

**HOMEWORK
SHEET**

NAME

FORM

DATE

Yoghurt bacteria

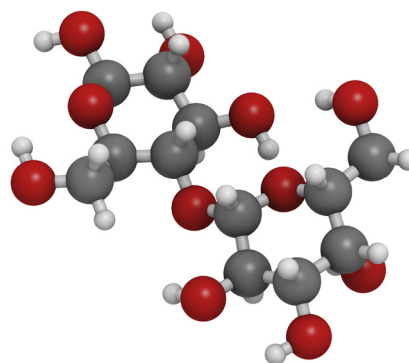
Read the passage carefully then complete the activities that follow.

Yoghurt is made using a bacterium like *Lactobacillus acidophilus*. A small sample of bacteria, known as a culture, is added to pasteurised milk. As the microbes live and multiply, they turn the milk sugar into acid. This thickens the milk and more sour tasting yoghurt is made.

Milk taken direct from a cow is called raw milk. This is then pasteurised to kill microbes that may cause illness when the milk is drunk. This process also increases the shelf life of the milk.

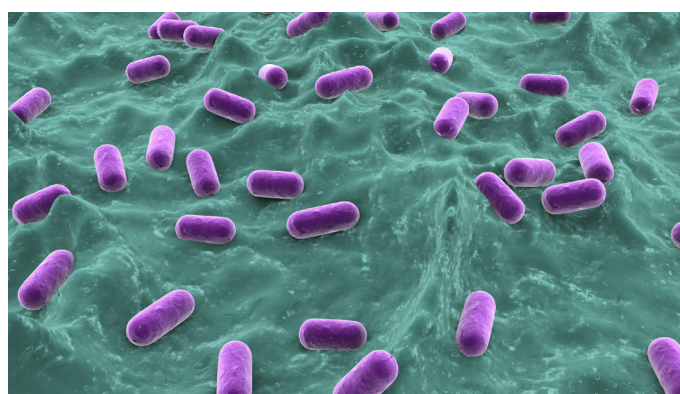


Some people are intolerant to the milk sugar, lactose. When they eat it, it makes them feel bloated and uncomfortable, but they may still be able to eat yoghurt. This is because the bacteria change most of the lactose into lactic acid.



Lactobacillus acidophilus gets its name from 'lacto' meaning milk and 'bacillus' meaning rod-like. They are very small, about 0.0000015 m in length and about 0.0000005 m wide.

A different type of bacterium, *Escherichia coli*, is naturally found in your intestine and helps you digest food. Some people choose to drink special yoghurt to introduce other helpful bacteria like *Lactobacillus acidophilus* into their digestive system. Some manufacturers claim that there are up to 65 000 000 000 bacteria in every 100cm³ serving of their products.



Activities

1. Which bacteria are used to make yoghurt?

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2. Write a word equation to show the chemical reaction that happens when milk is turned into yoghurt.

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3. Explain why pasteurised milk is used instead of raw milk.

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4. Describe the size of *Lactobacillus acidophilus* using standard form.

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5a. Describe the number of bacterium in 100 cm^3 of yoghurt drink using standard form.

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b. How many bacteria are there in 1 cm^3 of the yoghurt drink?

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c. How many bacteria would there be in 100 cm^3 of yoghurt drink made from 1 cm^3 of the purchased yoghurt drink diluted with 99 cm^3 of pasteurised milk.

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Going further

If you want to find out more about a career as a food scientist visit www.chillededucation.org/chilled-careers.html.

