



TASTE THE RAINBOW!

Using Skittles to explore the chemistry of photosynthesis and cellular respiration.

Materials: Bag of skittles, paper towel, colored pencils.

Directions: Figure out what color of Skittles you have been given to represent each type of atom. Write the color below so you don't forget. You will have 12- Carbon, 24- Hydrogen, and 36- Oxygen.

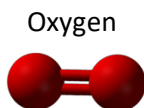
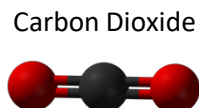
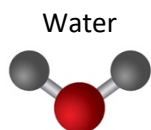
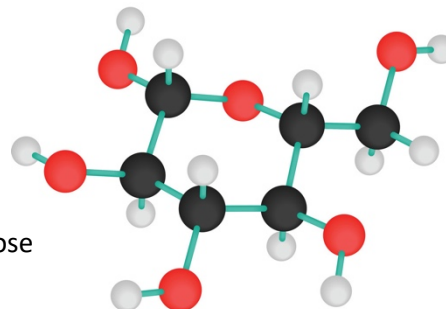
Atom	Carbon (12)	Hydrogen (24)	Oxygen (36)
Color of Skittles			

Complete the chart below. Use the provided equations to write out the **common names** of the molecules that are found in the reactants and products. For example, if NaCl were one of the molecules in the equation, you would write "salt" in the blank.

Photosynthesis: $6\text{H}_2\text{O} + 6\text{CO}_2 \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$ **Cellular Respiration:** $\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 \rightarrow 6\text{H}_2\text{O} + 6\text{CO}_2$

	Reactants (left of the arrow)	Products (right of the arrow)
Photosynthesis		
Respiration		

Model of Photosynthesis: Using the skittles to represent atoms, create a model of the **photosynthesis** equation on a paper towel. Here is an example of what each molecule looks like:



Raise your hand and get your teacher's approval for your model.

Draw a **colored** model of the complete **balanced** equation for **PHOTOSYNTHESIS** in the box below:

1. How many total **carbon** atoms are there in the **reactants** for photosynthesis?
2. How many total **oxygen** atoms are there in the **reactants** for photosynthesis?
3. How many total **hydrogen** atoms are there in the **reactants** for photosynthesis?
4. How many total **carbon** atoms are there in the **products** for photosynthesis?
5. How many total **oxygen** atoms are there in the **products** for photosynthesis?
6. How many total **hydrogen** atoms are there in the **products** for photosynthesis?

Model of CELLULAR RESPIRATION: Using the skittles to represent atoms, create a model of the **cellular respiration** equation on a paper towel.

Raise your hand and get your teacher's approval for your model.

Draw a **colored** model of the complete **balanced** equation for **CELLULAR RESPIRATION** in the box below:



7. How many total **carbon** atoms are there in the **reactants** for cellular respiration?
8. How many total **oxygen** atoms are there in the **reactants** for cellular respiration?
9. How many total **hydrogen** atoms are there in the **reactants** for cellular respiration?
10. How many total **carbon** atoms are there in the **products** for cellular respiration?
11. How many total **oxygen** atoms are there in the **products** for cellular respiration?
12. How many total **hydrogen** atoms are there in the **products** for cellular respiration?
13. Do you notice a pattern between how many atoms are in the reactants and how many are in the products?
14. What does the "Law of Conservation of Mass" have to do with this pattern?