

# Biodiversity unit: Lizard lounge

## Level 3 and 4

May 2022

### About this unit

This unit gives students the opportunity to learn about lizards and their status in the environment. Students will learn what lizards require, assess their school garden, and plan and construct an area providing lizard habitat.

This unit focuses on lizard species.

### Students will learn

- The importance of biodiversity
- How to make observations, describe features and identify living and non-living things
- What lizards need to survive
- To use a range of methods to collect and represent data
- How to apply their critical and creative thinking skills when planning for and constructing a design solution

### Suggested sequence of activities

1. Finding out about our gardens
2. Finding out about lizards
3. Planning and constructing a “Lizard lounge” in the school ground

Developed by:  
Gould League for Cardinia Shire Council



## Victorian Curriculum links

Domain	Content description
English Language / Expressing & developing ideas	Learn extended and technical vocabulary and ways of expressing opinion including modal verbs and adverbs <a href="#">(VCELA273)</a>
Geographical Knowledge / Diversity and significance of places and environments	Types of natural vegetation and the significance of vegetation to the environment, the importance of environments to animals and people, and different views on how they can be protected; the use and management of natural resources and waste, and different views on how to do this sustainably <a href="#">(VCGGK082)</a>
Science Understanding / Science as a human endeavour	Science knowledge helps people to understand the effects of their actions <a href="#">(VCSSU056)</a>
Science Understanding / Biological sciences	Living things can be grouped on the basis of observable features and can be distinguished from non-living things <a href="#">(VCSSU057)</a> . Different living things have different life cycles and depend on each other and the environment to survive <a href="#">(VCSSU058)</a>
Design and Technologies / Creating Designed Solutions / Generating	Generate, develop, and communicate design ideas and decisions using appropriate technical terms and graphical representation techniques <a href="#">(VCDSCD029)</a>
Design and Technologies / Creating Designed Solutions / Producing	Select and use materials, components, tools and equipment using safe work practices to produce designed solutions <a href="#">(VCDSCD030)</a>
Design and Technologies / Creating Designed Solutions / Evaluating	Evaluate design ideas, processes and solutions based on criteria for success developed with guidance and including care for the environment and communities <a href="#">(VCDSCD031)</a>
Design and Technologies / Creating Designed Solutions / Planning and managing	Plan a sequence of production steps when making designed solutions <a href="#">(VCDSCD032)</a>
Critical and Creative Thinking / Meta-Cognition	Consider concrete and pictorial models to facilitate thinking, including a range of visualisation strategies <a href="#">(VCCCTM018)</a>
Critical and Creative Thinking / Meta-Cognition	Examine an increased range of learning strategies, including visualisation, note-taking, peer instruction and incubation, and reflect on how these can be applied to different tasks to reach a goal <a href="#">(VCCCTM019)</a>  Investigate a range of problem-solving strategies, including brainstorming, identifying, comparing and selecting options, and developing and testing hypotheses <a href="#">(VCCCTM020)</a>

# Activity 1: Finding out about our gardens

## Learning outcomes

Students will learn about biodiversity, what it means and why it is important in garden habitats. Students will collect and record data from their observations and samples.

## Resources

- Equipment for habitat exploration. Suggested materials per pair of students: a small container to collect creatures in, a garden trowel (even a spoon or a ruler) to help move mulch and leaves aside, a magnifying glass
- Mini-beast identification sheet (Appendix 2)

## Teachers note

This activity includes habitat exploration, where the students will look for mini beasts in two different areas of the school grounds. The teacher will need to have picked out and designated two different areas for exploration: one which has a good covering of plants and mulch or leaf litter, and another which is more like bare earth or perhaps a high traffic area. The students will be exploring to see which area hosts more mini beasts.

If designated areas are within reasonable distance and you can supervise, the exploration of both areas can be done simultaneously by dividing the class into two groups. If you are not able to supervise both areas at the same time, you might want to divide your exploration time into two, allowing all students to explore both areas one after the other.

The teacher may use Cardinia Shire's "Gardens for Wildlife" warm sheltered corner fact sheet and patch of natural mulch fact sheet as reference. [www.cardinia.vic.gov.au/gardensforwildlife](http://www.cardinia.vic.gov.au/gardensforwildlife)

Cardinia Shire has indigenous plant nurseries that can provide plants and advice about creating a lizard friendly garden [www.cardinia.vic.gov.au/gardensforwildlife](http://www.cardinia.vic.gov.au/gardensforwildlife)

## Instructions

*Biodiversity class discussion* – talk to children about the concept of biodiversity. Who has heard of this word? It comes from “biological diversity”. **Biological** refers to living things, and **diversity** means a wide range. Biodiversity refers to the variety of living things (plants and animals) in the world or in a particular habitat. It is good to have a high level of diversity in a habitat to help meet the needs of all levels of the food chain. We are going to conduct a “habitat exploration” in the schoolground to see what creatures might be living in the gardens.



*Habitat exploration* – explain activity to students, that they will be exploring two different areas within the school garden to discover and compare the creatures that live there. Children will work in pairs. Show them the equipment and explain that the trowel (or equivalent) is for gentle moving leaves and mulch aside (and some shallow digging if that’s allowed!). Perhaps ask for ideas about what kinds of creatures they might find.

### Some suggested rules for habitat exploration:

- All animals are important, so we handle them carefully and treat them with respect.
- Share the equipment with your partner and ensure that it is all returned at the end of the activity.
- If you find a spider, have a good look at it, let your teacher know it’s there so they can show the rest of the class, but leave it where it is and do not pick it up.
- As some people have an allergy to bee and wasp stings, it is important to leave bees and wasps alone and do not try and catch them in the bug catcher. Spiders, bees and wasps are still important creatures to be noted.

#### 1. Divide class into two groups.

- Group one will explore an area which has good plant and mulch ground cover.
- Group two will explore an area of bare earth – possibly a high traffic area or one with very little ground cover.
- The students will work with a partner in whichever area they have been assigned.
- Allow 10 minutes to explore and find mini beasts.



2. Students return to the classroom to report on what they have found. (Use the identification sheet to help identify each creature or you can use an app such as this from Museums Victoria to help with identification <https://museumsvictoria.com.au/apps/field-guide-app-to-victorian-fauna/>). Make observations about the creatures and their adaptations.

3. Identify and record the number of each creature found and record on a bar graph. Make two bar graphs – one for each area. Compare the differences in number or type of creature from each area.

4. What conclusions can we make about what we found? (Generally, would expect the area with a good layer of vegetation to have a greater diversity).

The more invertebrates (mini beasts) that live in an area, can indicate greater biodiversity and a healthier habitat. They are good for the soil – helping with decomposition, distribution of nutrients, aeration of the soil, etc. They also provide food for other creatures, such as frogs, lizards and birds. Next time, we are going to learn a bit more about lizards.



Before proceeding any further ask students to return all the mini beasts to the garden, back to the habitat they were found in.

## Activity 2: Finding out about lizards

### Learning outcomes

They will learn about lizards and what they need to survive. They will be able to identify the features of a preferred habitat for lizards and some of the threats to lizard survival.

### Resources

- Lizard lounge fact sheet - one per student
- Call to action sheet – one per student or one for the class (Appendix 3)
- Threats to lizards’ cards and suggested ways to help cards, for Card Matching Activity. (One set per small group) (Appendix 4).

### Instructions

Ask students what they know about lizards. Collate the information and words they offer on the whiteboard. Ask questions about lizards, what they eat, what kind of creatures they are, where they like to live, and any kinds of lizard they are aware of.



Vocabulary – reptiles, vertebrates, invertebrates, biodiversity, cold-blooded, scaly, skink, goanna, etc.

**Lizard facts** – lizards are secondary consumers (maybe add this term to the vocab list above), they eat invertebrates and small vertebrates, but also some seeds and berries. What is important about this? Diversity in the environment helps keep a balance of all living things in nature.

What do lizards need in their habitat to help them survive? Discuss, focussing on what students have already suggested above about requirements for habitat.

Distribute the **Lizard lounge fact sheet** (attached printable sheet) to the students. With a partner, ask the students to look at the fact sheet and to identify new and interesting facts about lizards. Ask the students to talk about the things they have found out about lizards.

Lizards are beneficial to our gardens because they help balance the population of plant eating insects, slugs and snails. So minimising fertilisers, snail pellets, and pesticides helps encourage a greater diversity of creatures to the garden and in turn also attracts the birds, lizards, frogs and other creatures that feed on them and help to keep the numbers in balance.



Note: Native reptiles are protected in Australia and it is illegal for healthy individuals to be relocated.

**Give lizards a chance card matching activity** – this game is a card matching “Memory” game. It helps students to think about ways they help (or reduce harm) to lizards in our local environment. Students can play this game with a partner (or small group). Print out the cards with a Lizard “problem” in one colour (e.g., red paper) and cards with a “solution” on a different colour (e.g., blue).

The cards are placed face down and students take it in turns to turn over one card of each colour to see if they match. If not, turn them back over (but try to remember where each card is) and the next student takes a turn. If they find a match, they keep that pair



Large lizards like goannas can eat eggs, birds, small reptiles, and mammals – basically anything they can catch and swallow whole. In the Kimberley in northern Australia, goannas have declined due to eating poisonous cane toads.

of cards. The student with the most pairs at the end wins the game (like the card game memory).  
Examples:

- Lizards like a variety of insects, beetles and worms to eat. (Have a garden area with a deep mulch of leaves, bark and twigs to encourage insects, beetles and worms to make food for lizards)
- Lizards need safe places to shelter. (We could make a “lizards lounge” in our schoolground or homes)
- Lizards can be poisoned by eating a snail or slug that has been poisoned. (Avoid using snail bait or other chemicals in the garden.)
- Sometimes lizards like bluetongues lie on hot surfaces such as roads. They can be hard to see. (Watch out for lizards on the road when in the car – particularly near bushland.)
- Pets like cats and dogs can cause injury to lizards. (Keep pets away from lizard habitat. Never release cats into the bush.)
- Lizards can get injured by spades, lawn mowers and whipper snippers. (Look out for lizards when gardening – they may be hiding in grass or small shrubs.)
- Lizards move very slowly until they have warmed up, which makes them more at risk from predators. (Make a pile of rocks in your Lizard lounge, so they can slip between them easily if threatened.)
- Lizards don’t need to drink a lot but might need water in warmer weather. (Put a shallow dish of water in a protected spot, so the lizards can lap it up!)

**Call to action** – An opportunity to reflect on what has been learned and how we can respond. Now that we know more about lizards and some of the problems they face, are there some actions that we could take, that would help their survival? Ask students to discuss in pairs, what they have learned and how they could help lizards. Ask for feedback of their ideas.



Students can write their own pledge or promise (Appendix 2).

- We have been learning about lizards. I found out that... (something they have learned)
- I will help make the environment safer for lizards by... (one way they can help protect lizards).



## Activity 3: Planning and constructing a lizard lounge

### Learning outcomes

Students will use their knowledge of lizards to choose a suitable site and construct a lizard lounge habitat in the schoolground.

### Resources

The materials to construct a Lizard lounge should be relatively easy to find, and can include plants, branches, logs, stones, rocks (to warm themselves on), hollow logs (to hide in), old earthenware pipes (good hiding places) and even items like roof tiles can provide places for lizards to hide and shelter. The location needs to be relatively dry & in a sunny position. A shallow dish for water.

A good thick layer of chunky leaf and wood-based mulch is important too (not pine bark or red gum). See Appendix 1, for a list of suggest plants to use to create a lizard lounge

### Teacher note

This activity requires hands on construction of a Lizard lounge in a suitable warm and sheltered area of the school ground, and the potential handling of sticks, rocks and small branches. (Consider asking the students to bring garden gloves). It might suit you to do the thinking and planning stage on one day and the construction on a subsequent day. It might also be possible to find some

materials in the school grounds, or you might like to ask students to collect suitable rocks, etc (see materials list) from home to bring along.

## Instructions

1. *Recap on what we have learned about lizards.*  
Let's look back at the list of words we made in the previous activity. Talk through the meanings of some of the words, prompting students to recall some of the facts they learned. Recall some of the threats to lizards and some of the ways that we can give lizards a helping hand. (An option could be to play the "Give Lizards a Chance" card matching game as a warm-up activity for this lesson.)
  2. *Making a lizard lounge.*  
One of the ways we can help lizards is by making a Lizard lounge in our school ground. A lizard lounge is a special habitat for lizards. What will they need in their habitat? Guide the discussion based around the lizards needs for Food, Shelter and Water.
  3. *Watch a video.*  
This video is a short 5:45 min section from Gardening Australia in which a lizard lounge is constructed. The presenter gives interesting facts about lizards, shows the use of easily found materials for the lounge, and the planting of suitable plants around the space.  
[www.abc.net.au/gardening/factsheets/lizard-lounge/10930978](http://www.abc.net.au/gardening/factsheets/lizard-lounge/10930978)
  4. *Make a list of the materials we can use.*  
The students may have ideas about what materials could be used in their Lizard lounge. Give them a few minutes to make a list of possible materials with a partner. Ask the students to share their ideas with the class and start to make a class list of materials and where they could be found.
- Note: To source materials, students may be able to bring flat rocks, a shallow dish, and other appropriate materials from home. Don't forget you will need to find a warm, sheltered area in the schoolground that is reasonably sunny (especially in the morning) for the lizards to warm up on. You may be lucky enough to have an area in the schoolground that already has a good covering of suitable plants and mulch.
5. *Build your lizard lounge!*  
Once you have decided on your ideas for materials and selected a suitable place in the schoolground, it is time to build your Lizard lounge! Remind the children that it is illegal to relocate lizards in Australia. You might need to wait for the lizards to move in, but you have certainly provided an inviting and safe place for them!
  6. *Looking after your lizard lounge.*  
True indigenous plants should be well suited to your area. They will need some care and watering while first getting established but will be well adapted to local rainfall. Occasional pruning, checking the garden, and putting water in the dish during warmer months will be required.

## Citizen science

Your students might be inspired to get involved with the <https://inaturalist.ala.org.au/> There is a downloadable app and an opportunity to be involved as citizen scientists by contributing to data about lizards and reptiles in your local area. This could be done as a class, with an excursion to a local park, or students can even do it from their own back yards with their family members.



## Additional resources

Cardinia Shire's Gardens for wildlife warm sheltered corner fact sheet and patch of natural mulch fact sheet: [www.cardinia.vic.gov.au/downloads/download/606/gardens\\_for\\_wildlife\\_fact\\_sheets\\_-\\_cardinia\\_shire\\_council](http://www.cardinia.vic.gov.au/downloads/download/606/gardens_for_wildlife_fact_sheets_-_cardinia_shire_council)

Gardening Australia video on constructing a Lizard lounge  
[www.abc.net.au/gardening/factsheets/lizard-lounge/10930978](http://www.abc.net.au/gardening/factsheets/lizard-lounge/10930978)

Sustainable Gardening Australia (Information regarding providing lizard habitat in your garden)  
[www.sgaonline.org.au/lizards/](http://www.sgaonline.org.au/lizards/)

Australian Guide to Frogs and Reptiles by Bob Winters Published by Gould League  
<https://www.gould.org.au/product/australian-guide-to-frogs-and-reptiles/>

Common Lizards of Australia Poster by Gould League [www.gould.org.au/product/common-lizards-archive/](http://www.gould.org.au/product/common-lizards-archive/) Reptiles of Victoria A Guide to Identification and Ecology by Peter Robertson, A. John Coventry [www.publish.csiro.au/book/5260/](http://www.publish.csiro.au/book/5260/)

Website with interesting facts about Blue Tongues  
<https://trishansoz.com/trishansoz/animals/blue-tongue-lizard.html>

List of local indigenous plant nurseries  
[www.cardinia.vic.gov.au/downloads/download/359/local\\_indigenous\\_plant\\_nurseries\\_-\\_cardinia\\_shire\\_council](http://www.cardinia.vic.gov.au/downloads/download/359/local_indigenous_plant_nurseries_-_cardinia_shire_council)



## Appendix 1: Suggested planting list

Common name	Species name
Bidgee Widgee	<i>Acaena novae-zelandiae</i>
Southern Swamp Wallaby Grass	<i>Amphibromus neesii</i>
Common Swamp Wallaby Grass	<i>Amphibromus nervosus</i>
Wallaby Grass	<i>Austrodanthonia sp.</i>
Veined Spear-grass	<i>Austrostipa rudis</i>
Dwarf Baeckia	<i>Baeckia sp.</i>
Cut leaf daisy	<i>Brachyscome multifida</i>
Assorted Grevilleas and Bottlebrush	<i>Callistemon sp</i>
Tall Sedge	<i>Carex appressa</i>
Tassel Sedge	<i>Carex fascicularis</i>
Basket Sedge	<i>Carex tereticaulis</i>
Common Everlasting	<i>Chrysocephalum apiculatum</i>
Clustered Everlasting	<i>Chrysocephalum semipapposum</i>
Button Everlasting	<i>Coronidium scorpioides</i>
Matted Flax-lily	<i>Dianella amoena</i>
Pale Flax-lily	<i>Dianella longifolia</i>
Black Anther Flax-lily	<i>Dianella revoluta</i>
Tasman Flax-lily	<i>Dianella tasmanica</i>
Butterfly Flag	<i>Diplarrena moraea</i>
Knobby Club Rush	<i>Ficinia nodosa</i>
Red-fruit Saw-sedge	<i>Gahnia sieberiana</i>
Austral Crane's-bill	<i>Geranium solanderi</i>
Mountain Grevillea	<i>Grevillea alpina</i>
Purple Coral Pea	<i>Hardenbergia violacea</i>
Hollow Rush	<i>Juncus amabilis</i>
Pale Rush	<i>Juncus pallidus</i>
Rush	<i>Juncus sp</i>
Running Postman	<i>Kennedia prostrata</i>

Common name	Species name
Running Postman	<i>Kennedia Prostrata</i>
Angled Lobelia	<i>Lobelia anceps</i>
Wattle Mat-rush	<i>Lomandra filiformis</i>
Mat Rush	<i>Lomandra longifolia</i>
Spiny-headed Mat-rush	<i>Lomandra longifolia ssp. longifolia</i>
Many-flowered Mat-rush	<i>Lomandra multiflora ssp. multiflora</i>
Weeping Grass	<i>Microleana Stipoides</i>
Long Purple Flag	<i>Patersonia occidentalis</i>
Purple-sheath Tussock-grass	<i>Poa ensiformis</i>
Common Tussock-grass	<i>Poa labillardierei</i>
Velvet Tussock-grass	<i>Poa morrisii</i>
Blue Tussock-grass	<i>Poa poiformis var. poiformis</i>
Grey Tussock-grass	<i>Poa sieberiana var. sieberiana</i>
Common Wallaby Grass	<i>Rytidosperma caespitosum</i>
Kneed Wallaby-grass	<i>Rytidosperma geniculatum</i>
Wallaby Grass	<i>Rytidosperma laeve</i>
Bristly Wallaby-grass	<i>Rytidosperma setaceum var. setaceum</i>
Wallaby Grass	<i>Rytidosperma species</i>
Creamy Candles	<i>Stackhousia monogyna</i>
Slender Stackhousia	<i>Stackhousia viminea</i>
Common Trigger-plant	<i>Stylidium armeria</i>
Grass Trigger-plant	<i>Stylidium graminifolium</i>
Kangaroo Grass	<i>Themeda triandra</i>
Native Violet	<i>Viola hederacea</i>

## Appendix 2: Minibeast identification sheet

Minibeasts are commonly found in compost bins. This identification guide is equally as useful to identify minibeasts that can be found in the garden.

# Compost Animal Chart

*Adapted from artwork by Bob Winters*

### Compost Animals larger than 10 mm



Snail



Earthworm



Millipede



Centipede



Slug



Mite



Springtails



Roundworm

### Compost animals between 2 mm and 10 mm



Earwig



Beetle larva



Rove beetle



Vinegar fly



Maggot



Slater



Compost beetle



Spider



Ant



Amphipod

Source: *Compost Activities for Schools Teachers Guide* by Gould League

### Appendix 3: Call to action

We have been learning about Lizards. I found out that...



I will help make the environment safer for lizards by...

## **Appendix 4: Lizard possible solutions cards**

Enlarge the attached cards to A3 size. Copy onto different coloured paper, then cut up the cards for use by the students.

<p>Lizards like a variety of insects, beetles and worms to eat</p>	<p>Lizards need safe places to shelter</p>
<p>Lizards can be poisoned by eating a snail or slug that has been poisoned</p>	<p>Sometimes lizards like bluetongues lie on hot surfaces such as roads. They can be hard to see and get squished</p>
<p>Pet cats and dogs can injure lizards.</p>	<p>Lizards can get injured by spades, lawn mowers and whipper snippers</p>
<p>Lizards move very slowly until they have warmed up, which makes them more at risk from predators.</p>	<p>Lizards don't need to drink a lot but might need water in warmer weather.</p>

<p>Have a garden area with a deep mulch of leaves, bark and twigs to encourage insects, beetles and worms to make food for lizards.</p>	<p>We could make a lizards lounge in our schoolground or home garden.</p>
<p>Avoid using snail bait or other chemicals in the garden.</p>	<p>Watch out for lizards on the road when in the car – particularly near bushland.</p>
<p>Keep pets away from lizard habitat. Never release cats into the bush.</p>	<p>Look out for lizards when gardening – they may be hiding in the grass or small shrubs!</p>
<p>Make a pile of rocks in your lizard lounge, so they can slip between them easily if threatened.</p>	<p>Put a shallow dish of water in a protected spot, so the lizards can lap it up!</p>