

Triple Chemistry KS4 overview

What is my learning
journey for GCSE
Chemistry?

GCSE Exams

Applications
Understanding about the elements that make up the world around us, how we can study and separate each of these elements and compounds.
Looking at the history behind different scientific theories and understanding how these change over time.
Topics look at how we can best look after the world around us and live more sustainably.
Understand the importance of science to a wide variety of careers.

Revision tasks may include (but is not limited to):

- ★ Past paper practice
- ★ Exam question analysis
- ★ Knowledge organisers & knowledge retrievers
- ★ Mock papers

Assessment & exams

- End of unit tests
 - Exam practice for each unit
 - Required practical activities in lesson
 - 2 x 1hr 45 min exams
- Note: there is no coursework element*

Content – Crude oil, hydrocarbons, homologous series, polymers
Bigger Picture Focus – To link the structure of different hydrocarbon molecules and their homologous series to their uses and how these apply to the real world.

Content – Recycling, water, reducing use of resources, finite and renewable resources, materials, the Haber process, fertilisers
Bigger Picture Focus – To understand how we can use our knowledge of chemistry to determine our overall effect on the planet, and how chemistry can be used to overcome problems such as supplying food to an increasing population

C6 Rates of reaction

Content – Effect of different factors on rate of reaction, reversible reactions
Bigger Picture Focus – To understand how we can manipulate chemical reactions to our advantage

C7 Organic chemistry

Content – Chromatography, gas tests, pure substances and mixtures, ion tests, instrumental methods
Bigger Picture Focus – To show how chemistry is used in the real world to identify substances by their characteristics

C8 Chemical analysis

Content – Reactions of metals, acids, alkalis, salts, electrolysis
Bigger Picture Focus – To examine the different types of chemical reaction and the ways that humans have used these to extract different metals

C10 Using resources

Independent learning

Tasks may include:

- Consolidation work
- Educake quizzes
- 6 mark exam questions
- Past paper practice
- Interleaved tasks

Home Learning

Year 11

C5 Energy changes

Content – Endothermic and exothermic reactions, reaction profiles, fuel cells and batteries.
Bigger Picture Focus – To understand the uses of different types of chemical reaction in everyday life and how chemistry can drive innovation.

C3 Quantitative chemistry

Content – Calculating formula mass & concentration, conservation of mass, balancing equations, titrations
Bigger Picture Focus – To understand how calculations are used in reactions and how this applies to industry.

C4 Chemical changes

Content – Three states of matter, types of bonding, metals and alloys, structures of carbon, nanoscience.
Bigger Picture Focus – To link understanding of different types of binding with the way that molecules behave, the uses of different compounds and how this is related to the molecular structure

C2 Structure & bonding

Year 10

C1 Atomic structure

This unit covers some of the key skills that you will use in Science:

- The maths skills that are used in science
- How to draw and analyse graphs
- Identifying variables
- How to carry out an investigation
- How to evaluate your work

Content – Periodic table, element, compounds, atomic structure, groups of the periodic table.
Bigger Picture Focus – To understand how theories and ideas can change with new evidence, and how evidence may be collected

C9 Atmosphere

Content – Evolution of the atmosphere, atmospheric pollution, the modern atmosphere, human effects.
Bigger Picture Focus – To understand how the atmosphere is continually changing, and the impacts of human activities on it.

Enquiry skills

Year 9