Curriculum Overview: *AS chemistry*

Year 12 Spring Term 1			
What are we learning?	What knowledge, understanding and skills will we gain?	What does excellence look like?	What additional resources are available?
3.3.3 Halogenoalkanes **3.3.4.3 Addition polymers** **3.3.5.1 Alcohol production**	• Draw and name halogenoalkanes • write equations and mechanisms for reactions of halogenoalkanes with OH^{--}, CN^- and NH_3 • explain the relative rate of reaction of halogenoalkanes • write equations and mechanisms for elimination reaction of halogenoalkanes using OH^- • understand the concurrent nature of elimination and substitution when halogenoalkanes react with OH^- • understand the different roles of the OH^- in these reactions.	• Write equations and mechanisms for reactions of halogenoalkanes with OH^-, both for elimination and substitution reactions • Students investigate the presence and role of ozone in the • Write equations and mechanisms for the formation of chlorine free radicals and the destruction of ozone • Understand why suitable replacements for CFCs do not destroy ozone. • Students investigate the role of chemists in the introduction of legislation to ban the use of CFCs and in finding replacements.	https://www.aqa.org.uk/subjects/science/as-and-a-level https:www.physicsandmathstutor.com http://www.senecalearning.com login http://www.docbrown.info http://www.chemsheets.co.uk/
Year 12 Spring Term 2			
What are we learning?	What knowledge, understanding and skills will we gain?	What does excellence look like?	What additional resources are available?
3.2.3.1 Trends in properties	• Describe and explain the trends down Group 7 in	• Students plot data on graphs for electronegativity and	https://www.aqa.org.uk/subjects/science/as-and-a-level

3.2.3.2 Uses of chlorine and chlorate **3.3.1.1 Nomenclature** **3.3.1.2 Reaction mechanisms**	electronegativity and boiling points • describe and explain the trends in oxidising power of the halogens, illustrated by displacement reactions of halide ions • describe and explain the trends in reducing power of the halide ions, illustrated by reactions of concentrated sulfuric acid with solid sodium halides • describe and explain how halide ions can be identified using acidified silver nitrate and the solubility of silver halides in ammonia • explain why the silver nitrate used is acidified.	boiling point and explain those trends • Plot two variables from experimental or other data). • Students carry out test-tube reactions of solutions of the halogen (Cl_2, Br_2, I_2) with solutions containing their halide ions (eg KCl, KBr, KI) • Safely and carefully handle solids and liquids, including corrosive, irritant, flammable and toxic substances; • Students record observations from reactions of NaCl, NaBr and NaI with concentrated sulfuric acid • Students could carry out tests for halide ions using acidified silver nitrate, including the use of • ammonia to distinguish the silver halides formed (AO2 - Demonstrate knowledge and understanding; AT d - Use laboratory apparatus for qualitative tests for ions; • Present results of test-tube reactions in appropriate ways).	https:www.physicsandmathstutor.com http://www.senecalearning.com login http://www.docbrown.info http://www.chemsheets.co.uk/