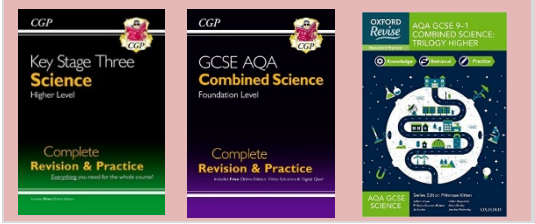
The English Martyrs Catholic School and Sixth Form College

Chemistry Year 9	Module 1	Module 2	Module 3
Topic Theme and Intent	Students learn about **atoms** – the smallest identifiable unit of an element. This topic is studied so that students can understand and appreciate what all **materials** in the universe are made from.	Students learn about **separation** – the methods by which chemical mixtures can be separated to allow the individual components to be used and identified.	Students learn about **atomic structure.** This topic is studied so that students can understand the behaviour of atoms and predict the reactions of elements. It is also fundamental to understanding why chemical reactions take place in the world around us.
Knowledge	• Sub atomic particles • Elements and isotopes • Compounds • Mixtures	• Distillation • Chromatography • Crystallisation • Filtration	• History of the atom • Electronic Structure • Ions • Electronic structure
Skills	Students will learn to balance equations to represent the conservation of mass in chemical reactions.	Students investigate the soluble chemicals in a mixture and analyse chromatograms using R_f calculations.	Students link the patterns of electronic structure to the patterns found on the periodic table.
Literacy Links	**Reading –** Students will read about the nature of atoms. **Writing –** Students start to communicate scientific ideas and concepts through writing. **Oracy –** Students start to use scientific vocabulary in discussion and question and answering.	**Reading –** Students will read about the uses of separation in real life contexts. **Writing –** Students practise communicating scientific ideas and concepts through writing. **Oracy –** Students practise the use scientific vocabulary in discussion and question and answering.	**Reading –** Students will read about the History of experiments to discover more about atoms. **Writing –** Students will communicate scientific ideas and concepts through writing. **Oracy –** Students use scientific vocabulary in discussion and question and answering.
Essential Vocabulary	Atom, proton, neutron, electron, isotope, compound, mixture	Distillation, chromatogram, R_f value, crystallisation, boiling point.	Electron, shell, energy level, alpha particle scattering, nucleus, ion

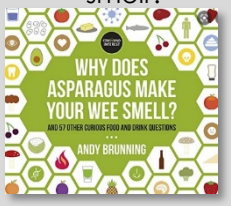
Disciplinary Reading

CGP Books – KS3 Science & GCSE Combined Science, & Oxford Revise.

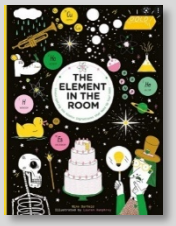


Reading for Pleasure

A. Brunning - Why does Asparagus make your wee smell?



M. Barfield and L. Humphrey - The Element in the room



H. Aldersey-Williams - Periodic Tales: The curious lives of the Elements