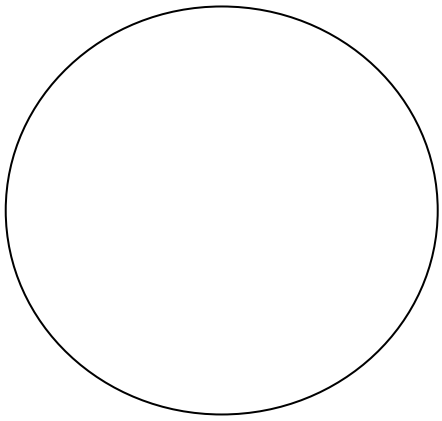
Mr. Ulrich Name:……..……Block:……..
Biology Lab #:……..

# LETTER "e" LAB

Introduction: The development of microscopes by pioneers such a s Anton Von Leewanhoek revolutionized biology. Without them you would probably not have this fabulous course in high school. Before you start cursing Von Leewanhoek, think about modern medicine and how it wouldn't be possible without the ability to see things too small for the naked eye to see. In this lab you will get a chance to investigate the compound light microscope and how to use it.

The lab:
Make a wet mount of a small piece of newspaper print that has a small, lower-case letter "e" on it. Orient the slide so that the "e" is in reading position on the stage. Focus on the "e" under low power (10X objective) and sketch what you see below. In the space to the right, briefly describe what the microscope did to the position of the "e"



Describe the "e":

Move the slide to the right. Which direction does the "e" go?

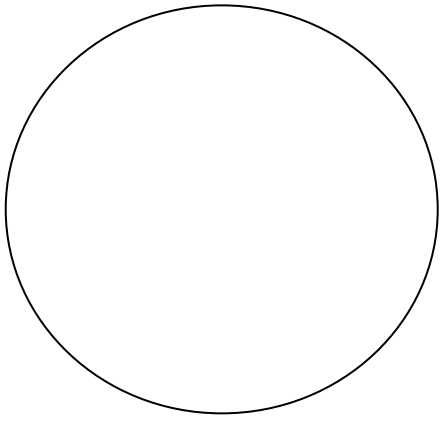
Move the slide to the left. Which way does the "e" go?

Move the slide towards you. Which way does the slide go?

Using the technique described by Mr. U., turn the nosepieces to high power. What happens to the brightness of the image?

Manipulate the diaphragm. What does that do to the brightness of the image?

Fine tune the focus. Sketch what you see in the circle and describe the image in the space to the right.



Describe the image:

Is high power *always* better than low power for examining a specimen? Explain.

To find the total magnifying power multiply the power of the ocular lens by the power of the objective in place.
What is the magnifying power of the ocular lens?

What is the magnifying power of the low-power objective (not the *scanning* objective)?

What is the magnifying power of the high-power objective (not the *oil immersion* objective)?

Calculate the magnifying power of your microscope under low power (show calculations).

Calculate the magnifying power of your microscope under low power (show calculations).

Conclusion Questions: Answer in complete sentences.

1. Why is the compound microscope called a compound microscope? AND how determine the total magnification of the compound microscope?

2. Describe at least two safety precautions involved with using a microscope.

3. There are several different types of microscopes. Pick any two (other than compound light microscopes). Describe how they are different from light microscopes and an advantage of using that type of microscope

4. Draw how the letter f would look when viewed under the compound light microscope