

Language of Chemistry

Chapter 13: Language of Chemistry · Topic 1

Key Concept

A chemical formula shows the elements and their ratio in a compound, like CO_2 showing one carbon and two oxygen atoms.

A balanced chemical equation has equal numbers of each type of atom on both sides, following the law of conservation of mass.

For example, $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ is balanced, with 4 hydrogen and 2 oxygen atoms on each side.

Understanding chemical language allows precise communication about substances and reactions among scientists worldwide.

Quick Revision Notes

- A chemical formula shows elements and their ratio.
- CO_2 has one carbon and two oxygen atoms.
- A balanced equation has equal atoms on both sides.
- This follows the law of conservation of mass.
- $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ is balanced.
- It has 4 hydrogen and 2 oxygen on each side.
- Chemical language enables precise global communication.
- Balancing equations is an essential chemistry skill.

Practice Questions

- 1 Write the formula for water and explain its parts.
- 2 Balance the equation: $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$.
- 3 Discuss why balancing equations matters.
- 4 Research the formula for methane (CH_4).
- 5 Explain the conservation of mass in your own words.
- 6 Practice writing a simple chemical equation.