Laboratory #7: Preparing a Wet Mount

Background Information:
In previous lessons, you have learned how to properly use a microscope and care for a microscope. The microscope is the biologist’s basic tool. You should now be able to label and understand each part of the compound microscope. You have learned that the more powerful the lens, the greater the identification of parts, and you are now able to calculate magnification while observing the specimen.

In order to accurately look at specimens under a microscope, you must first need to learn how to properly prepare a wet mount. A wet mount is made by placing a fluid solution on a slide, suspending a specimen in a solution, and then covering the specimen and the solution with a cover slide.

Why would use a wet mount?
- To increase the specimen's translucency and to make it easier to stain.
- Using a wet mount slide has the tendency to flatten the specimen making it easier to view.

Materials:
- dry, clean slide
- cover slips
- newspaper
- scissors
- pencil
- eye dropper
- water
- microscope

Our Objectives:
We will use microscopes to observe specimens by preparing wet mounts.

How to make a wet mount:
- Cut a lowercase letter, preferably and e, from the newspaper
- Place in the centre of a clean slide
- Put a drop of water on the top of the letter using an eyedropper
- If too much water is added, the cover slip will “float” creating a water layer that is too thick
- If too little water is added, the specimen may be crushed or dry out too quickly
- Place the edge of a cover slip against the water and with a pencil gently lower the cover slip over the letter
- Placing the cover slip in the manner prevents air bubbles from forming underneath the cover slip
Lab Procedure:
Now using the skill of constructing a wet mount, follow the steps above to help you.

1.) Set up your microscope at your workstation.

2.) Prepare your first wet mount. When it is complete, look at it under the microscope. Draw what you see.

3.) Now, prepare a wet mount with too much water. Draw what you see and make notes comparing this slide to your first slide.

4.) Next, prepare a wet mount with not enough water. Draw what you see and make note comparing this slide to your first and second slide.

5) What is the benefit of preparing a good wet mount?
Part II:

Problem: How is the microscope used?

Purpose:  
- a) To develop skill in using the microscope  
- b) To prepare wet mount slides  
- c) To observe a specimen and draw it

Materials:  
Microscope, lens paper, glass slide, coverslip, water, scissors, newsprint, dropper

Procedure:  
1) Using 2 hands take a microscope to your table
2) Be sure that the low power objective is in place
3) Plug in the microscope and turn on the lamp
4) Cut a piece of newsprint that contains the letter “e”. Place the letter “e” in the center of the slide. Using a dropper, place a drop of water on the letter “e”.
5) Place a coverslip at about a 45 degree angle over the drop of water. Gently lower the coverslip onto the slide. Tap the coverslip gently to remove air bubbles.
6) Place the wet mount slide of the letter “e” on the stage of the microscope with the “e” facing you as you would read it. Adjust the “e” so that it is over the opening in the stage.
7) Raise the stage while looking at the slide from the side.
8) Now look into the eyepiece and use the coarse adjustment to bring the “e” into focus.
9) Use the fine adjustment to further sharpen the focus.
10) Draw the letter “e” in circle (a).

11) Turn the revolving nose piece so that the medium power objective is in place. Use the fine adjustment only to focus. (coarse adjustment is only used on low power.) ) Draw the letter “e” in circle (b).
12) Turn the revolving nose piece again so that the high power objective is in place. Use the fine adjustment only to focus. (coarse adjustment is only used on low power.) ) Draw the letter “e” in circle (c).
Observations: 1) While looking through the microscope, in what direction does the “e” appear to move when you move the slide?
   a) to the right _____________________________
   b) to the left _____________________________
   c) away from you _______________________
   d) toward you _______________________

2) Determine the magnification of your microscope (show your work).
   a) Low power   eyepiece ____ x   objective ____ = _____ mag.
   b) Medium power _________________________= _____ mag.
   c) High power   _________________________= _____ mag.

3) Label the parts of the microscope below