

Chemistry						
	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Year 10	<u>Chemical calculations</u> 1. Relative masses and moles 2. Equations and calculations 3. From masses to balanced equations. 4. The yield of a chemical reaction. 5. Atom economy 6. Concentrations 7. Titrations 8. Titration calculations 9. Volumes of gases	<u>Chemical changes</u> 1. Reactivity series 2. Displacement reactions 3. Extracting metals 4. Salts from metals 5. Salts from insoluble bases 6. Making more salts 7. Neutralisation and the pH scale 8. Strong and weak acids	<u>Electrolysis</u> 1. Introduction 2. Changes at the electrodes 3. Extraction of aluminium 4. Electrolysis of aqueous solutions	<u>Energy changes</u> 1. Exothermic and endothermic reactions. 2. Using energy transfers from reactions 3. Reaction profiles 4. Bond energy calculations 5. Chemical cells and batteries 6. Fuel cells	<u>Rates and equilibrium</u> 1. Rate of reaction 2. Collision theory and surface area. 3. The effect of temperature 4. The effect of concentration and pressure 5. The effect of catalysts Note exams here could stretch time lines a little.	6. reversible reactions 7. Energy and reversible reactions 8. Dynamic equilibrium - Le Chatelier’s Principle. 9. Altering conditions Note: some days out / trips occur in this term.
	Assessment <ul style="list-style-type: none"> MCQs in the middle of each term. Formal written assessment using past exam questions covering all content covered since the beginning of Year 9 at the end of Term 1. 		Assessment <ul style="list-style-type: none"> MCQs in the middle of each term. Formal written assessment using past exam questions covering all content covered since the beginning of Year 9 at the end of Term 3. 		Assessment <ul style="list-style-type: none"> MCQs in the middle of each term. Formal written assessment using past exam questions covering all content covered since the beginning of Year 9 at end of April/beginning of May. 	

Key Stage Four Curriculum – Carre’s Grammar School

	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Year 11	<p><u>Crude oil and fuels</u></p> <ol style="list-style-type: none"> Hydrocarbons Fractional distillation of crude oil Burning hydrocarbon fuels Cracking hydrocarbons <p><u>Organic reactions</u></p> <ol style="list-style-type: none"> Reactions of the alkenes Structures of alcohols, carboxylic acids and esters Reactions and uses of alcohols, 	<ol style="list-style-type: none"> Carboxylic acids and esters <p><u>Polymers</u></p> <ol style="list-style-type: none"> Addition polymerisation Condensation polymerisation Natural polymers DNA <p><u>Chemical analysis</u></p> <ol style="list-style-type: none"> Pure substances and mixtures Analysing chromatograms Testing for gases Tests for positive ions Tests for negative ions Instrumental analysis 	<p><u>The composition of the Earth’s atmosphere.</u></p> <ol style="list-style-type: none"> The proportion of gases in the atmosphere Earth’s early atmosphere How oxygen increased, and carbon dioxide decreased. Greenhouse gases and the impact of man of these gases. Global climate change. Carbon footprint and its reduction Atmospheric pollutants from using fuels The properties and effects of atmospheric pollutants. 	<p><u>Using our resources</u></p> <ol style="list-style-type: none"> Using the earth’s resources + sustainable development Potable water Water treatment Extraction of metals by alternative methods Life cycle assessment Reducing the use of resources Corrosion and prevention Alloys and useful materials Ceramics, polymers and composites. Haber process Production and use of NPK fertilisers 	<p>Structured revision time – use this time review the more “awkward” topics, review / reteach:</p> <p><u>Required practicals</u></p> <p>Structure and bonding</p> <p>Electrolysis</p> <p>If time allows:</p> <p>Quantitative</p>	<p>Study leave and exams</p>
	<p>Assessment</p> <ul style="list-style-type: none"> MCQs in the middle of each term. Formal written assessment covering all content covered since the beginning of Year 9 at the end of Term 1. 		<p>Assessment</p> <ul style="list-style-type: none"> Multiple choice question quizzes (MCQs) in the middle of each term. Mock exam paper mid-January. 		<p>Assessment</p> <p>Mock exam end of April.</p>	