PART ONE: Photosynthesis

Your Task: To find what you need to make a sugar molecule.

1. You will work together within your group to build the sugar molecule.
2. Success is achieved when these molecules are complete and the leftover atoms are released into the air as byproducts.
3. Get CO_2 and H_2O frames and use them one at a time to build your sugar molecule. Make sure to keep track of the amount of molecules you use.
4. You have to get rid of the empty frames. Put them back from where you gathered them.
5. Energy must be collected. Gather energy tokens for the sugar molecule. This represents the energy stored within the sugar molecule.
6. Atoms cannot be wasted. When you take apart a molecule, take all the atoms out of the frame. For example, leave the hydrogen out of the water frame and put the oxygen atoms in. Without the hydrogen, it's not a water molecule.
7. Leftover atoms go from the cell to the air. At the end of the activity, the only thing you should have on your table is the sugar molecule. Any leftover materials need to be taken out of the cell and expelled into the air.
8. Only fetch one thing at a time.
9. You can split up the tasks, but STILL only one thing at a time.

Name _____ Class No. ___

Date _____ Hour ____

Answer the following questions regarding Photosynthesis activity

1. What did the plant cell need to do photosynthesis?

2. Where did it get those things?

3. How many water molecules (H_20) did you need to build the sugar molecule? Where did you get them?

4. How many carbon dioxide ($CO_{2)}$ did you need to build the sugar molecule? Where did you get them?

5. Where did the leftover oxygen molecules go?

6. How many oxygen (O_2) molecules did you have leftover?

7. How many molecules of sugar did you make? What is the formula for sugar? Hint: start with carbon, hydrogen, oxygen

8. Write the chemical equation for photosynthesis. Make sure you remember the energy. (Hint: look at #3,4,6,7 to help)

9. Is the air outside the cell any different than it was before?