

Subject

Year 7

Autumn

Year: 7		Term: Autumn			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	Structure of the Earth	The Earth's structure and layers  Sedimentary rocks and their formation  Igneous and metamorphic rocks and their formation  The rock cycle  Ceramic materials and their uses	KS2 rocks		<a href="#">The Earth Knowledge</a>
	Particle Model	The Particle Model including states of matter  Changes of state, including melting, freezing and boiling  Diffusion  Gas pressure	KS2 states of matter		<a href="#">Matter Knowledge</a>

Subject


Year 7

Spring

Year: 7		Term: Spring			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	Separating Mixtures	Pure substances and mixtures  Solutions and solubility  Filtration, Evaporation, distillation and chromatography	KS2 properties and changes of materials		<a href="#">Chemical Reactions Knowledge</a>
	Acids and Alkalis	Acidic and alkaline substances  Indicators and pH  Strength of acids  Neutralisation and making salts	KS2 properties and changes of materials		<a href="#">Chemical Reactions Knowledge</a>

Subject

Year 7

Summer

Year: 7		Term: Summer			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	Metals & Non-metals	Reactions of metals and non-metals			<a href="#">Chemical Reactions Knowledge</a>
		Reactions of metals with acids, oxygen and water			
		Displacement reactions			

Year 8

Autumn

Year:		Term:			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	Elements	Atoms and compounds			<a href="#">Matter Knowledge</a>
		Chemical			

Subject

		formulae			
		Polymers			
	The Periodic Table	Structure of the Periodic Table  The reactions and elements of Group 1  The reactions and elements of Group 7  The reactions and elements of Group 0			<a href="#">Matter Knowledge</a>

Year 8

Spring

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Chemistry	Types of Reaction	Atoms in chemical reactions  Combustion reactions			<a href="#">Reactions Knowledge</a>

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		Thermal decomposition Conservation of mass			
	Chemical Energy	Exothermic and Endothermic reactions Energy level diagrams Bond energy			<a href="#">Reactions Knowledge</a>

Year 8

Summer

Year:		Term:			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	Climate	Climate change and global warming Carbon cycle			<a href="#">Earth Knowledge</a>
	Earth's Resources	Extracting metals Recycling			<a href="#">Earth Knowledge</a>

Subject

Year 9

Autumn

Year:		Term:			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	C1 Atomic Structure	Atoms, including history and discovery and structure of the atom; ions and isotopes  Chemical Equations  Separating Mixtures, including Fractional distillation and paper chromatography  Electronic structures			<a href="#">C1 Atomic Structure</a>
	C2 The Periodic Table	Development of the Periodic Table, including Newlands and Mendeleev  Relating electronic structure to the structure of the Periodic Table	Activate 1 and 2 (Years 7 and 8)		<a href="#">C2 Periodic Table</a>

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		<p>Group 1 – the alkali metals</p> <p>Group 7 – the halogens</p> <p>Trends in the Periodic Table</p> <p>The transitions metals</p>			
	C3 Structure and Bonding	<p>States of matter</p> <p>Ionic bonding and ionic structures</p>	Activate 1 and 2 (Years 7 and 8)		<a href="#">C3 Structure and Bonding</a>
	C4 Chemical Calculations	<p>Relative masses and moles</p> <p>Balanced equations</p> <p>Yield of a chemical reaction</p> <p>Atom economy</p> <p>Concentrations</p> <p>Titration and calculations</p>		Basic mathematical processes, rearranging equations	<a href="#">C4 Chemical Calculations</a>

Year 9

Spring

Subject

Year:		Term:			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	C3 Chemical Bonding	<p>Covalent bonding, simple molecules and giant covalent structures</p> <p>Metallic bonding and metallic structures</p> <p>Fullerenes and graphene</p> <p>Nanoparticles and their uses</p>			<a href="#">C3 Structure and Bonding</a>
	C5 Chemical Changes	<p>The Reactivity Series</p> <p>Displacement Reactions</p> <p>Extracting metals from ores</p> <p>Salts from metals, insoluble bases</p> <p>Neutralisation and acids and bases</p>	Activate 1 and 2 (Years 7 and 8)		<a href="#">C5 Chemical Changes</a>



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Year 9

Summer

Year:		Term:			
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Chemistry	C6 Electrolysis	Changes that take place at the electrodes (REDOX)  The extraction of aluminium  Electrolysis of aqueous solutions			<a href="#">C6 Electrolysis</a>
	C7 Energy Changes	Exothermic and endothermic reactions  Using energy transfers  Reaction profiles  Bond energy calculations  Cells and batteries  Fuel cells	Activate 1 and 2 (Years 7 and 8)		<a href="#">C7 Energy Changes</a>

Year 10

Subject

Autumn

Year:		Term:			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	C8 Rates of Reaction	Measuring rates  Collision theory  Effect of surface area, temperature, concentration and catalysts on reaction rate  Reversible reactions  Energy and reversible reactions  Dynamic equilibrium and effect of changing conditions			<a href="#">C8 Rates of Reaction</a>
	C9 Crude Oil and Fuels	Hydrocarbons, their structure and uses  Fractional distillation of oil  Cracking hydrocarbons			<a href="#">C9 Crude Oil and Fuels</a>
	C10 Organic Reactions	Reactions of the alkenes  Structure			<a href="#">C10 Organic Reactions &amp; Polymers</a>

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		and reactions of alcohols, carboxylic acids and esters			

Year 10

Spring

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Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	C11 Polymers	Addition polymerisation  Condensation polymerisation  Natural polymers and DNA		DT	<a href="#">C10 Organic Reactions &amp; Polymers</a>
	C12 Chemical Analysis	Differences between ure substances and mixtures  Analysing chromatograms, including RF values  Tests for gases, positive ions and negative ions	Activate 1 and 2 (Years 7 and 8)		<a href="#">C12 Chemical Analysis</a>

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		Instrumental analysis			
	C13 The Earth's Atmosphere	Evolution of the atmosphere  Greenhouse gases and pollutants  Climate change	Activate 1 and 2 (Years 7 and 8)	Geography	<a href="#">C13 The Earth's Atmosphere</a>
	C15 Using Our Resources	Corrosion of metals  Alloys  Properties of polymers  Glass, ceramics and composites  The Haber Process and its economics  Fertilisers		DT Geography	<a href="#">C15 Using Our Resources</a>

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Summer

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Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	C14 The Earth's Resources	Finite and renewable resources  Water and		Geography	<a href="#">C14 The Earth's Resources</a>

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		water treatment			
		Life cycle assessments			
		Extraction of metals			

Year 11

Autumn

Year:		Term:			
Subject	Topic	Key Knowledge	Links to prior learning	Wider curriculum connections	Knowledge booklet / Quizlet
Chemistry	Bespoke Revision				

Year 11

Spring

Year:		Term:			
Subject	Topic	Key	Links to	Wider	Knowledge

Subject

		<b>Knowledge</b>	<b>prior learning</b>	<b>curriculum connections</b>	<b>booklet / Quizlet</b>
Chemistry	Bespoke Revision				

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Summer

<b>Year:</b>		<b>Term:</b>			
<b>Subject</b>	<b>Topic</b>	<b>Key Knowledge</b>	<b>Links to prior learning</b>	<b>Wider curriculum connections</b>	<b>Knowledge booklet / Quizlet</b>
Chemistry	Bespoke Revision				