

The Microscope - The Letter “e” lab

Name: _____

Class: _____

Problem: How is the microscope properly used?

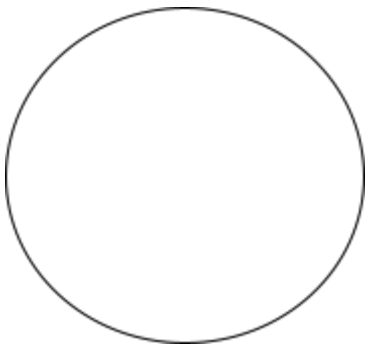
Purpose:

- a) To develop skill in using the microscope
- b) To prepare wet mount slides
- c) To observe a specimen and draw it

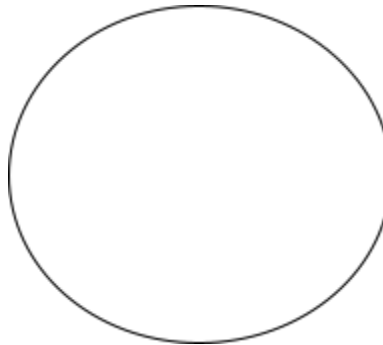
Materials: Microscope, lens paper, glass slide, coverslip, water, scissors, newsprint, dropper

Procedure:

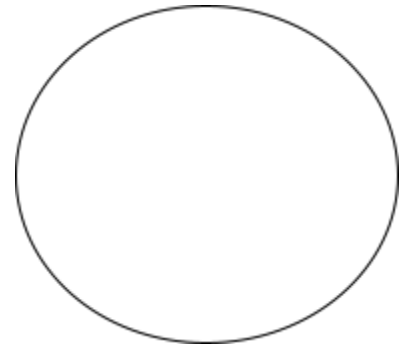
- 1) Using 2 hands take a microscope to your table.
- 2) Be sure that the low power objective is in place.
- 3) Plug in the microscope and turn on the lamp.
- 4) Cut a piece of newsprint/paper that contains the letter “e” (lowercase e). Place the letter “e” in the center of the slide. Using a dropper, place a drop of water on the letter “e”.
- 5) Place a coverslip at a 45-degree angle over the drop of water. Gently lower the coverslip onto the slide.
- 6) Place the wet mount slide of the letter “e” on the stage of the microscope with the “e” **facing you as you would read it**. Adjust the “e” so that it is over the opening in the stage.
- 7) Now look into the eyepiece and use the coarse adjustment to bring the “e” into focus.
- 8) Use the fine adjustment to further sharpen the focus.
- 9) Draw the letter “e” in circle (a).
- 10) **Turn the revolving nose piece so that the medium power objective is in place**. Use the fine adjustment only to focus (**coarse adjustment is only used on low power**). Draw the letter “e” in circle (b).
- 11) Turn the revolving nose piece again so that the **high power objective** is in place. Use the fine adjustment only to focus (**coarse adjustment is only used on low power**). Draw the letter “e” in circle (c).



a (Low Power)



b (Medium Power)



c (High Power)

Conclusion Questions:

1) While looking through the microscope, in what direction does the “e” appear to move when you move the slide?

- a) to the right _____
- b) to the left _____
- c) away from you _____
- d) toward you _____

2) Determine the magnification of your microscope (show your work).

a) Low power eyepiece _____ x objective _____ = _____ mag.

b) Medium power _____ = _____ mag.

c) High power _____ = _____ mag.

3) Explain why the specimen must be centered in the field of view on low power before going to high power.

4) In three steps using complete sentences, describe how to make a proper wet mount of the letter e.

5) Describe the changes in the field of view and the amount of available light when going from low to high power using the compound microscope.

6) How does the procedure for using the microscope differ under high power as opposed to low power?