Cell Lab

Names:_____ **Group:**_____

Materials:

Microscope	Iodine stain	Methylene blue
Slides	Elodea leaf	Human cheek cells
Cover Slips	Toothpick (flat edge)	Onion Skin

A: Plant Cells

1. Elodea Cells
   a. Make a wet mount slide of Elodea and look at under low power then high power. In the space provided, sketch an Elodea cell as it appears under high power and label the following structures: **cell wall, chloroplasts, cytoplasm, and the nucleus** (if you can find it).

   b. Are any of the chloroplasts moving? _____

   c. Describe their movement: are they all moving in the same direction? At the same speed?

   _____

2. Onion Cells
   a. Make a wet mount of a piece of onion skin. Look at under low power then high power. Now make a stained slide for a piece of onion skin. Instead of using a drop of water to make a wet mount, use a drop of iodine. Look at it under low power then high power. In the space provided, sketch an onion cell as it appears under high power and label the following structures: **cell wall, cytoplasm, and the nucleus**.

b. Are the nuclei always in the same position? _____

c. Why don't the onion cells have chloroplasts? _____

_____

d. What kind of onion cell would you expect to find chloroplasts? _____

e. What is the benefit of using a stain? _____

_____

B. Animal Cells

3. Human Epithelial (Cheek) Cells

   a. Using the flat end of a toothpick, scrap the inside of your cheek 5-6 times in the same direction. Put a drop of methylene blue on a glass slide and then smear the cheek cells into the stain and cover with a cover slip. Discard toothpick. Look at under low power then high power. In the space provided, sketch a cheek cell as it appears under high power and label the following structures: **nucleus, cytoplasm and cell membrane.**

   b. Do the cheek cells contain chloroplasts? _____

   c. What structure(s) were not present in the cheek cells that were present in the plant cells?

   _____

   d. What structures were present in all three cells? _____

   _____

   e. Why couldn't you see any other organelles in the cells? _____

   _____

   f. What is the function of the nucleus? _____

   _____

   g. What is the function of the cell wall? _____

   _____

   h. Why do plant cells have cell walls but animal cells do not? _____

   _____