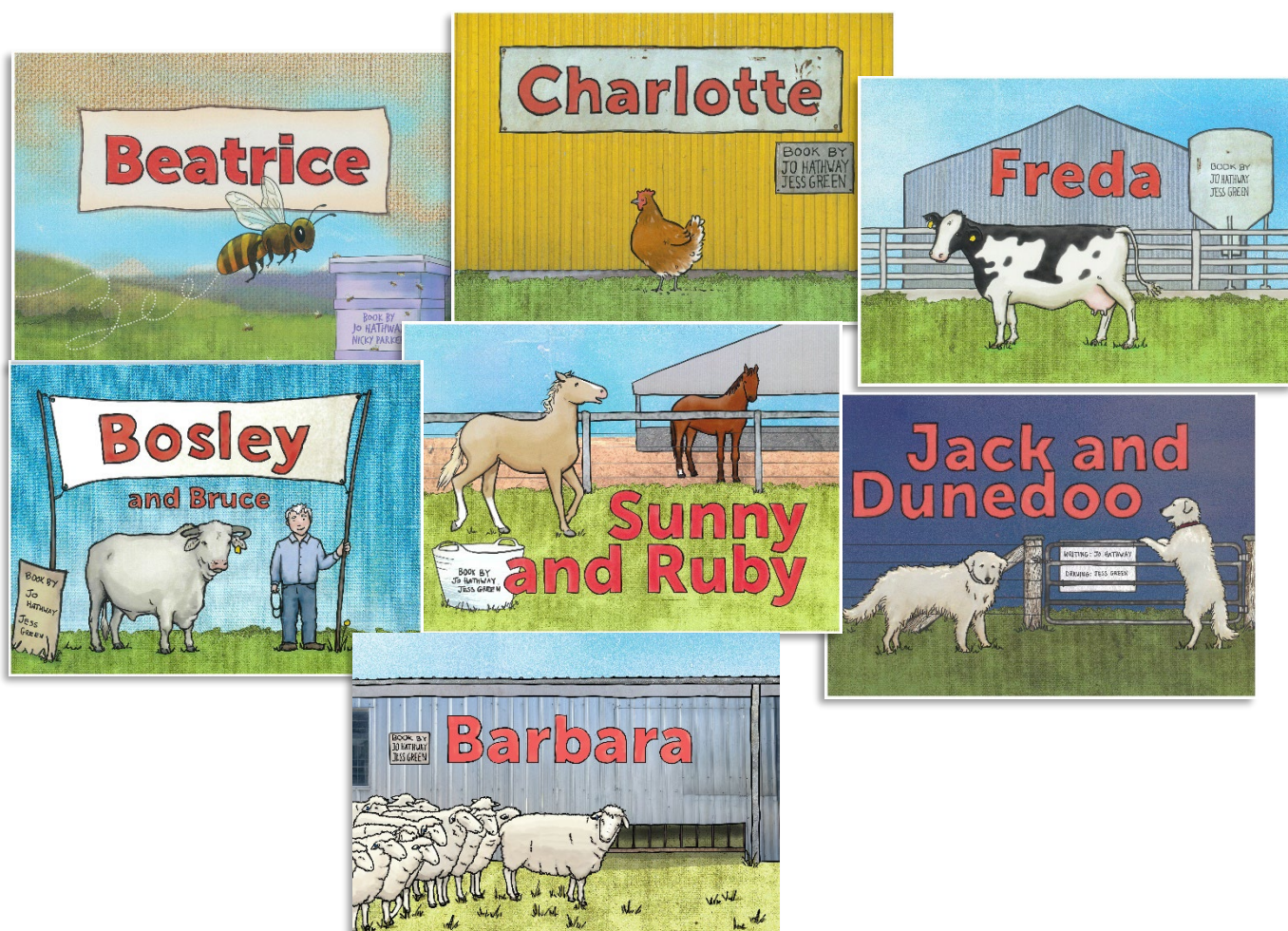




Department of Primary Industries
and Regional Development

Tocal Farms Picture books

in NSW classrooms



A guide to using the Tocal Farms picture books to deliver food and fibre
learning in Early stage 1 and Stage 1

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Introduction and syllabus mapping

Thank you for bringing our picture books and food and fibre learning into your classroom!

The books are written to share information about Australian agriculture with young children and students. In the back of each book there is a page describing the agricultural knowledge that the story shares. Messages of kindness, inclusion and difference are also woven into the story and the animal characters. We don't really know if there is a chicken that prefers to be alone or a milking cow that was anxious their first time in the dairy.

Providing for the needs of animals means that the farm staff allow enough room for chickens (or cows) that need more space or for chickens and cows to learn where their food, water and shelter are to be found.

The activity sheets in this set help students working towards the following outcomes:

Science and Technology (2024)

STE-SCI-01 - identifies and describes characteristics of living things, properties of materials, and movement

ST1-SCI-01 - measures and describes changes in living things, materials, movement, Earth and the sky

Geography (2024)

HSE-GEO-01 - identifies and locates places people connect with, using geographical information

You may choose to explain some concepts and realities to your students depending on their level of understanding (and their questions!) including the fact that Bosley is a steer and cannot actually father any of the breeds shown on activity sheet – but if he could there is one that is most like him! If you are not sure why not, read the information in the back of the Bosley and Bruce book 😊. Students may ask why Freda has an udder but Bosley doesn't – we know though that only cows have udders right? Bulls and steers don't – and therefore cannot produce milk.

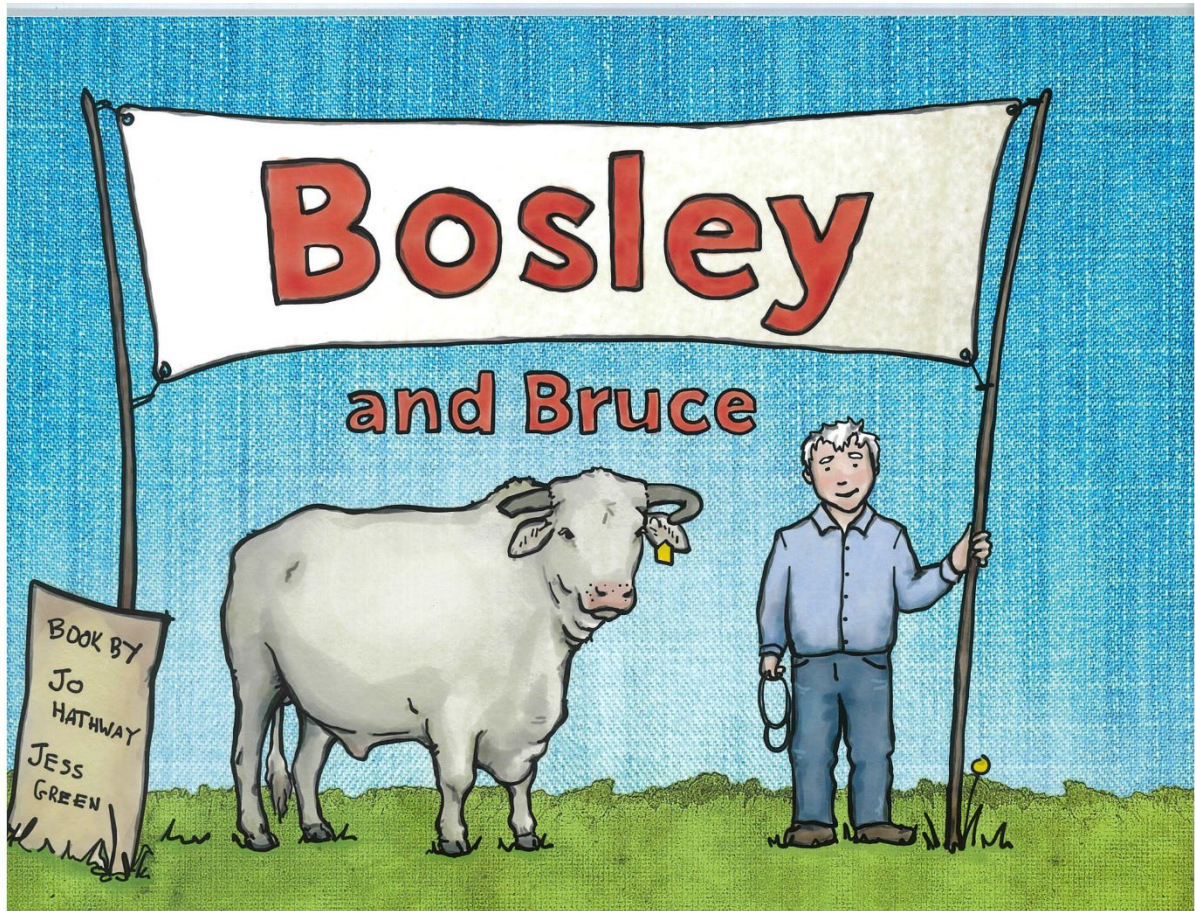
These books and discussions may also raise the concept that we eat farm animals for meat, some of your younger students may not have made the connection between chickens and chicken or cows and steers and beef. Be prepared to talk about this and the fact that some people choose not to eat

meat (for a range of reasons) and some people choose to eat some meats and not others and some choose to accept that this is a part of feeding people. Always talk about this in a positive way, allowing for and respecting people's choices about their own lifestyle and diet.

There are some other details in the books and the activity sheets that might need more explanation. Including:

- Most cows, sheep and horses shelter under trees. There are often stands of trees in their paddocks that they sleep under or rest in the shade. In fine weather they may sleep in the open. Some animals will be given access to artificial shelter including sheds and shade structures if there is not sufficient natural shelter or if the farm manager feels they need extra protection – this can include stud animals that are valuable breeding stock.
- Being smaller, chickens are more vulnerable to weather and attack from dogs and cats (feral or pets) and so chickens are usually locked in a shed for shelter at night. In free range farms there is also a requirement to provide access to shade from trees or shade structures during the day.
- Dairy cows require a higher level of nutrition per day than most beef cows. Producing milk requires a lot of energy and the dairy industry relies on cows producing a regular amount of milk while maintaining the health of the animal. The supplementary feed provided to cows during milking can include grain, cottonseed meal, cornmeal (a by-product of corn oil) and pellets.

Bosley and Bruce



What does this story tell students about farming?

(text from the final page of the book)

Cattle are bred and raised for specific purposes and markets, either meat or dairy. Their genetic make up, which they inherit from their parents, contributes to how they will grow and finish off - this is assessed by muscle scoring in beef cattle. Animals like Bosley, who don't do as well in gaining muscle or whose structure is not ideal, would not usually be kept for breeding. An animal is chosen for traits that the breeder (or cattle farmer) wants to keep in the herd. Bosley did not excel in these areas.

However, Bosley has proven to be ideal for training students and has also been very useful for calming stock that are not accustomed to being handled and who may be unsettled in the yards. Putting a calm, older animal in with a mob of unsettled cattle can have a calming effect.

Bosley has shown us that while muscle gain and structure are important for meat animals, temperament is also important so that animal care procedures like vaccinations and health checks can be carried out without too much stress on the animals or people involved.

A note about terminology

Bosley is a steer. The words used to describe cattle tell us whether they are male or female and whether they are part of the breeding herd. Steers are male animals that have been castrated. If not castrated, male calves grow to be bulls. Heifers are female animals who have not yet had a calf. Heifers become cows once they have their first calf.

Hands-on activities

Grow a grass head.

There is a range of instructions available online but you can simply put some potting mix in a recycled container with some grass seed or wheat. Draw a face on the container and watch as the 'hair' grows.

Two places to find instructions:

<https://www.yates.com.au/ideas-plans/project-guides-articles/all/grow-a-funny-grass-head> and <https://www.pre-kpages.com/planting-and-growing-grass-in-preschool/>.

At some point you will need to trim the grass, just like the cattle eating the pasture. Watch as it regrows over the next week or so.



To incorporate working scientifically into this activity have students identify the needs of the grass to grow (soil/nutrients, water and light). Then set up an experiment where some of the grass heads get water and light, some get less water and some get less light. Measure or document how this impacts the growth of the grass.

This is the same issue that farmers deal with when ensuring there is enough water and soil nutrients to grow the amount of pasture needed to feed their livestock.



Discussion questions

These questions are also available on a worksheet for students.

- What is it about Bosley that makes him good for student training?
- What effect does Bosley have on other cattle?
- How do you think Bruce knew that Bosley would be good with crowds?
- Do you know people who make you feel calm? Or someone who makes you excited and energetic?

Student activities

The following pages are copyable versions of the student activities.

Alternatively, you can download a zip file with all the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about breeds

The activity sheet that asks students to label Bosley's features includes images of calves from different cattle breeds. These breeds from left to right are Red Angus, Charolais (like Bosley), Holstein and Hereford.

Auslan interpreted reading

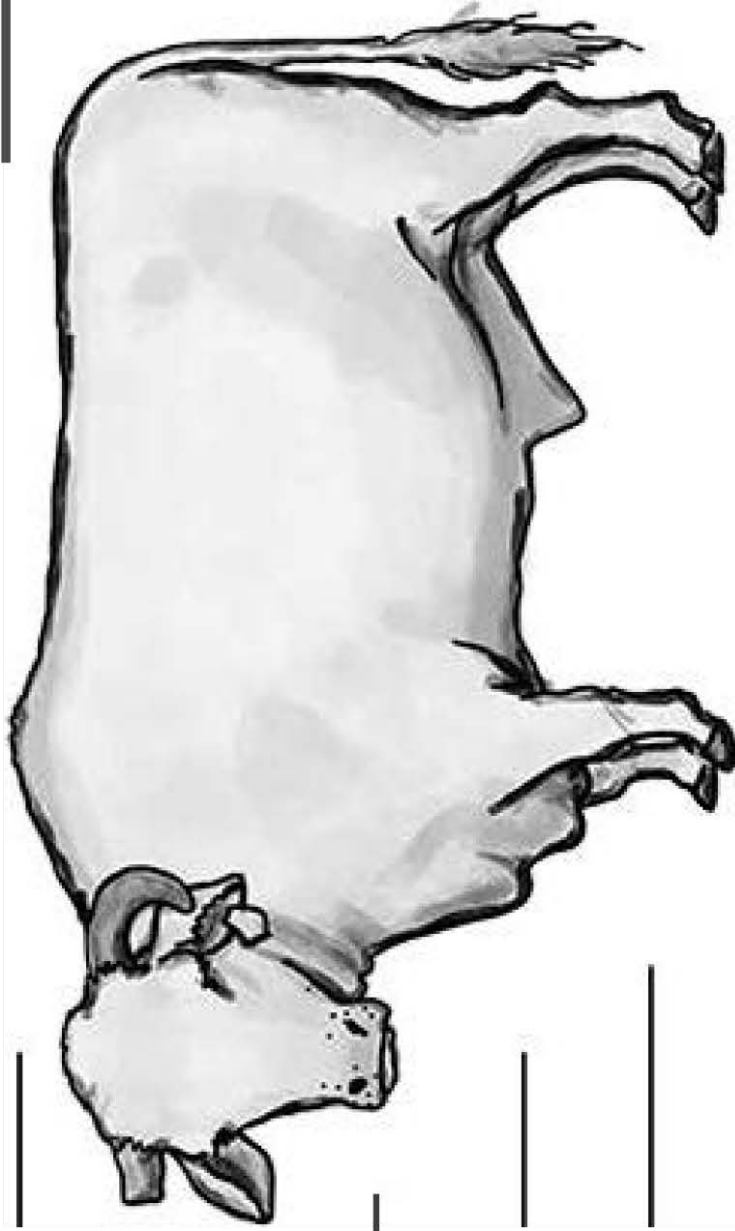
A video of this book is available on YouTube at <https://youtu.be/gU8qNOHthL4>

Bosley

Name _____

Label these features

- ears
- horns
- tail
- legs
- hooves
- eyes
- neck
- mouth
- shoulder



Baby animals inherit their features from their parents. Which of these calves has similar features as Bosley?



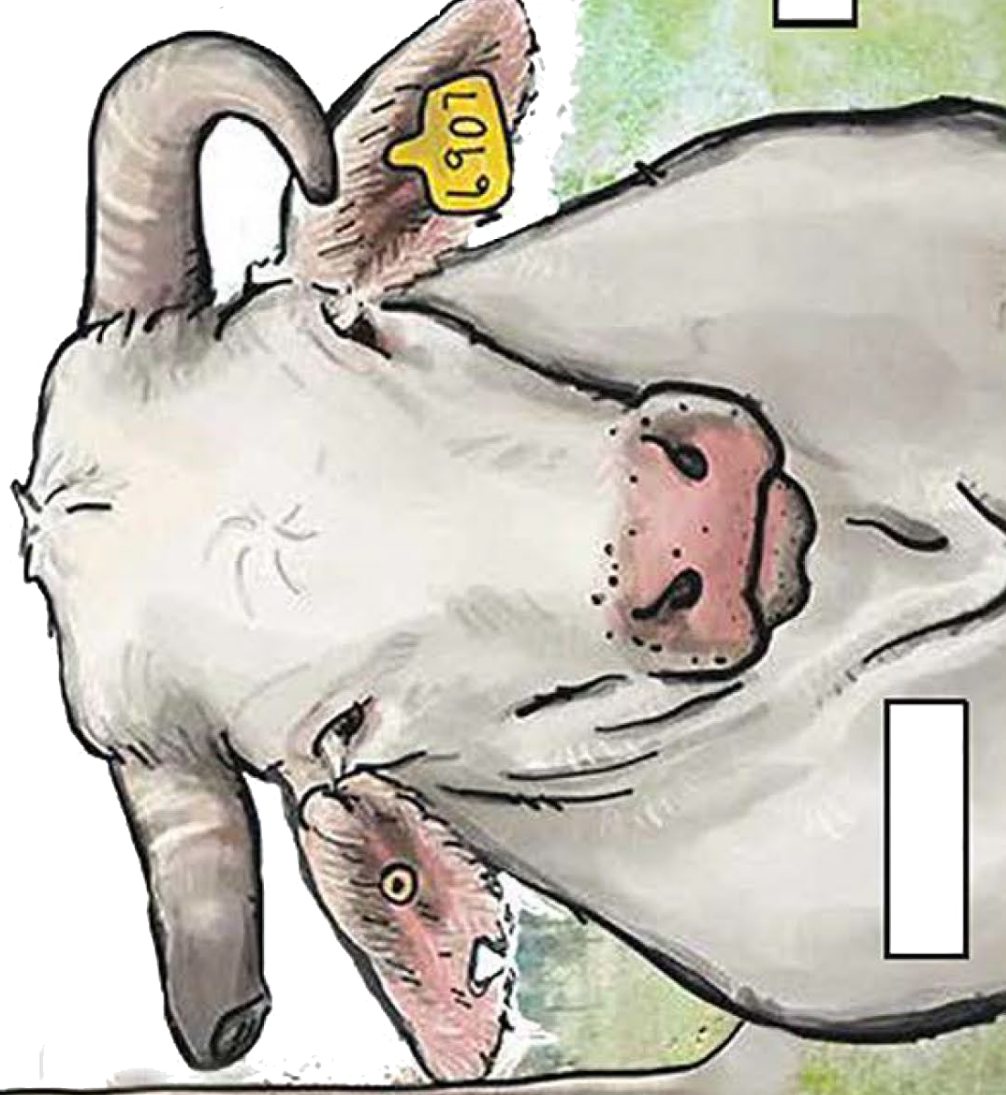
Where does Bosley live?

Bosley is a steer. That means he is a _____.

Bosley eats _____ from the paddock. Sometimes he eats hay as well. Bosley drinks _____ from a trough and he shelters under _____ in the paddock.

Label these features:

tree, trough, grass, Bosley



Name: _____

Let's talk about Bosley and Bruce

What is it about Bosley that makes him good for student training?

.....

.....

What effect does Bosley have on other cattle?

.....

.....

How do you think Bruce know that Bosley would be good with crowds?

.....

.....

.....

Do you know people who make you feel calm? Or someone who makes you excited and energetic?

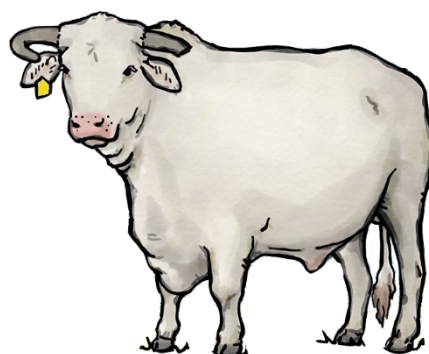
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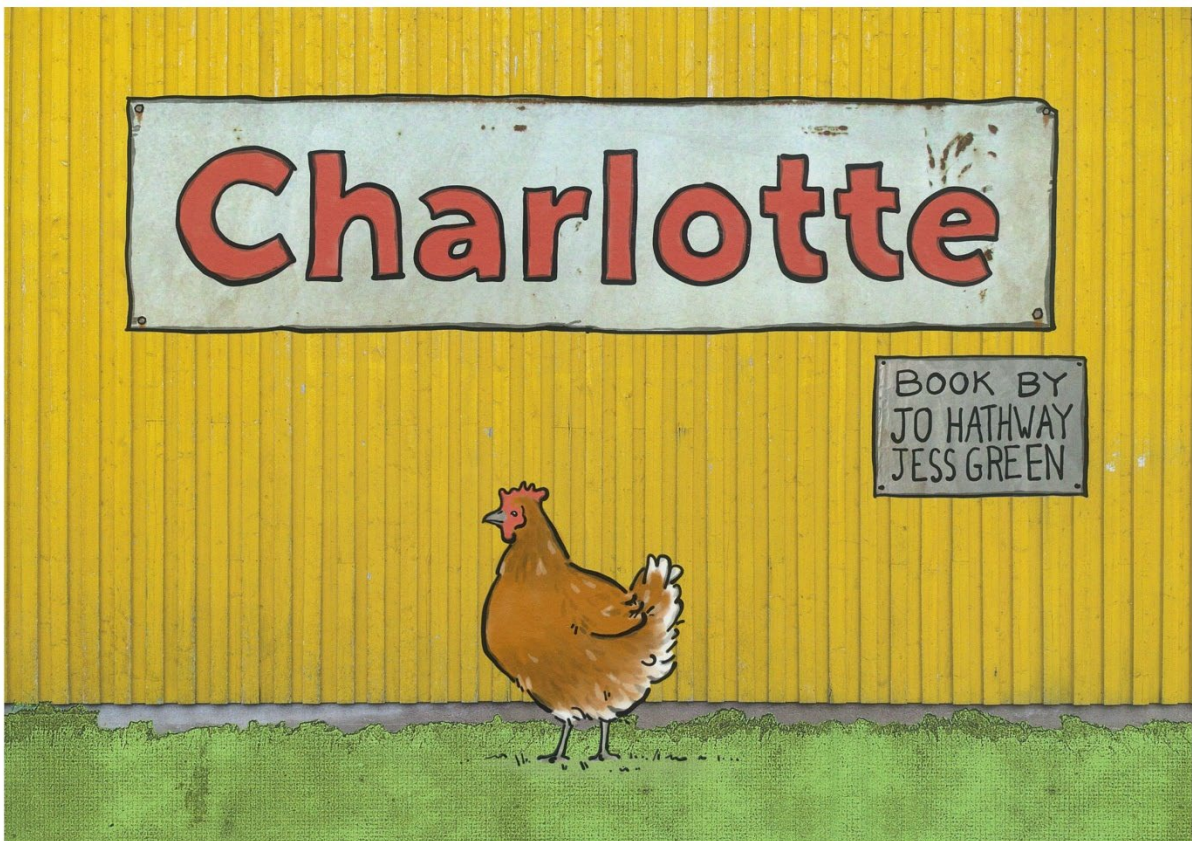
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Charlotte



What does Charlotte show us about free range egg production?

(text from the final page of the book)

Numeralla is the free range egg farm at Tocal. It is run by the CB Alexander Foundation and is contracted to Pace Farm. Farms like Numeralla are managed according to regulations that ensure the health and well-being of chickens in free range egg production, and also the quality of eggs produced.

Chickens at Numeralla are let out of the sheds every day and are free to roam in spacious ranging yards with trees and shade shelters. They can come and go from the sheds throughout the day, but they are locked up at night to keep them safe from predators like dogs, cats and foxes.

The chickens lay eggs in the nest boxes that are located near their food and water. There are also roosts – raised horizontal bars that the chickens sit on to sleep.

Nest boxes are designed so that the eggs roll onto a conveyor belt that runs the length of the shed. Each shed's individual conveyor belt then joins to a single conveyor belt that leads into the packing shed. Here the eggs are graded, sorted and packed for Pace Farm to collect.

Most of the eggs are sold through supermarkets. However, the eggs that are cracked, odd shaped or have a double yolk are used in products like cake mixes and custard powder.

Hands-on activities

Make bird seed balls or use a bird feeder.

You can find instructions for this online. Note this recommendation on their instructions for a bird bell (or seed ball) from the Homes to Love website 'The idea of a bird bell is to entice birds to visit your garden, but not to provide so much feed that they depend upon it. Feeding wild birds is discouraged in many local council areas, so be sure to check with yours before you get started.'

Their instructions and these notes are located at

<https://www.homestolove.com.au/how-to-make-a-birdseed-bell-8768>.

Also make sure that you choose a bird seed that is appropriate for your area – native bird mix, small bird mix or parrot mix depending on the types of birds you see around your school grounds.

Place the seed where you can see it from your classroom but somewhere it is out of reach of rodents and less likely to get wet if it rains (or you might end up growing a grass head rather than attracting birds!).

Chickens are allowed space to range and scratch about in the grass and dirt where they may eat insects and seeds. They are also provided with pellet mix that provides protein, carbohydrates, fats, vitamins, and minerals needed for the health of the chickens. The image below is an example of a pellet mix that is fed to the chickens.



Discussion questions

These questions are also available on a worksheet for students.

- Why do you think Charlotte does not want to be with the other chickens?
- What do the other chickens think about Charlotte?
- Why do you think Charlotte is happy at the end of the book? Do you like to be with lots of people in a crowd?

Student activities

The following pages are copyable versions of the student activities.

Alternatively, you can download a zip file with all of the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about breeds

The activity sheet that asks students to label Charlotte's features includes images of different breeds of chicken. These breeds from left to right are: Plymouth Rock, Isa Brown (like Charlotte), Leghorn and Sussex.

Auslan interpreted reading

A video of this book is available on YouTube at https://youtu.be/2kxG_6Fb0gl

Charlotte

Name _____

Label these features

beak

wing

tail

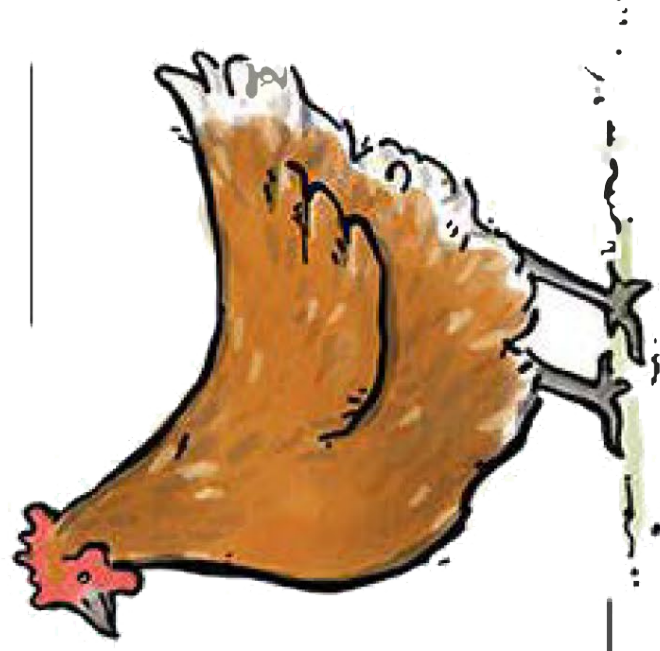
legs

feet

eye

neck

comb



Baby animals inherit their features from their parents.

Which of these hens is Charlotte most likely to be the mother of?

Where does Charlotte live?



During the _____ Charlotte has

access to free-range yards. Here

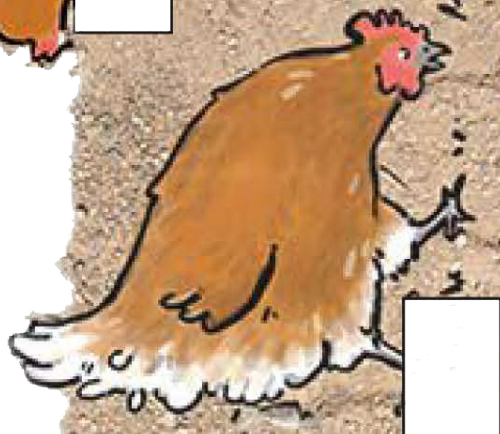
she has shade under the _____ and

lots of space to scratch in the

_____ and grass. When it has

rained there is also puddles to

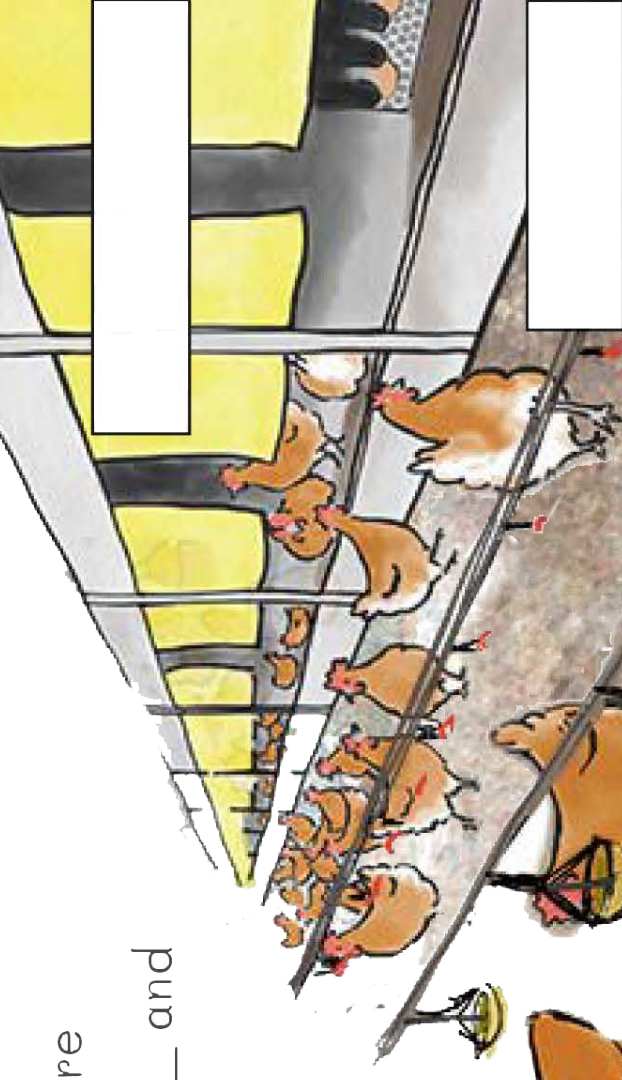
scratch in.



Charlotte can also be in the _____

during the day. This is where the

chicken _____ and water is.



It is also where she lays _____ in the _____
nest box and where she sleeps.

Label these features:

tree, Charlotte, nest box, water, food

Name: _____

Let's talk about Charlotte

Why do you think Charlotte does not want to be with the other chickens?

.....

.....

What do the other chickens think about Charlotte?

.....

.....

Why do you think Charlotte is happy at the end of the book?

.....

.....

.....

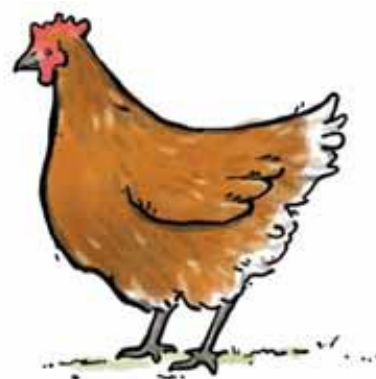
Do you like to be with lots of people in a crowd? Why?

.....

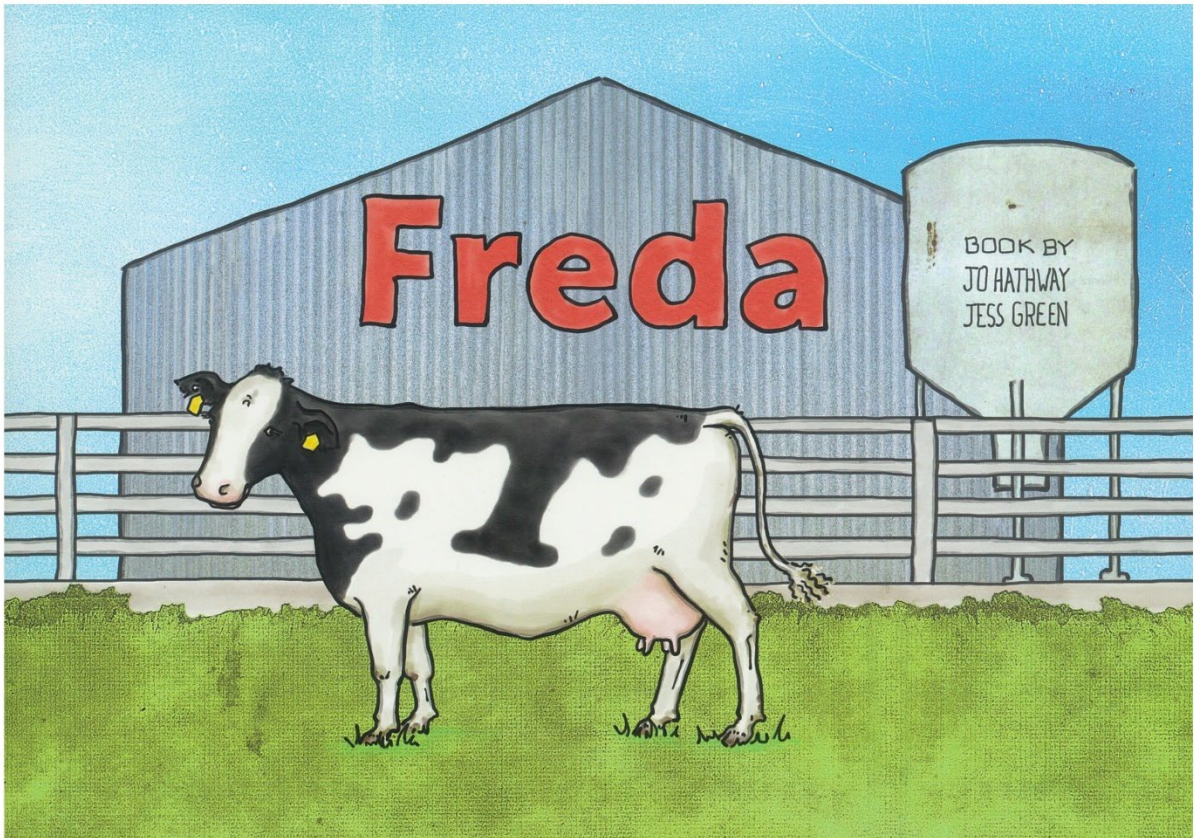
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Freda



What does Freda show us about dairies?

(text from the final page of the book)

The number one priority at the Tocal dairy is the health and welfare of all the animals.

Milking cows do need to be trained to use a dairy. They are often born and raised on the dairy and do not produce milk until they have had their first calf. The calves on a dairy are usually raised by the staff on fresh milk and pellets when they are a bit older. This means that the mother's milk can be used for humans. Male calves are sold, and most female calves become part of the milking herd.

When a cow has her first calf and enters the milking herd, she learns how to be part of the herd by following the other cows. In 2018, the Tocal dairy was upgraded, including changing the angle that cows stand while being milked. This enabled the dairy to go from milking 20 cows at a time to 30. This change, amongst others, took a few weeks for the herd (and the staff) to adjust to.

Cows need to keep having calves to keep producing milk, and they also need to be milked regularly (usually twice a day) to keep producing milk. Planning when a cow needs to have a spell from milking, when she should be back in calf, and monitoring her milk production is the job of the dairy staff. The staff get to know the cows well when they see them twice a day. They recognise their differences and can often tell when something is wrong.

Producing 20-25 litres of milk a day requires a high-quality diet. A lot of planning and hard work goes into making sure that there is always enough food and clean water for the cows.

Hands-on activities

Replicate the cream and milk separating process.

You can use oil and water to demonstrate to students the way that cream and milk are separated. Pouring water and cooking oil into a jar, the oil will rise to the top the same way that cream will rise and sit on top of milk. If you shake the jar the oil breaks up and is dispersed through the water – demonstrating why you can't see the cream when milk is first collected from cows.

The Belgenny Farm Creamery education resources includes a set of videos about different milking processes (from hand milking to robotic rotary dairies), cream skimming and butter churning as well as a diagram of the way that milk is produced, collected, processed and distributed. These resources can help young students understand the place of milking and dairies like the Tocal dairy

in the provision of milk, cream, butter and other dairy products. These resources are available from <https://www.belgennyfarm.com.au/education/creamery>

Discussion questions

These questions are also available on a worksheet for students.

- Why doesn't Freda understand how to use the dairy?
- Do you think Mat and Ursula did the right thing in helping Freda to learn how about the dairy? Why?
- Freda is worried by the noises of the other cows and the milking machines. Do loud noises ever bother you that way?
- What can you do to help people who are bothered by loud noises like Freda is?

Student activities

The following pages are copyable versions of the student activities.

Alternatively, you can download a zip file with all of the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about breeds

The activity sheet that asks students to label Freda's features includes images of calves from different cattle breeds. These breeds from left to right are: Red Angus, Charolais, Holstein (like Freda) and Hereford.

Auslan interpreted reading

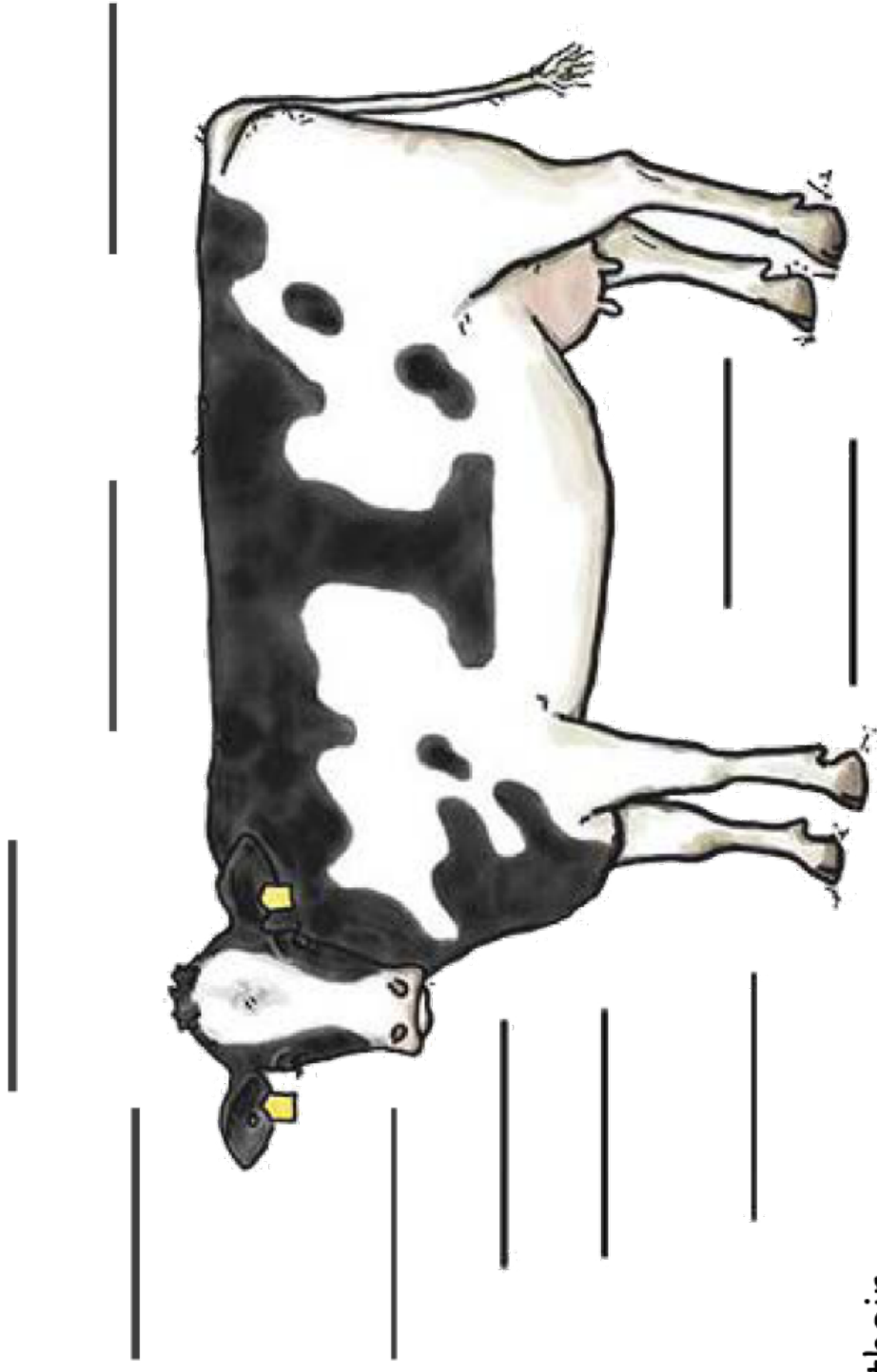
A video of this book is available on YouTube at https://youtu.be/QAXEy_iGKKw

Freda

Name: _____

Label these features;

ears
udder
tail
legs
hooves
eyes
neck
mouth
shoulder
head



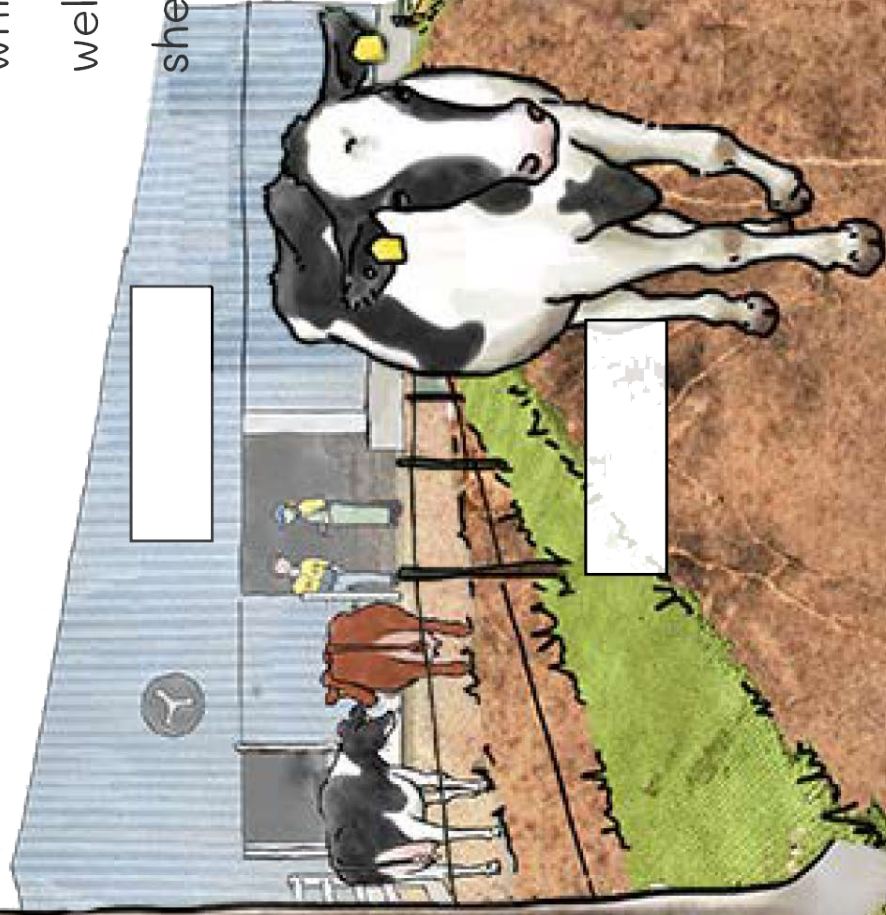
Baby animals inherit their features from their parents. Which if these calves is Freda most likely the mother of?



Where does Freda live?

Freda is a cow. That means she is a ____.

Freda eats ____ from the paddock and pellets while she is being milked. Sometimes she eats hay as well. Freda drinks ____ from water troughs and she shelters under ____ in the paddock.



Label these features:

tree, trough, Freda, dairy, hay

Name: _____

Let's talk about Freda

Why doesn't Freda understand how to use the dairy?

.....

.....

Do you think Mat and Ursula did the right thing in helping Freda to learn more about the dairy? Why?

.....

.....

.....

Freda is worried by the noises of the other cows and the milking machines. Do loud noises ever bother you that way?

.....

What can you do to help people who are bothered by loud noises like Freda is?

.....

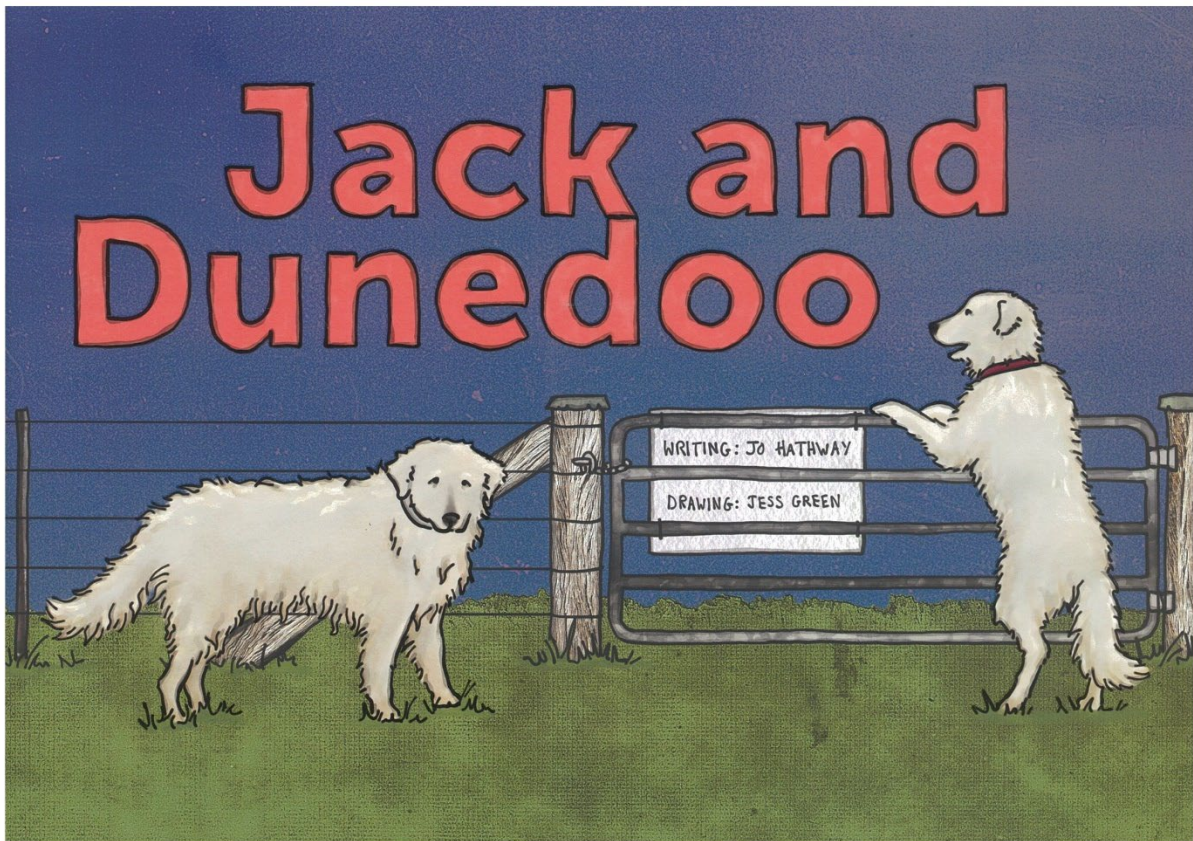
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Jack and Dunedoo



What does Jack and Dunedoo tell us about agriculture?

(text from the final page of the book)

Jack and Dunedoo were Maremmas at Tocal.

Tocal is about 5 kilometers from the small town of Paterson. There can sometimes be conflict between farm activities and nearby towns – visits from local dogs and cats is an example. Both the staff at Tocal and local residents do their best to make sure that their animals stay within their property to prevent conflict.

It is also important that feral dog and cat populations are controlled to protect farm animals and local wildlife. This is part of the role of the NSW Department of Primary Industries.

Maremmas have been bred to guard livestock and they are happiest when they have a job to do. When Maremmas are young they usually start to live with the animals they will be guarding – sometimes it's sheep, sometimes chickens, goats, cows or penguins! They establish a bond with the animals and are then motivated to protect them.

Tocal's first Maremma was Marshall. When Marshall came to live with the sheep at Tocal he saved many sheep and lambs from dog attacks.

Hands-on activities

Invite a dog to your classroom

Talk with your students about their dogs. Or even better invite a dog to visit your class. It could be one of the student's or staff member's dog or someone from the local community. Dogs are becoming more common in schools as therapy dogs due to their calming influence in the classroom. A visit from a dog - or a discussion about students' experience with dogs - can also be a good opportunity for a conversation about the tone animals (and people) feel comfortable with or the way that they prefer to be touched – or not.

To highlight the difference between pet dogs and Maremmas like Jack and Dunedoo watch this great video with Dr Chris Brown on YouTube

<https://youtu.be/Jw9FW-FSbUY>.



Discussion questions

These questions are also available on a worksheet for students.

- Why are Jack and Dunedoo different to other dogs?
- Why do you think Jack wants to play with the other dogs?
- What is Dunedoo angry with Jack about?
- Have you ever been annoyed with a friend when they did something you didn't agree with? How did you sort it out?

Student activities

The following pages are copyable versions of the student activities.

Alternatively, you can download a zip file with all of the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about breeds

The activity sheet that asks students to label Dunedoo's features includes images of calves from different cattle breeds. These breeds from left to right are: Beagle, Maremma (like Dunedoo), Border Collie and Weimaraner.

Auslan interpreted reading

A video of this book is available on YouTube at <https://youtu.be/uMnUDCUZhPo>

Dunedoo

Name: _____

Label these features

ears

tail

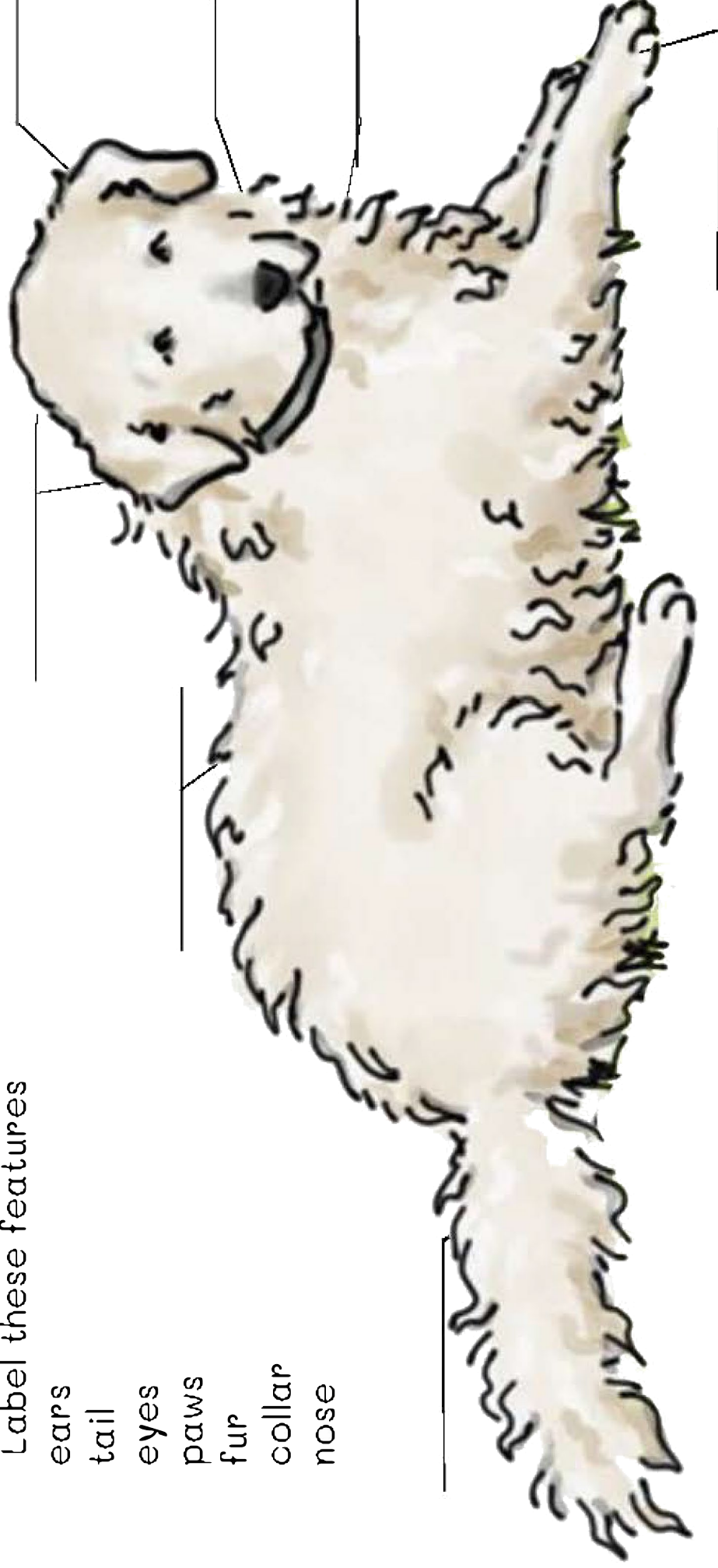
eyes

paws

fur

collar

nose



Baby animals look like their parents. Which of these pups is Dunedoo most like?

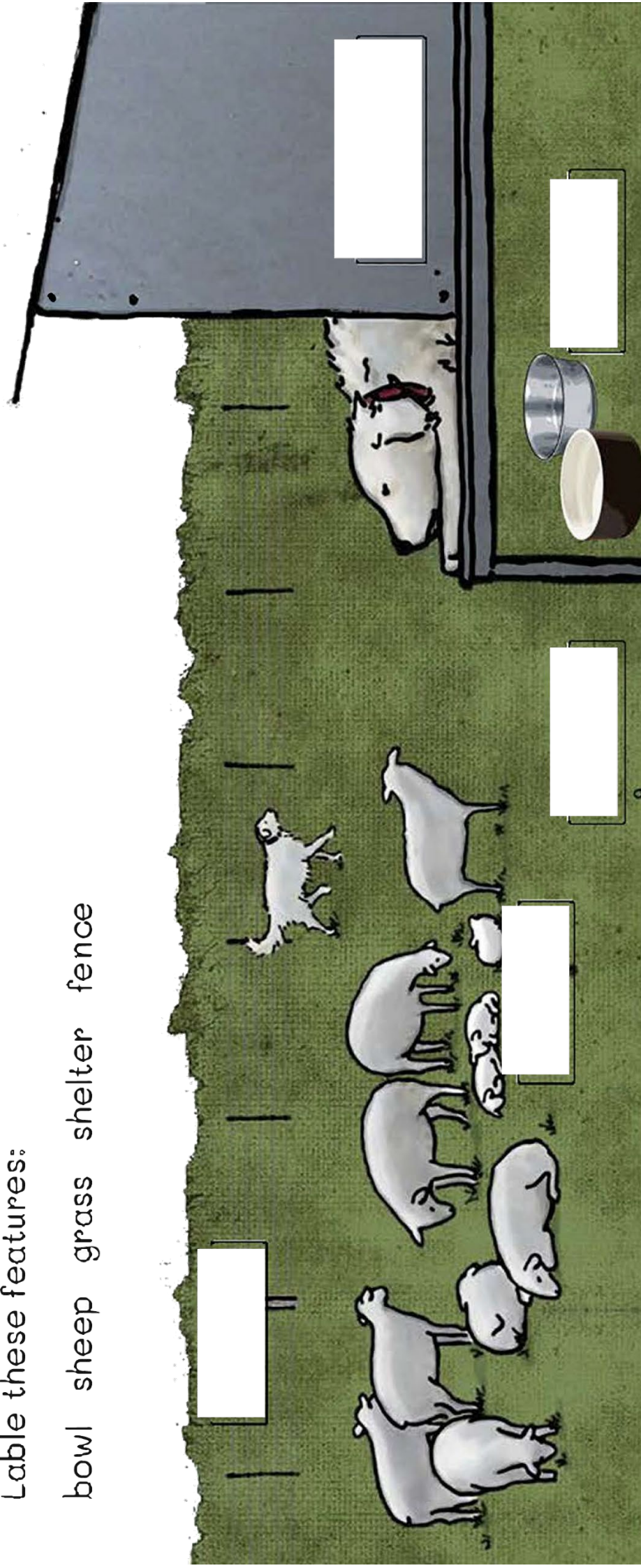


Where do Jack and Dunedoo live?

Jack and Dunedoo are _____. They live in the paddock with the _____.
They have a _____ to sleep in. The staff make sure they have water
to _____ and enough _____ to eat. The staff also make sure they
are well, and if needed they call a _____ to help.

Label these features:

bowl sheep grass shelter fence



Name: _____

Let's talk about Jack and Dunedoo

How are Jack and Dunedoo different to other dogs?

.....

.....

Why do you think Jack wants to play with the other dogs?

.....

.....

.....

Why is Dunedoo angry with Jack?

.....

.....

.....

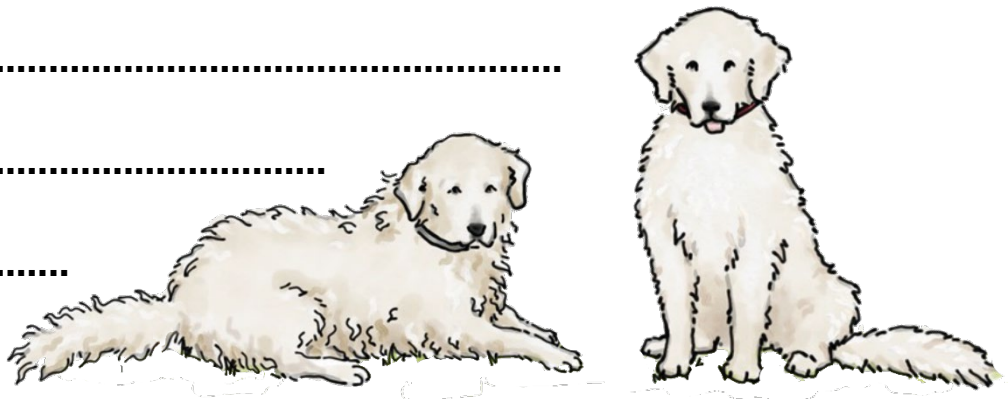
Have you ever been annoyed with a friend when they did something you didn't agree with? How did you sort it out?

.....

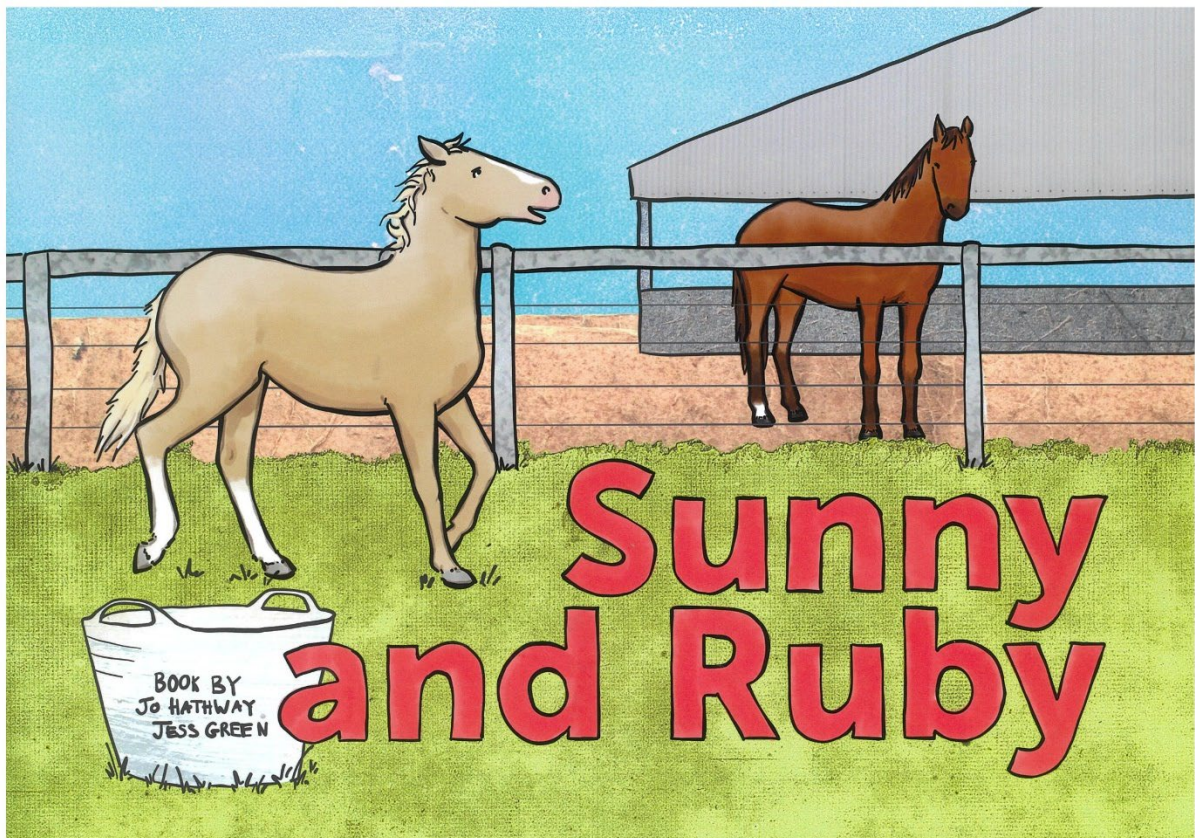
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Sunny and Ruby



What does Sunny and Ruby tell us about horses?

(text from the final page of the book)

In this story we meet Sunny and Ruby. It's a story about being happy for your friends and family even when they are doing things you wish you could do. It's about letting other have their moment in the spotlight, knowing that your time will come. And it's about caring for each other. Sunny and Ruby love each other – even if there is a bit of sibling rivalry.

The horses on Tocal are part of an Australian Stock Horse stud. Studs are farms that are registered to breed animals. Australian Stock Horses are known for their stamina, intelligence, athletic ability, speed and quiet temperament. Tocal chose to breed Australian Stock Horses because their temperament, trainability and versatility make them perfect for students to work with.

On Tocal, some horses are part of the working herd – they are used for stock work, moving cattle and checking fences. Although motorcycles, and on some properties, helicopters, are used to muster cattle, horses are able to work in rugged terrain and amongst trees where motorcycles and helicopters can't. The mares that are part of the stud have foals, most by the Tocal stallions but some by artificial insemination – where sperm are placed directly into the female's uterus.

A note about vocabulary

The terms used in this story to describe Sunny, Ruby and Bobby Sox tell us about their role in the horse industry. Teaching students the correct terminology helps them to understand the world around them. Sunny is a gelding, he is a male horse that has been castrated. He will not father any foals and will be an excellent stock horse. A male horse that is not castrated is a stallion, these are the sires (fathers) in the herd, Ruby is a filly – a young female horse, and Bobby Sox is a broodmare, a female horse who has given birth to foals. Mares can be working stock horses, mothers, or both!

Hands-on activities

Investigate horse communication

In the story Sunny and Ruby communicate with each other about how they are feeling, but how do horses communicate? This National Geographic article talks about new information that shows that horse communicate a lot through their ears



Horses nuzzle in Dubai, United Arab Emirates.
PHOTOGRAPH BY GLENN JACOBS, NATIONAL GEOGRAPHIC YOUR SHOT

WEIRD & WILD

How Do Horses Communicate? New Signals Found

Recent studies show that horses use their ears to communicate.

(<https://www.nationalgeographic.com/animals/article/horse-communication-ears>). Investigate this idea with students – discuss the article and talk about how humans also communicate with body language. There are quite a few videos on YouTube that show horses interacting with each other, see if students can identify the feelings that horses are displaying. Then get them up and moving acting out some horse behaviours that communicate different emotions.

Discussion questions

These questions are also available on a worksheet for students.

- Why does Ruby work with the students before Sunny?
- Why do you think Ruby teases Sunny?
- How does Sunny feel about Ruby?
- Do you sometimes get annoyed by the things people do? What do you do when that happens?

Student activities

The following pages are copyable versions of the student activities. Alternatively, you can download a zip file with all of the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about breeds

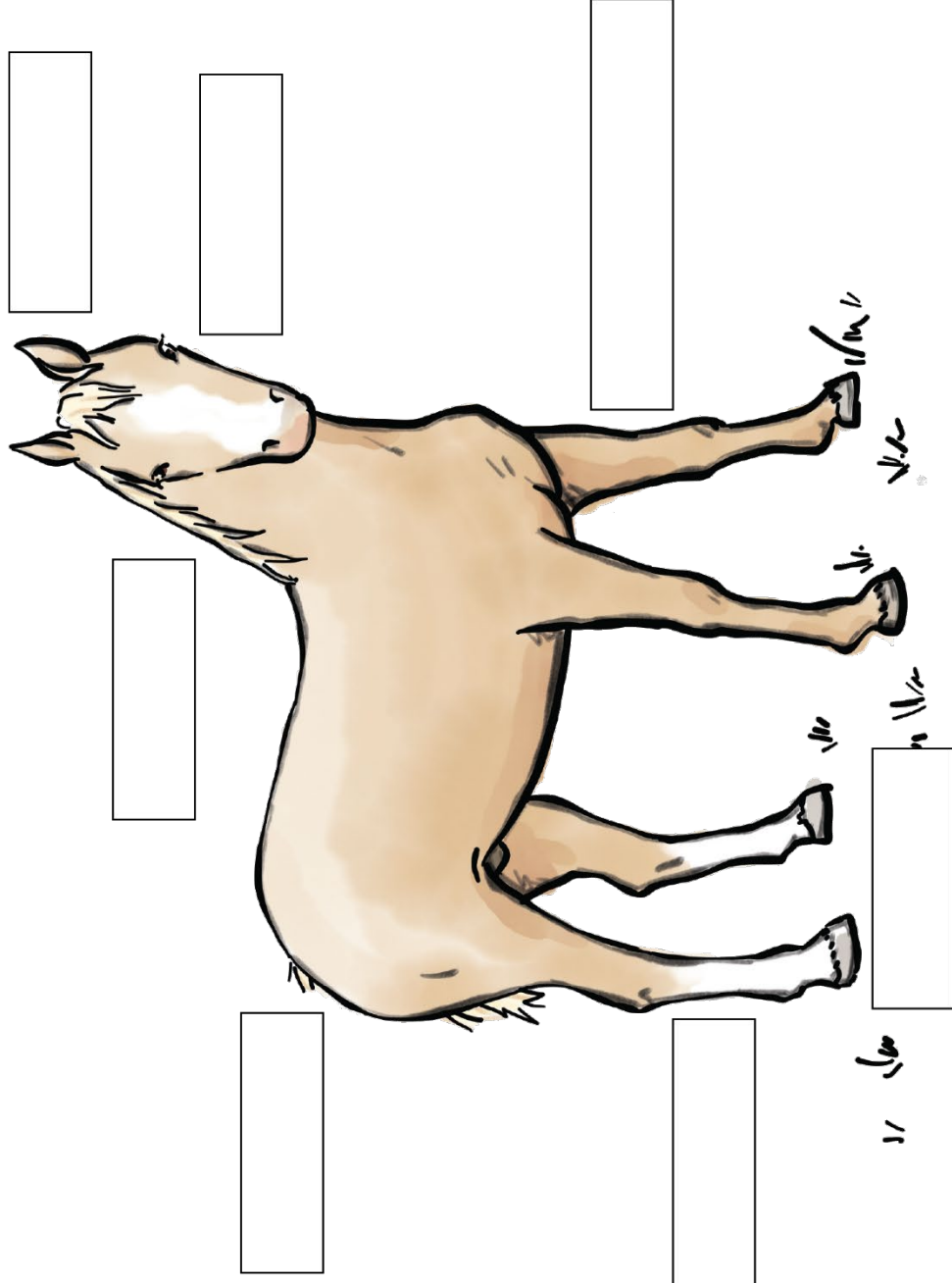
The activity sheet that asks students to label Sunny's features includes images of different horse breeds. These breeds from left to right are: Clydesdale, Australian Stock Horse (like Sunny), Shetland Pony and Arab.

Sunny

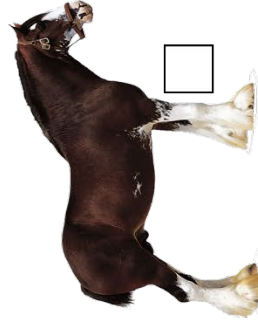
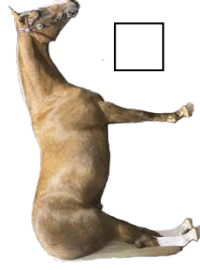
Name: _____

Label these features:

- hoof
- back leg
- eye
- tail
- mane
- foreleg
- ear



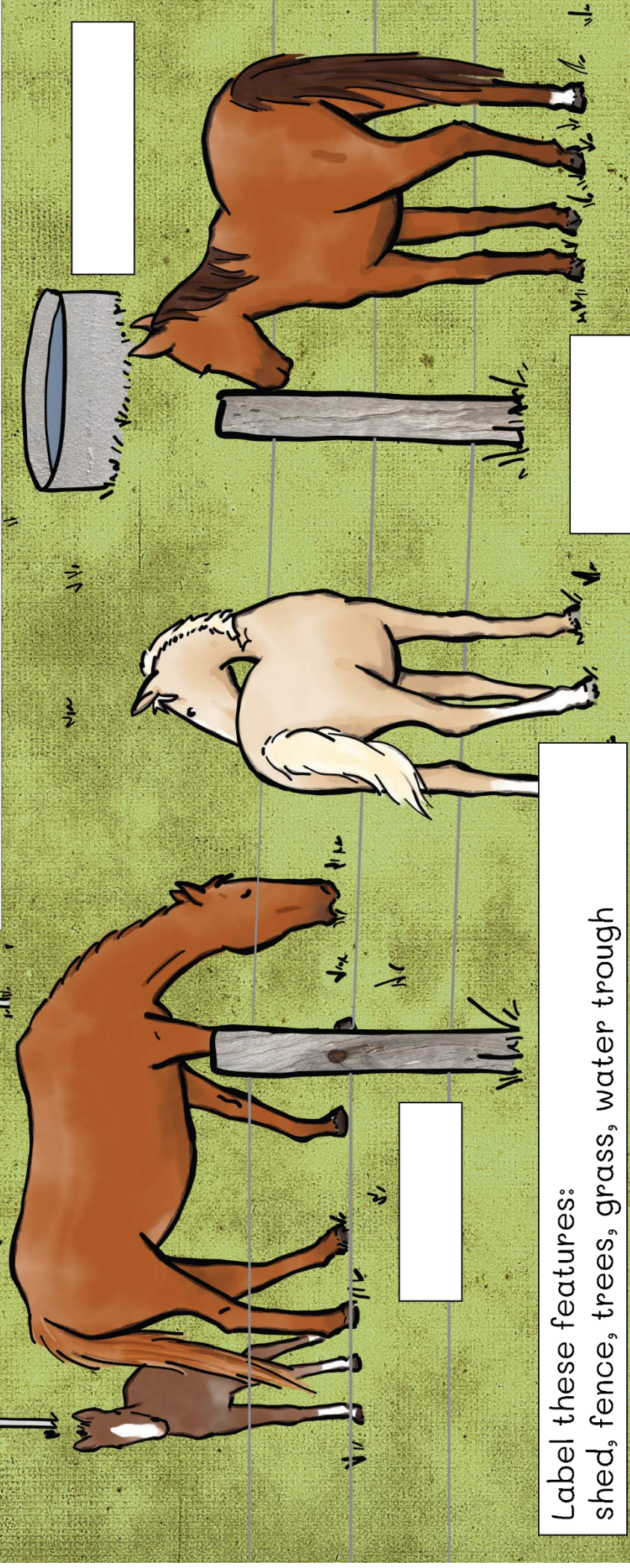
Baby animals inherit their features from their parents - they look like them! Which of these horses is most likely to be Sunny's father?

☐☐☐☐

Where do Sunny and Ruby live?

Name: _____

Sunny and Ruby are _____. They live in a paddock.
There is water in a trough, and they eat _____.
The _____ give them shelter, and there is also sheds
for _____ on hot days or when it is _____. Sunny
and Ruby are happiest when they are _____
through the paddock.



Name: _____

Let's talk about Sunny and Ruby

Why does Ruby work with the students before Sunny?

.....

.....

.....

Why do you think Ruby teases Sunny?

.....

.....

.....

How does Sunny feel about Ruby?

.....

.....

.....

Do you sometimes get frustrated by the things people do?

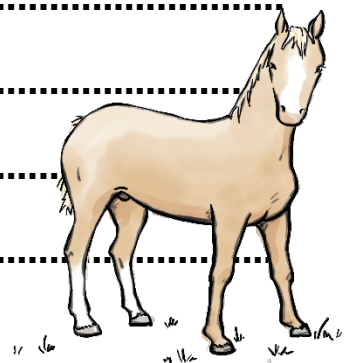
What do you do when that happens?

.....

.....

.....

.....



Beatrice



What can we learn from Beatrice?

(text from the final page of the book)

There are different roles for bees within a colony. The queen bee lays eggs to produce more bees. The drones are male bees, and their role is to mate with the queen. Most bees in a hive are worker bees. They have a few roles. The forage outside the hive for pollen, nectar and water. The build honeycomb and fill some cells with honey while other will have eggs laid by the queen. The worker bees care for the eggs in the cells and for larvae as they grow. Worker bees are also responsible for cleaning up and defending the hive from other bees that would like to rob their honey. Beatrice is a worker bee.

Each day worker bees leave the hive early in the morning and spend the day foraging. They can travel four to five kilometers to find resources but having those close to the hive means that they can collect pollen and nectar, return to the hive and head out again quickly.

Beekeepers like Liz, care for their bees by making sure that they have easy access to floral resources, water and some shade in summer. This means the bees can focus their efforts on producing honey. When it is necessary to move a hive, this is done at night when the bees are inside the hive. When a foraging bee finds a good source of water, pollen or nectar, they return to the hive and perform the waggle dance. The waggle dance tells the other bees where they have found the resources.

Beatrice is also a story about how important it is to work as a team. If bees did not perform their roles the whole hive would suffer, they would not be able to make honey or raise young bees to ensure the survival of the colony. In this case, Liz is also part of the team. By making sure the bees have everything they need she helps them to do what they need to do.

Caring for bees also means checking the hive for pests and disease. In 2022 Varroa destructor (varroa) mites were detected in New South Wales for the first time. This triggered a statewide emergency response to attempt to eradicate the mites. Despite the best efforts of the response team and beekeepers the program has now moved to management and supporting the Australian honey bee industry in working to increase resilience and capacity to manage varroa.

Hands-on activities

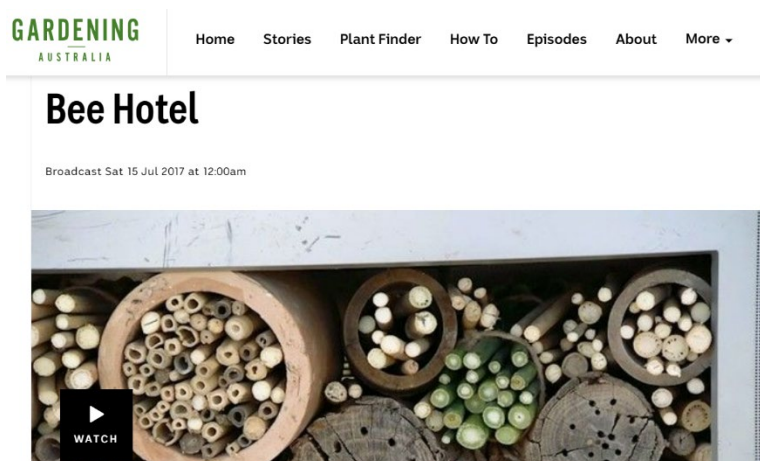
Provide a haven for bees

Schools are not the ideal place for a honeybee hive – though some high schools are producing and selling honey! They have processes in place to reduce the risk of adverse reactions to bee stings.

But did you know that many Australian native bees are stingless and solitary? They are an important part of our ecosystem as pollinators and as part of our valuable biodiversity. So let's make sure our spaces are bee friendly.

Start with flowers, many seed companies have a bee friendly flower mix that you could plant either in your school garden or in a pot in a place where students can observe the comings and goings of various insects. Often these mixes include flowers for different seasons.

Making a bee hotel is another way to support local bee populations. Advice is available online but they are essentially a collections of holes of various sizes, about 15-20cm long, sealed on one end so bees will feel protected. They can be grouped in a box or pot and located somewhere that is protected from the elements. Further advice is available from:



- [How to make your garden native bee friendly - CSIRO](https://www.csiro.au/en/news/All/Articles/2018/September/how-to-make-your-garden-native-bee-friendly)
(<https://www.csiro.au/en/news/All/Articles/2018/September/how-to-make-your-garden-native-bee-friendly>)
- Backyard Buddies - Build a Bee Hotel
(<https://backyardbuddies.org.au/habitats/build-a-bee-hotel>)
- [Bee Hotel - Gardening Australia \(abc.net.au\)](https://www.abc.net.au/gardening/how-to/bee-hotel/9440586)
(<https://www.abc.net.au/gardening/how-to/bee-hotel/9440586>)

Discussion questions

These questions are also available on a worksheet for students.

- Why does Beatrice fly out each day to look for flowers?
- How does it help the colony?
- What does Liz do to help the colony produce honey?
- How do you help your classmates and friends?

Student activities

The following pages are copyable versions of the student activities. Alternatively, you can download a zip file with all of the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about species

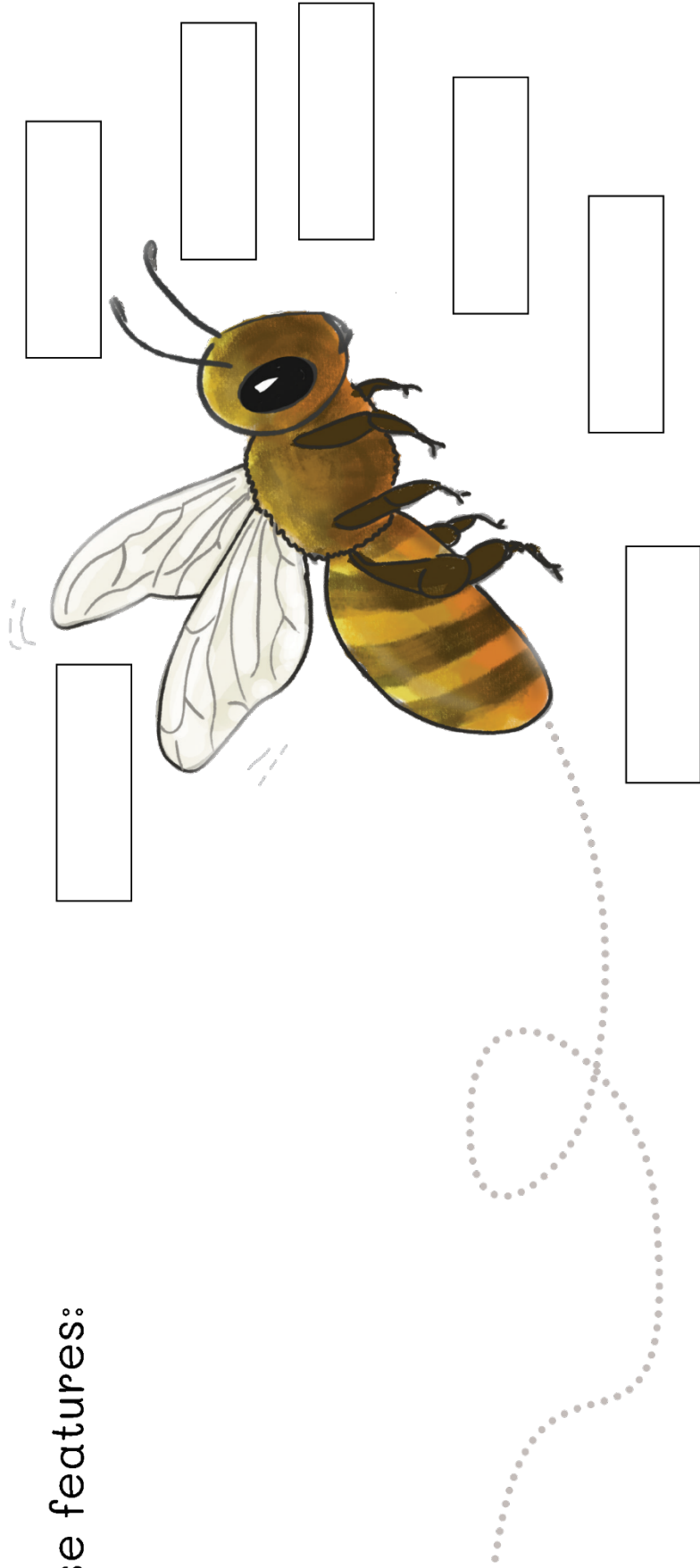
The activity sheet that asks students to label Beatrice's features includes images of different species of bee. From left to right these species are: Teddy-Bear bee, Blue-Banded bee, honeybee and a Leaf Cutter bee.

Beatrice

Name: _____

Label these features:

- wings
- antennae
- eye
- legs
- head
- thorax
- abdomen



All the bees in a hive hatch from eggs laid by the same queen - and they look like her. Which of these bees would live in the hive with Beatrice?

☐☐☐☐

Where does Beatrice live?



Beatrice is a bee. She lives in a _____.

Each day she _____ out to find flowers.

She drinks _____ when she finds it on grass, in flowers or in puddles or troughs. Beatrice lives with lots of other _____ and they all work together as a _____.



Name: _____

Label these features:

flowers, hive, bee, cows, water trough



Name: _____

Let's talk about Beatrice

Why does Beatrice fly out each day to look for flowers?

.....

.....

How does it help the colony?

.....

.....

What does Liz do to help the colony produce honey?

.....

.....

How do you help your classmates and friends?

.....

.....

.....

.....



Barbara



What does ‘Barbara’ tell us about sheep?

(text from the final page of the book)

Sheep are herd animals, this means that they like to be with other members of the herd in groups. In the wild this is a defence against predators. Herd animals on farms retain this characteristic and group together when something worries them, or they feel threatened.

In this story the members of the herd think that Barbara is brave and can protect them because she looks big and strong. Barbara feels like she must act the way the others expect her to but she doesn’t always feel strong and brave. Barbara is lucky because when the other sheep in the herd realise there is something wrong, they gather around to protect Barbara.

Sometimes this happens with people too, some people don’t feel the way that they look to the outside world. This can be confusing for the person and the people that know them – people who are lucky are allowed time to work this out or to say how they feel.

A note about vocabulary

The terms used in this story tell us about the sheep and wool industry. Teaching students the correct terminology helps them to understand the world around them. Barbara is a ewe: she is a female sheep. A male sheep is a ram if he is intact and able to reproduce, they are the sires (fathers) of the herd. A male sheep that has been castrated is a wether. A sheep under one year old is called a lamb.

A group of sheep can be called a herd or a flock.

The noise that sheep make is called a bleat, it sounds like ‘baaaaaa’. Just like people using a different tone of voice, the bleat that sheep make sounds different if they are worried or scared to when they are calmly grazing on grass.

Sheep are raised for meat and wool. Sheep are shorn to harvest their wool, it’s a bit like getting a haircut, and the wool grows back.

Discussion questions

These questions are also available on a worksheet for students.

- Why do the other sheep hide behind Barbara?
- Should Barbara have kept pretending to be brave?
- How do you think Barbara felt when the other sheep gathered around her?

- Could Barbara have handled this differently? What could she have done?

Student activities

The following pages are copyable versions of the student activities.

Alternatively, you can download a zip file with all of the activities to make printing easier. The zip file also includes the activity sheets as pdf forms to be completed on a computer while students practice their keyboarding skills!

A note about breeds

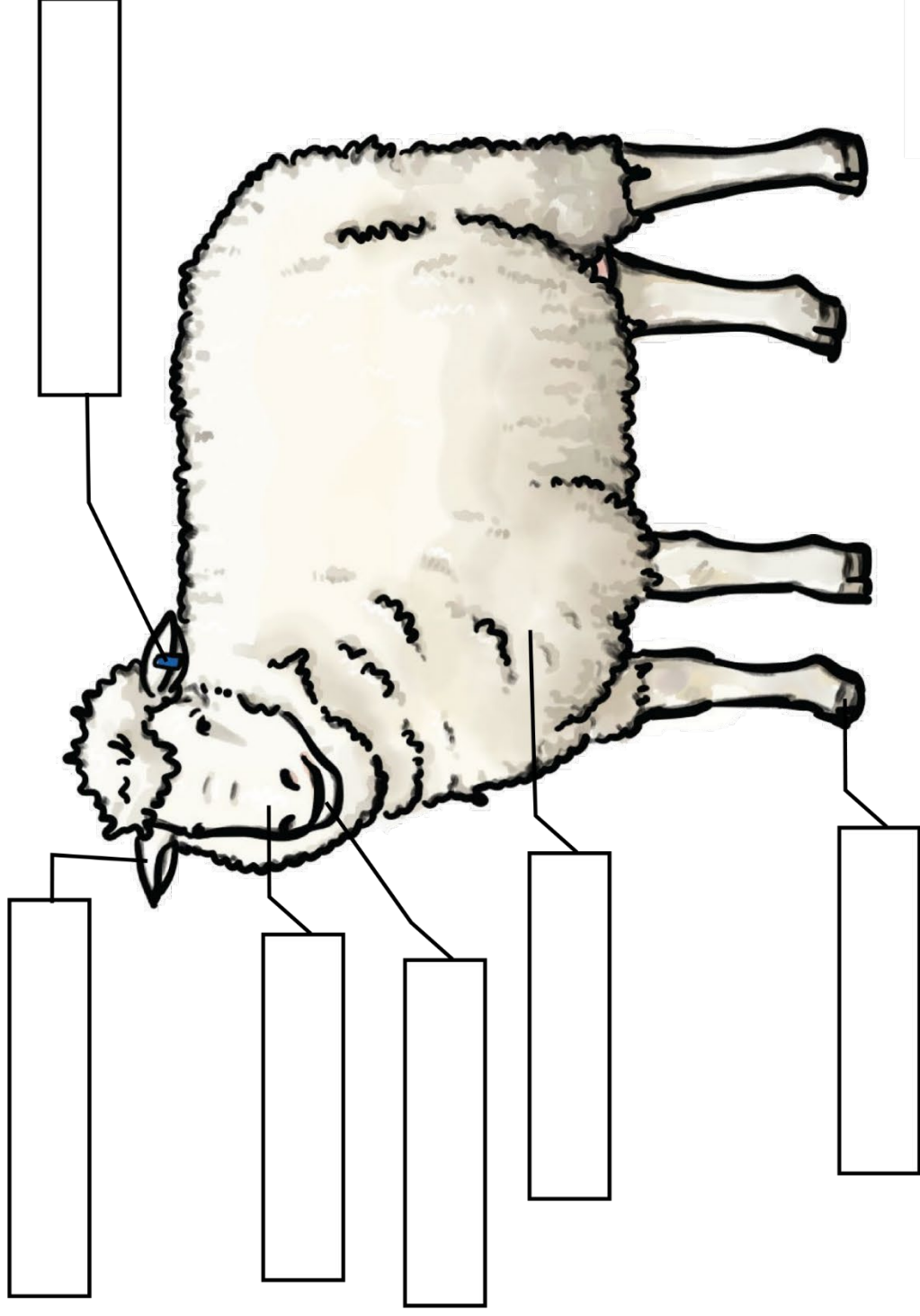
The activity sheet that asks students to label Barbara's features includes images of different breeds of sheep. From left to right these breeds are: Leicester, Dohne (like Barabara), Dartmoor and Suffolk.

Barbara

Label these features:

wool
hoof
ear
nose
mouth
ear tag

Name: _____

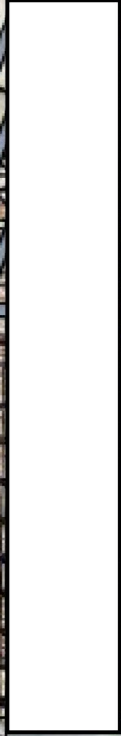


Baby animals look like their parents, which of these lambs is most likely to be one of Barbara's lambs?

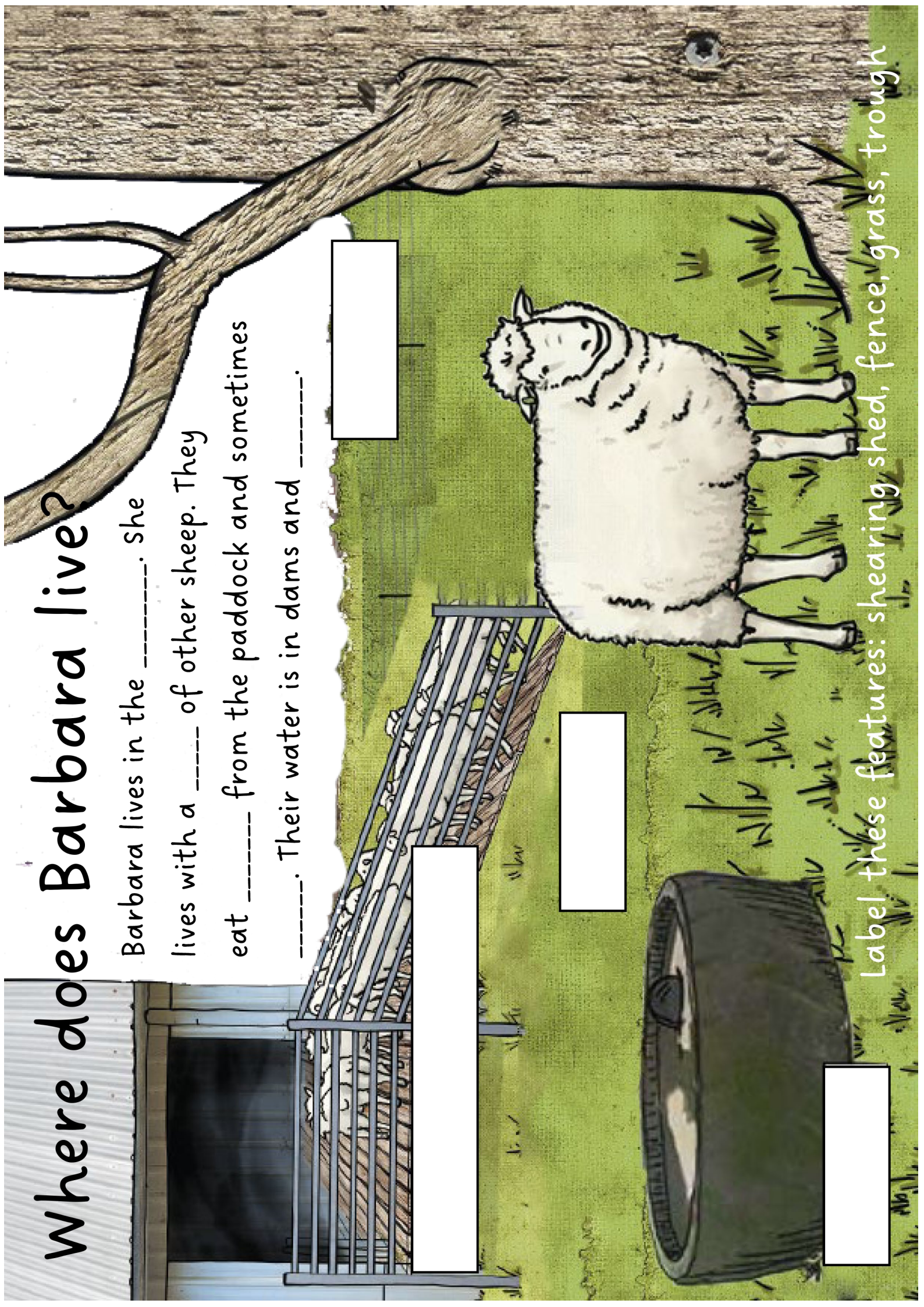


Where does Barbara live?

Barbara lives in the _____. She lives with a ____ of other sheep. They eat _____ from the paddock and sometimes _____. Their water is in dams and _____.



Label these features: shearing, shed, fence, grass, trough



Name: _____

Let's talk about Barbara

Why do the other sheep hide behind Barbara?

.....

.....

Should Barbara have kept pretending to be brave?

.....

.....

How do you think Barbara felt when the other sheep gathered around her?

.....

.....

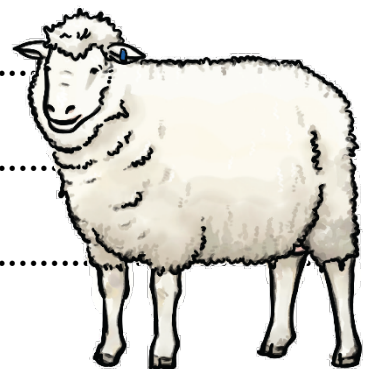
Could Barbara have handled this differently? What could she have done?

.....

.....

.....

.....



Auslan Videos

There are Auslan interpreted readings of the picture books available on the NSW DPI Schools Program YouTube channel (<https://www.youtube.com/playlist?list=PLa30fiiRFuoHaU7Pqs1k7X7h3PicV0nmX>).

Show these videos to the class. Discuss the place of Auslan as the language of the Deaf community. Ask students to think of a word to describe either the story or the character in the book. Look up this word on Auslan [Signbank](https://auslan.org.au/) (<https://auslan.org.au/>) for students to learn and share with each other.

QR code to the play list



Farm Spaces

The Tocal property is arranged the way that it is for a few different reasons.

The original section of the property runs east-west and is located close to the town of Paterson. The main road between Maitland and Paterson runs through the eastern end of the property and the Homestead (where the families who owned the property lived) is near the main road. It makes sense that the Homestead site was maintained close to the major transport route of the road and the rail line. However, when you consider that the Homestead is on the site chosen by James Webber in 1822 – long before road and rail in the area – we see that there is more to the decision to establish the Homestead here.

We believe this site has been an important site for Aboriginal people for thousands of years before the arrival of James Webber and probably for the same reason that Webber chose it for his home. This area is located near the freshwater in Webbers Creek, the lagoon and the wetlands. It is on a rise – out of reach of floods and where the residents are able to see into the distance and over the surrounding farm land. In the time that Webber arrived there would have been some open forest on the surrounding undulating land which would have been a much more welcoming environment than the steep rugged slopes of forest or the tangle of rainforest. The range of ecosystems nearby – including wetland, open forest, grasslands, rainforest and rivers - also provides for a range of resources and food. The publication 'Aboriginal land use at Tocal' provides more detail about the use of the area by the Wonnarua people.

This explains the placement of the Homestead, the farms are a different matter. For many years following the arrival of Webber, agriculture focussed on cattle and horse breeding. There was also pigs, chicken, sheep, dairying and horticulture in the immediate Homestead area to provide for the residents and staff on the property.

This enterprise was managed from the Homestead site and the many buildings surrounding the Homestead are indicative of a busy farm – including a dairy building, hay shed, bull barn, stables, barracks accommodation, black smith shop, barn and gardens.

Today beef and horse breeding continue in the area to the west of the Homestead. In these areas cattle and horses are managed by using paddock fences to control where they move and feed. They graze in areas of native

grasses as well as areas that have had some introduced species of grass to boost the amount of food available.

Cattle have access to water in farm dams and water troughs and they shelter under trees in the paddock.

Since the establishment of the College on the rise to the south of the Homestead, farming on Tocal has expanded to include the dairy to the east of the road. This area was purchased in 1966 as an established dairy called Glendarra and is still run as a separate enterprise to the Tocal beef section. Establishing and maintaining a productive dairy requires highly productive pastures which the beautiful rich river flats in this area provide. In recent years irrigation has been expanded on the dairy to enable a more reliable cropping program. Fodder crops are a more expensive way of providing feed for cattle than grazing native pastures but it also provides the cows the nutrition required to produce 20-25 litres of milk each day. Fodder cropping on the dairy is a more intensive production system and for management of the pastures the paddocks on the dairy are smaller and grazed in rotation. Water is provided in most of the dairy paddocks by troughs.

The area to the north of the Homestead called Bona Vista was also purchased separately in 1974. This property is home to the small sheep enterprise established for student training purposes. This is where the shearing shed and sheep yards are located. The sheep graze the grass from the paddocks on this property and have access to water in the farm dams and water troughs.

In 1981 Numeralla on the north western side of the property was also purchased as an established farm producing broiler chickens. Numeralla was subsequently converted to free range egg production in 2015. Its location made it a convenient addition to the training opportunities for the College as well as a profitable business. Importantly it is located close to a road that allows access for the trucks that bring the chicken feed and collect the eggs. The map shows the five sheds that house chickens as well as the fenced runs that keep chickens safe while they are outside.

The sheds provide shelter for chickens at night and shade during the day and it is also where most of their food and water are provided (they also have access to forage for food and water in the yards).

When seen through the history of the property the arrangement of the spaces on Tocal can be more clearly understood. The map included with the farm spaces worksheet sets out the areas in a simplified format. A more detailed and interactive map is available online at <https://arcg.is/1HGXn1>. This map is part of the Tocal Virtual Farm (<https://www.tocal.nsw.edu.au/farm-and-facilities/tocal->

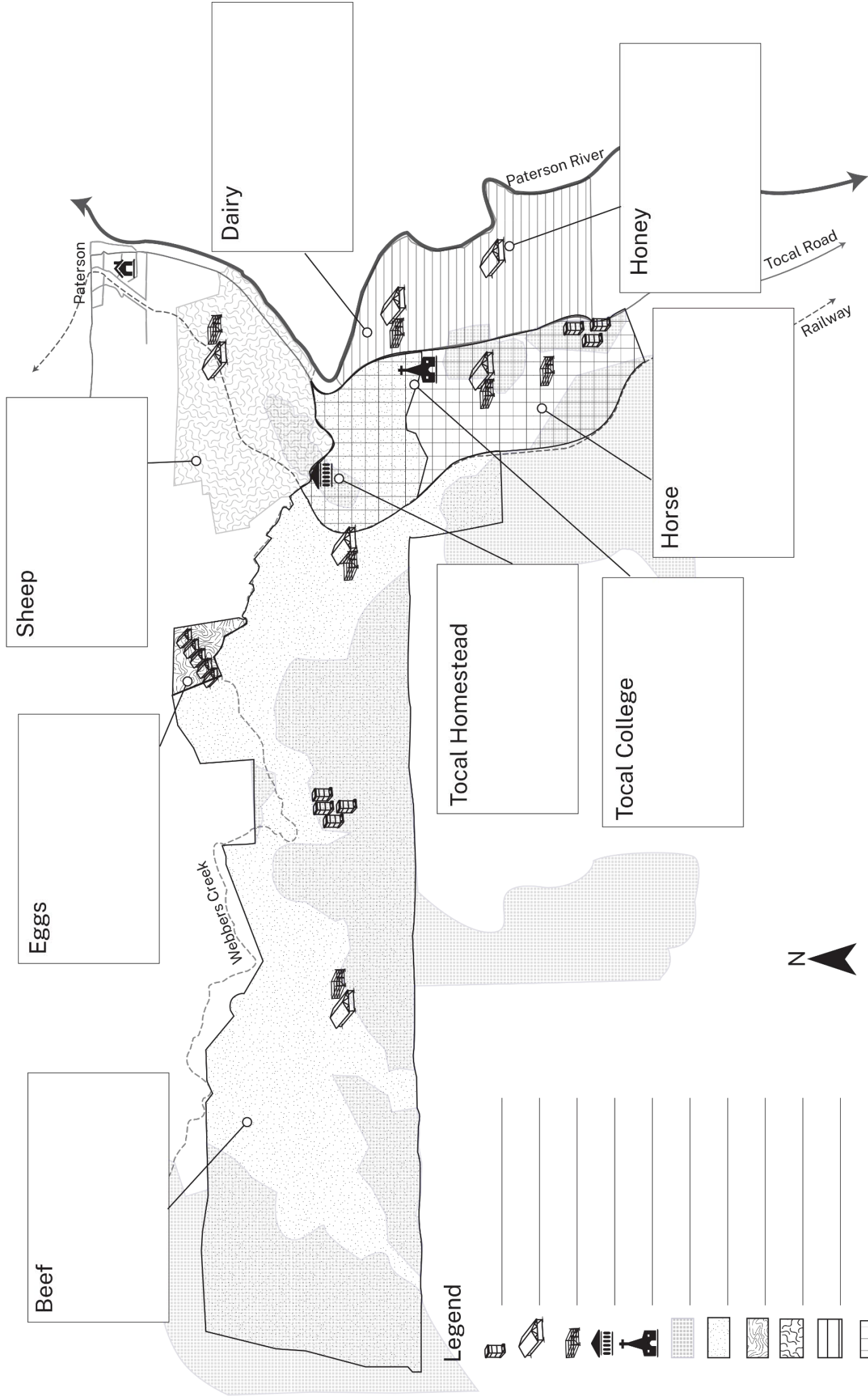
[farms/tocal- virtual-farm-navigation](#)) where you will also find VR videos and images to support your in-class activities.

You may choose to print the worksheets and have students colour code the different sections or complete some information about each of the sections and the way that the needs of people and animals are met in these spaces. Or you may choose to use it as a conversation starter about the way that farms are arranged. Note that this map is not to scale, the buildings are larger to make them more obvious and the property is not as close to Paterson as it appears here.

You can also have students draw the layout of a farm – one they know or one that dream up – and discuss with them why they decided to place features where they did. Alternatively, they can have a go at mapping the school grounds and see if they can understand why different features are in different locations.

Tocal Farms

Name: _____



My



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