

Inside the Atom

Chapter 5: Inside the Atom · Topic 1

Key Concept

Protons, positively charged particles, and neutrons, neutral particles, are found in the atom's nucleus (central core).

Electrons, negatively charged particles, orbit the nucleus in shells or energy levels at varying distances from the centre.

The number of protons determines an element's atomic number and identity, while the number of electrons typically equals protons in a neutral atom.

Understanding atomic structure explains how atoms bond with each other and why different elements have different chemical properties.

Quick Revision Notes

- Protons: positive charge, in nucleus.
- Neutrons: neutral charge, in nucleus.
- Electrons: negative charge, orbit nucleus.
- They orbit in shells/energy levels.
- Proton number = atomic number, element identity.
- Electron number = proton number (neutral atom).
- This explains atomic bonding.
- It explains different elements' properties.

Practice Questions

- 1 Draw a simple diagram of an atom.
- 2 Label the proton, neutron, and electron.
- 3 Discuss the charge of each particle.
- 4 Research the atomic number of an element.
- 5 Discuss why atoms are electrically neutral.
- 6 Explain atomic structure in your own words.