

Unit overview

All living things have basic needs that must be met in order to survive – food, water, shelter and air.

Students will all know what it feels like to be hungry and thirsty, but may not be able to identify air as a 'need' without guidance. Students also may be more aware of these basic needs if they have experience caring for a younger sibling or relative, pet or plants.

This lesson has been developed as an extension opportunity for an existing unit of work prepared by the Australian Science Teachers Association (ASTA) in partnership with Education Services Australia (ESA) – [Needs of living things](#).

The following lesson can be taught as a stand-alone lesson or incorporated into the full unit of work mentioned above.

By allowing students to investigate the needs of sheep kept for wool production, this lesson aims to help students be more consciously aware of the basic needs of animals that rely on humans for survival, such as livestock, and the way humans support these needs.

By exploring a range of resources students will learn how farmers look after sheep to meet their basic needs. Students use what they have learned to create a paddock on a sheep farm and identify how they would meet the needs of their sheep.

Cross-curriculum priority:

Sustainability

Early lessons about the interdependence of animals, plants and people.

Links with the Australian Curriculum

This *Needs of sheep* lesson links to all three strands of the Australian Curriculum: Science.

The table below outlines the sub-strands covered in this unit of work.

Achievement standard

The sequence of the lessons in this unit of work provides opportunities to gather information about students' understanding related to the sections in bold in the achievement statement below:

By the end of the Foundation year, students describe the properties and **behaviour of familiar objects**. They **suggest how the environment affects** them and **other living things**.

Students share observations of familiar objects and events.

Source: [Australian Curriculum, Assessment and Reporting Authority \[ACARA\]](#)

Strand	Sub-strand	Code	Content descriptions
Science understanding	Chemical sciences	ACSSU002	Living things have basic needs, including food and water
Science as a human endeavour	Nature and development of science	ACSHE013	Science involves exploring and observing the world using the senses
Science inquiry skills	Questioning and predicting	AC SIS014	Respond to questions about familiar objects and events
	Planning and conducting	AC SIS011	Explore and make observations by using the senses
	Processing and analysing data and information	AC SIS233	Engage in discussions about observations and use methods such as drawing to represent ideas
	Communicating	AC SIS012	Share observations and ideas

Background information

Like all other living things sheep need food water shelter and air to survive and thrive. Like pets, sheep are domesticated animals that rely on people to meet these basic needs.

Sheep are herbivores, which means they feed only on plants and can spend up to seven hours a day grazing (eating plant material). They mostly graze during the early morning and the evening and can walk many kilometres as they graze.

When there is not enough pasture (plants grown specifically to feed animals such as sheep and cattle) in a paddock, wool producers provide extra feed for sheep in the form of hay, silage, grain or processed feed mixes that have been specially prepared to meet their nutritional requirements.

Sheep can drink up to 1.5 litres of water each day, but this varies with the type of pasture and feed they eat, their size, and also the time of year (summer or winter) and weather conditions.

More background information on the needs of sheep and how they are met by Australian wool producers can be found in the LEARN ABOUT WOOL [online resource library](#).

More general information about teaching young students about the needs of living things can be found in the [background material for the full unit of work on the ScienceWeb website](#).

Pre-lesson preparation, materials and equipment

The LEARN ABOUT WOOL factsheets listed below are provided in the hardcopy LEARN ABOUT WOOL kit and are freely available as downloadable PDFs from the [LEARN ABOUT WOOL website](#). These resources provide ample background information to carry out this lesson and answer a range of questions posed by students.

The videos listed below and in the sidebar for this *Needs of sheep* lesson on the [LEARN ABOUT WOOL website](#) will also support your understanding of the topic and can be used to further spark students' interest and understanding of the topic.

Useful resources:

- ScienceWeb unit [Needs of living things](#)

Materials and equipment

Video:

- [Sam the Lamb – The needs of sheep](#)

LEARN ABOUT WOOL kit factsheets:

- [Sheep – the wool producers](#)
- [Wool production](#)
- [Wool production in Australia](#)

Books:

- *A Year on our Farm* by Penny Matthews and Andrew McLean
- *The Story of Wool*, Kondinin Group (page 12)

LEARN ABOUT WOOL student worksheet:

- My sheep paddock

Other resources and equipment:

- Pencils and crayons

Lesson objective

In this lesson students learn about the needs of farm animals by investigating a sheep property and apply what they have learned by creating a paddock suitable for holding a mob (flock) of sheep.

Students will have the opportunity to:

- reflect upon what they already know about the needs of plants and animals
- recognise the needs of living things in a range of situations
- use drawings to represent observations and ideas and discuss their representations with others.

Lesson focus

The focus of this lesson is to encourage students to adapt their knowledge of what they have learned so far about the needs of animals, plants and consider how the needs of animals on farms are met.

If you are using this activity as an extension to the [ScienceWeb unit Needs of living things](#), explain to students that during this lesson they are going to explore how farmers meet the needs of farm animals, such as sheep.

If you are using this as a stand-alone lesson you may need to spend more time early in the lesson to introduce the concepts of the basic needs of living things. A guide to teaching this concept can be found in the [background material for the full unit of work on the ScienceWeb website](#).

Introduction

Explain to students that in this lesson they will be talking and thinking about what animals on farms, like sheep, need to survive and how these needs are met.

Create a mind map to review the basic needs of living things (air, water, food and shelter).

Body of lesson

1. Gather students as group at the front of the classroom and play the video [Sam the Lamb — The needs of sheep](#). When the video is finished, ask students to tell you three things sheep need to survive that were covered in the video. Record students' responses on a whiteboard or in your class science journal if appropriate.
2. Read students the story *A Year on our Farm* by Penny Matthews and Andrew McLean.
 - As you read the story draw students' attention to the activities being carried out in February.
 - Ask why the farmer might be checking the water troughs and feeding hay to the sheep during summer. Make note of the picture of the sheep shelter in the shade of the trees during summer and ask students how farmers might make sure sheep don't get too hot during summer (trees/ shrubs/windbreaks/).
 - Note the lambs in this story are born during autumn. Ask students to think about what newborn lambs need to survive?
 - During winter the family plants windbreaks. Guide the students to think about the purpose of windbreaks on a farm (shelter and protection for animals, pastures and crops). Ask students how sheep stay warm during winter and explain their wool fleece protects them, but so do the windbreaks.
 - Ask students to compare the pictures of the paddocks during spring and summer — what do they notice. Encourage them to think about the colour and length of the grass. Ask students why farmers might make hay in spring and summer (to store feed for later in the year).
3. Read to students page 12 of *The Story of Wool* book (Kondinin Group) — *What do sheep eat?* Allow students to explore the *Year on our Farm*, *The Story of Wool* books and the LEARN ABOUT WOOL factsheets, [Sheep — the wool producers](#), [Wool production](#) and [Wool production in Australia](#).
4. Explain to the students they are going to pretend to be farmers and will design a paddock for their sheep that has everything they need to survive. Divide the class into groups of: summer, autumn, winter and spring. Explain that you want the students to create a paddock in their given season that meets the needs of their sheep.

5. Hand out the student worksheet, *My sheep paddock* and ask students to create a paddock that will provide Sam the Lamb and his friends with everything they need to survive. You might like to explain that Sam no longer needs his mother as he is old enough to graze pasture, OR you might like to encourage students to draw a few more sheep in their paddock, including Sam's mother.
6. As students are creating their paddock, guide them with the following questions:
 - Ask students to compare the pictures of the paddocks during spring and summer — what do they notice? Encourage them to think about the colour and length of the grass. Ask students why farmers might make hay in spring and summer (to store feed for later in the year).
 - What will your sheep need to survive in your particular season?
 - How will your sheep get water?
 - Will there be plenty of grass in your paddock at this time of year?
 - What would happen if all the food in your paddock ran out?
 - How will you protect your sheep from hot/cold/ wet/ windy weather?

Encourage students in each group to discuss what they are drawing and why.

Conclusion

When students have finished, select a student from each group to share their group's drawing with the class and explain what they have drawn.

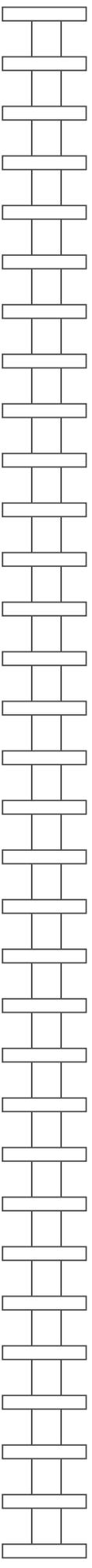
As group, ask the students the following questions:

- What other types of animals are kept on farms?
- Do all farm animals need food (water/shelter)?
- What other types of animals rely on people to meet their needs? (pets/zoo animals)
- Do we need food (water/ shelter)?
- Do you agree food (water/shelter) is something all living things need?

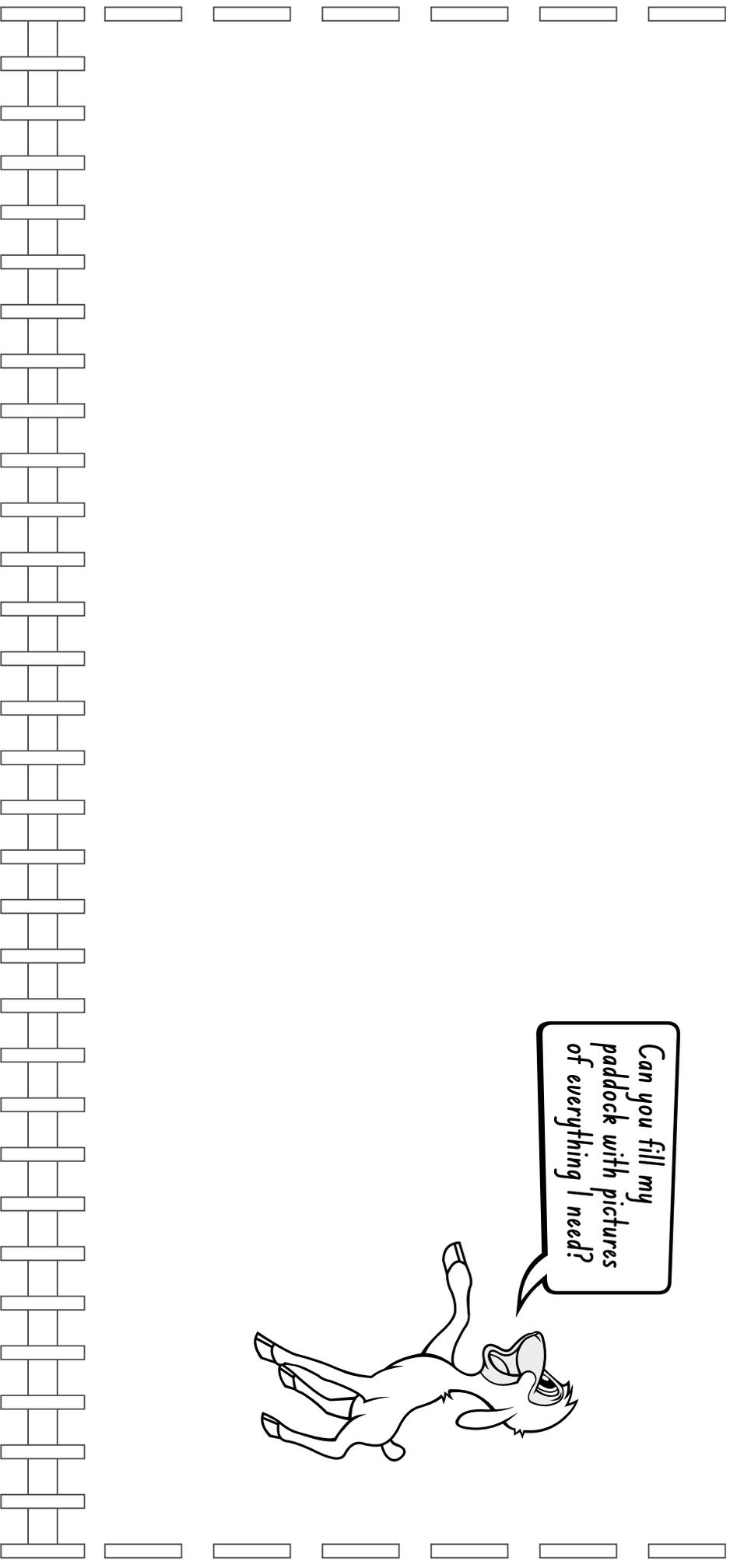
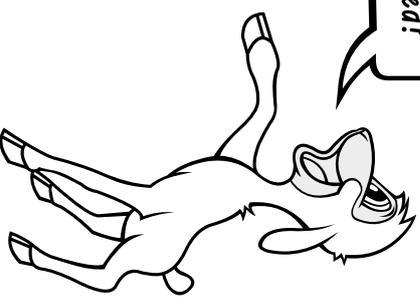
Extension activity — Guest presenter

In rural areas consider asking a local sheep producer to come and talk to the class about how they look after their sheep to ensure they stay healthy.

MY SHEEP PADDOCK



Can you fill my paddock with pictures of everything I need?



Name: