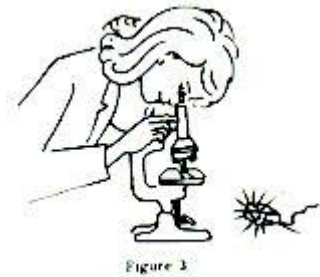


How to Use a Microscope

When providing the best possible answer to the following questions please apply all learned scientific techniques and procedures, do not use abbreviations, use proper scientific terminology, show work for all mathematical calculations, use all significant figure and scientific notation rules, apply S.E.E.C. writing strategies, and note that at all times spelling counts. Your ability to meet these and all established classroom expectations, including labeling of BINs, providing heading information, and your ability to follow directions may be included in computation of grade.

1. When moving your microscope, always carry it with both hands (Figure 1, below). Grasp the arm with one hand and place the other hand under the base for support.
2. Turn the revolving nosepiece so that the lowest power objective lens is "clicked" into position (This is also the shortest objective lens).
3. Your microscope slide should be prepared with a coverslip or cover glass over the specimen. Place the microscope slide on the stage and fasten it with the stage clips. You can push down on the back end of the stage clip to open it.
4. Look at the objective lens and the stage from the side (Figure 2) and turn the coarse focus knob so that the objective lens moves downward (or the stage, if it moves, goes upward). Move it as far as it will go *without touching the slide!*
5. Now, look through the eyepiece and adjust the illuminator (or mirror) and diaphragm (Figure 3) for the greatest amount of light.



6. Slowly turn the coarse adjustment so that the objective lens goes *up* (away from the slide). Continue until the image comes into focus. Use the fine adjustment, if available, for fine focusing. If you have a microscope with a moving stage, then turn the coarse knob so the stage moves downward or away from the objective lens.

7. Move the microscope slide around so that the image is in the center of the field of view and readjust the mirror, illuminator or diaphragm for the clearest image.
8. Now, you should be able to change to the next objective lenses with only minimal use of the focusing adjustment. Use the fine adjustment, if available. If you cannot focus on your specimen, repeat steps 4 through 7 with the higher power objective lens in place. **Do not allow the objective lens to touch the slide!**
9. The proper way to use a monocular microscope is to look through the eyepiece with one eye and keep the other eye open (this helps avoid eye strain). If you have to close one eye when looking into the microscope, it's ok. Remember, everything is upside down and backwards. When you move the slide to the right, the image goes to the left!
10. Do not touch the glass part of the lenses with your fingers. Use only special lens paper to clean the lenses.
11. When finished, raise the tube (or lower the stage), click the low power lens into position and remove the slide.
12. Always keep your microscope covered when not in use. Dust is the number 1 enemy!