

Lesson 3: About a cow.

Starter	DairyNZ Rosie introduces the different breeds of cows. https://youtu.be/6SNXDB6uT8A
Teach	“L3_How cows spend their day” PowerPoint. This exposes students to some of the data we are collecting around cows and gets them to practice working with that data. Teacher notes are available.
Video (58mins)	Watch “The Private Life of Cows” available on YouTube. It is based in England so the way they farm is a bit different but they cover the behaviour of cows really well. Get students to write down 10 interesting facts or thoughts.
Close	Stop the video 10 mins before the end of the lesson and get students to give feedback around what they found interesting or something they have learnt. Take a photo and use that as a recap in the next lesson.

Lesson 4: About a cow (continued).

Starter	Do a quick recap of the class notes (you can use the photo of the notes you took) of what has been learnt.
Video (58mins)	Continue watching “The Private Life of Cows”.
	<p>Happy Cows</p> <p>In pairs or groups students go through “L4_Making cows happy” cards and sort them into factors that make cows happy and factors that don’t.</p> <p>Extension: Print off “L4_Making cows happy_management”. There are three sheets with 5-6 factors per sheet that can affect cow wellbeing. In groups students need to discuss the factor, the impact on the cow and the impact on management and if it’s a negative impact students brainstorm a solution.</p>
Close	Use the 66 word template and get students to summarize their thoughts on cows.



This data can now be accessed by our researchers and farm staff through a phone app as well as online.

Question 1: Not active could be sleeping and dozing. It is estimated that cows only REM sleep for approximately 4 hours a day but this is in intermittent bursts not a long spell like humans do. When cows are lactating/ milking they can have less sleep as they need more time to eat and ruminate to keep up with energy demands.

Active could cover the social time that they have in the paddock maintaining relationships and hierarchy. This involves licking/grooming other cows (dominant behaviour) and controlling access to resources (best grass, trough). If cows are given feed that has a lot of energy then they meet their energy requirements easily, so they can get bored and can get up to mischief.

Highly active could be the cows walking to and from the dairy shed, if you are on a large dairy farm cows can walk up to an hour either way to the dairy shed, which is a lot of lost grazing time and impacts milk production.

On the 14 August you will see she became highly active at 54%. That was because she was “in heat” so ready to mate. She probably was doing a lot of walking around seeking out a bull, although these days most dairy farms use AI before the bull is used (if he is used at all).

Question 2 and 3:

	Avg %	Time	Time (whole hour)
Ruminating	17%	4.1hrs	4hrs
Eating	23%	5.5hrs	6hrs
Not Active	17%	4.1hrs	4hrs
Active	11%	2.6hrs	3hrs
High Activity	32%	7.7hrs	8hrs

Question 4:

Cow 204 has a higher rate of ‘ruminating’ (avg 27%) and being ‘not active’ (avg 17%). She has a lower rate of ‘eating’ (avg 18%) and ‘high activity’ (avg 23%). Her ‘active’ rate was similar to 23.

With this data we could look back and see if these averages are ‘normal’ for 204 or if it’s a sign that she is not feeling well. Because cows are ‘prey animals’ they are very good at masking signs of pain and discomfort so it can be hard for us to pick up on it. This also gives us data to see if there is a correlation between behaviours, outputs and environmental impacts as sometimes you can breed in behavioural predisposition into animals (eg: mothering ability).

The data suggests that 204 is less social and further down the hierarchy than 23. We should not assume that it is sad, as it could be that she doesn’t require as many social connections as 204.

