



Yoghurt Experiment

Observation answer sheet

Test 1 – Yoghurt

	Before Incubation	After incubation
What was the consistency of the mixture?	<i>Runny liquid</i>	<i>Thick and creamy</i>
What did the mixture smell like?	<i>Like milk</i>	<i>Like rotting food</i>
What was the colour of the mixture?	<i>White</i>	<i>Cream / white</i>

Test 2 – Sterile Yoghurt

	Before Incubation	After incubation
What was the consistency of the mixture?	<i>Runny liquid</i>	<i>Runny liquid (no change)</i>
What did the mixture smell like?	<i>Like milk</i>	<i>Like milk (no change)</i>
What was the colour of the mixture?	<i>White</i>	<i>White (no change)</i>

How did the mixture change during fermentation?

During test 1 the mixture changed to a thicker creamier texture consistent with yoghurt, this was due to the lactic acid fermentation of the microbes present. No change was observed in the second test due to the lack of microbes present

Test 3

How long did it take to make the yoghurt when the mixture was incubated at:

20°C - approx 3-5 days

40°C - overnight





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Conclusions answer sheet

1 What caused the change from milk to yoghurt?

The microbes added to the milk converted the sugars to lactic acid which caused the milk to thicken into a yoghurt.

2 What is this process called?

Lactic acid fermentation.

3 Explain the difference in results in test 1 and test 2.

Everything in test 2 was sterile; therefore there were no microbes present to carry out lactic acid fermentation.

4 What is the type and name of microbes which can be used to make yoghurt?

Bacteria of the genus Lactobacillus and Streptococcus.

5 Why did it take longer to make yoghurt at 20°C than at 40°C?

Bacteria prefer to grow at body temperature i.e. approx 37°C, at 20°C it takes the bacteria longer to multiply therefore they are slower to produce the lactic acid.

6 A sterile spoon is used to stir the mixture (step 5) before incubating, what do you think might happen if a dirty spoon was used?

The resulting yoghurt may be contaminated with harmful microbes.

