



Year 8 Chemistry

STUDENT OUTLINE

States of Matter

The properties of the different states of matter can be explained in terms of the motion and arrangement of particles ([ACSSU151](#))

- Explain why a model for the structure of matter is needed
- Recall the three states of matter are solids, liquids and gases.
- Describe the physical properties of each state of matter.
- Explain differences between solids, liquids and gases using the kinetic theory.
- Recall that matter in one state can be changed into any other state.
- Explain changes of state in terms of the kinetic theory.
- Use the particle model to explain observed phenomena linking the energy of particles to temperature changes
- Describe density in terms of matter and space
- Explain density in terms of the kinetic theory
- Use the formula $d = m/v$ to solve simple problems

Physical and Chemical Changes

Chemical change involves substances reacting to form new substances ([ACSSU225](#))

- Describe and give examples to illustrate physical change.
- Describe and give examples to illustrate a chemical change.
- Identify evidence that a chemical change has taken place
- Describe simple reactions such as combining elements to make a compound e.g. H_2O , MgO
- Identify the differences between chemical and physical change.
- Identify the physical and chemical properties of some common substances.
- Recognise that the chemical properties of a substance, for example its flammability and ability to corrode, will affect its use

Elements, Compounds and Mixtures

Differences between elements, compounds and mixtures can be described at a particle level ([ACSSU152](#))

- Define the term element.
- State that all matter is made up of elements or combinations of elements.
- Recognise that elements and simple compounds can be represented by symbols and formulas
- Recall the symbols of a range of common elements *see attached list
- Locate elements on the periodic table
- Recall that substances consist of either a single kind of atom (element) or a number of different kinds of atoms (compounds).
- Describe the arrangement of particles in elements and compounds
- Distinguish between compounds and mixtures.

Separation techniques (Year 7 Revision – if time)

Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques [\(ACSSU113\)](#)

- Recognise the differences between pure substances and mixtures and identify examples of each
- Identify the solvent and solute in solutions
- Describe and explain a range of physical separation techniques such as filtration, decantation, evaporation, crystallisation, chromatography and distillation
- Describe and compare separation methods used in the home e.g. coffee filters, colander, spin-cycle.