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MEAT & LIVESTOCK AUSTRALIA

F–2 | LESSON PLAN

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Lesson 5

Past, present and future on the farm

AUSTRALIAN CURRICULUM CONTENT

Explore how familiar products, services and environments are designed by people. (ACTDEK001, AC9TDEFK01)

Identify how familiar products, services and environments are designed and produced by people to meet personal or local community needs and sustainability. (ACTDEK001, AC9TDE2K01)

Describe how people use science in their daily lives, including using patterns to make scientific predictions. (ACSHE022, ACSHE035, AC9S1H01, AC9S2H01)

Pose questions about familiar objects, people, places and events. (ACHASSI001, AC9HSFS01)

Develop questions about objects, people, places and events in the past and present. (ACHASSI018, ACHASSI034, AC9HS1S01, AC9HS2S01)



How technological developments changed people's lives at home, and the ways they worked, travelled and communicated. (ACHASSK046, AC9HS2K02)

Create and deliver short spoken texts to report ideas and events to peers, using features of voice such as appropriate volume. (ACELY1647, AC9EFLY07)

Create and deliver short oral and/or multimodal presentations on personal and learnt topics, which include an opening, middle and concluding statement; some topic-specific vocabulary and appropriate gesture, volume and pace. (ACELY1657, AC9E1LY07)

Create, rehearse and deliver short oral and/or multimodal presentations for familiar audiences and purposes, using text structure appropriate to purpose and topic-specific vocabulary, and varying tone, volume and pace. (ACELY1667, AC9E2LY07)

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Lesson 5

LESSON OBJECTIVE

Students will learn about technologies that have changed over time and how this has helped farmers. They will have the opportunity to plan their own school-based technology to solve a problem.

LESSON OVERVIEW

This lesson guide contains activities that follow a developmental sequence of learning. The activities are suitable for differentiation between Foundation to Year 2 or between ability levels within a year level.

Activity 5.1	Keywords	10–20 mins
Activity 5.2	Past and present technology	20–30 mins
Activity 5.3	The future	30–120 mins
Activity 5.4	Just for fun	20 mins

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Resources and equipment

ACTIVITY 5.1 – Keywords

1. Stimulus 5.1a – *Have you seen?*
2. Worksheet 5.1a – *Technology on the farm tracing.*
3. Worksheet 5.1b – *Technology on the farm template.*
4. Worksheet 5.1c – *Keywords and definitions.*
5. Worksheet 5.1d – *Keywords scramble.*
6. Timer.
7. Worksheet 5.1e – *Keywords spelling list.*

ACTIVITY 5.2 – Past and present technology

1. Charlie the Shearing Kid – Behind the News (3.30).
2. Worksheet 5.2a – *Past and present technology picture cards*.
3. Scissors.
4. Worksheet 5.2b – *Past and present technology description cards.*

ACTIVITY 5.3 – The future

1. Stimulus 5.3a – *SwagBot*.
2. Is this Robot the Future of Farming | SwagBot | Robot Dog (8.46).
3. Worksheet 5.3a – *School robot planner.*
4. Optional: collection of recyclable materials, craft, glue sticks, scissors, etc.

ACTIVITY 5.4 – Just for fun

1. Benny the Blue Heeler Rides the Four Wheeler, Case, L. and Achhammer, M. (2008).
2. Timer, butcher's paper, markers.

ADDITIONAL READING/RESOURCES

- Tools and Technology Over Time.
- Top 6 Ag-Tech Companies 2021.

Lesson guide

ACTIVITY 5.1 – Keywords

1. Facilitate a brainstorming session with students asking:
   - What is technology? *(equipment that is used to do a job)*
   - Why is technology important? *(It can make a job faster [electric pencil sharpener vs manual sharpener]. It can make something safer [using seat belts or car seats in cars]. It can make a task easier and stress free [using a GPS rather than a map to find a place in the car]. It can make more of something [machines that knead bread and bake, instead of a person manually performing the task]. It can solve a problem [using a new medicine to treat sick people or animals]).*
   - What are some examples of technology that you know about? *(computers, phones, transportation, refrigeration, calculators, air conditioners, robots, etc.)*

   Record ideas in a central area. (Use Stimulus 5.1a – *Have you seen?* to provide students with ideas if support is needed.)
2. Foundation–Year 1: Distribute Worksheet 5.1a – *Technology on the farm tracing*, and read through the words with students. Students carefully trace the words provided, focusing on the size of their letter formation and spacing. Using Worksheet 5.1b – *Technology on the farm template,* students practise re-writing the list of words that they have copied.
3. Year 2: Distribute Worksheet 5.1c – *Keywords and definitions* and read through the text with students. Allow time for students to individually re-read the words and then allocate students into pairs. Set a five-minute timer and ask pairs to practise recalling the meaning of the keywords with each other. After five minutes, provide pairs with Worksheet 5.1d – *Keywords scramble.* Students work together to unscramble the keywords. (Answers page 20)

   Optional: Provide students with Worksheet 5.1e – *Keywords spelling list.*

ACTIVITY 5.2 – Past and present technology

1. Recall some of the reasons why technology is important *(it is: safer, faster, more efficient and can solve problems).*
2. As a class, watch the video clip Charlie the Shearing Kid – Behind the News (3.30), and observe footage of past and present shearing technology.
3. In the video, students observe manual shears and electric shears. This is an example of a past and present technology. Allocate students into pairs and distribute Worksheet 5.2a – *Past and present technology picture cards*. Pairs cut out the 12 individual cards and lay them out so they can see all of the pictures.
4. Choose a description from Worksheet 5.2b – *Past and present technology description cards* and read it to the class. Allow pairs time to locate the two cards that match the description. Repeat for another description until all pictures have been matched.

   Option: If students are able to read the description cards themselves, distribute and allow pairs to work together to solve the matching task. (Answers on page 22).

***Lesson guide** continued next page*

Lesson guide *continued*

ACTIVITY 5.3 – The future

Optional: Using either the link in 'Additional Resources' to the Top 6 Ag-Tech companies 2021, or other known resources, show students some examples of innovation and technology in agriculture.

1. View the video clip Is this Robot the Future of Farming | SwagBot | Robot Dog (8.46) (younger classes may choose to watch from 0.00–5.19 if the clip is too long), to visualise a real example of robotics in action.
2. Project an image of SwagBot for students to observe (use Stimulus 5.3a – *SwagBot* if needed) and talk about the following aspects of this technology.
   - SwagBot is a technology, because it has been invented to perform a job in an improved way.
   - SwagBot includes a computer in its design.
   - The problem that SwagBot was designed to solve is, trying to make a herd of cattle follow it from one place to another and move them from paddock to paddock.
   - If SwagBot can do this, farmers will have more time to do other jobs on the farm.
   - SwagBot is also safer for farmers as they are not as close to the animals, or riding horses or motorbikes.
   - The designers had to think about how to improve their SwagBot design and make changes.
3. Allocate students into pairs and assign them the challenge of designing and making their own robot. Their robots can help out in the school to either make something safer, faster, or beneficial in some way to people and/or the environment (learning or natural). Students could consider a robot helping out: at the canteen; on the oval; within the classrooms; or any other significant area.
4. Distribute Worksheet 5.3a – *School robot planner* to pairs and allow planning and recording time.
5. Students present a short oral report back to their class about their design.
6. Encourage peers to provide feedback on each design in a positive and constructive way (e.g. things I liked were; suggestions for improvements are; have you thought about?; What would happen if?; etc.)

   Optional: Provide students with a collection of recyclable/craft materials and time to build a prototype of their design for display.

ACTIVITY 5.4 – Just for fun

1. To conclude the lesson about examples of technology on the farm, read the story, Benny the Blue Heeler Rides the Four Wheeler, Case, L. and Achhammer, M. (2008).
2. At the conclusion of the story, split students into teams of four and provide them with butcher's paper and markers.
3. Set a five-minute timer and allow teams to recall as many characters from the story as they can. Tally points at the end. (Answers on page 22)

Student resources

ACTIVITY 5.1 – Keywords

Stimulus 5.1a	Have you seen?
Worksheet 5.1a	Technology on the farm tracing
Worksheet 5.1b	Technology on the farm template
Worksheet 5.1c	Keywords and definitions
Worksheet 5.1d	Keywords scramble
Worksheet 5.1e	Keywords spelling list

ACTIVITY 5.2 – Past and present technology

Worksheet 5.2a	Past and present technology picture cards
Worksheet 5.2b	Past and present technology description cards

ACTIVITY 5.3 – The future

Stimulus 5.3a	Name of robot: SwagBot
Worksheet 5.3a	School robot planner

ACTIVITY 5.4 – Just for fun

Not applicable

Stimulus 5.1a

Have you seen?









Worksheet 5.1a

Technology on the farm tracing

technology

sheep

robot

farm






Worksheet 5.1b

Technology on the farm template






Worksheet 5.1c

Keywords and definitions

technology	Equipment designed to do a job.
shears	A cutting tool used to shear sheep.
robot	A machine that can carry out actions.
future	A later time.
solution	A way to solve a problem.






Worksheet 5.1d

Keywords scramble

Unscramble the keywords below:

tfuuer _____

ehrsas _____

tboro _____

locethngyo _____

tiosulon _____






Worksheet 5.1e

Keywords spelling list

Spell the keywords below.

1 _____

2 _____

3 _____

4 _____

5 _____






PLEASE NOTE: This activity requires single-sided printing

Worksheet 5.2a

Past and present technology picture cards

Cut out the 12 individual cards and listen to or read the descriptions to help you work out which past and present farm technology cards match the descriptions.









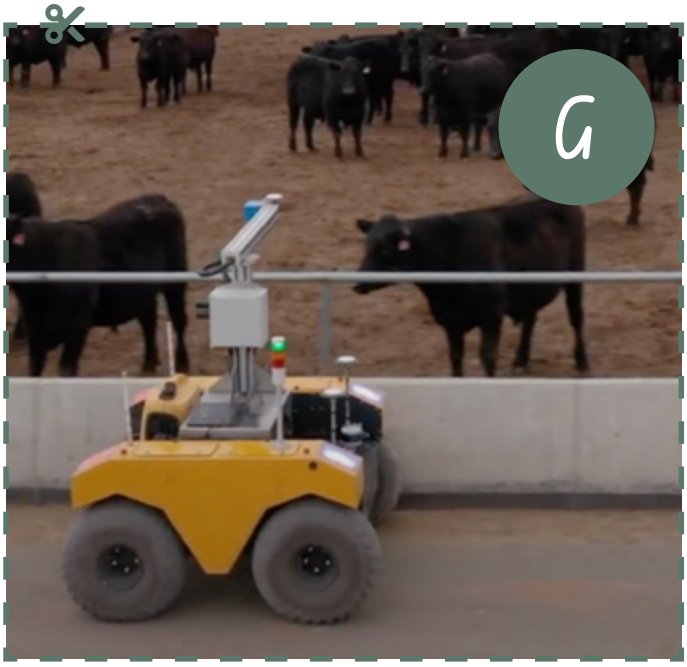
***Worksheet 5.2a** continued next page*

Worksheet 5.2a continued

Worksheet 5.2a









Worksheet 5.2a continued next page

Worksheet 5.2a continued

Worksheet 5.2a









PLEASE NOTE: This activity requires single-sided printing

Worksheet 5.2b

Past and present technology description cards

Use the information to match each description to one past technology picture card and one present technology picture card.

Shears were used in the past to cut wool off a sheep like a pair of scissors. Shearers now mostly use electric shears to shear sheep. They look like clippers and are faster and safer to use.

1

In the past, farmers carried hay by horse and cart. Today, they rely on trucks to transport heavy bales of hay. This is quicker, the trucks can carry more hay, and they can also take hay to farms that are further away.

2

In the past, farmers had to be present to carry food to animals and check on them. Now, a robot (BunkBot) has been invented to check on the animals in pens and see how much feed they have. This saves farmers time and money.

3

Paper maps are used to locate where you are. Farmers can now use GPS in their vehicles to know exactly where they are on their farm, and what that area is like. This is easier for the farmer, saves time, and can provide them more information.

4

It is very important for farmers to keep records of what they do on their farms. In the past, they would use pen and paper to do this. Now, farmers use computers to record their important information and keep records.

5

When farmers need to bring their animals together, they can use horses to muster them. If it is a big farm, this can be slow and dangerous. Farmers still use horses, but also motorbikes (which are faster) and even helicopters and drones!

6

Stimulus 5.3a

Name of robot: SwagBot



What does SwagBot do?

It works with cattle to help move them from one place to another.

Why do we need SwagBot?

To help move cattle to a place where there is more grass for them to eat. It makes a farmer's job safer and saves them time to do other jobs.

What did people have to think about when designing SwagBot?

- Could the animals knock it over?
- Could it handle rough ground?
- It needed a voice recorder so the animals would follow it.
- It needed to carry hay to lure the animals.

Stimulus 5.3a *continued next page*

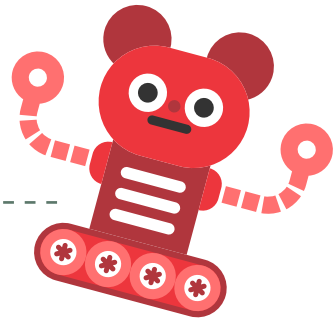
Stimulus 5.3a continued

Stimulus 5.3a



Worksheet 5.3a

School robot planner



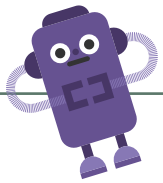
Name of robot: _____

What would you like your robot to do?

_____

_____

_____



Why does the school need your robot? (How will it make the school better?)

_____

_____

_____

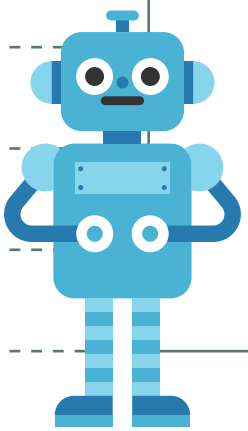
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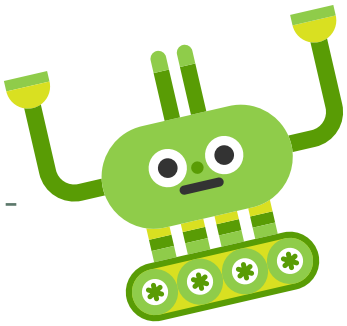
Draw a picture of your robot and label some cool parts.



Worksheet 5.3a *continued next page*

Worksheet 5.3a continued

Worksheet 5.3a



Name of robot: _____

What problems might happen when using your robot?

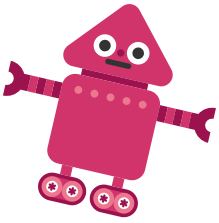
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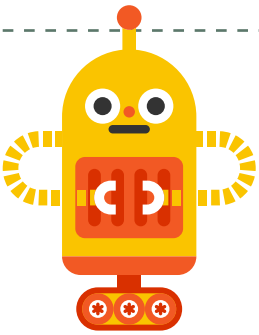
What was one good suggestion that was made about improving your design? (after you have shared your design)

_____

_____

_____

_____



_____

_____

Keywords

Worksheet 5.1d - Keywords scramble.

tfuuer	future
ehrsas	shears
tboro	robot
locethngyo	technology
tiosulon	solution






Activity 5.2

Past and present technology

4.

Description number	Picture card past	Picture card present
1	Shears — F	Electric shears — H
2	Horse and Cart — C	Trucks — A
3	Farmer feeding by hand — D	BunkBot robot — G
4	Map — E	GPS — B
5	Pen and paper — J	Computer — L
6	Horse — K	ATV — I

Activity 5.4

Just for fun

1. Benny the Blue Heeler.
2. Farmer Frank.
3. Bella — the prize winning cow.
4. Honey Horse.
5. Sow.
6. Darrell Drake.
7. Ducks and geese.
8. Darrell's wife.
9. Gordon Goat.