

Matter and Its Composition

Chapter 8: Matter and Its Composition · Topic 1

Key Concept

All matter is composed of atoms, the smallest units of an element, which combine to form molecules.

The arrangement and movement of particles differ in solids (tightly packed), liquids (loosely packed), and gases (widely spread).

Particle theory explains why solids hold their shape, liquids flow, and gases expand to fill their container.

Understanding matter's composition helps explain physical properties like density, states of matter, and how substances interact.

Quick Revision Notes

- Matter is made of atoms and molecules.
- Atoms are the smallest units of an element.
- Atoms combine to form molecules.
- Solids have tightly packed particles.
- Liquids have loosely packed particles.
- Gases have widely spread particles.
- Particle theory explains states of matter.
- This explains why solids, liquids and gases behave differently.

Practice Questions

- 1 Draw particle arrangements for solid, liquid, gas.
- 2 Discuss why gases can be compressed easily.
- 3 Explain what an atom is.
- 4 Research the difference between atoms and molecules.
- 5 Discuss why liquids can flow but solids cannot.
- 6 Explain particle theory in your own words.