



Cattle

Curriculum links:

- **Science** Living things
Environmental awareness and care
- **Geography** Human environments
- **SPHE** Myself and the wider world

Lesson objectives:

To revise material covered in previous modules. To make students aware of the basic life processes, such as feeding and calving. To create an awareness of the importance of cattle in the food chain.

Teacher guidelines

It is suggested that teachers ensure that students are familiar with the vocabulary and concepts introduced in the previous modules before starting this lesson.

Keywords and concepts introduced in previous modules:

**cattle cow bull calf hooves horns beef milk udder
refrigerated pasteurised dairy products**

For most of the year, cattle live outside in fields but they can also be kept in sheds. Most cattle have horns, but these are removed when they are young calves. There are almost 200 different breeds of cattle in the world. Dairy cows provide us with milk, while beef cattle provide us with meat. We use milk to make dairy products like cream, butter, cheese, yoghurt, ice cream and chocolate. Beef can be eaten as a roast, steak, mince and burgers. We also get leather from cattle. A newborn dairy calf feeds from the cow for three days and it is then fed by the farmer. The cow continues to produce milk and is milked twice per day. Milk must be refrigerated and pasteurised (heated and then cooled down to kill any bacteria that might cause disease).

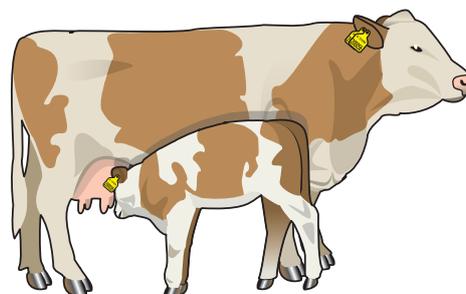
After revision of the above, teachers could discuss the more detailed information below.

Keywords for this lesson:

calving heifer milk teeth permanent teeth chewing the cud ruminants

Calving

A cow that has not yet had a calf is called a **heifer**. A heifer normally has her first calf at two years old and she is then called a cow. A cow is 'in-calf' (pregnant) for on average 238 days and normally she has one calf per year. Once the calf is born, the cow licks the calf all over to get to know it. A cow recognises her calf by its smell.



A calf can walk and drink milk from the cow as soon as it is born. For the first days of the calf's life, it is very important that the calf feeds from its mother as her milk (colostrum/beastings) contains important antibodies, which give the calf protection against disease. The milk produced by the mother, in the first few days following birth, is called colostrum. When a calf is born, its stomach is not fully developed and the calf cannot eat grass at this stage. The stomach gradually develops to allow the calf to eat grass and hay.

Teeth

Cattle have no upper teeth. Like humans, calves have two sets of teeth, **milk teeth** (first set) and **permanent teeth** (second set). The calf has eight front teeth in its lower jaw when it is born which gradually fall out and are replaced by the larger permanent teeth as the calf grows bigger.

A farmer can tell the age of the animal by how many permanent teeth it has.

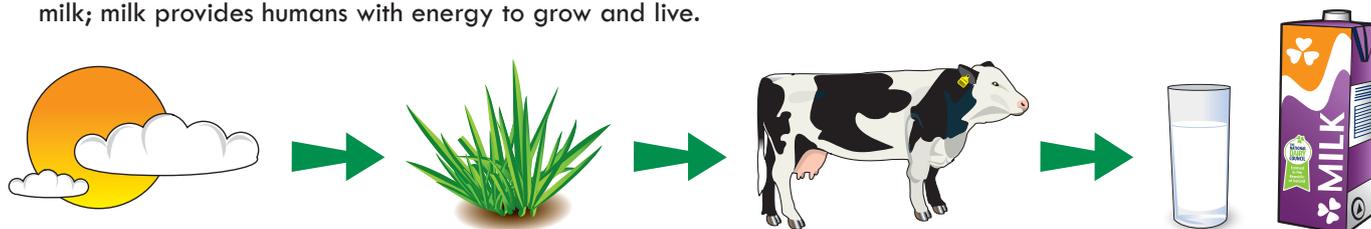
Feeding

As cattle have no upper teeth, they must wrap their tongue around the grass and pull it into their mouth. Cattle, like sheep and goats are **ruminants**, meaning that they have a special type of stomach with four pockets. They swallow the grass without chewing it and it fills up the rumen, the biggest pocket in their stomach. Rumination takes place later, which involves bringing the food back into the animal's mouth where it can be chewed again. This is known as "**chewing the cud**". Cattle eat large volumes of food and drink large amounts of water. They can spend up to eight hours per day eating.

Cattle as part of the food chain

Cows are a very important link in the food chain. As well as providing us with meat, they also provide us with milk, which is a very rich source of nutrients for humans. All food chains start with the sun.

In this case, the sun provides energy for the grass to grow; the grass provides energy for the cow to produce milk; milk provides humans with energy to grow and live.



Suggested activities

- Photocopy the activity sheet on page 43
- Students could compare calving with birthing in other mammals. They could also compare calving with laying and hatching of eggs in poultry (see Poultry, page 12)
- Students could make a poster describing the process of feeding. Information on rumination and teeth could be included (see Sheep, page 9)
- Students could make illustrated diagrams of the various food chains that involve cattle or other farm animals. An alternative activity would be to put the words sun, grass, cow, and human into a paper chain where each word forms a link in the chain
- Challenge students to list ten people involved in the process of getting roast beef or a litre of milk to the table. Remind them of issues such as animal health, transport, packaging etc.
- Students could be asked to create a role play on what life would be like with no cows e.g. no milk for cereal and tea; no butter for toast or sandwiches; no meat for burgers, sunday dinner, spaghetti bolognese, lasagne or steak; no cheese for sandwiches or burgers; no treats like milkshakes, chocolate, ice-cream; no leather for shoes, clothes etc.
- Students could create a menu around your favourite dishes using foods found on the farm, i.e. beef, dairy etc. If the school has facilities, some baking could be carried out, noting how each ingredient can be traced back to the farm
- If appropriate, visit a local dairy factory to see the production of dairy products
- Create a world map highlighting all the countries in the world Irish farmers and producers export their produce to
- Discuss the interrelationship and interdependence between people, animals and plants and the fact that we rely on farming for food (see 'The Irish farmer', page 2)

Learning outcomes:

At the end of this lesson, students should be aware of basic life processes such as feeding and calving. They should also be aware of the importance of cattle in the food chain.

Additional resources:

- www.agriaware.ie



Cattle

Name: _____

Date: _____

- 1** The pictures below are part of a food chain but they are in the wrong order. Write the correct order in the spaces below to show how the energy passes from one to the next

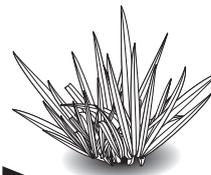
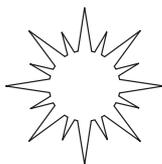
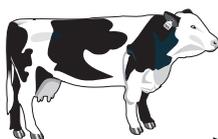
cow

sun

milk

grass

child



- 2** Use the words listed in exercise one to complete the paragraph about the food chain

The _____ gives the _____ energy to grow.

The _____ eats the _____ which gives it the energy to produce _____ . The _____

drinks the _____ which gives the _____ energy to grow!

- 3** Use the clues to complete the crossword:

Across:

2. The cows first milk which protects the calf from disease (9)

4. The meat we get from cattle (4)

5. Cattle are ruminants which means they have this many pockets in their stomach (4)

8. Cattle chew their food more than once. What do we call this? (7, 3, 3)

10. Something cattle can eat that humans cannot (5)

Down

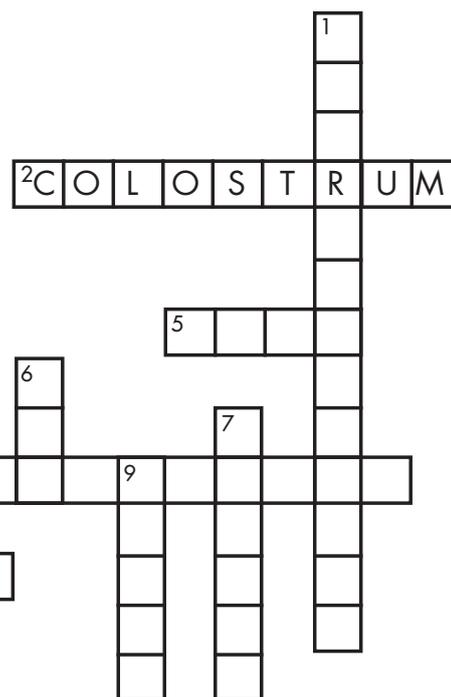
1. The two words used to describe all products made from milk (5, 8)

3. Something we get from cattle skin (7)

6. A cow is 'in-calf' for this many months (3)

7. A cow that has not yet had a calf (6)

9. A farmer can tell the age of cattle by how many of these they have! (5)



* To be used with teacher guidelines, page 6