

SCIENCE







Lesson 2

Prep Unit 1

Topic: The living world

Identifying living things in our school

Lesson concepts

-  Living things
-  Science involves exploring and observing the world using the senses
-  Questions can obtain responses
-  Observations can be made using the senses
-  Observations can be discussed
-  Observations and ideas can be shared

Learning alerts

Be aware of:

- students using generalisations about living things rather than observations using their senses (for example, flowers smell pretty).

Suggested next steps for learning

- Review the senses and practise observing living things using one sense at a time. Identify which sense is being used, and what is observed.

Today students will:

- ▶ understand how to observe living things using the senses.

Resources

Digital

Video — Feathers, fur and fins, 'Meet a flying possum!' (1:32)

Find and prepare

Sheet — Letter from Gumnut (place in envelope prior to lesson)

Sheet — Science word list (cut out words and store; select 'observe' and 'living things' for this lesson)

Sheet — Example of a scientific drawing

Envelope

Optional resources when observing animals

magnifying equipment (for example headset magnifiers, magnifying glass or magnifying containers)

camera (take photos of things observed on the walk)

hat, sunglasses or protective glasses, sunscreen

gloves (gardening or rubber)

tongs (to move leaf litter)

paintbrush (art type, long and thin; to move leaf litter and point to specimens)

Key terms

living things, magnifiers, microscope, observe, scientists

For definitions and explanations of terms, please see the [Glossary](#).

Lesson

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Discuss the concept of observation

Say to students

‘ In this science lesson we are learning about the importance of observing to understand the world around us.

To begin the lesson, a letter has arrived for you. ’



Show students the envelope containing the **Sheet** — [Letter from Gumnut](#).

Open the envelope, read the letter and ask the questions below.



Focus questions

Q: *Why do you think Gumnut has had to go away?*

A: For example: He needs to find a friend; our area has changed - the weather is colder, there isn't as much water, the trees have lost their leaves and aren't able to provide shelter anymore.

Q: *What could the friends be that Gumnut talks about?*

A: For example: Ants, koalas, lizards, dog, birds, butterflies, cats.



Point to the word 'observe' in the letter and show the word card 'observe' from **Sheet** — [Science word list](#).

Focus question

Q *Can you explain what the word 'observe' means to you?*

A. For example: look at, watch.

Say to students

‘ Observing is about looking, but it is also about using all our ‘senses’. Observing is a very important skill that scientists use in all the work they do. They observe using all their senses and they ask questions about what they observe. ’

Focus question

Q *What types of things do you think scientists might observe?*

A. For example: experiments, the stars and planets, rocks, germs.





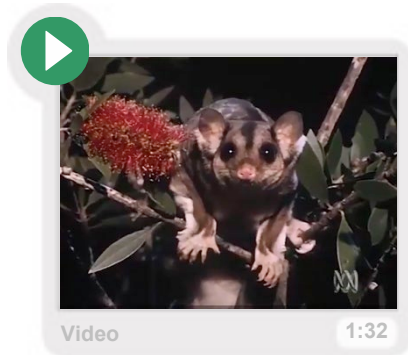
Prepare word card 'living things' from **Sheet — Science word list**.

Say to students

Some scientists spend their work time observing animals and plants. A vet is a scientist who observes animals; a botanist is a plant scientist. When scientists study plants and animals, including people, they often call them 'living things'. This is the word card saying 'living things'. We are now going to look at a video of sugar glider and practise our observing skills of a living thing.



Click on the following picture to view the **Video — Feathers, fur and fins, 'Meet a flying possum!'**.



Feathers, fur and fins, 'Meet a flying possum!' (1:32) (ABC Splash)
<http://abcspla.sh/m/155322> (3 September 2014)
 CC BY-SA 3.0 creativecommons.org/licenses/by-sa/3.0/

In this video the narrator describes his scientific observations of a sugar glider.

Focus question

- Q *What things did you observe about the sugar gliders?*
- A. For example: sugar gliders can glide a long way. They have strong claws and a skin between their front and back legs, which they stretch out to glide.

Say to students

When scientists make and describe their observations, they use specific words that describe what they actually observe rather than their opinion. Words such as 'cute' or 'cheeky' will mean different things to different people. Cute is not something you actually observe. What we observe are features that make us think something is cute. Scientists need to use words that actually describe the features or behaviour of the animal. When scientists observe living things, both animals and plants, they always need to show care and respect for the environment and the living things.

RL Observe living things

Say to students

- ‘ Scientists make observations of living things for many reasons. They may be trying to find out more information about them, write a book or to protect them. ’

Focus question

- Q *Can you think of any special equipment that scientists might use?*
 A. Answers will vary depending on prior experiences. Students may demonstrate an action but not necessarily be able to name the item.

Say to students

- ‘ As well as using their senses, scientists often use special tools to help them observe living things.

Different scientists use different equipment, but items that scientists use to observe living things can include magnifying glasses, microscopes, binoculars, cameras, rulers, weighing scales, stethoscopes and thermometers.

When scientists are observing living things, they also need to be very careful to keep themselves, as well as the living things, safe. Some living things bite or sting, or have spikes or poisons. In the outdoors scientists need to protect themselves from sunburn and insect bites. They need to watch for things that could damage their eyes and wear correct clothing. They need to be safe so they can continue their important work as scientists.

We are now going to go for a walk in our yard to observe living things like scientists. Scientists call this a ‘field walk’. We are going to observe animals, but not catch them, as they often do not survive well in containers. First, we need to prepare for going outside. ’

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Help students prepare for going out in the sun and make sure they are wearing closed-in footwear if walking in long grass, bushland etc.

Collect equipment, such as camera, magnifying glass, binoculars, gloves, tongs and/or paintbrush (to help gently move leaves).

Warn students not to taste things on their walk.

Lead students to the chosen area.

Before beginning to observe:

Say to students

Remember we need to keep ourselves and other living things safe while we observe them. Take care not to touch or frighten animals. Use the paintbrush or tongs to carefully move leaves and mulch to make your observations and then carefully replace them, and look where you are walking. Watch out for sharp sticks, spikes and prickles to avoid getting hurt.

While observing:

- share ideas and science language based on actual observations
- discuss which senses are being used and how multiple senses can build up a more detailed understanding
- support students to take photos of living things
- discuss safety and care rules
- use a paint brush to point out particular things and to move leaves etc.

Return indoors.

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Record observations

Say to students

An important part of science is accurately recording the observations made. This is so scientists don't forget what they have observed, they can show them to other scientists, have proof of their thinking and so they can look back at them when they need to. Scientists often record things while they are observing out in the field.

We are now going to record our observations of a living thing in a scientific way. Firstly, choose a living thing you have observed. It can be something we saw on our field walk or an animal you know about.

Think carefully about the animal: its parts, shape, markings, way of moving. Tell me the details of the animal.

Prompt the student to use science language to describe observations of the living thing in detail.

Say to students

I am now going to show you one way we can record our science observations.



Display **Sheet** — [Example of a scientific drawing](#):

- point to the diagram
- point to a label
- point to the part of the diagram the label is pointing to.

Say to students

‘ When we make a scientific drawing we use labels and lines to clearly identify the important parts. The lines do not cross and they are not drawn as arrows. The drawings are very real looking and clearly drawn. When we record observations (either as drawings or notes) we always date them.

Now you are going to do your own scientific drawing of the animal you described to me. ’

Allow time for the students to draw.

Ask students to tell you about their drawing, and if needed help them to:

- record labels and draw lines (not an arrow) to each labelled part
- record a scientific title
- record the date.