

Name _____

What is the Law of Conservation of Mass, and How Does It Apply to Chemical Reactions?

Multiple Choice Questions

1. What does the Law of Conservation of Mass state?
 - a) Mass can be created and destroyed in chemical reactions.
 - b) The total mass of reactants is always greater than the total mass of products.
 - c) Mass cannot be created or destroyed, only transformed in chemical reactions.
 - d) Mass remains the same only in physical changes, not chemical reactions.

2. In a chemical reaction, what must be equal according to the Law of Conservation of Mass?
 - a) The number of atoms
 - b) The number of products
 - c) The total mass of reactants and products
 - d) The volume of reactants and products

3. When you burn a piece of paper, which of the following is an example of a product?
 - a) Carbon atoms
 - b) Oxygen atoms
 - c) Heat energy
 - d) Water molecules

4. What tool do chemists use to represent chemical reactions?
 - a) Microscopes
 - b) Scales
 - c) Chemical equations
 - d) Thermometers

5. In the chemical equation for the combustion of methane ($\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$), what does the number "2" in front of O_2 represent?
 - a) The number of carbon atoms
 - b) The number of hydrogen atoms
 - c) The number of oxygen molecules
 - d) The number of water molecules

