WHITEMAN PARK
CONSERVATION • RECREATION • EDUCATION

## Teacher Resources

# Conservation Calculators

Year Three – Science

Whiteman Park acknowledges the Wadjuk Noongar people as the Traditional Custodians of the land on which we work, learn and play and acknowledge the significance of Korndiny Karla Boodja (Bennett Brook) at the heart of Whiteman Park.

## Acknowledgements

These resources were developed by Whiteman Park's education team for general classroom use. Teachers may duplicate these resources for education purposes only.

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# Contents

# Teacher Notes

These classroom activities are based on Whiteman Park's *Conservation Calculators* education program. They will assist you and your students to make the most of the program by establishing knowledge before the excursion and by giving you extension material to use back in the classroom after your visit.

These resources support topics from Western Australia's Year 3 Science Curriculum and allow students to explore how science helps us to understand and look after the natural world.

We look forward to welcoming you and your class to Woodland Reserve at Whiteman Park soon!

## A Guide For Using These Resources

These resources can be used collectively or as stand-alone activities.

Each Learning Activity begins on its own page with an overview provided for guidance. Detailed teacher instructions are outlined, along with a reference to the relevant Curriculum links. Many Learning Activities are also supported by student worksheets and activity resources, as defined below:

- **Activity Resource** – a reference image or other resource that teachers need to share with the class for them to complete the activity.
- **Worksheet** – an activity sheet that is designed to be copied and circulated to students. They may be completed either individually or in groups, as outlined in the instructions for each activity.

To help you find the video and online resources that have been linked in this document, please visit our website at: www.whitemanpark.com.au/education/teacher-information/teacher-resource-links

### About Woodland Reserve at Whiteman Park

Woodland Reserve is Whiteman Park's premier conservation program that is providing a world class breeding facility for rare and endangered fauna of the state.

It encompasses 500 hectares of natural and rehabilitated banksia woodlands and is one of the few refuges of the Critically Endangered woylie.

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# Curriculum Links

The following Western Australian Curriculum and Australian Curriculum content descriptions apply to the Learning Activities provided in these resources. We have indicated each link by Learning Activity.

| SCIENCE UNDERSTANDING | | Activity no's |
|---|---|---|
| Biological sciences | Living things can be distinguished from non-living and once-living things, and grouped by their characteristics **(WA3SSUB1)**<br>**For example:**<br>the criteria for something to be recognised as living may be recalled with the mnemonic MRS GREN | **1-12** |

| SCIENCE INQUIRY | | Activity no's |
|---|---|---|
| Questioning and predicting | Pose questions and make predictions based on planned observations of phenomena that include variables to be measured and changed **(WA3SSIQ1)** | **1-10** |
| Planning and conducting | Plan and conduct investigations, including elements of fair tests, and consider the material and equipment risks **(WA3SSIPL1)** | **10, 11** |
| Evaluating | Compare findings with those of others, and to predictions; consider if investigations were fair; and identify questions for further investigation **(WA3SSIE1)** | **1, 8, 12** |
| Communicating | Communicate ideas using scientific vocabulary **(WA3SSICM1)**<br>**For example:**<br>discussing how to prepare simple reports of their investigations to share predictions, methods, results and conclusions with their peers | **2, 5, 6, 8, 11, 12** |
| Collaborating and applying | Use science knowledge to propose explanations for observed phenomena and solutions to problems **(WA3SSICL1)** | **1, 4, 5, 6, 7, 9, 11, 12** |

| ENGLISH LANGUAGE | | Activity no's |
|---|---|---|
| Language for expressing and developing ideas | Extend topic-specific and technical vocabulary and know that words can have different meanings in different contexts **(WA3ELALA5)** | **5, 6** |

| ENGLISH LITERACY | | Activity no's |
|---|---|---|
| Interacting with others | Use interaction skills to contribute to conversations and discussions to share information and ideas, recognising the value of others' contributions and responding through comments, recounts and summaries of information **(WA3ELYI1)** | **1, 6, 8, 9, 10, 11** |
| Analysing, interpreting, and evaluating | Read a range of texts combining phonic, semantic and grammatical knowledge to read accurately and fluently, re-reading and self correcting when required **(WA3ELYA2)** | **8, 11** |

| CROSS CURRICULAR PRIORITIES | | Activity no's |
|---|---|---|
| Sustainability - Design | Creative and innovative design is integral to the identification of new ways of sustainable living. **(SD2)** | **7** |
| Sustainability – Futures | Sustainable futures require individuals to seek information, identify solutions, reflect on and evaluate past actions, and collaborate with and influence others as they work towards a desired change. **(SF2)** | **7, 8, 10, 11, 12** |
| Sustainability – Systems | All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival. **(SS1)** | **5, 7, 11, 12** |
| | Sustainable patterns of living require the responsible use of resources, maintenance of clean air, water and soils, and preservation or restoration of healthy environments. **(SS2)** | **7, 11, 12** |
| Sustainability – World Views | World views that recognise the interdependence of Earth's systems, and value diversity, equity and social justice, are essential for achieving sustainability. **(SW1)** | **7, 11** |

# Links at a Glance

| | 5 Es | | | | | Delivery | | | SCIENCE | | | | | | ENGLISH | | | CROSS CURRICULUM PRIORITIES | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Biological sciences | Questioning and predicting | Planning and conducting | Evaluating | Communicating | Collaborating and applying | Language for expressing and developing ideas | Interacting with others | Analysing, interpreting, and evaluating | Sustainability - Design | Sustainability – Futures | Sustainability – Systems | | Sustainability – World Views |
| **Activity** | Engage | Explore | Explain | Expand | Evaluate | Individual | Small group | Whole class | WA3SSUB1 | WA3SSIQ1 | WA3SSIPL1 | WA3SSIE1 | WA3SSICM1 | WA3SSICL1 | **WA3ELALA5** | **WA3ELYI1** | **WA3ELYA2** | **SD2** | **SF2** | **SS1** | **SS2** | **SW1** |
| 1. Whiteman Park Lives! | ● | | | | | ● | | ● | ● | ● | | ● | | ● | | ● | | | | | | |
| 2. Characteristics of Living | ● | | | | | ● | | | ● | ● | | | ● | | | | | | | | | |
| 3. Once Living Olivia | | ● | | | | | | ● | ● | ● | | | | | | | | | | | | |
| 4. Living or Non-living Picture Sort | | ● | | | | ● | | | ● | ● | | | | ● | | | | | | | | |
| 5. What's that Word? | | | ● | | | ● | ● | | ● | ● | | | ● | ● | ● | | | | | ● | | |
| 6. Name Game | | | ● | | | | ● | | ● | ● | | | ● | ● | ● | ● | | | | | | |
| 7. Draw to Survive! | | | ● | | | ● | | | ● | ● | | | | ● | | | | ● | ● | ● | ● | ● |
| 8. Fauna Facts | | | | ● | | ● | ● | | ● | ● | | ● | ● | | | ● | ● | | ● | | | |
| 9. Same, and Different | | | | | ● | ● | | | ● | ● | | | | ● | | ● | | | | | | |
| 10. Science Saves! Think, Pair, Share | | | | ● | | ● | ● | | ● | ● | ● | | | | | ● | | | ● | | | |
| 11. My Native Animal Research | | | | ● | | ● | ● | ● | ● | | ● | | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 12. A Perfect Home | | | | | ● | ● | | | ● | | | ● | ● | ● | | | | ● | ● | ● | ● | |

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Learning Activity 1:

# Whiteman Park Lives!

Begin a discussion with your students about what is alive and how we know.

## Instructions

1. Explain to the class that they will be going to Whiteman Park for an excursion soon. To get ready, they are going to watch a very short video about the Park.
2. Show your class the video of Whiteman Park. You might want to show it more than once during the lesson.
3. Hand out the worksheet to each student to fill in, or you might want to go through the questions as a class.
4. When completed, discuss what students have discovered about what being alive means.

## Resources

- ☐ Projector or screen to watch video
- ☐ 'Family-friendly Whiteman Park' video. Links: https://youtube.com/shorts/BUbn0VGwwEQ?=share
- ☐ Printed *Whiteman Park Lives!* worksheet

## Curriculum Links

### SCIENCE UNDERSTANDING

**Biological sciences**
WA3SSUB1

### SCIENCE INQUIRY

**Questioning and predicting**
WA3SSIQ1

**Evaluating**
WA3SSIE1

**Collaborating and applying**
WA3SSICL1

### ENGLISH LITERACY

**Interacting with others**
WA3ELYI1



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# Whiteman Park lives!

**Watch the video. Then start thinking about these questions.**

Can you remember three living things you saw in the video?

The train was moving. Is it alive?

Why or why not?

Was anything eating in the video? What?

If something is alive, it is able to produce young. Did you see any babies in the video? Who had a baby?

Were the trees alive?

How do you know?

Was the camel alive?

How do you know?

Now you have thought about it – talk to your class about how we know if something is alive or not!

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Learning Activity 2:

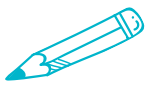
# Characteristics of Living

Familiarise your students with the characteristics of living things through linking pictures to words.

## Instructions

1. Discuss with the children about what defines a living thing.
2. Introduce the students to the characteristics of living. Introduce the words used to describe the seven characteristics of living and their meaning.
3. Hand out the worksheets to each student and ask them to match the images to the words.

## Resources



- ☐ Printed *Living Word Links* worksheet

## Curriculum Links

**SCIENCE UNDERSTANDING**

**Biological sciences**
WA3SSUB1

**SCIENCE INQUIRY**

**Questioning and predicting**
WA3SSIQ1

**Communicating**
WA3SSICM1

# Living Word Links

**Link the picture to the correct characteristics of living words.** The first one is done for you.

Moving

Reproducing

Eating

Expelling waste

Growing

Breathing

Responding to the environment like heat, cold and light

NAME:



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Learning Activity 3:

# Once Living Olivia

An optional activity to be delivered if your students are not overly sensitive to the topic of taxidermy. Using a picture and story of a taxidermised animal, the class discusses what **once living** means.

## Instructions

1. Before you begin, discuss with the class if they have seen taxidermised (or stuffed) animals before. Clarify that these animals are no longer alive but their real skin has been arranged over a fake body to make the animal look alive. It is done so people can see what the animal looked like when it was alive.
2. You might want to show your class a video on taxidermy. This example, '*What is Taxidermy?*' from Jazmine Miles-Long and the National Museum of Ireland is a good resource. Link: https://youtu.be/ed8Hq9ClC3Y
3. In a class setting, display the image of *Olivia the Pink and Grey Galah* and read *Meet Once Living Olivia* to the students.
4. Discuss with the class how we know that the tree which the log, leaves and gumnuts came from was alive. (Look for answers such as: we know trees grow, they reproduce, they breathe).
5. As a class, or in pairs, have your students describe the difference between **non-living** and **once living** now they have learnt about Olivia.

## Resources

- ☐ Printed Resource – *image of Olivia the Pink and Grey Galah*
- ☐ Resource: *Meet Once Living Olivia*

## Curriculum Links

**SCIENCE UNDERSTANDING**

**Biological sciences**
WA3SSUB1

**SCIENCE INQUIRY SKILLS**

**Questioning and predicting**
WA3SSIQ1

# Olivia the Pink and Grey Galah

# Meet Once Living Olivia

This is a picture of once living Olivia.

She is a pink and grey galah, a kind of cockatoo.

A long time ago, she was living. We know she was living because she grew and moved and ate and felt cold. She had babies and even pooed.

Now she is once living. This means she was once alive but now is not. She doesn't move or eat or poo or grow now. Her outside is real, but she has been stuffed on the inside.

The log she is standing on is once living. It was once was part of a living tree.

The leaves and gumnuts on the ground are also once living. They were also once part of a tree.

Non-living things were never alive – like the sand and stone the log is standing on.

Learning Activity 4:

# Living or Non-living Picture Sort

Using cards featuring things in Woodland Reserve at Whiteman Park, students sort images to see the difference between living, non-living and once living.

## Instructions

1. Explain to the students that they will be going to Woodland Reserve – a special part of Whiteman Park – on their visit. The pictures on the *Woodland Reserve Things* worksheet are some of the things they might see there.
2. Before commencing, refresh the class about the characteristics of living and the difference between living, non-living and once living things.
3. Instruct your students to cut out each of the images on the *Woodland Reserve Things* worksheet carefully.
4. Using the *Living and Not in Woodland Reserve* worksheet, ask your students to glue the images where they think they belong under the living, non-living or once living headings.
5. As a class, discuss their findings:
   a. Can they identify all the things in the images?
   b. How hard was it to decide where to place the pictures?
   c. What methods did they use to decide?

## Resources

- ☐ Printed worksheets:
  - *Woodland Reserve Things*
  - *Living or Not in Woodland Reserve*
- ☐ Scissors and glue

## Curriculum Links

**SCIENCE UNDERSTANDING**

**Biological sciences**
WA3SSUB1

**SCIENCE INQUIRY**

**Questioning and predicting**
WA3SSIQ1

**Collaborating and applying**
WA3SSICL1



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# Woodland Reserve Things

These are some of the things that are found around Woodland Reserve at Whiteman Park. Cut out each card and try and sort them into **Living, Non-Living** or **Once Living** on your *Living or Not in Woodland Reserve* worksheet.



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# Living or Not in Woodland Reserve

| **Living** Things | **Non-Living** Things | **Once Living** Things |
| --- | --- | --- |
| | | |

NAME:

Learning Activity 5:

# What's That Word?

These activities introduce your students to important words in environmental science and the keywords they will encounter during their visit to Whiteman Park.

## Instructions: I Know That Word

1. Start by reading the *Science Saves* text aloud to the class. Ask the class what words they know from what they just listened to.
2. Hand out the *I Know that Word* worksheet to each student and have them complete the activity.
3. As a class, review what words they thought they knew from the text and the meanings of the words on the worksheet. You can also discuss:
   - what Australian native animals can they think of?
   - is a cat, a dog or a sheep a native animal? Why, or why not?
   - what do scientists do to find out about how the world works?
   - what they predict will happen at school today, next week or next year?

## Instructions: Picture That Word

1. Explain to the students that there are six words to learn before their excursion to Whiteman Park. These are:
   - Nocturnal
   - Marsupial
   - Woodland
   - Ranger
   - Fungi
   - Endangered
2. Ask the students to work out the correct word for each definition in the *Picture That Word* worksheet, either individually or in pairs.

   *Note: The pictures gives the sound of the word, for example: the first answer is a picture of 'Mars' and a picture of 'soup' plus the letters 'ial. Mars + soup + ial = Marsupial. This is a visual way for the students to remember these unfamiliar words.*
3. Once they have worked out the picture puzzles, you can use the definitions on the worksheet to discuss what each word means, or have your students research a word each.

## Extension ideas

You can explore the scientific knowledge traditions of Aboriginal and Torres Strait Islander Peoples using Australians Together's Caring for Country: Indigenous scientific observation and cultural practices resources.

Link: australianstogether.org.au

## Resources

- ☐ *Science Saves* activity resource
- ☐ Printed worksheets:
  - *I Know That Word* worksheet
  - *Picture That Word* worksheet

## Curriculum links

**SCIENCE UNDERSTANDING**

**Biological sciences**
WA3SSUB1

**SCIENCE INQUIRY**

**Questioning and predicting**
WA3SSIQ1

**Communicating**
WA3SSICM1

**Collaborating and applying**
WA3SSICL1

**ENGLISH LANGUAGE**

**Language for expressing and developing ideas**
WA3ELALA5

**CROSS CURRICULUM PRIORITIES**

**Sustainability – Systems**
SS1



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# Science Saves

In Western Australia, we have lots of **native animals** that are only found here. **Scientists** study our native animals to find out:

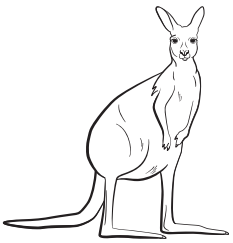
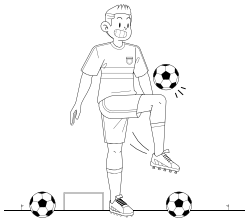
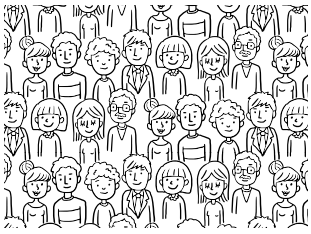
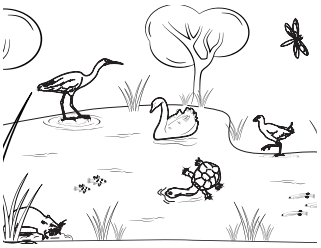
- What they eat
- Where they live
- If their **population** is getting larger or smaller
- What dangers they face
- What changes in the **environment** are bad for them

This information helps scientists to make a **prediction** about what changes might happen and helps us plan for the future. Having this knowledge is important for saving our rare animals.

Aboriginal people also have **Traditional knowledge** about native animals and about looking after the land. They work with scientists and **rangers** to save our special animals.

# I Know That Word

What do these words mean? Circle the correct picture.

| | | | |
|---|---|---|---|
| **Native animal** | A **native animal** lives in Australia naturally and was not brought here. |  |  |
| **Scientist** | A **scientist** tries to understand how our world works. |  |  |
| **Population** | **Population** is how many individuals live in an area. |  |  |
| **Environment** | The **environment** is the air, water and land where people, animals and plants live. |  |  |
| **Prediction** | A **prediction** is what someone thinks will happen in the future, based on what they know. |  |  |
| **Traditional knowledge** | **Traditional knowledge** is when Aboriginal people understand how to live and thrive on their land. Older people teach it to younger people. |  |  |

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# Picture That Word

Can you work out which word these picture strings are showing?

nocturnal fungi ranger

endangered woodland marsupial

An animal with a pouch is called a...?


ial

An animal who is awake during the night and asleep during the day is called...


al

A group of living things that includes mushrooms and mould are called ...?


A person whose job is protecting wildlife and the landscape is called a ...?

ger

If there are very few of this animal left they are called...?

N

D

An area of land covered by trees is a...?


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Learning Activity 6:

# Name Game

Building on the keywords your students learnt in the previous activity, they will further immerse themselves in the meaning of environmental science vocabulary in preparation for their visit to Whiteman Park.

## Background

This game needs two teams of at least two players each, so students will effectively play in groups of four (or larger). You will need one game cube per group and two sets of Name Game Cards per group.

The game works like a bit like Pictionary combined with Charades.

## Instructions

1. Prepare game cards for each game by cutting them out. Some are blank to add your own words that you may have covered in class.
2. Prepare a dice for each game or get the students to do so. Remember that you only need one dice per game (two teams versus each other of two students or more each).
3. Split the class into teams of at least two players. Each team will play another team in the Name Game.
4. Explain the game rules to the students:
    a. Shuffle the Name Game Cards and place in a pile between the two playing teams.
    b A member of Team A chooses a card and does not show it to anyone.
    c. They roll the dice.
    d. They then follow the instructions on the dice on how to explain the word to their teammates
    e. The teammates have one minute (or less) to guess the word (note: use a sand timer or other method to time the round).
    f. If the team guesses the word correctly in that time, they get one point.
    g. The other team (Team B) then takes a turn, as above.
    h. After all the Name Game Cards have been used up, or a certain timeframe/ number of rounds completed, the game concludes.
    i. The team with the most points are the winners!

## Resources

- ☐ Printed resources:
    - *Name Game Cards*
    - *Name Game Cube*
- ☐ Glue and scissors to create Game Cubes
- ☐ Drawing materials
- ☐ Timing devices (e.g., sand timer or stopwatch)

## Curriculum links

**SCIENCE UNDERSTANDING**

**Biological sciences**
WA3SSUB1

**SCIENCE INQUIRY**

**Questioning and predicting**
WA3SSIQ1

**Communicating**
WA3SSICM1

**Collaborating and applying**
WA3SSICL1

**ENGLISH LANGUAGE**

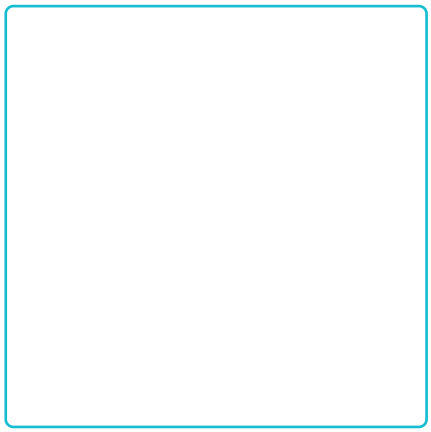
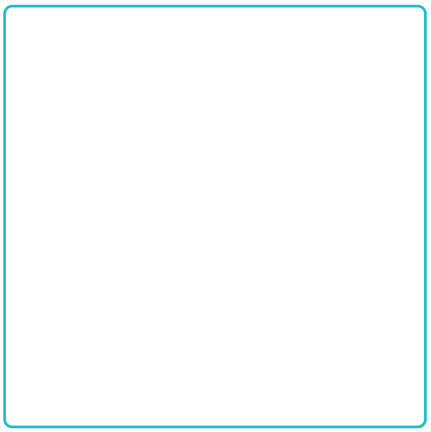
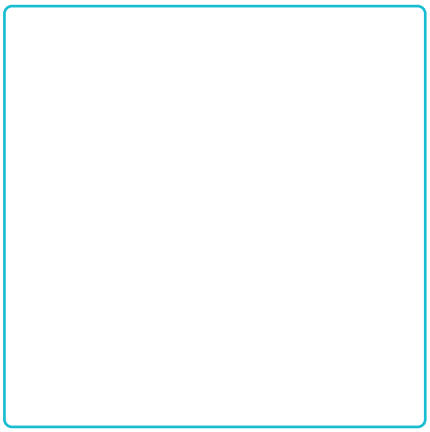
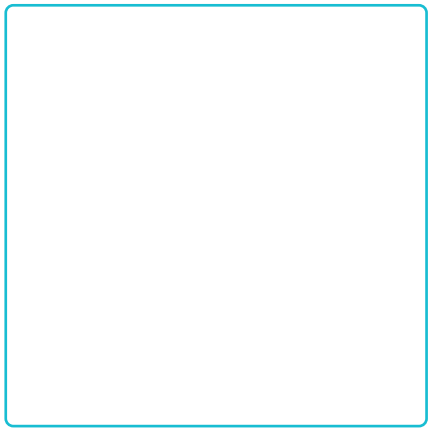
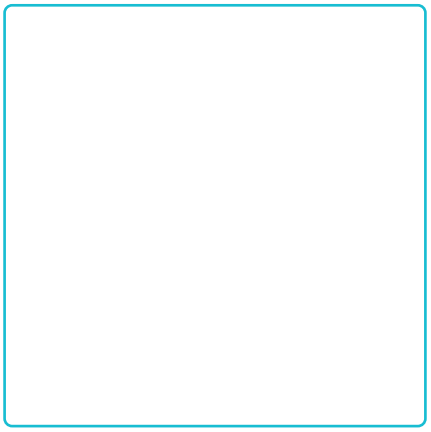
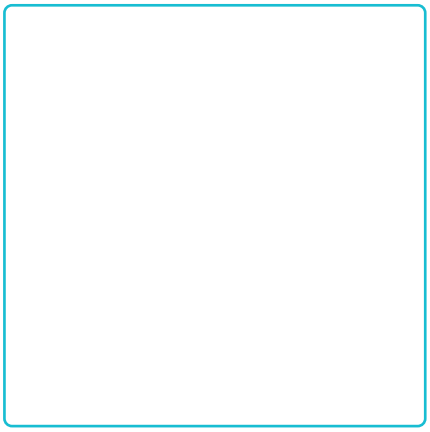
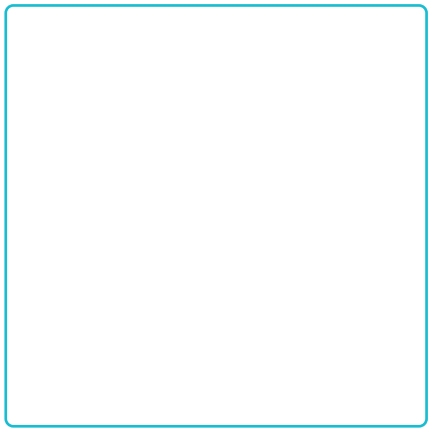
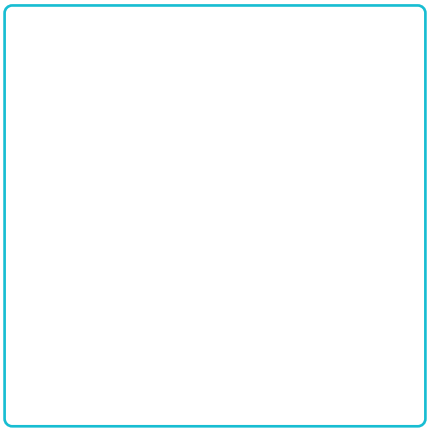
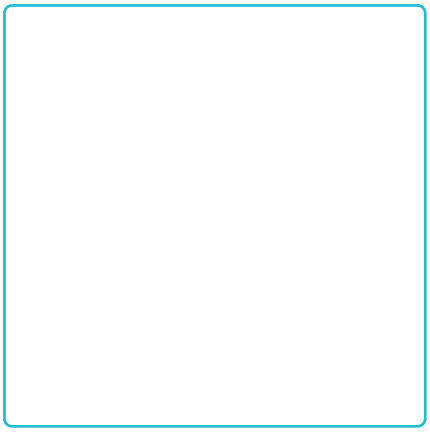
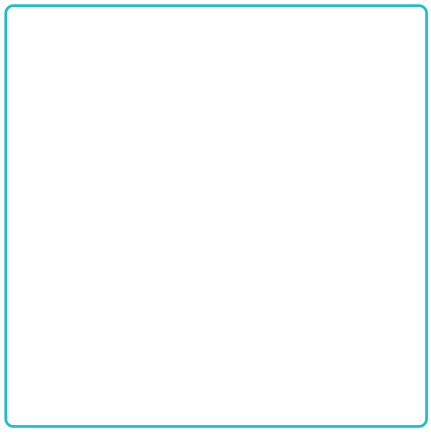
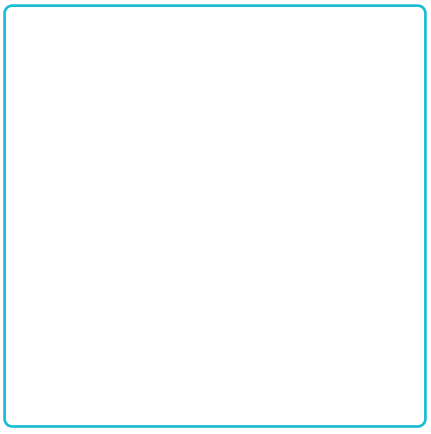
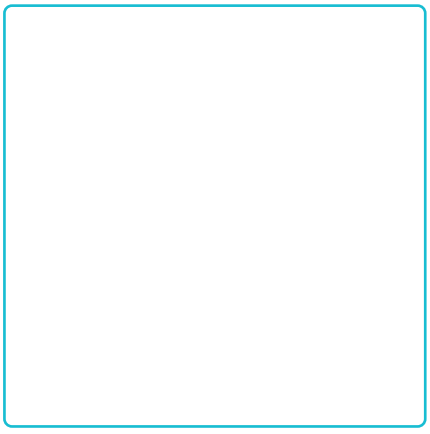
**Language for expressing and developing ideas**
WA3ELALA5

**ENGLISH LITERACY**

**Interacting with others**
WA3ELYI1

# Name Game Cards

| | | |
|---|---|---|
| nocturnal | fungi | woodland |
| ranger | marsupial | endangered |
| native Australian animal | environment | scientist |
| population | Traditional knowledge | predict |

# Name Game Dice

Cut on solid lines,
fold on dashed lines.
Stick to create a cube.

draw the word's meaning

give word clues (don't say the word)


give an example

define the word

act out the word

miss a turn



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