Name:

Observing Live Cells Lab

NOTE: Clean and reuse materials between parts of this lab. Upon completion of entire lab, clean your materials, throw away unused onion pieces, and return supplies to the supply table.

Part A: Observing Cheek Cells

Materials needed:

Microscope, glass slide, cover slip, methylene blue stain & toothpick

Procedure:

1. Gently scrape the inside of your cheek with the flat side of a toothpick. Scrape lightly.

2. Stir and wipe the end of the toothpick on the slide and throw the toothpick away.

3. Put a drop of methylene blue on the specimen on the slide. Caution: methylene blue will stain clothes and skin.

4. Place a cover slip onto the slide

5. Use the low power objective to locate the cells. Cells should be visible, but they will be small and look like nearly clear purplish blobs. If you are looking at something dark purple, it is probably not a cell

6. Once you think you have located a cell, switch to high power and refocus. Try decreasing the amount of light to get a better view.

DATA:

Sketch the cell at low and high power. Label the nucleus, cytoplasm, and cell membrane. Draw your cells to scale and record observations.

Drawing of Cheek Cell (low power)	*Observations*

Drawing of Cheek Cell (high power)	*Observations*

Part B: Observing Onion Cells

Materials needed:
Microscope, piece of white onion, dropper, Iodine stain (Lugol's solution), glass slide, cover slip, forceps, dissecting needle, and a scalpel.

Procedure:
1. Use a dropper to place a drop of water in the center of a glass slide.
2. Using forceps peel a small thin piece of tissue from a white onion as demonstrated by teacher. A tissue is thin when you can see light through it.
3. Carefully place the thin onion tissue in the drop of water on the slide. Cover the slide with a cover slip, by using a dissecting needle to *slowly* lower the cover slip over the onion specimen. This method forces out air bubbles. If any air bubbles are left, push them out by gently pressing on the cover slip with the dissecting needle.
4. Place a small drop of iodine (Lugol's) solution at the edge of the cover slip. Touch a piece of paper towel to the opposite edge of the cover slip. The paper towel will absorb the water pulling stain through the onion tissue.
5. Observe the onion cell under both low and high power. Make a drawing of one onion cell, using a pencil, labeling all of its parts as you observe them---assuming you can see something. (At minimum you should observe the nucleus, cell wall, and cytoplasm.) In addition to drawing the cell sample, also record observations below.

DATA:
Sketch the cell at low and high power. Label the nucleus, cytoplasm, and cell membrane. Draw your cells to scale and record observations.

Drawing of White Stained Onion Cell (low power)	*Observations*

Drawing of White Stained Onion Cell (high power)	*Observations*

Homework Assignment:

1. Why do you think iodine and methylene blue solutions were used instead of pure water?
2. Compare & Contrast the onion & cheek cells.
3. Summarize the proper way to prepare a wet mount and use the microscope.