

Year 12 Chemistry– Outline Programme of Study

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Big ideas/ topics	Module 3 Section 2 Physical Chemistry, Enthalpy Module 2 Section 2 Atoms and reactions	Module 3 Section 2 Physical Chemistry, Rates and Equilibria Module 2 Amount of substance	Module 4 Organic Chemistry Basic Concepts and Hydrocarbons Module 3 Periodic table and energy	Module 4 Organic Chemistry Basic Concepts and Hydrocarbons	Module 4 Organic Chemistry Alcohols and Haloalkanes	Module 5 Rates Module 6
Key Knowledge	Enthalpy changes • Reaction rates and equilibrium (qualitative) Bonding and properties of different types of bonding Structure and the atom s, p, d and f orbitals	Measuring rates of reactions. Describing, explaining and applying the Boltzmann Distribution. Why catalysts increase the rate of reaction. The equilibrium constant and calculations. Compromise conditions for rate and equilibrium Titrations Amount of substance calculations	The periodic table and periodicity • Group 2 and the halogens • Qualitative analysis – testing for sulfate, halides, carbonates and ammonium ion Basic concepts • Hydrocarbons	Basic concepts • Hydrocarbons Analytical techniques Interpretation of infra red and mass spectroscopy spectrums	<ul style="list-style-type: none"> Alcohols and haloalkanes Organic synthesis Revision and preparation for Year 12 exams.	Monitoring the rate of a reaction. The rate equation, rate constant and orders of reactions. Practical work, measuring the rate of reaction, use of Excel spreadsheet to perform calculations with results and plot graphs. Introduction to Benzene as part of year 13 course

Further information and reading list

- OCR A H432
- Allery Chemistry video tutorials <https://www.youtube.com/playlist?list=PLX4e2DxFRGQK2hBRrrpaEdnPqMj21xeD>
- Exam papers and mark schemes organised into topics <https://studymind.co.uk/resource/ocr-a-level-chemistry/>
- Recommended student textbook https://www.amazon.co.uk/Level-Chemistry-OCR-Student-Book/dp/0198351976/ref=sr_1_2?crid=3FK63AIMHO7RZ&keywords=OCR+A+Chemistry+textbook&qid=1678997712&srefix=ocr+&pf_rd_p=1678997712&pf_rd_r=1678997712

Ways to support and extend student learning in this subject

- All lesson resources available on google classroom
- <https://www.ocr.org.uk/qualifications/as-and-a-level/chemistry-a-h032-h432-from-2015/> Specification and past papers can be found here
- Oxford University Chemistry open days