

Name: _____ Period: _____

Lab 6: Comparing Cell Types & Using Microscopes

Introduction:

Today you will observe three types of wet-mounted slides under the microscope. Each wet-mount will have different cell types on it. You will observe pond water, onion skin cells, and human cheek cells

Microscope Rules:

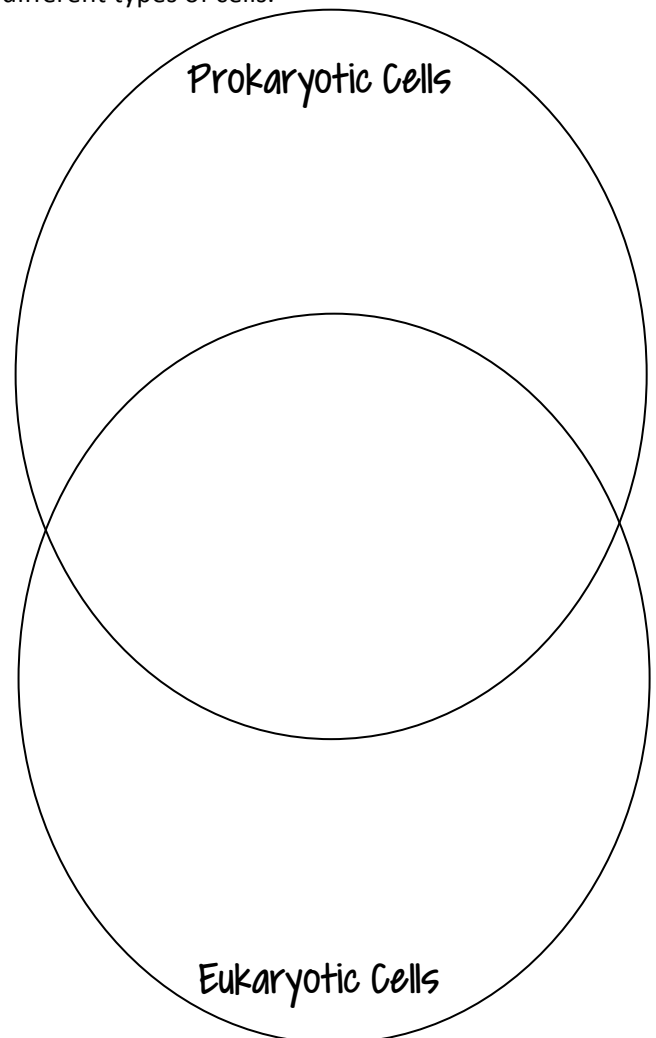
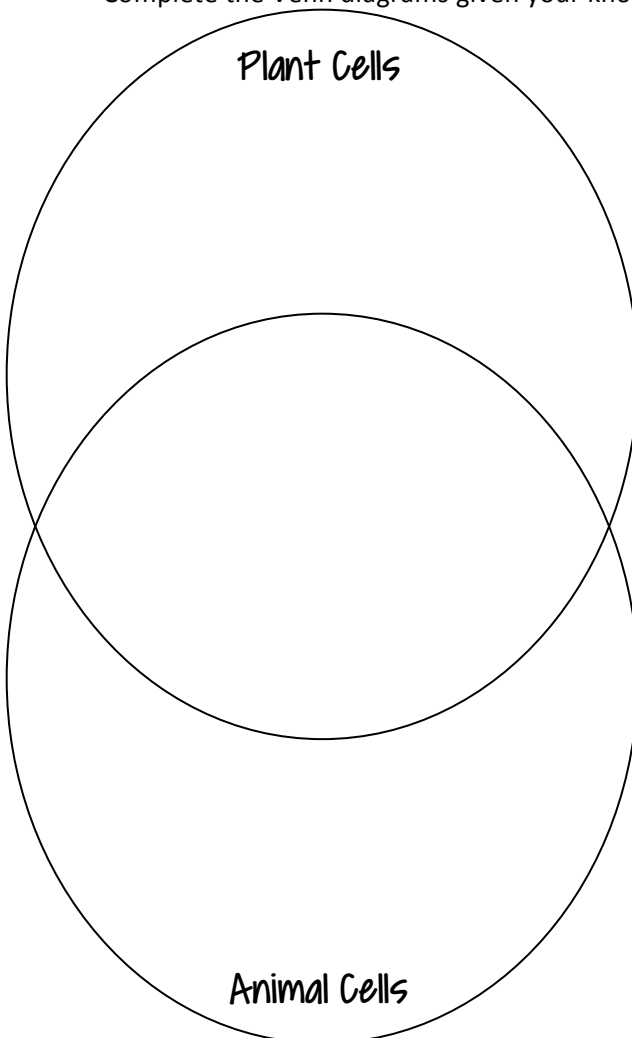
1. Always use the lowest power lens (the shortest lens) when you take a slide on and off the stage.
2. Always look from the side of the microscope when switching to a different objective lens.
3. Only the coarse focus knob when on the lowest power! Use the fine focus knob when on the higher power objective lenses.
4. Turn off the light of the microscope and push it toward the back of the counter when you are done!

Materials:

Compound light microscope	Toothpick	Pond water
Paper towel	Tweezers	Onion skin cells
4 glass slides (clean and dry)	Iodine stain	Cheek cells
3 new glass cover slips	Methylene blue stain	Spinach leaf

Pre-Lab:

Complete the Venn diagrams given your knowledge of the different types of cells.

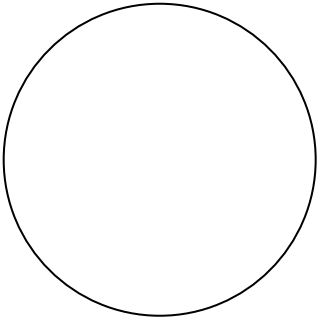


Microscope Observations:

Draw the following circles in your lab notebook to provide a space for you to draw your observations at the highest power, 400x total magnification. In each circle, draw what you observe before moving on to the next highest power.

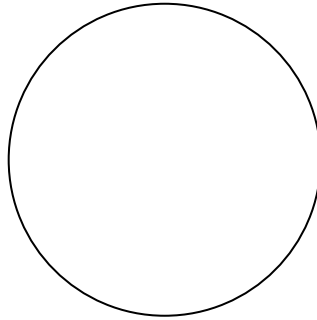
Pond Water
Observation

High = 400x Total



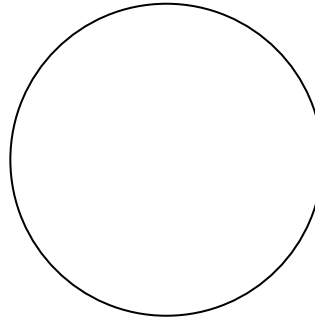
Onion Skin Cell
Observation

High = 400x Total



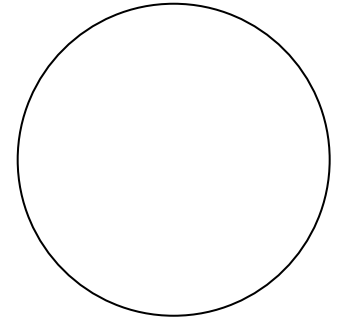
Cheek Cell
Observation

High = 400x Total



Spinach Cell
Observation

High = 400x Total



Post-Lab Questions:

- On the sketches of the onion skin cells, human cheek cells, and spinach cells. Label the following items where appropriate on one cell in each sketch:
 - Cell membrane
 - Cell wall
 - Cytoplasm
 - Nucleus
- Why do you think it was necessary to stain the cells with methylene blue and iodine?
- What does "100x" total magnification mean?
- If you have a microscope with a 10x ocular lens and you are observing through the 40x objective lens, what is the total magnification of the specimen you are observing?
- Describe the shape of the onion skin cells. Describe the shape of the cheek cells. Why would the shapes be different between the two?
- Were the cells you observed today eukaryotic or prokaryotic? What did you observe today that would lead you to this conclusion?