

Name: _____

Microscope Introduction - "e" Lab

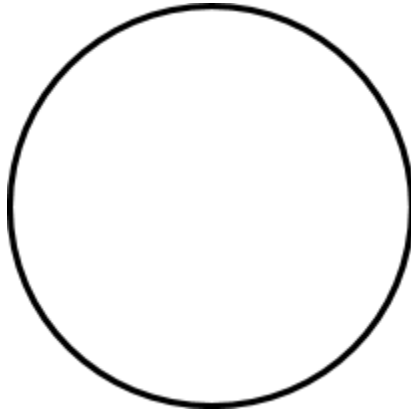
1. Place the slide of the "letter e" on the stage so that the letter is over the hole and is right side up as you look at it with the naked eye.

2. Use the scanning objective to view the letter and **use the coarse knob** to focus.

Draw the "e" as it appears in your viewing field. You should draw it to scale, meaning it should take up as much of the circle in your drawing as it does when you view it.



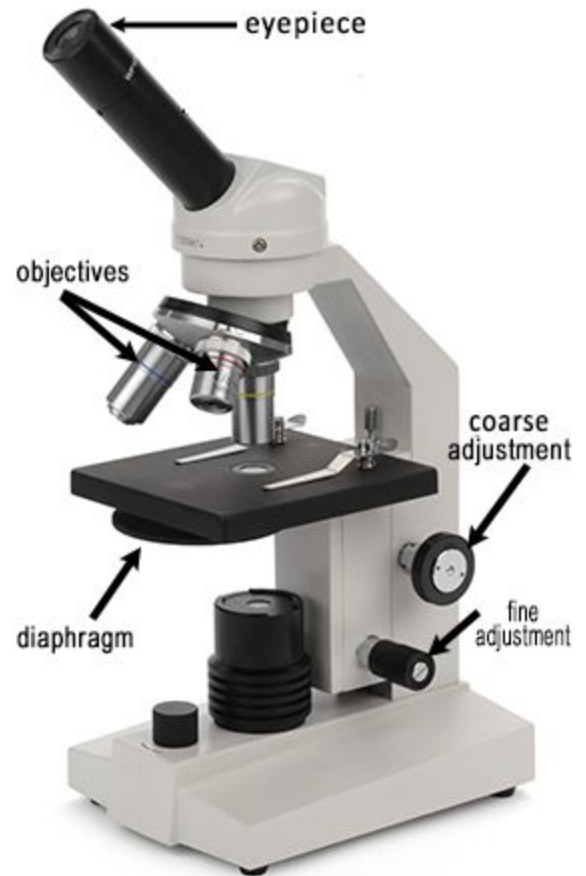
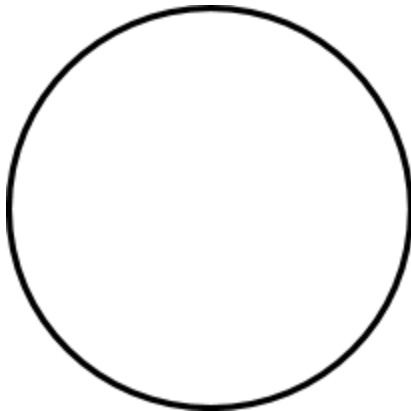
Scanning Power (40x)



3. Switch to the low power objective (this is the medium sized one). You should hear it click into place. Look in the microscope, the 'e' should still be visible, but it will be bigger and it might be blurry. **Use the coarse knob** to bring it back into focus. You may also want to move the slide to re-center the 'e'.

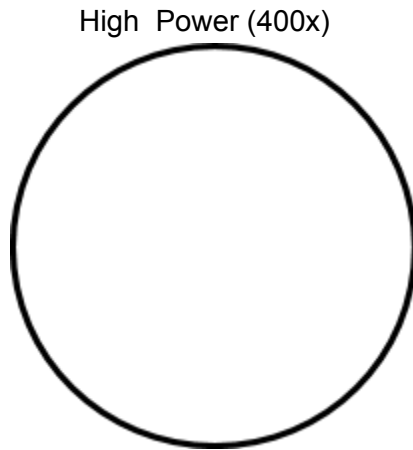
Draw the "e" to scale in the circle below.

Low Power (100x)

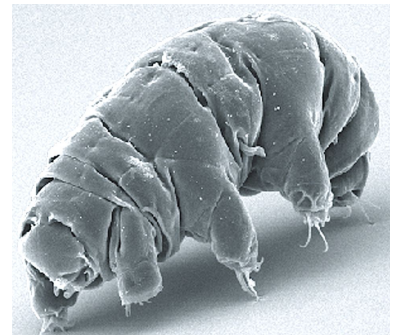


4. Switch to the high power objective (this is the longest one). Now when you look into the microscope you probably won't see the "e." At this magnification, you are just seeing a part of the "e" and the ink used to print it. At high power, you will need to focus, but this time, only **use the FINE ADJUSTMENT KNOB**. You should only need to rotate it a little bit to bring the slide back into focus, so turn the knob slowly.

Draw the "e" as it now appears in the viewing field.



Do not use the coarse knob (large) with high power!

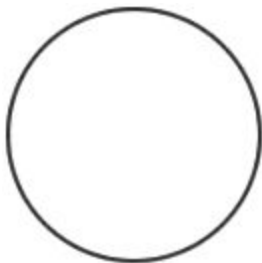


Common Things

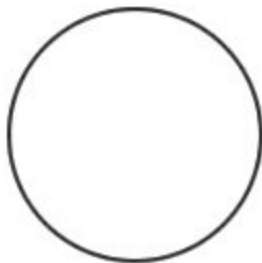
5. Obtain a slide from the "common" box - sketch under scanning and low power. Use the label on the slide to name each.

Name of Slide _____

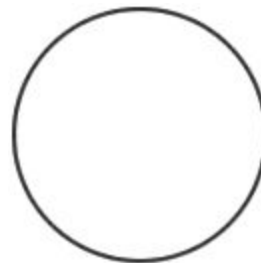
Name of Slide _____



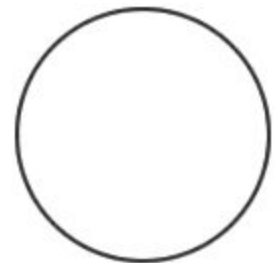
Scanning



Low Power



Scanning



Low Power

Depth Perception

6. Obtain a slide with three different colored threads on it. View the slide under scanning and then low power. You should note that you could only focus on one colored thread at one time. Determine which thread is on top by lowering your stage all the way, then slowly raising it until the thread comes into focus. The first thread to come into focus is the one on top.

Which color thread is on top? _____

Which color thread is in the middle? _____

Which color thread is on the bottom? _____

Using a Stereoscope

7. Stereoscopes are used to view large or thick specimens. It does not have as great of a magnification, usually about 4x. View the specimen on the stereoscope (1-2 will be placed in the room for you).

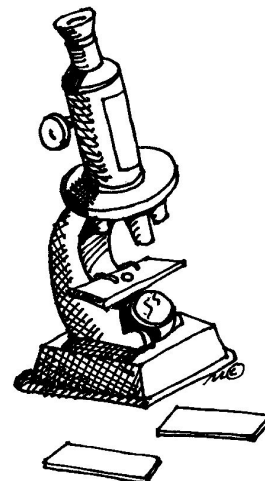
What object did you look at? _____

Why would you not be able to view this object with the light microscope?

ANALYSIS - answer true or false to each of the statements

8. Answer true or false to the following statements.

- T F On high power, you should use the coarse adjustment knob.
- T F The low power objective has a greater magnification than the scanning objective.
- T F The fine focus knob moves the stage up and down.
- T F Images viewed in the microscope will appear upside down.
- T F The type of microscope you are using is a scanning microscope.
- T F For viewing, microscope slides should be placed on the objective.
- T F In order to switch from low to high power, you must rotate the revolving nosepiece.
- T F You can tell that the objective is in place because it makes a clicking noise.
- T F A stereoscope is used to view large objects.
- T F The first step in viewing specimens is to use the high power objective.
- T F A stereoscope is binocular, meaning it has two eyepieces.



9. You are tasked to go to the junior high and help students there use the microscope. **Write a short step-by-step guide** to tell younger students how to focus a slide using the high power objective.