

Name: _____ Date: _____



Introduction: Green plants use sunlight to make glucose. To do so, the plant must use carbon dioxide and water in a process called photosynthesis. The glucose made by plants is used by plants and animals as a source of energy. In this lab you will model the process of photosynthesis using marshmallows.



Step 1

Collect the following materials:

- 6 pink marshmallows—these will represent CARBON atoms
- 18 green OR 18 orange marshmallows—these will represent OXYGEN atoms
- 12 yellow marshmallows—these will represent HYDROGEN atoms
- 14 toothpicks
- 1 paper towel

Step 2

At your seats, use the marshmallows and toothpicks to make the reactants in the equation for photosynthesis. Then answer the following questions below. Remember, reactants are always found on the LEFT side of a chemical equation.

1. Circle the reactants in the equation above in RED.
2. How many molecules of carbon dioxide are there? _____
3. How many molecules of water are there? _____
4. Where does the plant get the carbon dioxide from? _____
5. Where does the plant get the water from? _____
6. Where does the plant get the energy needed for photosynthesis to occur? _____

Step 3

Take apart all of the molecules (make sure to separate the marshmallows) and place them in a pile. This process represents the bonds holding together the atoms of carbon dioxide and water being broken and the atoms being rearranged to make the products in the equation above. Use the atoms (marshmallows) to build the products of photosynthesis.

1. Circle the products in the equation above in BLUE.
2. Were there any marshmallows left? Why or why not? _____

3. How many molecules of carbon dioxide are there? _____
4. How many molecules of water are there? _____
5. How many molecules of glucose are formed? _____
6. How many molecules of oxygen are formed? _____
7. What do you think happens to the glucose once it is made? What about the oxygen?