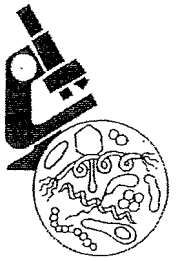
Name _____

MICROSCOPE INTRODUCTORY LAB



1. Examine your microscope and familiarize yourself with the parts. Locate the numbers on the lenses. What magnification is written on each of them?

Ocular Lens	Scanning Objective	Low Power Objective	High Power Objective

2. The total magnification is determined by multiplying the objective lens with the ocular lens.

What is the total magnification if you are using the scanning objective? _____

low power objective ? _____

high power objective? _____

3. Examine the **diaphragm** with the microscope on. As you turn the wheel, the viewing field should become lighter or darker. Gently and carefully tilt the microscope to view the diaphragm from underneath. Sketch what the diaphragm looks like from underneath →

Sketch of Diaphragm

4. Look into the **eyepiece**, turn it left and then right. There may be a line inside that moves as you twist, this is the pointer. What could you use the pointer for? (If you don't have one, find someone that does have one.)

THE "E"

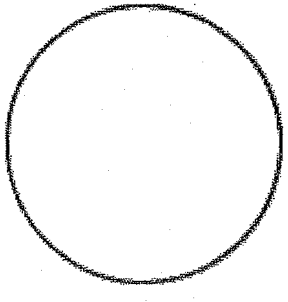
1. Place the slide of the "letter e" on the stage so that the letter is over the hole and is right side up as you look at it with the naked eye.
2. Use the **scanning objective** to view the letter and use the **coarse knob** to focus. Repeat on the **low power objective**. Finally, switch to **high power**.

Remember at this point, you should only use the **FINE adjustment knob.**

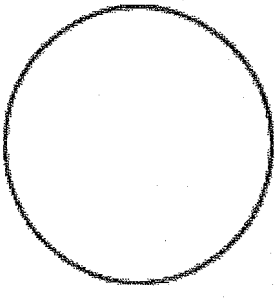
Using the coarse knob while on the high power will crack your slide or crack your lens. YIKES!

3. Draw the "e" as it appears at each magnification. Drawings should be drawn to scale and you should note the orientation of the e in the viewing field (is it upside down or right side up?)

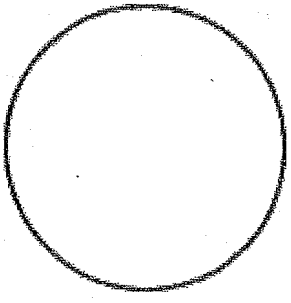
SCANNING



LOW



HIGH



4. Switch back to the scanning objective, and have your partner push the slide to the left while you view it through the lens.

Which direction does the "e" appear to move to you? _____

Common Things

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

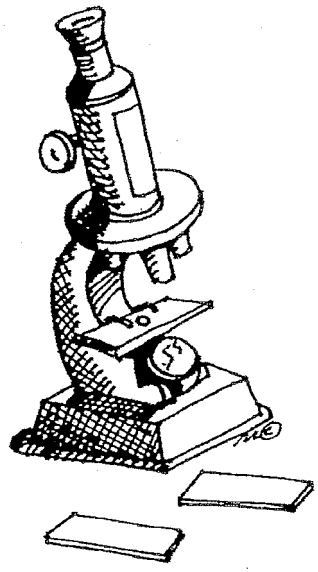
7. Obtain a slide with three different colored threads on it. View the slide under scanning and then low power. You should note that you could only focus on one colored thread at one time. Figure out which thread is on top by lowering your stage all the way, then slowly raising it until the thread comes 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? _____

Analysis - answer true or false to each of the statements



T ○ F ○ On high power, you should use the coarse adjustment knob.

T ○ F ○ The diaphragm determines how much light shines on the specimen.

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 ○ If a slide is thick, only parts of the specimen may come into focus.

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 ○ The total magnification of a microscope is determined by adding the ocular lens power to the objective lens power