# Prelab questions:

# Lab Activity: Plant vs Animals

1. List the 3 parts of the Cell Theory
2. Describe or define each of the following
   1. cell membrane
   2. cytoplasm
   3. nucleus
   4. organelle

## Procedures:

1. Put a drop of methylene blue on a slide. Caution: methylene blue will stain clothes and skin.  
2. Gently scrape the inside of your cheek with the flat side of a toothpick. Scrape lightly.  
3. Stir the end of the toothpick in the stain and throw the toothpick away.  
4. Place a coverslip onto the slide  
5. Use the SCANNING (red) objective to focus. You probably will not see the cells at this power.  
6. Switch to low (yellow) power. Cells should be visible, but they will be small and look like nearly clear purplish blobs. If you are looking at something very dark purple, it is probably not a cell.  
7. Once you think you have located a cell, switch to high power (blue) and refocus. (Remember, do NOT use the coarse adjustment knob at this point)

3. Sketch the cell at low and high power. Label the nucleus, cytoplasm, and cell membrane of a single cell. Draw your cells to scale.

|  |  |
| --- | --- |
| circle Low Power | circle High Power |

5. Why is methylene blue necessary?

6. List 2 organelles that were NOT visible but should have been in the cheek cell.

7. Is the cheek cell a eukaryote or prokaryote? How do you know?

8. Why do you think the cheek cells are a good a good source of cells for this experiment?

Plant Cell Lab

## Prelab Questions

1. What is the function of chloroplasts?
2. Name two structures found in plant cells but not animal cells.
3. Name three structures found in plant cells AND in animal cells.
4. What structure surrounds the cell membrane (in plants) and gives the cell support.

### Procedures:

### Obtain a small piece of red onion.

### Peel back the red portion of the onion and place the piece on the microscope slide.

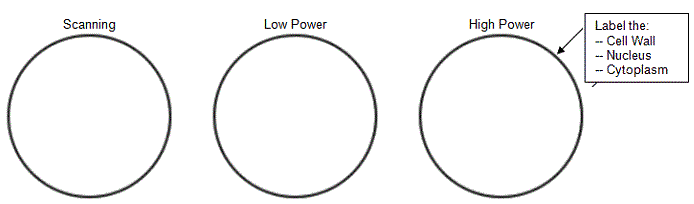
### Add a drop of water with a pipette.

### Place a cover slip over the onion piece.

### Use the SCANNING (red) objective to focus. You probably will not see the cells at this power.

### Switch to low (yellow) power. Cells should be visible, but they will be small. If you are looking at something very dark purple, it is probably not a cell.

### Once you think you have located a cell, switch to high power (blue) and refocus. (Remember, do NOT use the coarse adjustment knob at this point)

View under the microscope and sketch the cells at each magnification. Label the cells as they appear under high power. 

### Post Lab Questions

1. Describe the shape and the location of chloroplasts.
2. Which type of cell was smaller - the onion cells or the cheek cells?
3. Fill out theVenn Diagram below to show the differences and similarities between the onion cells and the cheek cells.

