PART TWO: Cellular Respiration

Your Task: Find something cells need to break down sugar, so we can use energy from our sugar molecule!

1. You will work together within your group to break apart the sugar molecule, remove the energy tokens, and try to make the CO_2 and H_2O molecules.
2. Success is achieved when these molecules are complete and released into the air as byproducts.
3. Get empty CO_2 and H_2O frames and fill them one at a time. Make sure to keep track of the amount of molecules you fill.
4. You have to get rid of the filled frames. Put them back from where you gathered them.
5. Energy must be collected. Gather energy tokens from the sugar molecule. This represents the energy you gain from the sugar molecule.
6. Atoms cannot be wasted. When you take apart a molecule, take all the atoms out of the frame. For example, you can't put the hydrogen into the water frame and leave the oxygen atoms out. Without the oxygen, it's not a water molecule.
7. Molecules go from the cell into the air. At the end of the activity, the only thing you should have on your table is the energy token. 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 Cellular Respiration activity

1. What did the animal need to do cellular respiration?

2. Where did it get those things?

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

4. Where did the oxygen come from?

5. How many oxygen (O_2) molecules did you need?

6. How many water molecules (H_20) did you need to make to break down the sugar molecule? Where does it go?

7. How many carbon dioxide ($CO_{2)}$ did you need to make to break down the sugar molecule? Where does it go?

8. Write the chemical equation for cellular respiration. Make sure you remember the energy.

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

10. What did the plant cell need to do cellular respiration?

11. Where did it get those things?

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

13. Where did the oxygen come from?

14. How many oxygen (O_2) molecules did you need?

15. How many water molecules (H_20) did you need to make to break down the sugar molecule? Where does it go?

16. How many carbon dioxide ($CO_{2)}$ did you need to make to break down the sugar molecule? Where does it go?

17. Write the chemical equation for cellular respiration. Make sure you remember the energy.

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