

# Periodic Classification of Elements

Chapter 2: Periodic Classification of Elements · Topic 1

## Key Concept

Mendeleev's early periodic table arranged elements by atomic mass, while the modern periodic table arranges them by atomic number, resolving earlier anomalies.

Elements in the same group (vertical column) have similar chemical properties due to having the same number of valence electrons.

Elements in the same period (horizontal row) show gradually changing properties as atomic number increases across the row.

The periodic table helps predict element properties, understand chemical bonding, and organise chemistry knowledge systematically.

## Quick Revision Notes

- Mendeleev: arranged by atomic mass originally.
- Modern table: arranged by atomic number.
- This resolved earlier anomalies.
- Same group (column): similar properties.
- Due to same valence electron count.
- Same period (row): gradually changing properties.
- As atomic number increases.
- Table predicts properties, aids chemistry understanding.

## Practice Questions

- 1 Research Mendeleev's original periodic table.
- 2 Discuss why elements in a group have similar properties.
- 3 Identify a group and period for a given element.
- 4 Discuss how the modern table resolved Mendeleev's issues.
- 5 Research a trend across a period.
- 6 Explain periodic classification in your own words.