Dairy Australia

Primary Industries Education Foundation Australia

Life as a Dairy Cow

Learning Areas and Australian Curriculum Content

An educational resource for

Years F–2

Discover Aussie Dairy

Learning Areas and Australian Curriculum Content

Teacher guide

Design and Technologies

Explore how plants and animals are grown for food, clothing and shelter. (AC9TDE2K03).

Science

Explore the ways people make and use observations and questions to learn about the natural world. (AC9SFH01).

Identify the basic needs of plants and animals, including air, water, food or shelter, and describe how the places they live meet those needs. (AC9S1U01).

Describe how people use science in their daily lives, including using patterns to make scientific predictions. (AC9S1H01).

Describe how people use science in their daily lives, including using patterns to make scientific predictions. (AC9S2H01).

English

Share ideas about stories, poems and images in literature, reflecting on experiences that are similar or different to their own by engaging with texts by First Nations Australian, and wide-ranging Australian and world authors and illustrators. (AC9EFLE01).

Use interaction skills including turn-taking, speaking clearly, using active listening behaviours and responding to the contributions of others, and contributing ideas and questions. (AC9E1LY02).

Use interaction skills when engaging with topics, actively listening to others, receiving instructions and extending own ideas, speaking appropriately, expressing and responding to opinions, making statements, and giving instructions. (AC9E2LY02).

Lesson Objective

Students will be able to recognise and label the features of dairy cows, identify various breeds, and understand the milk production process from paddock to plate. Through interactive activities, students will explore the role of dairy farmers, develop literacy skills, and create a flow chart that demonstrates their understanding of the milk supply chain. Students will also work in pairs to plan, design, and create a colourful and engaging label for a dairy product.

Lesson Overview

Activity 1 - Dairy Cows (30 mins)

Activity 2 - Where Does Milk Come From? (30 mins)

Activity 3 - Design a Dairy Label (45-60 mins)

Contents

ATTRIBUTION, CREDIT & SHARING

This resource was produced by Primary Industries Education Foundation Australia (PIEFA) in collaboration with Dairy Australia. Primary Industries Education Foundation Australia's resources support and facilitate effective teaching and learning about Australia's food and fibre industries. We are grateful for the support of our industry and member organisations for assisting in our research efforts and providing industry-specific information and imagery to benefit the development and accuracy of this educational resource.

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Primary Industries Education Foundation Australia

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Teacher guide

Discover Aussie Dairy

Resources and Equipment

Teacher guide

Activity 1 - Dairy Cows

1. Digital devices
2. A Year on Our Farm - YouTube (5:22)
3. **Worksheet 1a - The Features of a Diary Cow**
4. Discover Dairy Cow Breeds Interactive
5. Breeds of Dairy Cows (1:37)
6. **Worksheet 1b - Breeds of Dairy Cows**
7. Scissors and glue

Activity 2 - Where Does Milk Come From?

1. Digital devices
2. How Do Dairy Cows Make Milk?
3. A Day in the Life of a Dairy Farmer with Brian and Michele Lawrence (5:04)
4. Running a Dairy Farm (1:55)
5. **Worksheet 2a - Jobs on a Dairy Farm**
6. Discover Dairy Farm to Plate Interactive
7. **Worksheet 2b - Paddock to Plate Flow Chart**

Activity 3 - Design a Dairy Label

1. Variety of empty and clean dairy products in packaging such as milk, cheese, yoghurt, custard, cream etc. Multiples of each.
2. **Worksheet 3a - Design Challenge: Design a Dairy Product Label**
3. A3 or butchers paper
4. Paper
5. Coloured pencils or markers
6. Rulers

Additional Resources

Discover Dairy | Australian Dairy Education Resources

Read Aloud Book For Kids: Cows | Animal Book for Kids Read Aloud I Animal book (2:05).

Lesson Guide

Teacher guide

Activity 1 - Dairy Cows

Students will recognise and label the features of a dairy cow. They will develop an understanding of the breeds of dairy cows through an interactive activity where they can listen to or read about the breeds of dairy cows in Australia. Students will develop their writing and literacy skills and identify pictures of dairy cow breeds.

a Select an appropriate children's picture book to read such as 'A Year on Our Farm' by Penny Matthews and Andrew McLean, or watch the video reading of A Year on Our Farm - YouTube (5.22) to inspire student interest and begin a discussion about life on a dairy farm.

b Draw a four-part display in a central area. Title the four parts 'What we know about dairy cows', 'What we want to find out', 'What we have discovered', and 'Other things we would like to explore'. Use 'What we know' as a source for class sharing.

c Ask students to brainstorm everything they already know about dairy cows and fill in the 'What we already know about dairy cows' quadrant. Use guiding questions such as:

- What do dairy cows look like?
- What covers a dairy cow's body?
- How tall is a dairy cow?
- What are some of the main features of a dairy cow's body?
- Does a dairy cow have a curly or straight tail?
- What sounds do dairy cows make?
- What colours are dairy cows?
- What food might dairy cows eat? etc.

Record student responses in a four-part display in a central area.

d Fill in the second quadrant of the four-part display with students, explaining they will be learning about the following:

- Features of a dairy cow
- Breeds of dairy cows
- How dairy cows make milk
- What happens on a dairy farm
- Jobs on a dairy farm
- Paddock to plate process.

e Complete the third quadrant by brainstorming with students about what else they would like to find out about dairy cows.

f Distribute **Worksheet 1a – The Features of a Dairy Cow** to students, and as a class, read through the terms of the features of a dairy cow. Direct students to point to where they think the features of the dairy cow are located. If needed, assist them with finding the correct positions and then allow time to cut out and paste the features directly onto the dairy cow. (Pair students together if literacy support is needed). (Answers page 10)

g Explain to students that in Australia, there are many breeds of cows. The most popular dairy cow breeds are Holstein, Jersey, and Aussie Red cows. Different breeds of cattle are raised on farms to produce beef. View the video Breeds of Dairy Cows (1:37) as a class.

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h Optional activity: As a class, view the Discover Dairy Cow Breeds Interactive. Challenge students to find seven pop-up cards with information about each breed and use the audio button to hear about them.

i Direct students to complete **Worksheet 1b - Breeds of Dairy Cows**, where they match each dairy cow breed name with its hide and then write the correct breed name on the lines provided. (Answers page 10)

j Complete the 'What have we discovered' quadrant as a class to summarise student learning.

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Activity 2 - Where Does Milk Come From?

Students will explore how dairy cows produce milk through the use of an interactive animation. They will discover the daily life and jobs of a dairy farmer. Students will learn about the milk supply chain by completing an interactive activity and a flow chart to show their understanding of the process of producing milk from paddock to plate.

a Brainstorm students' ideas about how dairy cows are raised on farms and what they produce. Ask questions such as:

- Who takes care of dairy cows?
- When is a dairy cow considered an adult?
- What is a baby/male/female cow called?
- What do dairy cows eat?
- How do dairy cows chew their food?
- How many stomach compartments does a dairy cow have?
- What do dairy cows need to be healthy?
- How is milk produced by dairy cows? (Answers page X)

b Explain that cows have a special stomach with four compartments that help them to digest their food (grass) which they need to get nutrients from to produce milk. This milk is stored in their udder for their babies (calves) to drink and for humans to milk to provide us with milk that we buy.

c Encourage a discussion with students about what jobs they think a dairy producer or farmer might do. Write their correct responses in a central location.

d View the following videos showing life on a dairy farm in Australia: A Day in the Life of a Dairy Farmer with Brian and Michele Lawrence (5:04). Running a Dairy Farm (1:55).

e Discuss with students the people they saw working on the dairy farms and the jobs they were performing. Link back to the responses in the discussion in part c.

f Distribute **Worksheet 2a - Jobs on a Dairy Farm**. Read through each of the jobs listed and instruct students to tick the jobs a dairy farmer would most likely do on a dairy farm and cross out the jobs a dairy farmer would not do. (Answers page X)

g Display the Discover Dairy Farm to Plate Interactive in a central area without words and sound, and discuss each of the steps as the animation plays:

1. Paddock cows eat grass and this is known as grazing. Cows have four stomach compartments that help them digest food (rumen, reticulum, omasum, and abomasum). When they eat grass, they chew it a little and swallow it into the first stomach, where bacteria begin breaking it down. A cow brings up the grass to chew it again later, this is called 'chewing a cud'. The food travels through three more stomach compartments and is digested to give the cow nutrients to grow and be healthy as well as make milk.
2. Milking - Cows start making milk when they have their first baby, usually around two years old, and need to be milked twice a day to keep the milk coming. The farmer uses a machine to gently take the milk from the cow's udders, and the milk is sent through pipes to be kept cool in a large refrigerated storage tank.
3. Transport - The milk is collected from the dairy farm by a milk tanker truck each day and transported to the factory.

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4 Factory - The milk is pasteurised, which is the process of heating milk to destroy anything that might make us sick. It is then homogenised, which means it's filtered to become smooth. The milk is tested in the factory and then put into cartons and bottles. Milk is used to make other dairy products such as cream, butter, yoghurt, ice cream, and cheese.

5 Supermarket - Dairy products are then transported to the supermarket or other shops where we can purchase them.

6 Plate - We then get to enjoy eating or drinking dairy products.

h Ask students to design a simple flow chart explaining where milk comes from and the steps involved in the production of milk using **Worksheet 2b - Paddock to Plate Flow Chart**. Differentiate this task based on student ability. Students may draw pictures or write words and descriptions. (Answers page x)

i Students share their flow charts with a partner and explain each of the steps involved in the production of milk to reinforce their learning and develop communication skills.

Activity 3 - Design a Dairy Label

Students will work in pairs to plan, design, and create a colourful and fun label for a dairy product like milk, cheese, or yoghurt.

Schools are responsible for carrying out risk assessments before this task.

a Display a number of empty and clean dairy product packaging examples for students to view and handle. Encourage students to discuss their observations. Use guiding questions such as:

- How do you know what is inside them?
- How do you know they are food products?
- How do you know they are dairy products?
- What sort of information is written on them?
- What colours are used? etc.

b Explain to students that they will be designing a label for a new dairy product that will be sold in shops. The label should make someone want to buy it because it looks delicious and healthy.

c Brainstorm with students what they think they will need to include and record their ideas in a central area. Remind them to consider the features of the dairy product labels they just viewed.

Suggestions include:

1 What it is - Make sure people know what kind of dairy product it is (milk, cheese, or yoghurt).

2 Product name - What will the name of the product be? Make it fun and creative.

3 Picture or drawing - Draw a picture that shows the product. This could be a glass of milk, a slice of cheese, a spoon of yoghurt, and/or

4 Logo - Create a character or logo to represent the product. This could be a happy cow or a playful spoon.

5 Colours - Choose colours to make the label stand out.

6 Size - You could add how much of the product is in the package (for example, 500ml for milk or 200g for cheese).

7 Health information - Add words to show that the product is healthy such as 'build strong bones' etc.

8 Size of label - How big will the label be? Consider the packaging size and use the example of dairy products as a model.

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d Allocate students into pairs and distribute **Worksheet 3a - Design Challenge: Design a Dairy Product Label**. Read the information as a class.

e Provide students with pencils and a piece of A3 or butchers paper to plan and draw a rough sketch of their label. Encourage the sharing of ideas between groups.

f Students collect design materials (e.g. paper, pencils, and markers) and use their plan to begin designing a label for a new dairy product.

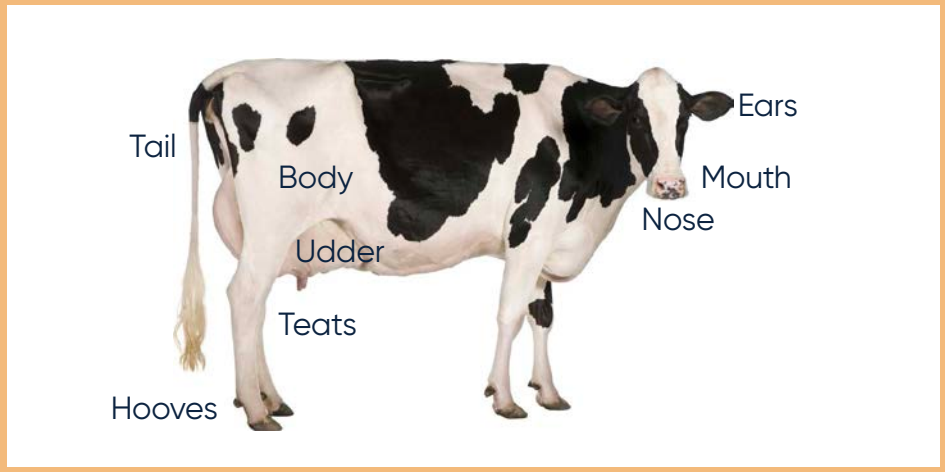
g Students present their completed designs to the class, sharing why they think the label will appeal to shoppers and make them want to purchase it. Students explain what they think worked well and if they would do anything different next time.

Answers

Answer

Activity 1 - Dairy Cows

Worksheet 1a - The Features of a Dairy Cow



Worksheet 1b - Breeds of Dairy Cows

Guernsey cow

Jersey cow

Holstein cow

Ayrshire cow

Answers

Answer

Activity 2 - Where Does Milk Come From?

a Brainstorm

- Who takes care of dairy cows? Farmers and dairy workers take care of their cows.
- When is a dairy cow considered an adult? After two years.
- What is a baby/male/female cow called? A baby cow is called a calf. An adult female cow that has had a calf and produces milk is called a cow. A male cow, if it is intact and used for breeding, is called a bull.
- What do dairy cows eat? Dairy cows typically eat a balanced diet of grass, hay, silage, grains, and specially formulated feed. Their diet is often supplemented with vitamins and minerals to promote health and milk production.
- How do dairy cows chew their food? Dairy cows are ruminants, meaning they chew their food twice. They initially swallow food into the first compartment of their stomach, then regurgitate it as cud, which they chew again before swallowing it again to digest.
- How many stomach compartments does a dairy cow have? Dairy cows have four stomach compartments: the rumen, reticulum, omasum, and abomasum.
- What do dairy cows need to be healthy? Dairy cows need good nutrition, access to clean water, regular veterinary care, a clean and comfortable living environment, and exercise.
- How is milk produced by dairy cows? Milk is produced after the dairy cow gives birth to a calf. Hormones triggered by calving stimulate the mammary glands to produce milk. Cows are typically milked twice a day, and will continue to produce milk as long as they are milked regularly and have good nutrition.

Worksheet 2a - Jobs on a Dairy Farm

Job of a Dairy Farmer	Not a job of a Dairy Farmer
Feed cows	Paint pictures
Milk Cows	Drive a school bus
Fix fences	Deliver mail
Plant trees	
Hand-feed calves	
Make hay	
Record keeping	

Worksheet 2b - Paddock to Plate Flow Chart

Correct order for the flow chart: grazing, milking, transport, factory, supermarket, and plate.

Activity 3 - Design a Dairy Label

Student designs will vary.

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Worksheet 1a

The Features of a Dairy Cow

Activity

Cut out the features of a Holstein cow and paste them in the correct positions.

Udder | Hooves | Teats | Eyes | Ears | Mouth | Nose | Body

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Worksheet 1b

Breeds of Dairy Cows

Activity

Breeds of dairy cows spelling and match up.

1 Match up the correct cow hide with each of the dairy cow breeds.
2 Write out the correct dairy cow breed next to it's picture.

Guernsey cow

I am a _____

Jersey cow

I am a _____

Holstein cow

I am a _____

Ayrshire cow

I am a _____

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Worksheet 2a

Jobs on a Dairy Farm

Activity

There is much more to life on a dairy farm than milking cows.
Put a tick next to the jobs a dairy farmer would most likely do on a dairy farm.

	Feed cows	
	Paint pictures	
	Milk cows	
	Drive a school bus	
	Fix fences	

	Plant trees	
	Hand-feed calves	
	Deliver mail	
	Make hay	
	Record keeping	

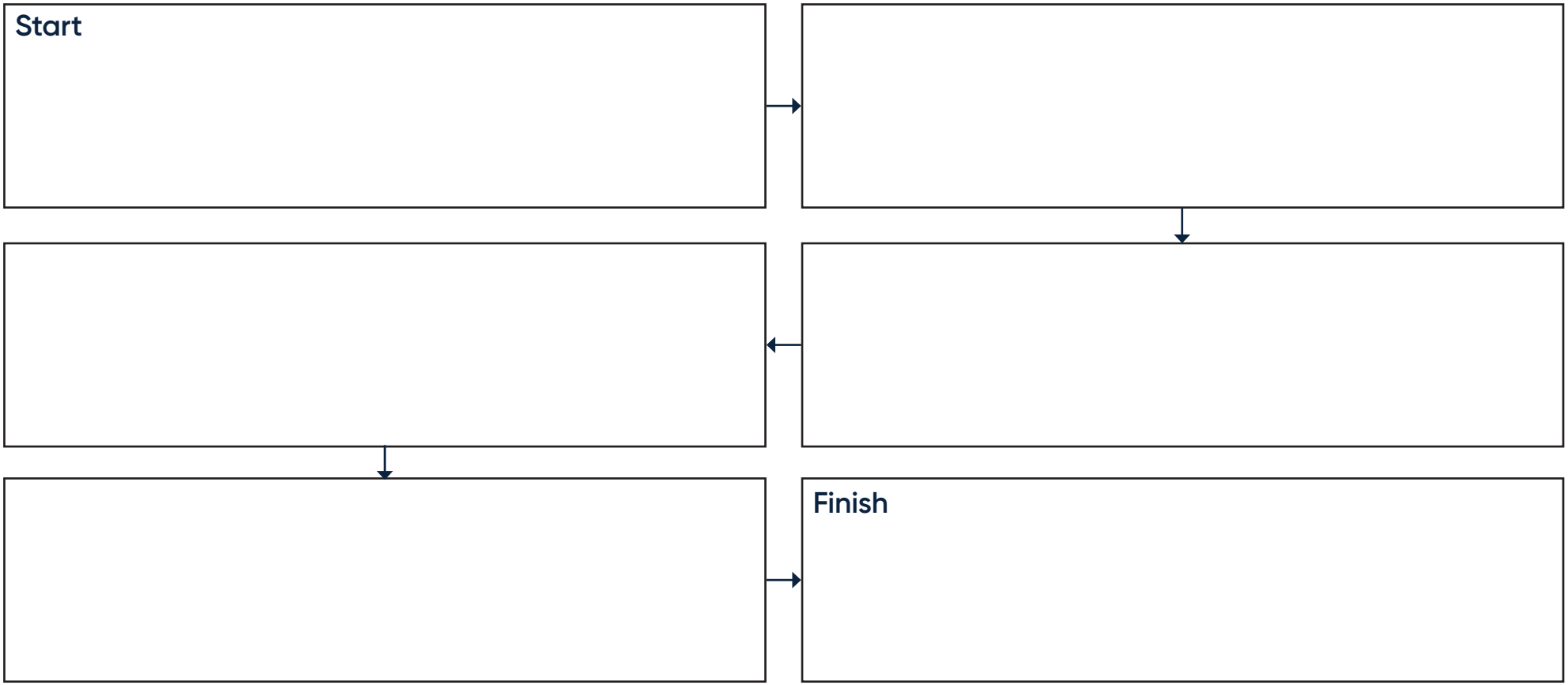
Worksheet 2b

Paddock To Plate Flow Chart

Activity

Draw, write, or describe each of the steps involved in producing milk from farm to plate.
The key words are listed below, but not in order.

Key words: transport, supermarket, grazing, plate, factory, and milking.



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Worksheet 3a

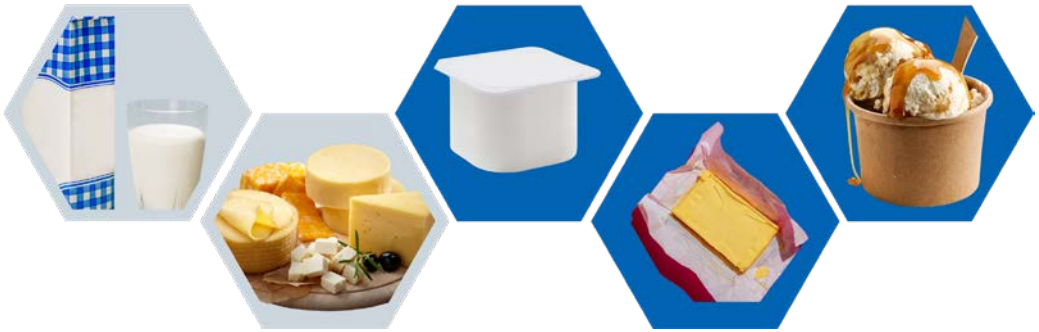
Design Challenge: Design a Dairy Product Label

Activity

Create a colourful and fun label for a dairy product like milk, cheese, or yoghurt. The label will help people know what the product is and make them want to buy it because it looks delicious and healthy. Include important information about your dairy product and use your imagination.

Use the checklist to help you plan. Add any other things you think are needed.

Our dairy product label should include:	
	Type of dairy product (milk, cheese, or yoghurt)
	Brand name
	Picture
	Health information
	Logo
	Quantity (how much is in the container)



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Dairy Australia

1800 004 377
enquiries@dairyaustralia.com.au
dairyaustralia.com.au

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