

HOMESCHOOL SCIENCE EXPERIMENT

Observing Bacteria in Pond Water under a Microscope



Bacteria are tiny living things that are found almost everywhere, including in pond water. In this experiment, you will collect pond water, prepare a slide, and observe bacteria under a microscope.



QUESTION

What do bacteria in pond water look like under a microscope?

MATERIALS

- Pond water (collected in a clean jar)
- Microscope
- Microscope slides
- Cover slips
- Plastic dropper or pipette
- Paper towels
- (Optional) Methylene blue stain or iodine stain

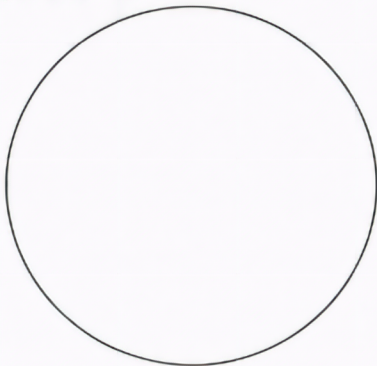


SAFETY

- Do not drink pond water.
- Wash your hands after the experiment.
- Be gentle when handling the microscope and slides.

DRAW WHAT YOU SEE

Use the space below to draw the bacteria you observed.



Magnification used: _____

PROCEDURE

- 1 Collect pond water in a clean jar.
- 2 Gently swirl the jar and let it sit for a minute.
- 3 Use a dropper to place 1 drop of pond water in the center of a clean microscope slide.
- 4 (Optional) Add 1 drop of stain to the water on the slide. Wait 30–60 seconds.
- 5 Carefully lower a cover slip over the drop. Avoid air bubbles.
- 6 Place the slide on the microscope stage and secure it.
- 7 Start with the lowest power objective. Focus the image using the coarse adjustment, then fine adjustment.
- 8 Observe what you see. Then try a higher power objective for more detail.
- 9 Draw what you see and record your observations.

OBSERVATIONS

Magnification	What I Saw (shapes, movement, colors, etc.)	Were the bacteria moving? (Yes / No)	Other Notes
Low Power (e.g., 40x)			
High Power (e.g., 400x)			

THINK ABOUT IT

1. What shapes did you observe?

2. Did the bacteria move? If so, how?

3. Where else do you think bacteria might live?

4. Why do you think there are so many bacteria in pond water?

DISPOSAL

Dispose of pond water in the yard or down the drain with plenty of water. Clean and dry all materials.