



## Year 10 Separate Science (Chemistry - AQA)

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	<b>C4a: Chemical changes</b> Reactivity of metals. Neutralisation. Soluble salts. Titrations	<b>C4b: Chemical changes</b> Extracting metals. The process of electrolysis.	<b>C5: Energy changes</b> Energy profile diagrams. <i>Calculating bond energies.</i> <i>Cells and batteries. Fuel cells.</i>	<b>C6a. The rate and extent of chemical change</b> Factors affecting rate of reaction. Collision theory. Calculating rates of reaction. Catalysts	<b>C6b. The rate and extent of chemical change</b> Reversible reactions. Factors affecting equilibrium. The Haber process and NPK fertilisers.	<b>C7: Organic chemistry</b> Hydrocarbons. Alkanes and alkenes. Fractional distillation. Cracking. Alcohols. Carboxylic acids. Polymers.
Assessment	End of unit assessment relating to knowledge and skills for C4a.	End of unit assessment relating to knowledge and skills for C4b.	End of unit assessment relating to knowledge and skills for C5.	End of unit assessment relating to knowledge and skills for C6a.	End of unit assessment relating to knowledge and skills for C6b.	End of unit assessment relating to knowledge and skills for C7.  Paper 1 PPE.

Building on Prior Learning	Pupils will have knowledge of the fundamental ideas of chemistry such as; atomic structure, bonding and quantitative chemistry. Working scientifically skills relating to methodology, variables, and apparatus and collecting data. Learning components at the start of lessons remind students of prior learning and point out links to previous topics
Links with other subjects	Maths – introduction of basic mathematical functions and skills necessary for quantitative chemistry and equations. English - reading, writing and communication. MFL support with the development of learning an additional language for scientific literacy. Physics- consolidate knowledge of atomic structure and ions. Biology - consolidate knowledge of DNA and amino acid structures. Biology and Physics - consolidate working scientific skills and scientific literacy.
Extracurricular opportunities	Option to attend the GCSE Science Live lectures. Developing STEM ambassador visits relating to science careers and applications of science.
A successful learner in this subject will demonstrate	Demonstrate critical thinking relating to the topics taught which can be demonstrated through recall and extended written work. Resilience in handling more complex processes and concepts. They will have the ability to take care of their emerging learning needs. Secure prior knowledge and links to new information. Greater scientific literacy.
Impact on personal development	Science will help students to become logical thinkers and problem solvers with a better understanding of the world around them. Demonstrating resilience and the ability to consider moral and ethical implications of scientific developments.



Ways to support student learning in this subject

- Encourage the completion of homework
- Encourage discussions of science issues that arise in the news
- Discuss science lessons and their progress
- Encourage a positive attitude towards science
- Periodic Table and personalised learning checklists (PLC)
- Encourage students to use Seneca Learning (<https://www.senecalearning.com/>) to consolidate knowledge and build on recall skills.
- CGP science revision guides and workbooks are available to purchase throughout the year on parent pay.
- Practice units, unit conversions, standard form and rearranging equations and encourage the use of maths skills