

Chemical Reactions and Equations

Chapter 3: Chemical Reactions and Equations · Topic 1

Key Concept

A chemical equation represents a reaction using symbols and formulas, with reactants on the left and products on the right of an arrow.

Balancing equations ensures the number of atoms of each element is equal on both sides, following the law of conservation of mass.

Types of reactions include combination, decomposition, displacement, and double displacement, each with distinct patterns of change.

Understanding chemical reactions and equations is fundamental to predicting products and understanding chemical processes in nature and industry.

Quick Revision Notes

- Chemical equation: reactants $\rightarrow$ products.
- Uses symbols, formulas for the reaction.
- Balancing: equal atoms both sides.
- Follows law of conservation of mass.
- Reaction types: combination, decomposition.
- Also displacement, double displacement.
- Each has distinct change patterns.
- Understanding this predicts products, processes.

Practice Questions

- 1 Balance the equation: $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$.
- 2 Identify the reaction type for a given equation.
- 3 Write a combination reaction equation.
- 4 Write a decomposition reaction equation.
- 5 Discuss why balancing equations matters.
- 6 Explain conservation of mass in your own words.