

MATHS

SSEP EXAMPLE // DAIRY FARMING
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ACTIVITY EXAMPLE

KEY WORDS

Numeracy | algebra | problem solving | decimals | ratios | number | calculations | measurement | area | perimeter | volume | mass

ALSO USEFUL FOR

Business studies | Economics | Agriculture | Agribusiness | Science

PROGRAMME OUTLINE

3 POINTS OF CONTACT

- Dairy farmers come into classroom (x2)
- Workplace visit (x1)

EXAMPLE

- Dairy Farmers come into classroom, introduce themselves, background to dairy farming, their careers and how maths is used in the industry.
- 2. Workplace visit includes tour of the cowshed area, stock feed areas and paddocks. Introduction to the wider agricultural sector including suppliers and farming consultants. Seeing dairy farming 'behind the scenes'
- 3. Return to the classroom. Student Activity: Dairy grazing and calf feeding







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YEXAMPLE





ACTIVITY EXAMPLE

BREAK FEEDING

280m

PADDOCK

125m

- 1. I have 320 cows going to paddock 17.
- a) One hectare (ha) is 10 000 m²
- **b)** How big in m² is paddock 17?
- c) How big in hectares is paddock 17?
- 2. I want to make the cows daily allocated area 0.17ha.
- a) How many days can I get out of paddock 17?
- b) If I want to get 4 days out of the paddock, how big would their daily allocated area be?
- c) How big would the daily allocated area be if I want to get 6 days out of the paddock?
- 3. I want my cows to eat 10kg of dry matter (dm) per cow per day.
- a) If there is not enough grass to feed each cow 10kg each, how much do I need to give them in hay to make up the difference?
- 4. The pasture cover is 4200kg of dry matter per hectare. There will be 1500kg of dm per ha once the cows have finished eating.
- a) How much is available (or eaten) per hectare?
- b) How much is available or eaten in their allocated daily area?
- c) How many kg is that per cow?
- d) Is that enough?
- e) How many kg's do I need to supplement?
- f) One bale of hay = 220kg dm
- g) How many bales of hay do I need to feed each day?

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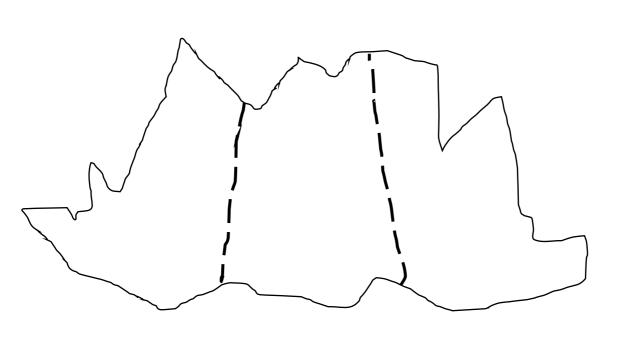
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AMPLE





ACTIVITY EXAMPLE



5. I have an odd shaped paddock which is difficult to fence. The easiest way to fence it is into 3 even sized breaks.

2.8 hectares (ha)

I don't want to feed hay in here, so I want my cows to get their entire 10kg/dm/cow totally in grass. The paddock is 2.8 ha's with 4200kg/dm/ha cover leaving 1500kg/dm/ha when finished grazing:

- a) how big is each day's allocated area?
- b) how many cows can I afford to put in these breaks to get 10kg/dm each?

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MEAL FEEDING

My cows are currently in 4 different mobs.

- b) Mob 1 is 250 cows eating 4kg meal/cow/day
- c) Mob 2 is 40 cows eating 4kg meal/cow/day
- d) Mob 3 is 160 cows eating 3kg meal/cow/day
- e) Mob 4 is 130 cows eating 2.5kg meal/cow/day
- 1. How many cows do I have?
- 2. How many kg meal am I feeding in total?
- 3. What is the average per cow?
- 4. I have a 10 000 kg silo. How often do I need it refilled?

MOLASSES FEEDING

- 1. I have a molasses vat that holds 3000 litres. My cows get 350 ml of molasses/cow/milking.
- a) If I milk once a day, how much molasses am I using per day?
- b) How often do I need my vat refilled?
- c) If I milk twice a day, how much molasses am I using per day?
- d) How often do I need my vat refilled?

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ACTIVITY EXAMPLE

CALF FEEDING

- 1. I have a calf milk vat that holds 8000 litres. I have 30 cows giving 20 litres/cow/day to feed the calves.
- a) How much calf milk am I getting per day?
- b) How many days will it take to fill the vat?
- c) <u>BUT</u> I have 50 calves drinking 5 litres of milk/calf/day. How much are the calves drinking per day?
- d) How many litres is my vat actually going up by per day?
- e) How many days will it take to fill my vat?
- 2. By the end of calving I have 120 dairy calves and 50 beef calves so 170 calves all together. They are fed different amounts of milk depending on their age and weight. I have:
 - 40 calves drinking 3.5L each
 - 40 calves drinking 4L each
 - 40 calves drinking 4.5L each
 - 50 calves drinking 5L each
- a) How much milk do I need each day?
- b) Is my 600L enough?
- c) How much extra do I need to top it up with each day?
- d) Cost of each litre is 10 cents. How much does it cost me per day?
- e) How much does it cost me per calf?

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