

Chemistry – Unit 6 Chemical Reactions

Rearranging Atoms

Prelab

1. In your own words define the law of conservation. Give an example.
2. What is a chemical formula? Give an example.
3. Why do we use subscripts in formulas? Give an example of a formula with a subscript.
4. What is a coefficient (Hint: what is the function of a coefficient in math?)

Procedure:

1. Use your poker chips to construct the reactant molecules for each chemical change below. The white poker chips must represent hydrogen, you can assign the other two colors to the elements needed in each equation. Then rearrange the atoms to form the product molecules.
2. Draw a diagram of your poker chips before you attempt to balance the equation. Use colored pencils to illustrate the different elements.
3. Determine the number of each reactant molecule you needed in order to make the product(s) with no leftovers (a complete reaction) and record each number as a coefficient in front of its reactant formula.
4. Determine how many product molecules you would get from the complete reaction. Write that number as a coefficient in front of each product formula.
5. Once the number of atoms of each reactant equals the number of atoms of each product, draw a diagrams of your balanced poker chips.

Rearranging Atoms

Data and Observations:



Diagram of poker chips before balancing:

Diagram of poker chips after balancing:



Diagram of poker chips before balancing:

Diagram of poker chips after balancing:



Diagram of poker chips before balancing:

Diagram of poker chips after balancing:



Diagram of poker chips before balancing:

Diagram of poker chips after balancing:



Diagram of poker chips before balancing:

Diagram of poker chips after balancing:



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Diagram of poker chips after balancing



Diagram of poker chips before balancing:

Diagram of poker chips after balancing

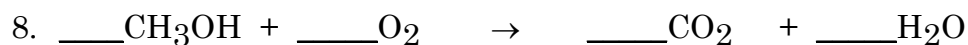


Diagram of poker chips before balancing:

Diagram of poker chips after balancing:

Analysis

1. In each the equation for each reaction, how do the total number of atoms you have before the reaction (reactant atoms) compare to the total number after the reaction (product atoms).

2. At the beginning of the year we observed that mass is conserved in changes. How does your answer to question 1 explain conservation of mass?

