numbness and swelling.

Spider sausages recipe

Prep time: 1 minute

Cooking time: 10 minutes

Equipment: You will need a knife, tongs and bamboo skewers

Method

Cut the ends of each sausage in quarters. Leave about one third of the middle uncut to put the bamboo skewer in.

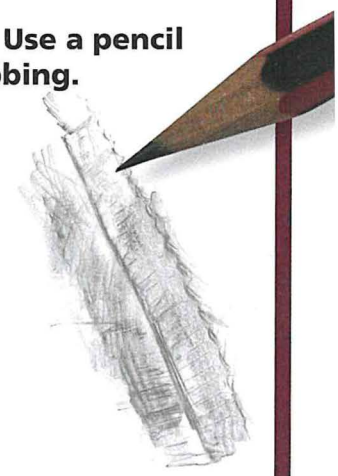
Cook the sausages on the bbq and watch as the spider legs curl out.

Yum!

Photo – Samille Mitchell/DBCA

Take some texture rubbings

Place this page over different surfaces like bark, leaves and rocks. Use a pencil or crayon to rub over the surface and make a texture rubbing.



Safe walking

KARIJINI IS A GREAT PLACE TO EXPLORE, but it is rough and rugged so your full attention is required to avoid slips and falls.

Keep your hands free. Put your water bottle and towel in a backpack so you can hold onto an adult's hand or the back of their clothes.

If you trip, you can use your hands to stop yourself from falling and getting badly hurt. A broken nose hurts more than a skinned knee.

Always stay with your group. Never go off on your own and don't run ahead of the group. Some of the trails are single file so one adult can walk in front, one adult at the back and the kids and any other adults in the middle.

Carry plenty of water and have a good drink before you start, because on narrow trails there is not enough room for everyone to stop when you feel thirsty.

You need to wear sturdy shoes. Rocks are sharp and spinifex is prickly. Your feet will thank you.

Remember these four key points:

1. **Put your pack on your back.**
2. **Keep your hands free.**
3. **Don't run.**
4. **Have fun!**

Photo – Tourism WA

The visitor centre

THE VISITOR CENTRE is packed full of interesting information. This activity will help you delve deep to learn a little about local Aboriginal culture. If you need help to answer these, ask the visitor centre staff to point you in the right direction.

1. What three Aboriginal language groups are featured in the centre?

_____

2. Can you draw the marni (symbol) for one?

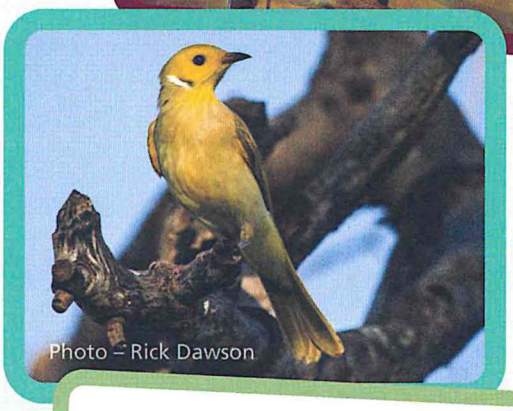


Photo – Rick Dawson

3. In the Pilbara, what is the Aboriginal name for books and paper of any kind?

_____

4. What would you use a yandi for?

_____

5. Can you draw a yandi?

6. From which plants do Aboriginal people use flowers to make a sweet drink?

_____

7. Can you solve this puzzle to find out the Aboriginal name for the lizard on the visitor centre veranda? This lizard also inspired the shape of the Karijini Visitor Centre.

Here is a clue: 1 = A 2 = B 3 = C

11	21	18	18	21	13	1	14	20	8	21

Our national parks

Why do you think national parks are important?

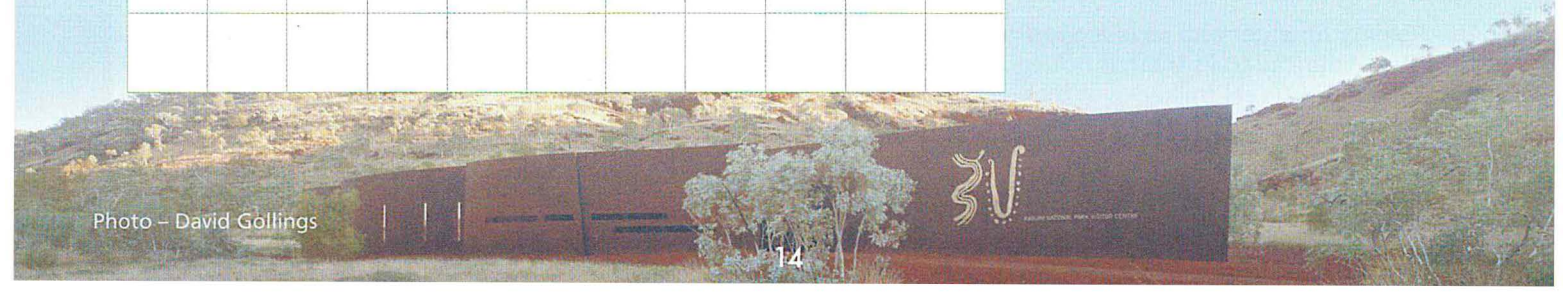


Photo – David Gollings

What you must do to be a junior ranger

Attention adults: this page describes the requirements for the junior ranger program.

In order to earn a **junior ranger badge**, each child must fulfil all these requirements.
You may help your child to answer the questions but the work must be the child's own.

Please read the requirements carefully before signing below.

I have read and fully understand the requirements for the junior ranger program.

Child's name: _____ **Age:** _____

Adult signature: _____ **Date:** _____

Here is what you need to do

6 to 9-year-olds

- Complete at least **three activities** from this booklet.
- Complete all the 'Things to see and do' and get your parent or carer to sign off.
- Complete four of the 'Enviro hunt activities' and get your parent or carer to sign off.

10 to 12-year-olds

- Complete at least **five activities** from this booklet.
- Complete all the 'Things to see and do' and get your parent or carer to sign off.
- Complete all of the 'Enviro hunt activities' and get your parent or carer to sign off.

After finishing the activities required, take this booklet to the visitor centre, where you will be awarded your junior ranger badge. You get to keep your completed booklet.

Things to see and do

1. Take a good look around the visitor centre. Which display did you enjoy the most?

_____

_____

2. Take a walk on any park trail. Which trail did you walk?

_____

_____

**3. Fill a bag with rubbish you've picked up and put it in the bin.
Don't forget to recycle if possible.**

**4. Most animals and insects are dressed in colours similar to their surroundings.
Why don't they wear bright colours like us?**

_____

_____

Enviro hunt activities

1. Find an animal home. Who lives there?

2. Find food for a bird. What is it? Which bird eats it?

Draw an insect

Look for an insect on a plant. Draw it. What is it doing on the plant?

4. Can you find an animal track or sign? What animal made it? Where do you think it was going?

5. Look for something prickly. What is it? Why do you think it is prickly?

Draw the perfect Karijini animal

Draw what you think would be the perfect animal to live here in Karijini National Park. What would you call it?

GOVERNMENT OF WESTERN AUSTRALIA
Department of **Biodiversity, Conservation and Attractions**
PARKS AND WILDLIFE SERVICE