

## Onion & Cheek Cell Lab

**Purpose:** In this lab, you will prepare and observe cells from both a plant (onion) and an animal (your own cheek!!).

**Materials:** You will need the following materials: microscope, safety goggles, glass slide, coverslip, toothpick, iodine stain, methylene blue, onion tissue, and your own cheek.

**Assignment:** Your assignment is to prepare and observe two different types of cells. Make sure to complete the lab write up on a separate sheet of paper. Follow the requirements in **red** for full credit.

### Procedure:

#### For the onion cell:

1. Get a glass slide and cover slip.
2. Using one of the cut sections of onions, remove a single layer of epidermal cells from the inner (concave) side of the scale leaf (the thinner the better).
3. Place the single layer of onion on a glass slide. Make sure that you do not fold it over or wrinkle it.
4. Add a small drop of iodine stain directly to the tissue. Careful, iodine is not toxic, but it will stain both your skin and your clothes.
5. Place a coverslip over the newly stained tissue. Gently tap out any air bubbles.
6. Observe cells under 4x, 10x, and 40x. Sketch what you see in a format similar to the one seen below.
7. Be sure to label any parts you see in your sketches. You may be able to see: cell wall, nucleus, and cytoplasm.

For the cheek cell:

1. Clean off your slide from above. The cover slip is very fragile, so be careful when you are drying.
2. Add a drop of water into the middle of the glass slide.
3. Using the blunt (not sharp) end of a toothpick, gently scrape the inside of your cheek. IMMEDIATELY throw the toothpick away in the trash when you are done.
4. Roll the toothpick, now with cheek cells, in the drop of water on the slide.
5. Add ONE drop of methylene blue to the water drop.
6. Place a coverslip on the stained cheek cells.
7. Observe under the microscope like you did for the onion cell above.

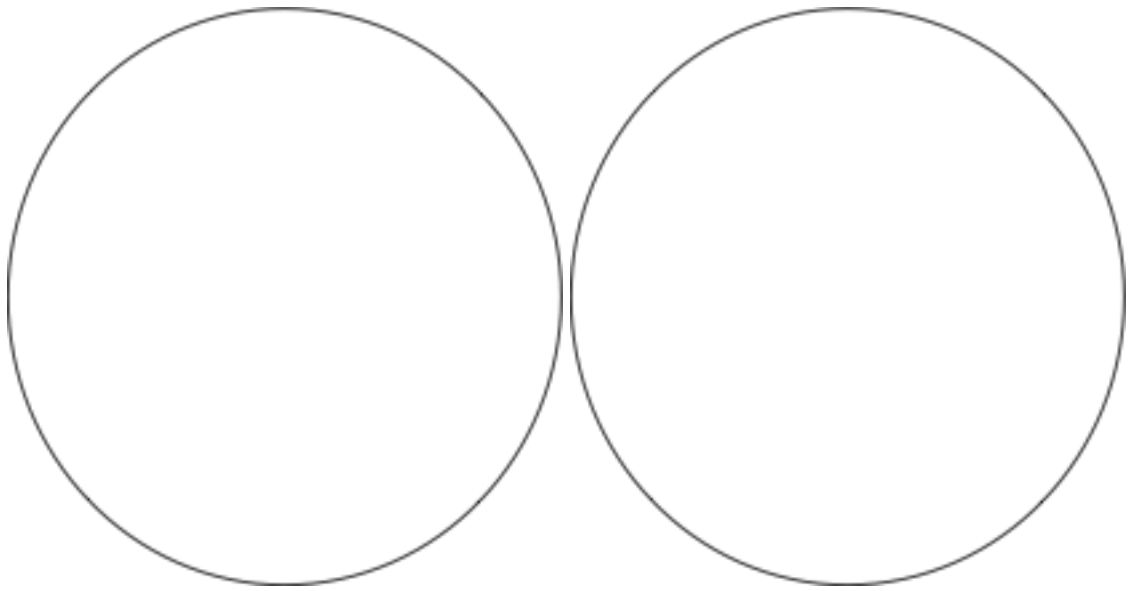
**Don't forget to clean up!!**

**What you need for your write up (on separate piece of paper):**

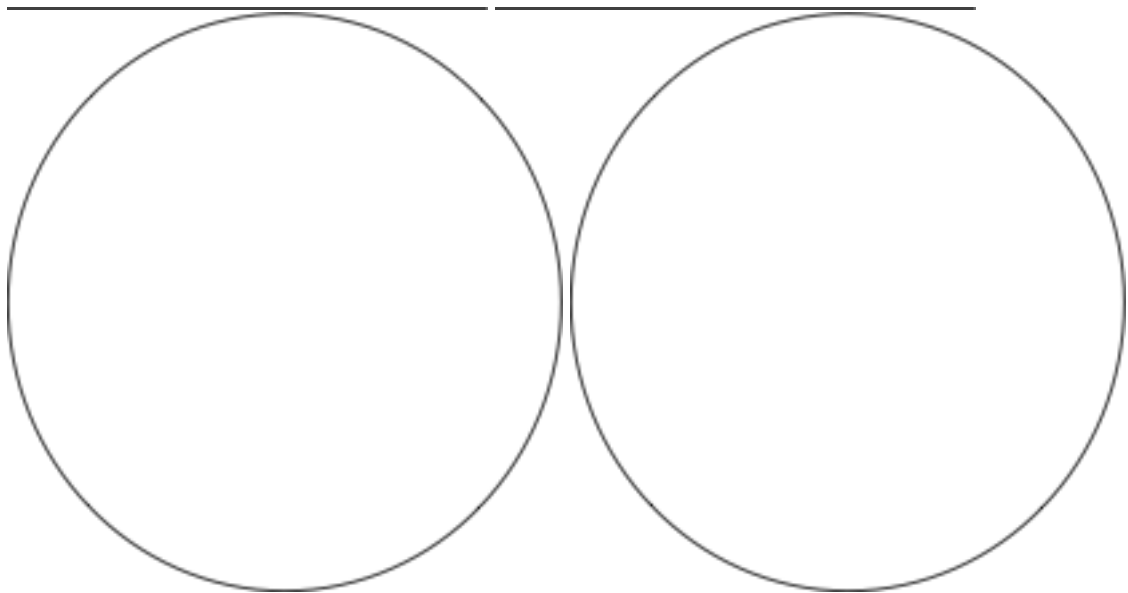
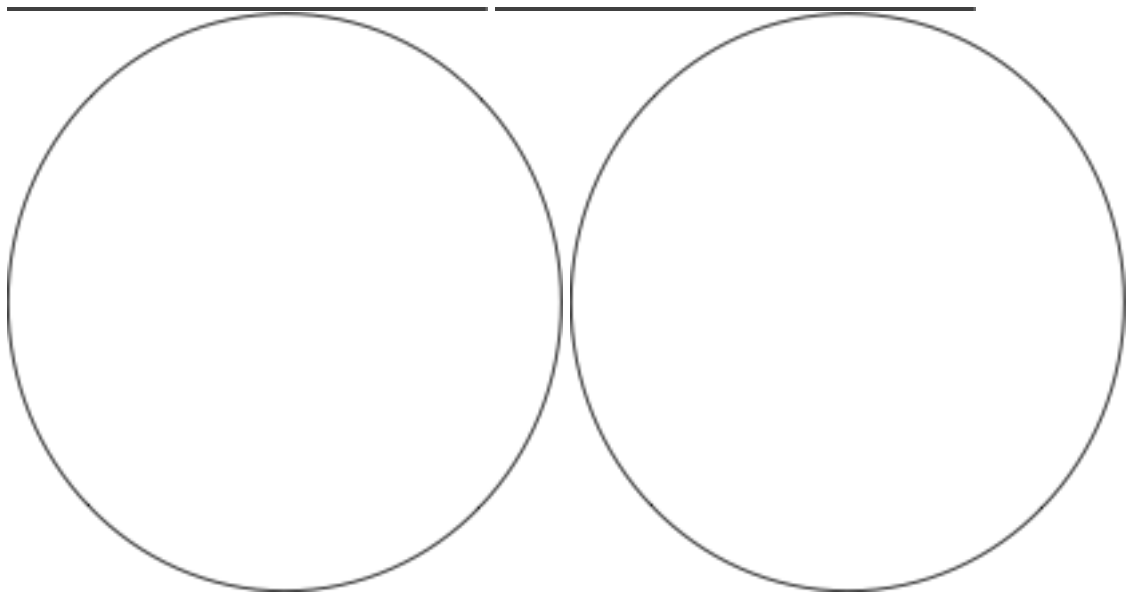
- 1. Total of 6 circle sketches-3 for onion, 3 for cheek (3 points)– Make sure to note what magnification you are on under your drawing. See template below.**
- 2. Copy and complete the chart (3 points)- see chart below**
- 3. 4 conclusion questions (4 points)- see questions below**

**Complete the following chart: The Cell organelle found in plant, animal, or both. (Place an x in the appropriate box)**

<b>Organelle</b>	<b>Plant</b>	<b>Animal</b>	<b>Function</b>
<b>Nucleus</b>			
<b>Cell Wall</b>			
<b>Cytoplasm</b>			
<b>Plasma Membrane</b>			



4.



## **Conclusion Questions**

1. What type of cell did the cheek cell represent? What about the onion cell?
2. What were the shapes of the two different types of cells?
3. Why did we have to stain the cells?
4. Is the cheek cell a eukaryote or a prokaryote? What about the onion cell? How do you know?