

OBSERVING BACTERIA IN YOGURT LAB

You will prepare a slide to view bacteria found in yogurt. Some bacteria include *Streptococcus thermophilus*, *Lactobacillus acidophilus* or *Lactobacillus bulgaricus*.

Predict: (2)

What would the appearance of the bacteria look like? Do you think there will be an abundant amount of bacteria? What do you think methylene blue will help you see?

Procedure:

1. Heat a clean microscope slide gently by passing it several times above the flame of a Bunsen burner
2. When the slide is cool, place a small drop of dilute yogurt solution on the slide. Spread it thinly over an area the size of a dime
3. Dry the slide in the air to form a thin film
4. Quickly pass the slide three or four times through the Bunsen burner flame with the film side up to "fix" the bacteria. This will make the bacteria stick to the microscope slide
5. Let the slide cool to room temperature
6. Cover the film of yogurt with a drop of methylene blue stain
7. Leave the stain on the slide for 2 minutes
8. Gently rinse the excess stain in a beaker of water
9. Place a cover slip over the slide
10. Observe the specimen under oil immersion lens. To do this, focus first on low, medium, and then high magnification. Rotate the lens away so that you can put one drop of immersion lens on the cover slip and then observe under the oil immersion lens
11. Draw a sample of what you see
12. You will research two other bacteria: one helpful and one harmful to compare with your laboratory investigations

Observations:

- Proper microscope drawing of the bacteria on unlined paper with actual cell length calculations and labels (3)
- Sketch of two other bacteria: one helpful and one harmful. Make sure you include the proper name of the bacteria (3)

Explanation: (12)

In full sentences, discuss:

- The structure and abundance of the bacteria in yogurt
- Compare your results to your hypothesis
- How you would classify the bacteria observed?
- What other features can be used to classify the bacteria?
- Research on two other bacteria: one harmful and one helpful. Analyze the structures of these bacteria and compare them to the one observed in this lab. Provide a description of what these bacteria do.
- Why is it important to understand the structure of bacteria and study them extensively?

TOTAL VALUE 20 MARKS