

## Cellular Sundae



**Activity:** Students will create models of plant and animal cells using a variety of sweet treats. The activity will be performed in pairs, but each student will create their own model. Some pairs will create whole animal cells using ziploc bags as the cell membrane that they will fill with cytoplasm (ice cream) and organelles (a variety of candies). The other pairs will create cross-sections of an animal cell. A bowl will act as the cell wall, saran wrap as the cell membrane, ice cream as the cytoplasm, and a variety of candies will serve as organelles. Students will then pair up with the opposite cell type, explain their models, and eat their cellular sundaes!

**Goals:** Creating cellular models will give students a deeper understanding of cell structure. Students will learn the different parts of cells, and will learn the differences between plant and animal cells. Students will learn to communicate scientific information.

**Prior Knowledge Needed:** Students should have been introduced to cells and their various parts

**Appropriate for:** Can be modified for grades 6-12

**Class time:** 1 45-minute class period

### HCPSIII Standards Addressed:

<b>Topic</b>	Cells, Tissues, Organs, and Organ Systems
<b>Benchmark SC.BS.4.1</b>	Describe different cell parts and their functions

### Instructions:

At the beginning of class, lead a discussion about the parts of a cell and the basic differences between plant and animal cells. Inform students of their task. Allow each student to decide if they want to create a plant or an animal cell, and pair students up according to their cell type. Provide the groups with a variety of items to represent their cell parts, but allow the

students to choose which items represent each part. While making their cells, students should be able to justify their choice for each part (item should be similar to the real cell structure), place the appropriate number of each part in their cells (e.g. one nucleus, multiple ribosomes, etc.), and explain what each organelle does in the cell. When students switch partners near the end of class, have them communicate this information to their new partner, and together figure out the differences between plant and animal cells. Finally, let students eat their cellular sundaes!

### **Supplies:**

You can use your imagination to choose the items that will represent the various organelles in your plant and animal cells. The following items are suggestions:

#### Animal Cells

Cell membrane: Ziploc bag

Cytoplasm: ice cream

Nucleus/Nucleolus/Nuclear envelope: Big gumball or jawbreaker

Mitochondria: jelly beans

Ribosomes: small round sprinkles (used for cake decorating)

Vacuoles: small marshmallows

Golgi apparatus: Bubble tape, Fruit-by-the-foot, etc. (any long item that can be folded)

Centrioles: little licorice bits

Endoplasmic reticulum: Bubble tape, Fruit-by-the-foot, etc. (any long item that can be folded)

#### Plant Cells

Cell wall: bowl

Cell membrane: saran wrap

Cytoplasm: ice cream

Nucleus/Nucleolus/Nuclear envelope: Big gumball or jawbreaker

Mitochondria: jelly beans

Chloroplasts: green candies (jellybeans, jujubes, etc.)

Ribosomes: small round sprinkles (for cake decorating)

Vacuole: big marshmallow

Golgi apparatus: Bubble tape, Fruit-by-the-foot, etc. (any long item that can be folded)

Plastids: different color jelly beans

This activity may get messy, so remember to bring plenty of sponges or paper towels to use for clean up. And don't forget the spoons!