

Saffron Walden County High School Curriculum

CURRICULUM SUMMARY



SAFFRON WALDEN
COUNTY HIGH SCHOOL

Year 12		AUTUMN TERM		SPRING TERM		SUMMER TERM	
		TERM 1A	TERM 1B	TERM 2A	TERM 2B	TERM 3A	TERM 3B
Chemistry	KNOWLEDGE DOMAIN TEACHER 1	<p>Maths skills – decimal places and significant figures, standard form, algebra, units and conversions</p> <p>Amount of substance - moles, ideal gas law, equations, reacting mass, yield, atom economy</p>	Amount of substance - concentration, titrations	Kinetics - rates of reaction, catalysis, disappearing cross	Energetics - enthalpy, bond enthalpies, calorimetry, Hess's Law	Equilibria – reversible reactions, industrial processes, K _c	Revision and CPAC skills
	KNOWLEDGE DOMAIN TEACHER 2	Atomic structure – atomic models, relative mass, mass spectrometry, electronic structure, ionisation energies	Bonding – ionic bonding, covalent bonding, polarised bonds, metallic bonding	<p>Bonding ctd - shapes of molecules, intermolecular forces</p> <p>Redox – oxidation numbers, half equations, balancing redox equations</p>	Halogens – properties, halide ions, testing for ions	<p>Group 2 – alkaline earth metals, compounds, testing ions</p> <p>Periodicity – blocks, trends across period 3</p>	
	KNOWLEDGE DOMAIN TEACHER 3	<p>Intro to organic – functional groups, nomenclature, mechanisms, isomers</p> <p>Alkanes – petroleum, fuels, free radical reactions</p>	<p>Halogenoalkanes – nucleophilic substitution and elimination</p> <p>Alkenes - reactions</p>	<p>Polymers</p> <p>Alcohols – dehydration, ethanol production, oxidising alcohols</p>	<p>Alcohols ctd</p> <p>Organic distillation practical</p>	<p>Spectroscopy – mass spectrometry and IR</p> <p>Organic tests</p>	

SKILLS
DEVELOPED
THROUGH
THE
KNOWLEDGE
AND
ENQUIRIES
TAUGHT
THIS HALF
TERM

Maths skills are developed throughout the Chemistry Year 1 course, being particularly important in Physical Chemistry (amount of substance, equilibria and energetics topics), together with data handling (kinetics, energetics, amount of substance).

<https://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405/mathematical-requirements-and-exemplifications>

Practical skills are also revisited and refined. They are assessed as part of CPAC required practicals, and also in the exams. Students must keep a formal and chronological notebook of the practical work undertaken.

<https://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405/as-practical-assessment>

The stated assessment objectives are:

AO1: Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.

AO2: Apply knowledge and understanding of scientific ideas, processes, techniques and procedures:

- In a theoretical context
- In a practical context
- When handling qualitative data
- When handling quantitative data

AO3: Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to:

- Make judgements and reach conclusions
- Develop and refine practical design and procedures.

Students will also be given opportunities to refine these skills:

- Time management and organisation
- Written communication and correct application of terminology
- Group work
- Verbal articulation of ideas
- Research