

## Chemistry

	Year 10 Separate	Year 10 Combined	Year 11 Separate	Year 11 Combined
A u t u m n 1	<p><b>Structure and bonding</b> Recap of Ionic, covalent and metallic bonding Giant ionic structures Structure of simple molecules Giant covalent structures</p>	<p><b>Structure and bonding</b> Recap of Ionic, covalent and metallic bonding Giant ionic structures Structure of simple molecules</p>	<p><b>Rates and Equilibria</b> Rate of reaction Collision theory and surface area The effect of temperature The effect of concentration The effect of catalysts Reversible reactions Energy and reversible reactions Dynamic equilibrium Altering conditions</p> <p><b>Crude oils and Fuels</b> Hydrocarbons Fractional distillation of oil</p>	<p><b>Rates and Equilibria</b> Rate of reaction Collision theory and surface area The effect of temperature The effect of concentration The effect of catalysts Reversible reactions Energy and reversible reactions Dynamic equilibrium Altering conditions</p>
A u t u m n 2	<p><b>Structure and bonding</b> Fullerenes and graphene Giant metallic structures Nanoparticles and their application</p> <p><b>Chemical calculations</b> Relative masses and moles Equations and calculations Percentage yield Atom economy</p>	<p><b>Structure and bonding</b> Giant covalent structures Fullerenes and graphene Giant metallic structures</p> <p><b>Chemical calculations</b> Relative masses and moles Equations and calculations</p>	<p><b>Crude oils and Fuels</b> Burning hydrocarbon fuels Cracking hydrocarbons</p> <p><b>Organic reactions</b> Reactions of alkenes Structures of alcohols, carboxylic acids and esters Reactions and uses of alcohol Carboxylic acids and esters</p> <p><b>Polymers</b> Addition polymerisation Condensation polymerisation Natural polymers DNA</p>	<p><b>Crude oils and Fuels</b> Hydrocarbons Fractional distillation of oil Burning hydrocarbon fuels Cracking hydrocarbons</p>

S p r i n g 1	<p><b>Chemical calculations</b> Expressing concentrations Titrations Gas volumes</p> <p><b>Chemical changes</b> The reactivity series Displacement reactions Extracting metals</p>	<p><b>Chemical calculations</b> Expressing concentrations</p> <p><b>Chemical changes</b> The reactivity series Displacement reactions Extracting metals</p>	<p><b>Chemical Analysis</b> Chemical analysis Analysing chromatograms Testing for gases Testing for positive and negative ions Instrumental analysis</p> <p><b>The Earth's atmosphere</b> History of the atmosphere The evolving atmosphere Greenhouse gases Climate change Atmospheric pollutants</p> <p><b>The Earth's resources</b> Finite and renewable resources Water safe to drink Treating waste water Extracting metals from ores Life cycle assessments</p>	<p><b>Chemical Analysis</b> Chemical analysis Analysing chromatograms</p> <p><b>The Earth's atmosphere</b> History of the atmosphere The evolving atmosphere Greenhouse gases Climate change Atmospheric pollutants</p>
S p r i n g 2	<p><b>Chemical changes</b> Salts from metals, metal oxides, metal carbonates Neutralisation and the pH scales Strong and weak acids</p>	<p><b>Chemical changes</b> Salts from metals, metal oxides, metal carbonates Neutralisation and the pH scales Strong and weak acids</p>	<p><b>Using resources</b> Rusting Useful alloys The properties of polymers Glass, ceramics and composites The Haber process Making fertilisers</p>	<p><b>The Earth's resources</b> Finite and renewable resources Water safe to drink Treating waste water Extracting metals from ores Life cycle assessments</p>
S u m m e r 1	<p><b>Electrolysis</b> Basics of electrolysis Extraction of aluminium Changes at the electrode Electrolysis of aqueous solutions</p>	<p><b>Electrolysis</b> Basics of electrolysis Extraction of aluminium Changes at the electrode Electrolysis of aqueous solutions</p>	<p><b>Revision</b></p>	<p><b>Revision</b></p>

S u m m e r 2	<b>Energy changes</b> Exothermic and endothermic energy changes Reaction profiles Bond energy calculations Chemical cells and batteries Fuel cells	<b>Energy changes</b> Exothermic and endothermic energy changes Reaction profiles Bond energy calculations		
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