

# Lower school

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	Unit Title	<ul style="list-style-type: none"> <li>Cells</li> </ul>	<ul style="list-style-type: none"> <li>Atomic structure and the periodic table</li> </ul>	<ul style="list-style-type: none"> <li>Energy</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> </ul>	<ul style="list-style-type: none"> <li>Chemical changes</li> </ul>	<ul style="list-style-type: none"> <li>Electricity</li> </ul>
	Learning focus	<p>Students will be taught the content required for the listed topics and will begin to develop application skills and problem solving.</p> <ul style="list-style-type: none"> <li>Eukaryotes &amp; Prokaryotes; Animal and plant cells</li> <li>Cell specialisation and differentiation</li> <li>Chromosomes, Mitosis and Cell Cycle</li> <li>Stem cells,</li> <li>Diffusion, Osmosis and Active Transport</li> <li>Atoms, element, compounds and mixtures.</li> <li>Scientific models of atoms; Subatomic particles.</li> <li>Electron arrangements and the Periodic Table</li> <li>Development of the Periodic Table</li> <li>Metals and Non-metals</li> <li>Groups of the Periodic table</li> </ul>		<p>Students will be taught the content required for the listed topics and will begin to develop application skills and problem solving.</p> <ul style="list-style-type: none"> <li>Energy Stores and Systems</li> <li>Changes in Energy, Energy changes in systems</li> <li>Specific Heat Capacity</li> <li>Work and Power</li> <li>Energy transfers in systems and Efficiency</li> <li>National and Global Energy resources</li> <li>Organisation hierarchy</li> <li>Human Digestive System and Enzymes</li> <li>The Heart and Circulatory system</li> <li>Coronary Heart Disease</li> </ul>		<p>Students will be taught the content required for the listed topics and will begin to develop application skills and problem solving.</p> <ul style="list-style-type: none"> <li>Reactivity Series of Metals, Reactions of Metals with Oxygen</li> <li>Reactions of metals with water and Acids</li> <li>Displacement reactions</li> <li>Neutralisation and the pH scale</li> <li>Soluble salts</li> <li>Strong and weak acids</li> <li>Circuit symbols, Electrical charge, Series and Parallel Circuits</li> <li>Current and Potential Difference</li> <li>Resistance</li> <li>Direct and Alternating Current, Mains Electricity, Power</li> <li>Energy Transfers in Everyday appliances, National Grid,</li> </ul>	
	Assessments	GCSE questions	Full GCSE exam paper	GCSE questions	Full GCSE exam paper	GCSE questions	Full GCSE exam paper
	Homework	<p>Students will be provided with a list of key words and definitions or equations to learn for each topic. In addition students will be provided with a homework booklet to complete each term or half term. This will include a range of different style questions and quizzes to help revision and preparation for assessments.</p>					
8	Unit Title	<ul style="list-style-type: none"> <li>Bioenergetics</li> </ul>	<ul style="list-style-type: none"> <li>Chemical bonding</li> </ul>	<ul style="list-style-type: none"> <li>Forces</li> </ul>	<ul style="list-style-type: none"> <li>Infection and Response</li> </ul>	<ul style="list-style-type: none"> <li>Quantitative chemistry</li> </ul>	<ul style="list-style-type: none"> <li>Forces and motion</li> </ul>
	Learning focus	<p>Students will be taught the content required for the listed topics and will continue to develop application skills and problem solving with an introduction to the necessary required practical elements for GCSE.</p> <ul style="list-style-type: none"> <li>Photosynthesis and Limiting Factors</li> <li>Uses of Glucose by Plants</li> <li>Aerobic and Anaerobic Respiration</li> <li>Anaerobic respiration in Microorganisms and Plants, Metabolism</li> <li>Ionic Bonding</li> <li>Covalent Bonding, Metallic Bonding</li> <li>States of matter, state symbols, Properties of Ionic Compounds</li> <li>Polymers, Giant Covalent structure</li> <li>Properties of metals and alloys, Metals as conductors</li> <li>Diamond and Graphite, Fullerene and Graphene, Nanoparticles</li> </ul>		<p>Students will be taught the content required for the listed topics and will continue to develop application skills and problem solving with an introduction to the necessary required practical elements for GCSE.</p> <ul style="list-style-type: none"> <li>Scalar and Vector Quantities, Contact and Non-contact Forces, Gravity</li> <li>Resultant Forces</li> <li>Work done and Energy transfer</li> <li>Forces and elasticity and Hooke's Law</li> <li>Moments, levers and gears; Pressure in fluids and Atmospheric pressure</li> <li>Pathogens and Communicable diseases</li> <li>Communicable diseases</li> <li>Human defence systems and Vaccination</li> <li>Antibiotics and Painkillers, Drug development</li> </ul>		<p>Students will be taught the content required for the listed topics and will continue to develop application skills and problem solving with an introduction to the necessary required practical elements for GCSE.</p> <ul style="list-style-type: none"> <li>Conservation of mass and Balancing Equations</li> <li>Relative Formula Mass; Mass Changes when a Reactant or Product is a Gas</li> <li>Moles and Amount of Substance in Equations</li> <li>Concentration of Solutions</li> <li>Distance and Displacement, Speed</li> <li>Velocity, Distance-Time Graphs</li> <li>Acceleration, Newton's laws</li> <li>Stopping, breaking and thinking distance,</li> <li>Momentum, conservation of momentum, change in momentum</li> </ul>	
	Assessments	GCSE questions	Full GCSE exam paper	GCSE questions	Full GCSE exam paper	GCSE questions	Full GCSE exam paper
	Homework	<p>Students will be provided with a list of key words and definitions or equations to learn for each topic. In addition students will be provided with a homework booklet to complete each term or half term. This will include a range of different style questions and quizzes to help revision and preparation for assessments.</p>					
9	Unit Title	<ul style="list-style-type: none"> <li>Cell biology</li> <li>Atomic structure and</li> </ul>	<ul style="list-style-type: none"> <li>Cell biology</li> <li>Atomic structure and the</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> <li>Bonding</li> <li>Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> <li>Bonding</li> <li>Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> <li>Properties of matter</li> <li>Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Organisation</li> <li>Properties of matter</li> <li>Electricity</li> </ul>

	the Periodic table	Periodic table				
	<ul style="list-style-type: none"> <li>Energy</li> </ul>	<ul style="list-style-type: none"> <li>Energy</li> </ul>				
<b>Learning focus</b>	<p>Students use their skills, knowledge and understanding of How Science Works in each topic area.</p> <p>Recall, select and communicate their knowledge and understanding of science.</p> <p>Apply skills, knowledge and understanding of science in practical and other contexts.</p> <p>Analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence.</p>					
<b>Assessments</b>	GCSE questions	Full GCSE exam paper	GCSE questions	Full GCSE exam paper	GCSE questions	Full GCSE exam paper
<b>Homework</b>	<p>Students will be provided with a list of key words and definitions or equations to learn for each topic.</p> <p>In addition students will be provided with a homework booklet to complete each term or half term. This will include a range of different style questions and quizzes to help revision and preparation for assessments.</p>					

# Upper School

		<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>10</b>	<b>Unit Title</b>	<ul style="list-style-type: none"> <li>Infection and response</li> <li>Quantitative chemistry</li> <li>Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Homeostasis and Response</li> <li>Chemical changes</li> <li>Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Homeostasis and Response</li> <li>Chemical changes</li> <li>Particle model of matter</li> </ul>	<ul style="list-style-type: none"> <li>Homeostasis and Response</li> <li>Chemical changes</li> <li>Particle model of matter</li> </ul>	<ul style="list-style-type: none"> <li>Ecology</li> <li>The rate and extent of chemical change</li> <li>Atomic structure and radioactivity</li> </ul>	<ul style="list-style-type: none"> <li>Photosynthesis</li> <li>The rate and extent of chemical change</li> <li>Forces</li> </ul>
	<b>Learning focus</b>	<p>Students use their skills, knowledge and understanding of How Science Works in each topic area.</p> <p>Recall, select and communicate their knowledge and understanding of science.</p> <p>Apply skills, knowledge and understanding of science in practical and other contexts.</p> <p>Analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence.</p>					
	<b>Assessments</b>	Full GCSE paper	Full GCSE paper	Full GCSE paper	Full GCSE paper	Full GCSE paper	Full GCSE paper
	<b>Homework</b>	<p>Students will be provided with a list of key words and definitions or equations to learn for each topic.</p> <p>In addition students will be provided with a homework booklet to complete each term or half term. This will include a range of different style questions and quizzes to help revision and preparation for assessments.</p>					
<b>11</b>	<b>Unit Title</b>	<ul style="list-style-type: none"> <li>Ecology</li> <li>Organic chemistry</li> <li>Energy and Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Ecology</li> <li>Chemical analysis</li> <li>Magnetism</li> </ul>	<ul style="list-style-type: none"> <li>Inheritance and variation</li> <li>Evolution</li> <li>Using Resources</li> <li>Atomic structure and particle model</li> </ul>	<ul style="list-style-type: none"> <li>Exam revision</li> </ul>	<ul style="list-style-type: none"> <li>Exam revision</li> </ul>	Examination period
	<b>Learning focus</b>	<p>Students use their skills, knowledge and understanding of How Science Works in each topic area.</p> <p>Recall, select and communicate their knowledge and understanding of science.</p> <p>Apply skills, knowledge and understanding of science in practical and other contexts.</p> <p>Analyse and evaluate evidence, make reasoned judgements and draw conclusions based on evidence.</p>					
	<b>Assessments</b>	Full GCSE paper	Full GCSE paper	Full GCSE paper	Full GCSE paper	Full GCSE paper	Full GCSE paper
	<b>Homework</b>	<p>Students will be provided with a list of key words and definitions or equations to learn for each topic.</p> <p>In addition students will be provided with a homework booklet to complete each term or half term. This will include a range of different style questions and quizzes to help revision and preparation for assessments.</p>					