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MEAT & LIVESTOCK AUSTRALIA

3–4 | LESSON PLAN

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Lesson 2

Life cycles on the farm



AUSTRALIAN CURRICULUM CONTENT

Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals. (ACSSU044, ACSSU072, AC9S3U01).

Write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate. (ACSIS060, ACSIS071, AC9S3I06, AC9S4I06).

LESSON OBJECTIVE

Students will learn about the life cycles of different living organisms and have the opportunity to sequence and create their own representations of life cycles on a farm.

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Lesson 2

LESSON OVERVIEW

Activity 2.1	Keywords	20–35 mins
Activity 2.2	Life cycles	30 mins
Activity 2.3	Life cycles on the farm	35 mins
Activity 2.4	Just for fun	10 mins

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Resources and equipment

ACTIVITY 2.1 – Keywords

1. Paper, coloured pencils.
2. The Very Hungry Caterpillar (6.47).
3. Optional: Life Cycles for Kids | Grades 3–5 | Mini-Clip (1.50).
4. Worksheet 2.1a – *Keywords and definitions.*
5. Worksheet 2.1b – *Keywords scramble.*
6. Worksheet 2.1c – *Keywords spelling list.*
7. Timer.

ACTIVITY 2.2 – Life cycles

1. Plants and Animals Have Life Cycles? (2.57).
2. Worksheet 2.2a – *Life cycles.*
3. Worksheet 2.2b – *An insect life cycle.*
4. Paper plates, scissors, glue sticks (or craft glue), pasta (risoni, spiral, shells and bowtie) or paper plate/pasta image templates from Worksheet 2.2a.

ACTIVITY 2.3 – Life cycles on the farm

1. Worksheet 2.3a – *Life cycles on the farm.*
2. Stimulus 2.3a – *Life cycles of goats.*
3. Worksheet 2.3b – *Life cycle of cattle.*
4. Worksheet 2.3c – *Life cycle of sheep.*
5. Presentation 2.3a – *Life cycles on the farm presentation*.
6. Computer/digital device access.
7. Worksheet 2.3d – *Life cycle template or,* a large paper plate per student.
8. Worksheet 2.3e – *Life cycle images* (one copy per pair).
9. Glue sticks, scissors, rulers and markers.

ACTIVITY 2.4 – Just for fun

1. Stimulus 2.4a – Test your life cycle knowledge.

ADDITIONAL READING/RESOURCES

- Animal Life Cycles (7.10).
- Life Cycles (5.08).

Lesson guide

ACTIVITY 2.1 – Keywords

1. Provide students with a piece of paper and coloured pencils, and as a class, watch the video clip, The Very Hungry Caterpillar (6.47). Instruct students to track the changes of the animal (by drawing a series of cartoon-like pictures of the organism) from the start to the finish of the story. They should attempt to spell the names of the phases of growth and include any time references about how long each phase lasts.

   Optional: Watch Life Cycles for Kids | Grades 3–5 | Mini-Clip (1.50) to see this life cycle in real life.
2. Distribute Worksheet 2.1a – *Keywords and definitions* and read through the information with students. Allow time for students to individually re-read the terms and then allocate students into pairs. Set a five-minute timer, and ask pairs to practise recalling the meaning of the terms with their partner. After five minutes, provide students with Worksheet 2.1b – *Keywords scramble*. Students work together to unscramble the keywords and recall and record their definitions together. (Answers page 20–21)

   Optional: Provide students with Worksheet 2.1c – *Keywords spelling list.*

ACTIVITY 2.2 – Life cycles

1. As a class, watch the video clip, Plants and Animals Have Life Cycles? (2.57) to observe the different life cycles of living organisms. *(Note: (0.21–0.37) shows an animation of a fertilised mammalian egg cell. Start video clip at 0.38 if not suitable for individual school).*
2. Distribute Worksheet 2.2a – *Life cycles*, and read the text as a class.
3. Provide students with the equipment detailed on Worksheet 2.2b – *An insect life cycle*, and support them through the process. *(If using real pasta, schools should complete their own risk assessment).*

ACTIVITY 2.3 – Life cycles on the farm

1. Sheep, goats and cattle are mammals that live on a farm. They are used for food and fibre. Mammals have a life cycle too. Distribute or project onscreen Worksheet 2.3a – *Life cycles on the farm.* Read the information as a class about caring for calves and lambs.
2. Show students Stimulus 2.3a – *Life cycles of goats*, and talk through the stages of development of this animal. Ask students to comment on the changes they can see.
3. Allocate students into pairs (literacy support may be needed with this activity, therefore consideration of reading ability is important). Distribute both Worksheet 2.3b – *Life cycle of cattle* and Worksheet 2.3c – *Life cycle of sheep* or allow computer/digital device access to Presentation 2.3a – *Life cycles on the farm presentation* and allow time for students to read the information. Students should look for the phases of growth and the names of the animals during each phase (these have been underlined to assist with this task).

***Lesson guide** continued next page*

Lesson guide *continued*

4. Provide pairs with the two templates of a paper plate Worksheet 2.3d – *Life cycle template* and Worksheet 2.3e – *Life cycle images*, and instruct students to create their own life cycle model for sheep and cattle (one person will complete the sheep cycle, the other the cattle cycle), by cutting out the images and dividing a plate or the template into three phases of development. Keep Stimulus 2.3a visible for students to model their life cycles from. (Answers page 22–23)

   Optional: Students can also annotate additional features from their reading material as extension.

ACTIVITY 2.4 – Just for fun

1. As a conclusion to learning about animal life cycles, play a game of 'corners' with students, by nominating each corner of the classroom either A, B, C or D.
2. Read out questions a–h from Stimulus 2.4a – *Test your life cycle knowledge* and for each question if students believe the correct response if A then move to stand in the designated corner. If B, they move to the allocated B corner, etc. Continue until all questions have been asked and answered. (Answers page 24)

Student resources

ACTIVITY 2.1 – Keywords

Worksheet 2.1a	Keywords and definitions
Worksheet 2.1b	Keywords scramble
Worksheet 2.1c	Keywords spelling list

ACTIVITY 2.2 – Life cycles

Worksheet 2.2a	Life cycles
Worksheet 2.2b	An insect life cycle

ACTIVITY 2.3 – Life cycles on the farm

Worksheet 2.3a	Life cycles on the farm
Stimulus 2.3a	Life cycle of goats
Worksheet 2.3b	Life cycle of cattle
Worksheet 2.3c	Life cycle of sheep
Presentation 2.3a	Life cycles on the farm presentation
Worksheet 2.3d	Life cycle template or, a large paper plate per student
Worksheet 2.3e	Life cycle images. (one copy per pair)

ACTIVITY 2.4 – Just for fun

Stimulus 2.4a	Test your life cycle knowledge

Worksheet 2.1a

Keywords and definitions

Read the keywords and definitions below. Practise saying them once to yourself and then with a partner. Test each other on the meaning of the words.

life cycle	The series of changes during an organism's life.
change	A difference from one thing to another.
offspring	The young (baby) of an organism.
adult	Fully grown or developed.
chrysalis	The hard outer layer of a butterfly pupa.
larva	The immature or young stage of an insect. The stage between an egg and a pupa.






Worksheet 2.1b

Keywords scramble

Unscramble the keywords below and recall their meanings.

udlta

rcsasyhil

pfgrsfoni

naegch






Worksheet 2.1b *continued next page*

Worksheet 2.1b continued

Worksheet 2.1b

Unscramble the keywords below and recall their meanings.

c e i e l l f c y

r l a a v






Worksheet 2.1c

Keywords spelling list

Spell the keywords below.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Worksheet 2.2a

Life cycles

A life cycle is a series of changes or steps that a living thing goes through during the time that it is alive.

Different animals have different life cycles. Some organisms have many stages that they go through, whilst others do not. Some living things have life cycles that take a long time, but others have very fast life cycles. Some organisms go through metamorphosis (such as a tadpole to a frog), where the body structures change in a big way.

A plant life cycle

Wheat is the largest grain crop grown in Australia. Wheat goes through a life cycle. It starts as a seed, grows into a seedling, then a plant. The plant then produces its own seeds. This process takes approximately 6 months. In Australia, wheat is used to make: flour, bread, noodles, cakes and pasta, plus it can be used as food for livestock.






An insect life cycle

Butterflies and moths have life cycles too. The phases of their life cycle are: egg, caterpillar (larva), chrysalis (pupa), and butterfly/moth. Some of these insects are damaging to the plants we eat, but some help pollinate plants, like the Hawk Moth does for papaya.






Above: White cabbage butterfly lifecycle

PLEASE NOTE: This activity requires single-sided printing

Worksheet 2.2b

An insect life cycle

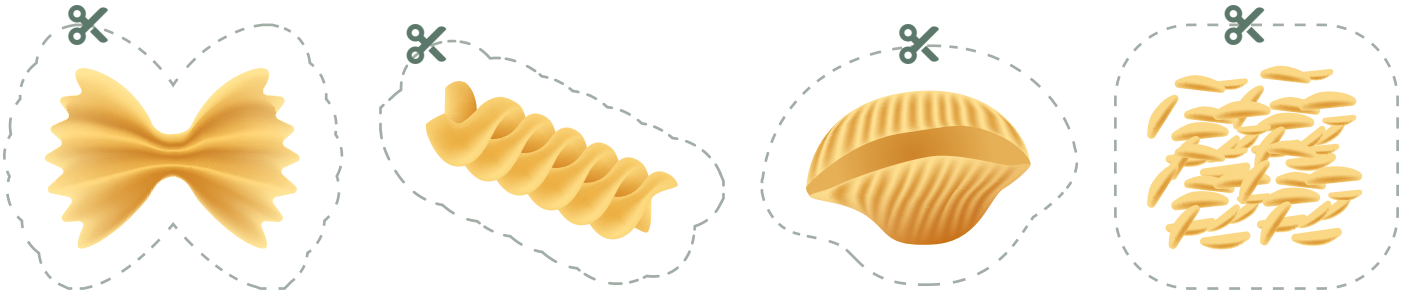
Equipment:

- 1 x large paper plate (or paper plate template)
- 10—20 pieces of risoni, and 1 piece each of shell, spiral and bowtie pasta (or pasta images)
- Glue
- Marker and ruler
- Scissors

Instructions

Using either real pasta or cutouts of the pictures below, stick the correct shape of pasta onto the correct area of the life cycle picture or a paper plate.

1. Find the pasta shape that looks most like eggs and stick it down on the template.
2. Find the pasta shape that looks most like a caterpillar and paste this onto the picture.
3. Next, find the pasta shape that looks like a cocoon (chrysalis) and attach it to the diagram.
4. Finally, find the butterfly shape to complete the life cycle picture.
5. Draw legs on the caterpillar and antennae on the butterfly.



Worksheet 2.3a

Life cycles on the farm

Cattle, goats and sheep are mammals.

Mammals (usually) give birth to live young. They are warm–blooded, are vertebrates (have a backbone), grow hair or fur and produce milk to feed their young.

Looking after calves and lambs

Farmers keep a close eye on pregnant cows and sheep (ewes) to make sure they stay healthy during their pregnancy. When it is time for the calves or lambs to be born, they are checked regularly to ensure that both the mothers and the babies are doing well.

If for some reason, a mother is unable to take care of her offspring, farmers might help to feed and raise a new calf or lamb. These babies are called poddy lambs or poddy calves.

Farmers will look after the poddy lambs or calves by regularly feeding them milk from a bottle. They will help introduce the babies back into the flock or herd when they are old enough and strong enough to manage on their own.

The life cycle of a **goat** starts when they are born. A baby goat is called a **kid**. When a kid grows and until they are about one year old, a young female goat is called a **doeling** and a young male goat is called a **buckling**. The next stage of their life is when they are an adult, and they can have offspring of their own. An adult female goat is a **doe** and a male is a **buck**.







Stimulus 2.3a

Life cycle of goats

An adult female is a **doe** and an adult male is a **buck**.



A baby goat is called a **kid**.



A young female is a **doeling** and a young male is a **buckling.**





Worksheet 2.3b

Life cycle of cattle



A female cow is pregnant for approximately 9–months before her calf is ready to be born. This is very similar to the length of a human pregnancy. Sometimes females can give birth to twins.



A baby cow is called a **calf**. Depending on the breed of cow, calves are usually between 25–45kg when they are born. They can stand and walk almost straight away – very different from a human baby!



Calves feed on their mother's milk. They continue to get their nutrition in this way (and from grass too) until they are weaned (no more mother's milk is given) around the age of six to nine months old. They will then continue to graze on pasture. A young female (a **heifer**) and a young male cow, can also be called a **vealer** or a **yearling**.



When female cows are around 1.5–2 years old they are old enough to have their own offspring. A **heifer** (young female that has not had a calf yet) or **cow** (adult female that has already had a calf before) will mate with a **bull** (male). They will then produce new calves of their own.

Worksheet 2.3c

Life cycle of sheep



Sheep have a shorter pregnancy than cows, lasting approximately 4—5 months. Female sheep are called **ewes**. A ewe can give birth to one or two offspring at a time. A baby sheep is called a **lamb**.



Most lambs are born in spring when the weather is getting warmer and the grass has started to grow. After the lamb is born, its mother licks it clean. Soon it can stand on its own and feed on its mother's milk. A lamb can find its mother in a flock by listening for her bleat — every sheep's bleat sounds different.



As lambs grow older, they become more independent from their mothers. They graze on pasture or eat grain or hay provided by farmers. A sheep young sheep is called a **hogget**.



A sheep can reproduce from the age of one year old. A **ram** (adult male sheep) will mate with a **ewe** (adult female sheep) to produce new lambs of their own.

Worksheet 2.3d

Life cycle template

Life cycle of a _____

PLEASE NOTE: This activity requires single-sided printing

Worksheet 2.3e

Life cycle images



Stimulus 2.4a

Test your life cycle knowledge

a. Which of these animals does not lay eggs during its life cycle?

1. Frogs
2. Snakes
3. Cows*
4. Chickens

b. Cows and sheep are both types of...

1. Reptiles
2. Amphibians
3. Birds
4. Mammals*

c. Cows are pregnant with their calves for approximately

1. 5 months
2. 9 months*
3. 11 months
4. 1 year

d. Cows have a similar pregnancy length to

1. Humans*
2. Sheep
3. Horses
4. Pigs

e. Cows are old enough to mate at the age of

1. 1 year old
2. 1.5–2 years old*
3. 5 years old
4. 7 years old

f. Sheep are pregnant with lambs for approximately

1. 2–3 months
2. 4–5 months*
3. 6–7 months
4. 8–9 months

g. A female sheep is called a

1. Lamb
2. Ram
3. Heifer
4. Ewe*

h. A sheep can reproduce at the age of

1. 6 months old
2. 1 year old*
3. 2 years old
4. 10 years old

Keywords

Worksheet 2.1b – Keywords scramble.

Unscramble the keywords below and recall their meanings.

udlta — adult

Fully grown or developed.

rcsasyhil — chrysalis

The hard outer layer of a butterfly pupa.

pfgrsfoni — offspring

The young (baby) of an organism.

naegch — change

A difference from one thing to another.

***2.1b Answers** continued next page*

2.1b ***Answers*** *continued*

Activity 2.1

ceiellfcy — life cycle

Series of change of of an organism during its life.

rlaav — larva

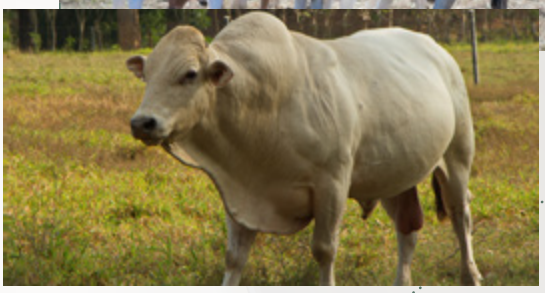
The immature or young stage of an insect. The stage between an egg and a pupa.

Life cycles on the farm

Worksheet 2.3d – Life cycle of cattle

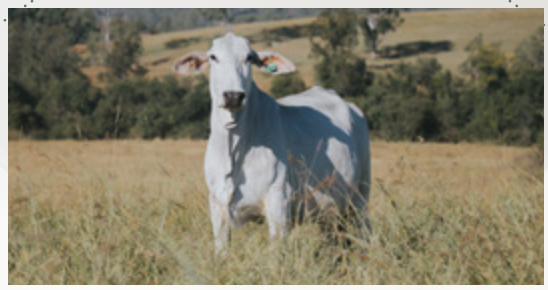
An adult female is a **cow** and an adult male is a **bull**.





A baby cow is called a **calf**.





A young female is a **heifer** and a young male and female can also be called a **vealer** or a **yearling**.

***2.3 Answers** continued next page*

*2.3 **Answers** continued*

Activity 2.3

Worksheet 2.3d – Life cycle of sheep

An adult female is a **ewe** and an adult male is a **ram**.





A baby sheep is called a **lamb**





A young sheep is called a **hogget.**

Just for fun

Answers are also indicated by asterisk on Stimulus 2.4a.

a	b	c	d	e	f	g	h
3	4	2	1	2	2	4	2