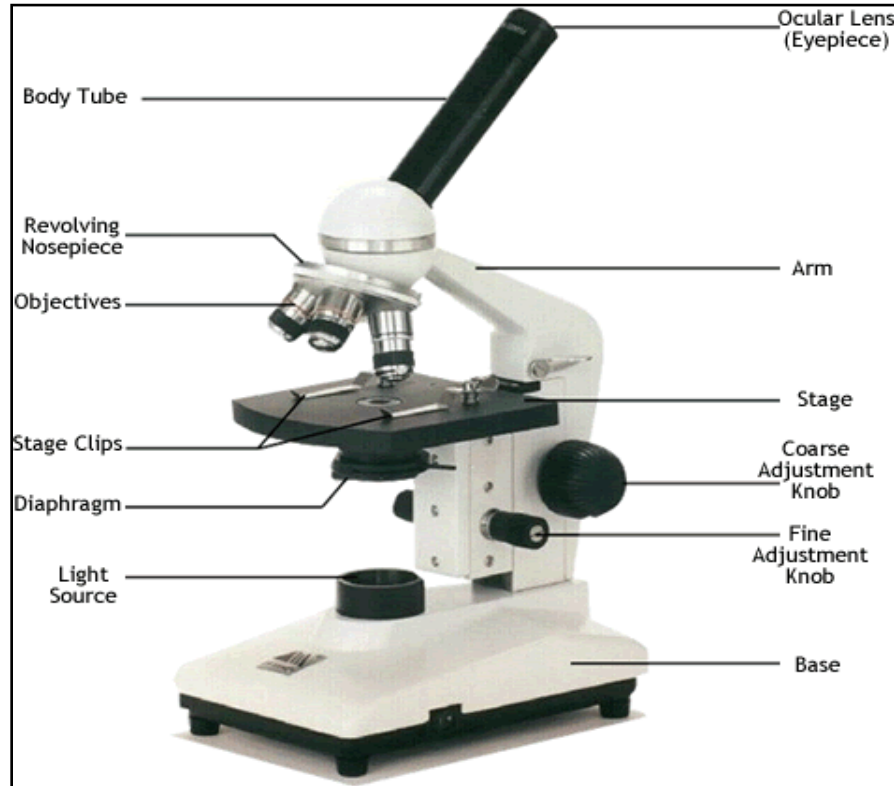


Name _____

Microscope Lab

A. FUNCTIONS OF MICROSCOPE PARTS



Part	Function
1. Ocular lens/Eyepiece	
2. Revolving Nosepiece	
3. Objective Lenses	
4. Stage	
5. Diaphragm	
6. Fine Adjustment	
7. Coarse Adjustment	

B. MICROSCOPE CARE

8. How should you carry a microscope?

9. Why should you clean lenses ONLY with lens paper?

C. MAGNIFICATION

10. The magnification written on the ocular lens (eyepiece) is _____.

11. The magnification on the:
 - a. Scanning objective _____ Color ring ___Red___
 - b. Low power objective _____ Color ring ___Yellow___
 - c. High power objective _____ Color ring ___Blue___

12. What is the **total magnification** for each lens (ocular X objective?)
Scanning _____ Low power _____ High power _____

D. DIAPHRAGM

13. Examine the diaphragm. What happens as you move the lever from side to side?

14. Describe how using the diaphragm will improve your ability to view organisms.

E. POINTER

15. Twist the ocular lens. Does yours have a pointer? _____.

16. What are two purposes for the pointer?

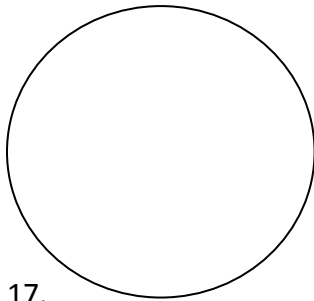
F. VIEWING A SLIDE

Focus the slide first with the scanning objective, then click to low power and focus again. Finally click to and focus the slide under high power. Remember, at high power, you should **ONLY** use the fine adjustment knob.

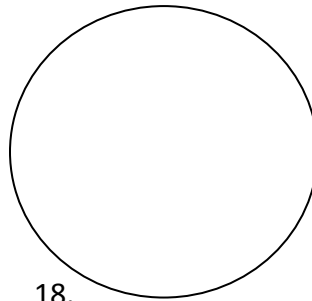
HINT: In order to keep from "losing" the specimen as you move from scanning to low to high power, use the pointer to help you center the object you are looking at before you change magnification.

Draw the specimen as it appears in your field of view for each magnification. The circles below represent your **field of view**. The object you are viewing should take up as much space in the drawing as it does in your field of view while you are looking at it.

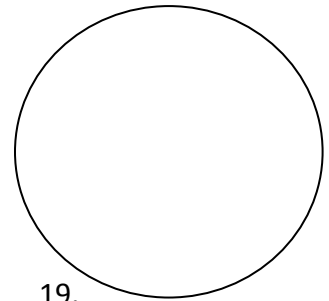
Scanning



Low Power



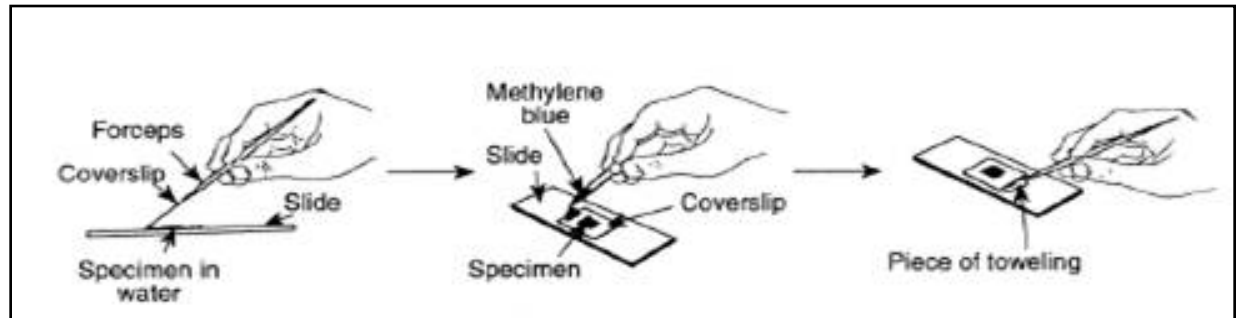
High Power



20. Which field of view is the largest (allows you to see the most of the slide?)

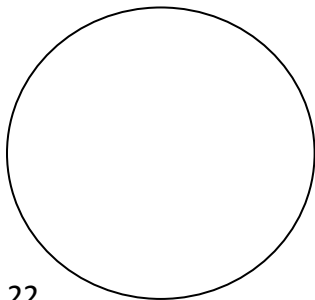
21. Which field of view allows you to see the most detail?

G. MAKING A WET MOUNT OF A SLIDE

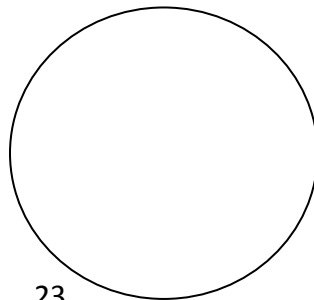


- A. Obtain a print letter “e” and place it on a slide using forceps.
- B. Place **ONE** drop of water directly over the letter “e.”
- C. Place the cover slip at 45 degree angle (approximately) with one edge touching the water drop and then gently let go.
- D. Draw the letter “e” as it appears in your viewing field under scanning, low and high power.

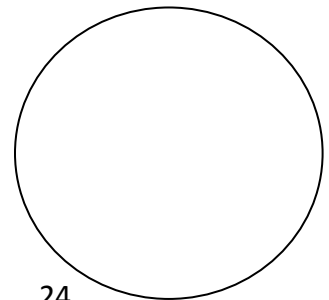
Scanning



Low Power



High Power



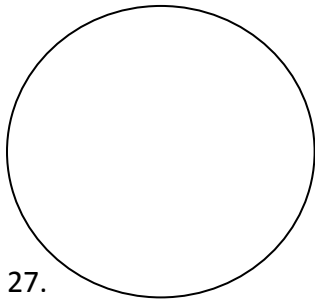
Find the translational control knobs located under the stage. The X-knob moves the stage left and right, and the Y-knob moves the stage up and down.

25. When you move the stage away from you, which way does the object move as you are viewing it?
26. When you move the stage to your left, which way does the object move as you are viewing it?

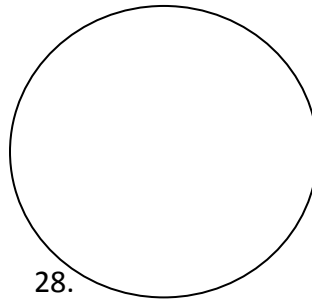
H. INVESTIGATION OF POND WATER

- A. Prepare a wet mount of pond water – a sample of pond water is provided in a jar. The best specimens usually come from the bottom and probably will contain chunks of algae and other debris that you can see with your naked eye. (Be careful that your slide isn't too thick.)
- B. Use the microscope to focus on the slide – try different objectives: some may be better than others for viewing the slide.
- C. Make three separate drawings below of different areas of the slide and at different magnifications. Label where appropriate.

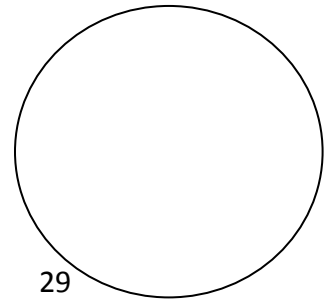
Scanning



Low Power



High Power



CONCLUSION QUESTIONS:

30. How do you determine the total magnification of a specimen under a light microscope?
31. List two precautions you should take when preparing a wet mount slide.
32. What are the steps you need to take as you move from scanning to high power?
33. Why are proper microscope skills important to studying organisms in Biology?