400 YEARS OF EXCELLENCE

SUBJECT: Curriculum Overview

Year 11 (some topics/detail will be omitted for those studying trilogy)

Term	Topic studied	What will I learn?	How will I be assessed?
Year 11 Autumn	*Chemical analysis*	*What a pure substance is, how you can tell if a substance is pure using melting and boiling points. Know what a formulation is.* *How chromatography can be used to separate mixtures and help to identify substances.* *Know the tests for hydrogen, oxygen, carbon dioxide and chlorine.* *Flame tests* *Reaction with sodium hydroxide can be used to identify some metal ions* *Test for metal carbonates, halides and sulfates.* *Instrumental methods are accurate, sensitive and rapid. How flame emission spectroscopy (an instrument method which is used to analyse metal ions in solution), is done and how it tells you the ions present in solution and their concentration.*	*End of topic test*
Year 11 Spring	*Use of resources*	*Using the Earth's finite and natural resources. How chemistry plays a vital part in improving agriculture and industrial processes and provide new products* *Definition of sustainable development. What potable water is and the processes of how it is produced.How waste water is treated.* *What an ore is, the use of phytomining and bioleaching. Use of displacement, and electrolysis to extract copper.* *What a life cycle assessment is, how they are produced and the limitations of using selective or abbreviated ones. Ways of reducing the use of resources by reduced use, reuse and recycling.* *Corrosion and its prevention. Alloys as useful materials, including the use of carats to express the proportion of gold in an alloy.* *Properties, structure linked to uses of ceramic, polymers and composites.* *The Haber process including where the reactants come from, the catalyst and the conditions used. How the ammonia is removed. Be able to apply the principles of dynamic equilibria to this important process.* *The production and use of NPK (nitrogen, phosphorous, potassium) fertilisers.*	*End of topic test*
Year 11 Summer	*Revision*	Revision of topics from the last 3 years	Past paper 2 Past paper questions