Senior Lesson Plan 5

From Grass to your Glass

Objective

To develop pupils' awareness of the importance of dairy farming and their understanding of the life of a farmer and the processes involved in dairy production.
Duration: **30 minutes** (approximately).

Curricular Links

Geography:

Human environments ⇨ People living and working in the local area / contrasting part of Ireland ⇨ People at work

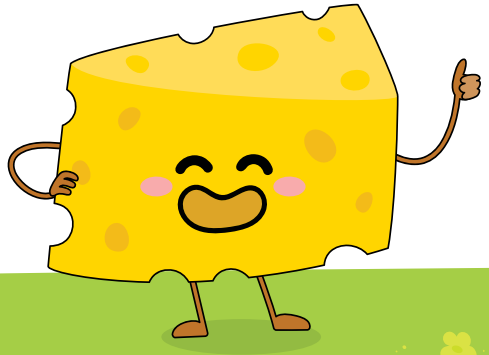
Words of the Day

Grazing – Animals, like cows, feeding on growing grass.

Pasteurisation – The heating of milk to a high temperature for a short time (e.g. 72 degrees Celsius for 15 seconds) and then cooling it really quickly.

Homogenisation – When the cream particles in milk are spread evenly throughout the milk so that the cream doesn't rise to the top.

Milking Parlour – A building on a dairy farm which is used for milking cows.



Class Discussion

Ask pupils to discuss their prior experience, if any, of dairy farming by asking the following questions:

1. What types of farming can you name? (e.g. tillage, livestock, mixed farming, dairy).
2. What is dairy farming? (It is the type of farming which produces dairy products like milk, yogurt and cheese).
3. Have you been to a dairy farm? Describe what you would typically find on a dairy farm (e.g. cows, a milking parlour, milking machines, silage, hay).
4. Recalling Lesson 1, Dairy in my Diet, can you name any products that might be produced from a dairy farm? (e.g. milk, cheese, yogurt).

Pair Discussion

Ask pupils to think about how farmers take care of cows on a dairy farm. Ask them to discuss their ideas with a partner and for each pair to share their ideas with the class.

Prompts for discussion:

- Farmers provide bedding for cows to sleep.
- Due to Ireland's climate, farmers can leave cows to enjoy grazing on fresh grass outdoors on average 240 days each year.
- Farmers move cows from field to field so that they have enough grass to eat.
- Farmers bring cows indoors to shelter during the cold winter months and make sure they have food like silage and maize to eat.
- Farmers keep the cow sheds and milking parlours clean.
- Farmers make sure that a vet visits the farm to make sure that the cows stay healthy.

Pair Activity

Begin with an initial class discussion by asking pupils to think about the process of producing milk in a dairy farm. Note key points on the board.

Then give each pupil a copy of the **'From Grass to your Glass'** activity sheet. Ask them in pairs to look at the 8 stages of milk production 'From Grass to your Glass' and to number them, sequencing in the correct order. Discuss the correct sequence as a class, talking through each of the stages in the milk production process. *(Correct sequence outlined on page 23).

Personal Activity

Ask pupils to write the correct sequence of milk production in their copies, writing each stage in their own words.

Extension Activities

1. Ask pupils to imagine that they are expert dairy farmers who have just employed someone to work on their farm. Ask them to write instructions for working on a dairy farm to help their new assistant.
2. Ask pupils to imagine they are dairy farmers and to design their own milk carton.
3. Ask pupils in groups to create their own 'From Grass to your Glass' poster to display around the school.

Bring it Home

Encourage your pupils to take home the message of the importance of dairy farming.

As a homework activity, you can ask your pupils to:

1. Look at dairy products in the fridge and identify where they were sourced from. For example, was anything sourced from a local farm?
2. Does milk in their fridge carry the NDC '*Farmed in the Republic of Ireland*' guarantee?
3. Do they know a local dairy farmer?
4. Record how many litres of milk each family member has for a week. Compare.

From Grass to your Glass - The 8 stages of milk production

Stage 1 – Cows are fed on nutritious fresh grass.

Stage 2 – Cows are milked twice a day in the milking parlour. The milk collected is stored below 4° Celsius in a milk tank and is collected from the farm by refrigerated tankers every 2-3 days.

Stage 3 – Before collecting milk from the farmer, the driver takes samples to test the quality of the milk.

Stage 4 – When the driver arrives at the dairy, he pumps the milk out of his tanker into large, refrigerated container tanks. The tanker is then carefully washed inside so it is ready for the next day's collection.

Stage 5 – The milk is tested again at the dairy, this time by a laboratory worker, for quality and purity.

Stage 6 – The milk is pasteurised to make sure there are no germs in it. Pasteurisation, invented by Louis Pasteur, involves heating the milk to a high temperature for a short time (72° Celsius for 15 seconds), followed by rapid cooling. Some milk goes a stage further and is homogenised.

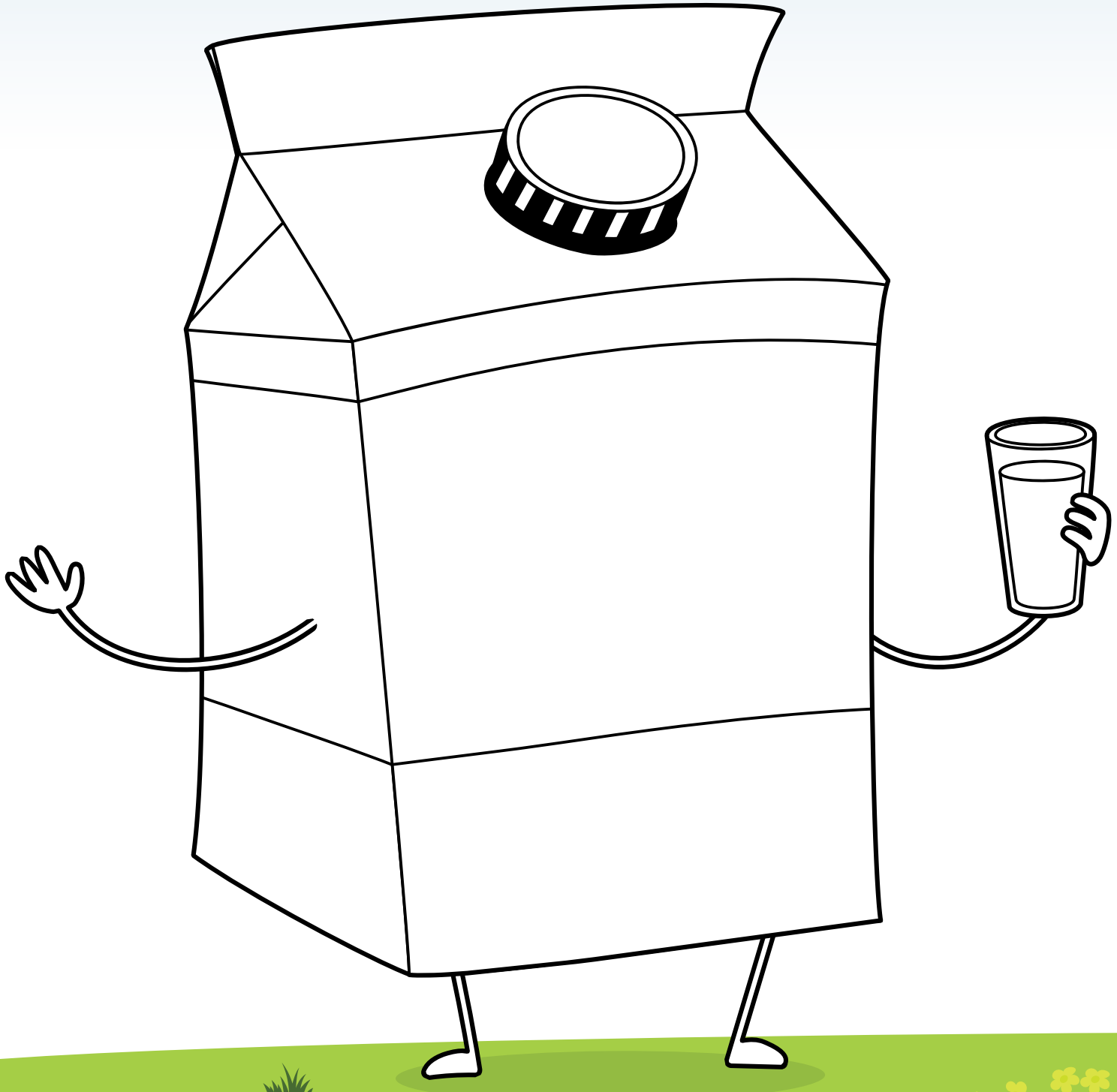
Stage 7 – The milk is then filled into various containers. After that, lorries are loaded with crates of milk for delivery to the home or to the shop. Some of it is delivered straight to schools.

Stage 8 – So the next time you enjoy a delicious glass of milk, you can be sure you're drinking a high quality, natural and nutritious drink.

Get Creative!

Design your own School Milk Carton.

You can include pictures of grass, cows, farmers or keep it simple and just draw a splash of delicious fresh milk!



Recipe Challenge

Why not reduce your waste by making the most of leftover fruit and vegetables? You can create your own sumptuous smoothie using fast-ripening berries, bananas and apples. Or you could create your very own signature soup using a variety of vegetables that are wilting or leftover at the end of the week. Be sure to get some help in the kitchen when using sharp utensils and cooking appliances. Enjoy!

Draw a picture here

Ingredients

(list ingredients and quantities, e.g. half a chopped onion)

Directions

(Describe how to make the smoothie or soup, e.g. gently heat oil in a saucepan and cook the onion until soft)