

Practice and Revision - Measurement of Matter

Chapter 4: Measurement of Matter · Topic 2

Key Concept

The mole is a unit representing 6.022×10^{23} particles (Avogadro's number), whether atoms, molecules, or ions of a substance.

Molar mass is the mass of one mole of a substance in grams, numerically equal to its atomic or molecular mass.

The number of moles can be calculated by dividing the given mass by the molar mass ($n = \text{mass} / \text{molar mass}$).

Understanding mole concept and related calculations is essential for balancing chemical equations and stoichiometric calculations.

Quick Revision Notes

- Mole: 6.022×10^{23} particles (Avogadro's number).
- Molar mass: mass of 1 mole in grams.
- Equals atomic/molecular mass numerically.
- Moles = mass $\div$ molar mass.
- This calculates the number of moles.
- Essential for balancing chemical equations.
- Also for stoichiometric calculations.
- Practice builds calculation skills.

Practice Questions

- 1 Calculate the number of moles in 36g of water.
- 2 Calculate the mass of 3 moles of carbon.
- 3 Discuss the significance of Avogadro's number.
- 4 Solve a mole concept word problem.
- 5 Explain the mole concept in your own words.
- 6 Discuss how moles relate to chemical equations.