

Innovation in Technology

HOW TO MILK A COW

ESSENTIAL QUESTION

How has technological innovation changed the way cows are milked?

WHAT ARE WE LEARNING?

- Innovation has helped make the task of milking easier
- The different methods of milking cows
- The different reason for innovation

TRY THIS WITH

- Years 1-4
- Students who have an interest in knowing how things work
- Students who love hands on activities

FIND

- Tell
- Relate
- Give examples
- Recall
- Outline
- Demonstrate

Ask the students: 'Where does milk come from?'

Record answers into a Google Doc.

Share ideas about how we get milk from cows.

Introduce the concept of innovation and how this makes tasks easier.

Demonstrate the concept, have one student tie a shoe lace while another student does heir shoe up with Velcro, or, have one student do up a jacket with buttons and one jacket with a zip.

Ask students: 'Which task is easier? Which task was faster?' Explain that people find ways to make tasks easier and quicker to do (innovation).

Ask students to share any experience they have of milking cows.



APPLY

- Categorise
- Correlation
- Question
- Connect
- Perform
- Theorise

Explain that because of innovation, there are different ways to milk cows and the digital learning object will help students identify which is the most efficient.

View the 'How to Milk a Cow' Factsheet and discuss the different facts.

Explain the use of twitter as an innovation – using 140 characters to get a message or question answered.

Use twitter to see if students can get the facts on the sheet validated by a farmer.

Search for the hashtag #DairyNZ or #agchatnz to get students started.

Allow students to continue the conversations with the farmer and see what else they can find out.



PRODUCE

- Construct
- Design
- Interpret
- Create
- Consider
- Prioritise

Use the 'Go Milking Game' to explore the three different milking methods.

Complete the milking process using all three methods.

Ask how many cows were milked? Do you think that hand milking is easier or harder than machine milking or robotic milking? Why?

Did you, as the farmer, milk more or fewer cows? Was there more or less milk extracted?

Question students for deeper understanding: What are the pros and cons of each choice? How do you know? Which is the best method based on what you have found out? Why?

Tweet the farmer from the previous conversations and report back the findings.



SUCCESS CRITERIA

Students can check they have completed the task successfully by:

- Explaining how much work a farmer would do if he had 100 cows on his farm
- Explaining the difference between the three methods
- Choosing and justifying their choice for a particular milking method

PRINCIPLES	VALUES	KEY COMPETENCIES	LEARNING AREAS	WORD BANK	RESOURCES REQUIRED
Inclusion Learning to learn Community engagement	Innovation, inquiry and curiosity Ecological sustainability Community and participation	Thinking Using language, symbols and texts Participating and contributing	Technology Science CREST	Hand milking Machine milking Innovation Estimate	Go Milking Game How to Milk a Cow Factsheet