

# LAB #1

## LABORATORY

### AN INTRODUCTION TO THE MICROSCOPE

#### Objective

To investigate the features and basic operations of the compound microscope.

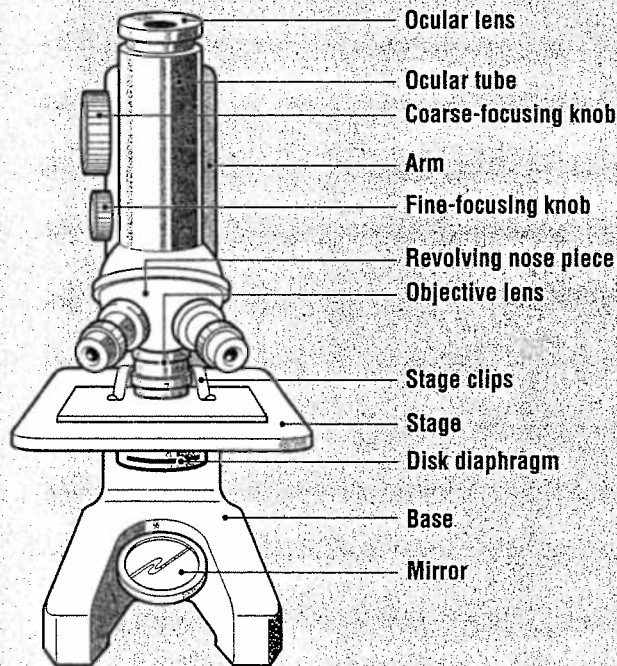
#### Materials

compound microscope	cover slips
newspaper picture	medicine dropper
scissors	colored thread
lens paper	ruler
glass slides	small beaker (50 or 100 mL)

#### Procedure

##### Part 1: Parts of the Microscope

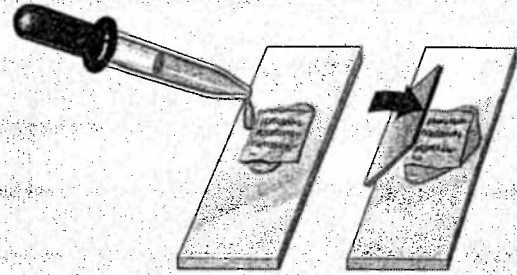
- 1 Locate the parts of the microscope shown in the diagram below.



##### Part 2: Resolving Power

- 2 Cut a 1 cm square from a newspaper picture.
  - a) Describe its appearance with the naked eye.
- 3 Obtain a glass slide, a cover slip, and a medicine dropper.

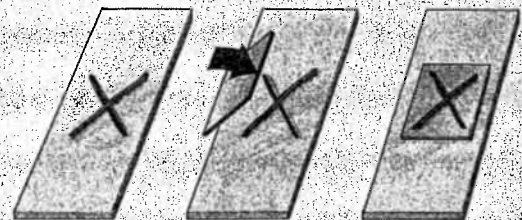
- 4 Make a temporary wet mount of the newspaper picture, as shown in the diagram. Add the cover slip.



- 5 Clean the ocular and objective lenses with the lens paper. Adjust the nosepiece to the lowest-power objective lens. Make sure that the lens clicks into place.
- 6 Place the slide on the stage with the picture centered over the hole. Use the clips to hold the slide in position.
- 7 Rotate the coarse-adjustment knob forward to lower the low-power objective lens. If your microscope has an automatic stop, the lens will stop at a specific distance above the slide. If the microscope does not have a stop, do not let the objective lens get closer than 0.5 cm from the slide.
- 8 Using one eye, look through the ocular lens. (If you wear glasses, focusing with or without them on should not matter.) It is easier on your eyes if you keep both eyes open. You should be able to see a circular field of view.
- 9 Slowly rotate the coarse-adjustment focus backwards until the image is clear.
  - b) Describe the appearance of the picture under low-power magnification.

##### Part 3: Determining Focal Distance

- 10 Cut two different-colored threads and place them on a glass slide.
- 11 Make a temporary dry mount by placing one of the threads over the other in the form of an X. Cover the threads with a cover slip.



- 12 Place the slide on the stage so that the crossed threads are in the center over the hole. Use the clips to hold the slide in position.