



Bishop Stopford's School

Curriculum Map Year 9

Science

Curriculum Intent: To progress student understanding towards the knowledge and skill base for GCSE based learning

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of work	<p>Cell Biology This unit develops ideas from Y7/8 and explores Cell structure, transport and cell division including the role of microscopy to develop our ideas about cells.</p> <p>Atomic Structure and the Periodic table This unit develops ideas from Y7/8 and explores the Structure of the Atom, separation techniques and history of the periodic table as well as ideas about the modern periodic table.</p> <p>Energy This unit develops ideas from Y7/8 and explores the conservation of energy and dissipation, energy transfer by heating and energy resources. Students will begin to use mathematical formulae to investigate energy transfers.</p> <p>All three units equip students for the modern world, developing their knowledge and understanding.</p>		<p>Organisation This unit develops ideas from Y7/8 and explores Organisation and the digestive system, organising of plants and animals.</p> <p>Bonding and Structure This unit develops ideas from Y7/8 and explores Structure and Bonding.</p> <p>Electricity This unit develops ideas from Y7/8 and explores Electric circuits and electricity in the home.</p> <p>All three units equip students for the modern world, developing their knowledge and understanding.</p>			
Core Skills	<ul style="list-style-type: none"> *Follow an experimental method * Record measurements from a range of apparatus into a basic table of results *Analyse results and make conclusions *Write word and symbol equations *Describing, explaining and understanding concepts using scientific principles, as well as consolidating previous learning from Y7/8 *Numerical skills in the use of simple formula and carrying out calculations *Literacy Skills, writing extended answers to 4/6 mark questions *Oracy - self and group presentations/speeches/ role-play 		<ul style="list-style-type: none"> *Follow an experimental method * Record measurements from a range of apparatus into a basic table of results *Analyse results and make conclusions *Write word and symbol equations *Describing, explaining and understanding concepts using scientific principles, as well as consolidating previous learning from Y7/8 *Numerical skills in the use of simple formula and carrying out calculations *Literacy Skills, writing extended answers to 4/6 mark questions *Oracy - self and group presentations/speeches/ role-play 		<ul style="list-style-type: none"> *Follow an experimental method * Record measurements from a range of apparatus into a basic table of results *Analyse results and make conclusions *Write word and symbol equations *Describing, explaining and understanding concepts using scientific principles, as well as consolidating previous learning from Y7/8 *Numerical skills in the use of simple formula and carrying out calculations *Literacy Skills, writing extended answers to 4/6 mark questions *Oracy - self and group presentations/speeches/ role-play 	
Core Knowledge	<p>Cell Biology Basic cells structure, microscopes, movement of molecules including: diffusion, osmosis and active transport. Ideas about efficient gas exchange.</p> <p>Atomic Structure and Periodic Table Basic structure of an atom and ideas about the periodic table in terms of groups and their reactions.</p> <p>Energy Types of energy, energy resources - renewable and non renewable. Coupled with calculations relating to k.e, epe, gpe, work done, power and efficiency.</p>		<p>Organisation Ideas about enzymes, digestion, transport systems in plants and animals.</p> <p>Bonding and Structure Structure of materials, bonding including: ionic, covalent and metallic. As well as ideas about states of matter.</p> <p>Electricity Ideas about circuits, including resistance, safety in the home, AC/ DC supplies.</p>			
Assessment & Feedback	<p>Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored.</p>		<p>Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored. DC1 - Summative assessment of work covered across Key Stage 3 up to this point</p>		<p>Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored. DC2 - Summative Assessment of work covered across all topics at Key Stage 3</p>	
Link to prior learning	<p>Cell Biology - This unit takes the fundamental concepts of cells which students have begun to study in Y7 and 8 and builds upon their knowledge of cell structures, and specialised cells</p> <p>Atomic Structure & the periodic table - This unit builds on the work from Y7 and 8 about how the periodic table is structured and elements grouped to show similarities and differences, students will revisit some chemical reactions to explore what is happening at the atomic level.</p> <p>Energy - This unit builds upon the work from the last two years on different ways that energy can be transferred and the types of energy resources that we have access to.</p>			<p>Organisation - Students will use their knowledge from Year 7 and 8 of tissues, organs and organ systems including the digestive system.</p> <p>Bonding & Structure - Students will use their ideas about states of matter and atoms, compounds and mixtures and the elements in the periodic table.</p> <p>Electricity - Students will use their knowledge about simple circuits and uses of electricity from Year 7 and 8 to further explore the way electricity behaves.</p>		
Outside learning/trips	<p>Small group opportunities to work beyond the classroom based on current topic. Stem club.</p>					