Name _____ Period _____Date _____

How Plant and Animal Cells Differ

Background

Although plant and animal cells have many structures in common, they also have basic differences. Plant cells have a rigid cell wall, and if they are green, they also have chloroplasts. Animal cells lack a cell wall and chloroplasts. They also lack the central vacuole common to plant cells.

You will observe and compare animal and plant cells. You will first examine epithelial cells from the inside of your cheek. Epithelium is a type of tissue that covers the surface of many organs and cavities of the body.

You will then examine cells from a leaf of the freshwater plant elodea. Elodea is often used in home fish tanks. The cells of this plan are green because they contain a pigment called chlorophyll. Chlorophyll, which is found in chloroplasts within each cell, enables plants to manufacture their own food.

Objectives:

In this activity you will:

1. Observe human epithelial cells.
2. Observe elodea cells
3. Describe the differences between animal cells and plant cells.

Materials:

Microscopes	Slides	Pipette	Methylene blue
Power cords	Cover slips	Elodea	Lugol's Iodine
USB cords	Toothpicks	Forceps	

Procedure and Observations:

Part 1. Human Epithelial cells

a. **to obtain epithelial cells, gently scrape the inside of your cheek with a clean toothpick as shown in Figure 1.**
b. **Stir the material from the toothpick in a drop of water on a clean slide.**
c. **Add a small drop of methylene blue stain to the slide. Stir again and then throw the toothpick into the trash can.**
d. **Carefully place a cover slip on the slide.**
e. **Examine the slide under low power. When you find some cells that are separate from each other, examine them under high power.**

FIGURE 1