

Laboratory Investigation

CHAPTER 2 ■ Cell Structure and Function

Using the Microscope

Problem

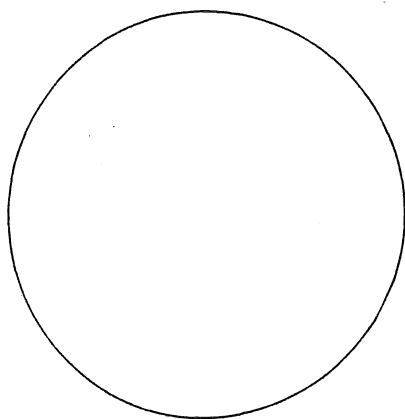
How do you use the microscope to observe objects?

Materials (*per group*)

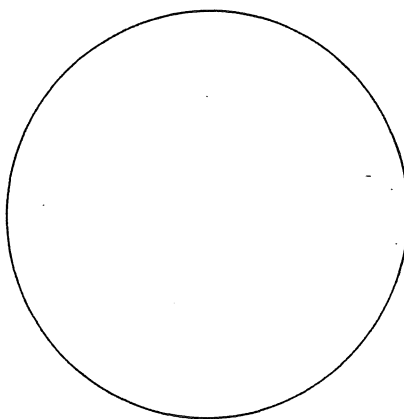
small pieces of newspaper print
and colorful magazine photographs
microscope slide
medicine dropper
coverslip
microscope

Procedure ▲

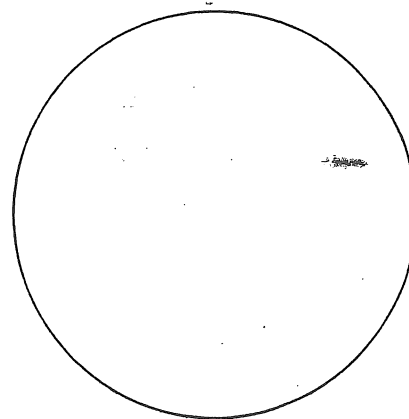
1. Your teacher will instruct you as to the proper use and care of the microscope. Follow all instructions carefully.
2. Obtain a small piece of newspaper print and place it on a clean microscope slide.
3. To make a wet-mount slide, use the medicine dropper to carefully place a drop of water over the newsprint.
4. Carefully lower the coverslip over the newsprint.
5. Place the slide on the stage of the microscope. The newsprint should be facing up and should be in the normal reading position.
6. With the low-power objective in place, focus on a specific letter in the newsprint.



Newspaper Sample Under
Power Magnification _____



Magazine Sample Under
Power Magnification _____



Magazine Sample Under
Power Magnification _____

7. Move the slide to the left, then to the right.
8. Looking at the stage and objectives from the side, turn the nosepiece until the high-power objective clicks into place.
9. Using only the fine adjustment knob, bring the letter into focus. Draw what you see.
10. Repeat steps 2 through 9 using magazine samples.

Observations

1. While looking through the microscope, in which direction does the object appear to move when you move the slide to the left? _____
To the right? _____
2. What is the total magnification of your microscope under low and under high power? _____
3. What happens to the focus of the objective lens when you switch from low power to high power? _____

Analysis and Conclusions

1. What conclusion can you draw about the way objects appear when viewed through a microscope? _____

2. How would you center an object viewed through a microscope when the object is off-center to the left? _____

3. What is the purpose of the coverslip? _____

4. **On Your Own** With your teacher's permission, examine samples of hair, various fabrics, and prepared slides through the microscope.