

Name _____

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

Short Answer Key

1. The Law of Conservation of Mass states that mass cannot be created or destroyed in a chemical reaction; it can only change form. This law is significant in chemistry because it ensures that the total mass of reactants equals the total mass of products, allowing us to track and understand chemical reactions.
2. One example is the combustion of gasoline in a car engine. Gasoline combines with oxygen from the air, and although it transforms into carbon dioxide and water vapor, the total mass of the gasoline, oxygen, and resulting products remains the same.
3. The balanced chemical equation for the reaction between sodium and chlorine to form sodium chloride is: $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$.
4. Balancing chemical equations is essential to show that the same number of each type of atom is present on both sides of the equation, confirming the conservation of mass.
5. The Law of Conservation of Mass applies to recycling materials because it ensures that the total mass of recycled materials remains unchanged, making recycling a sustainable practice.

