General directions for using a compound light microscope

1. Retrieve your microscope from its storage area. Remember carry your microscope with 2 hands, one holding the arm the other holding the base.
2. Place the microscope on your bench. Move the scope away from the edge of the bench. Keep your work area clear of extraneous materials such as backpacks, books, etc.
3. Plug in the microscope and turn it on. Look at the illuminator. If light is not coming from the illuminator, try turning the light control/rheostat.
4. Retract the clip on the mechanical stage and position the slide against the mechanical stage. Release the arm. The arm should hold the slide.
5. Use the mechanical stage controls (under the stage) to move the slide until the specimen is over the light coming through the stage. If you do not see light coming through the stage, open the iris diaphragm.
6. Grab and rotate the nosepiece until the 4X objective is over the stage. The objective is correctly aligned over the specimen and light source when you hear the objective click into place.
7. Raise the stage to its highest level.
8. Light is critically important to viewing the specimen. Too much light decreases the contrast and bleaches out the specimen. There are several ways to control the light levels on your microscope. In general, the light control rheostat should be set at the maximum level or near the maximum level. Adjust the light passing through the specimen by moving the lever on the iris diaphragm. For initial focusing move the iris diaphragm lever half way between fully open and fully closed.
9. Look into the oculars. Adjust the oculars so that only a single circle of light is visible. If your scope is a binocular microscope you should keep both eyes open when viewing the specimen. It may take practice, but keeping both eyes open will decrease muscle and eye strain and enhance your viewing experience.
10. While looking into the oculars, grasp the coarse adjustment knobs and focus down. The specimen will begin to come into focus. Once in focus, grasp the fine adjustment knob and rotate the knobs until the specimen is sharply in focus. Use the mechanical stage controls to move the specimen or structure of interest into the center of your field of view. If you do not see the specimen, look at the slide on the stage. The colored specimen should be visible over the light coming through the stage. If it is not, move the slide until the colored specimen is visible above the light source.
11. To increase the magnification, take hold of the nosepiece and rotate the 10X objective over the specimen. Look into the oculars and rotate the fine adjustment knobs until the specimen is sharply in focus. Use the mechanical stage controls to move the specimen or structure of interest into the center of your field of view. The light levels may need to be adjusted for optimal viewing. Take hold of the lever on the iris diaphragm and move the lever until the specimen is sharp and has good contrast.
12. If increased magnification is required, rotate the nosepiece to move the 40X objective over the specimen. Look into the oculars and turn the fine adjustment knobs until the specimen is sharply in focus. Use the mechanical stage controls to move the specimen or structure of interest into the center of your field of view. The light levels may need to be adjusted for optimal viewing. Take hold

of the lever on the iris diaphragm and move the lever until the specimen is in sharp focus and has good contrast.

13. Storing your microscope.
    a. Clean the objective and ocular lenses.
    b. Wipe the stage with a damp cloth to remove any chemical spills.
    c. Lower the stage to its lowest position.
    d. Wrap the power cord appropriately.
    e. Place the microscope back in its storage cabinet.

Remember:

1. Coarse adjustment is only done for initial focusing. Because the scope is parfocal, once the specimen is in focus at one power, it will be in focus at all powers.
2. Light levels should be adjusted as magnification increases. In general, the higher the magnification the greater the amount of light passing through the specimen is needed.
3. You must center the specimen in the field of view before changing magnification. If the specimen or structure of interest is not in the center of the field of view, when the oculars are changed and the magnification increases, the specimen may 'disappear'.
4. Keep both eyes open when using the microscope.