

# Elements, Compounds and Mixtures

Chapter 10: Elements, Compounds and Mixtures · Topic 1

---

## Key Concept

Elements, like oxygen or gold, are pure substances that cannot be broken down into simpler substances by chemical means.

Compounds, like water ( $\text{H}_2\text{O}$ ) or salt ( $\text{NaCl}$ ), form when two or more elements combine chemically in fixed proportions.

Mixtures, like air or salad, combine substances physically without chemical bonding, so components keep their individual properties.

Mixtures can be separated by physical methods like filtration or evaporation, while compounds require chemical reactions to separate.

## Quick Revision Notes

- Elements are pure substances of one atom type.
- Examples: oxygen, gold.
- Compounds combine elements chemically.
- Examples: water ( $\text{H}_2\text{O}$ ), salt ( $\text{NaCl}$ ).
- Mixtures combine substances physically.
- Examples: air, salad.
- Mixtures keep individual component properties.
- Mixtures separate physically; compounds need chemical reactions.

## Practice Questions

- 1 Give an example each of an element, compound and mixture.
- 2 Discuss why water is a compound.
- 3 Discuss why air is a mixture.
- 4 Explain how you'd separate a mixture of sand and salt.
- 5 Research another example of a compound.
- 6 Create a chart classifying elements, compounds and mixtures.