

## The science curriculum

<b>Science curriculum vision</b>			
We believe that all our pupils should leave school with a strong sense of excitement and curiosity about natural phenomena. Pupils will gain an appreciation of the significance of science within their own lives and the future importance of science in solving the global challenges we currently face. By conducting their own scientific enquiries, pupils will not only develop their own practical skills but they will also develop an understanding of how scientific concepts are established, critiqued and continuously revised upon new evidence. The science experience ensures that pupils are well equipped with the crucial skills and knowledge that are essential for a wide range of careers.			
<b>Key stage 3 – Units of study</b>			
Term	Year 7	Year 8	Year 9
1	<i>Physics: Matter</i>	<i>Physics: Space Chemistry: Reactions I</i>	<i>Physics: Electricity Biology: Ecosystems</i>
2	<i>Chemistry: Periodic Table Biology: Cells</i>	<i>Biology: Photosynthesis Physics: Motion</i>	<i>Chemistry: Reactions II Biology: DNA</i>
3	<i>Biology: Cells Physics: Energy</i>	<i>Chemistry: Separation Techniques Biology: Reproduction</i>	<b><u>Begin GCSE content</u></b> <i>Key concepts in Biology – Cells Key concepts in Chemistry – atomic structure and periodic table Physics – Motion</i>
4	<i>British Science week Chemistry: Particles</i>	<i>British Science Week Biology: Reproduction</i>	<i>Key concepts in Biology – Cell transport Chemistry: Matters and Mixtures</i>
5	<i>Biology: Gas exchange</i>	<i>Physics: Waves Biology: Nutrition</i>	<i>Chemistry: Matters and mixtures Physics: Energy Key concepts in Biology - Enzymes</i>
6	<i>End of Year test Physics: Forces</i>	<i>End of Year test Chemistry: Acids and Alkalis</i>	<i>Key concepts in Biology – Enzymes Biology: Cells and Control End of Year Test</i>

<b>Key stage 4 – Units of study</b>		
<b>Pearson Edexcel GCSE (9-1) in Combined Science (1SCO)</b>		
Term	Year 10	Year 11
1	<i>Biology – Genetics Chemistry – Bonding</i>	<i>Biology -Exchange and Transport Chemistry – Rates of Reactions Physics – Electromagnetism</i>
2	<i>Physics - Energy Biology – Natural Selection and Genetic Modification Physics – Waves and Electromagnetic Spectrum</i>	<i>Trial exams Biology – Ecosystems and Material cycles Chemistry- Fuels and atmospheric science</i>
3	<i>Trial exams Chemistry - Electrolysis</i>	<i>Physics – Electricity Biology – Animal coordination, Control and Homeostasis Trial exams</i>
4	<i>Biology – Health and Disease Physics – Radioactivity</i>	<i>Biology – Animal coordination, Control and Homeostasis</i>
5	<i>Chemistry – Acids and Alkali's Biology – Plant structures and their functions</i>	
6	<i>Physics – Electricity Revision Trial exams</i>	

<b>BIOLOGY Key stage 5 – Units of study</b>		
<b>Pearson Edexcel Level 3 Advanced GCE in Biology B (9BIO)</b>		
Term	Year 12	Year 13
1	<i>Water and inorganic ions Carbohydrates Lipids Cells</i>	<i>Photosynthesis Modern Genetics Origins of Genetic Variation</i>
2	<i>Proteins Enzymes Protein synthesis Mitosis</i>	<i>Origins of Genetic Variation Respiration Control systems</i>

	<i>Sexual reproduction in animal and plants</i>	
3	<i>Classification Natural Selection Cell transport machines</i>	<i>Microorganisms Control systems</i>
4	<i>Biodiversity Gas Exchange Transport animals</i>	<i>Microorganisms Ecology</i>
5	<i>Transport animals Transport in plants</i>	
6	<i>Trial exams Ecology</i>	

<b>CHEMISTRY Key stage 5 – Units of study</b> <b>Pearson Edexcel Level 3 Advanced GCE in Chemistry (9CH0)</b>		
<i>Term</i>	<i>Year 12</i>	<i>Year 13</i>
1	<i>Organic Chemistry I Formulae, equations and amounts of substance</i>	<i>Organic Chemistry II Acid-base equilibria Transition metals</i>
2	<i>Assessment I Organic Chemistry I Formulae, equations and amounts of substance Atomic structure and the Periodic Table</i>	<i>Assessment I Acid-base equilibria Redox II Organic chemistry III</i>
3	<i>Assessment II Organic Chemistry I Energetics I Atomic structure and the Periodic Table Bonding and Structure</i>	<i>Assessment II Redox II Energetics II Organic chemistry III Kinetics II</i>
4	<i>Assessment III Kinetics I Equilibrium I and II Bonding and structure Inorganic chemistry and the Periodic Table</i>	<i>Revision</i>
5	<i>Redox I Inorganic chemistry and the Periodic Table</i>	
6	<i>CREST AWARD Trial Exams Modern Analytical techniques II</i>	

<b>PHYSICS Key stage 5 – Units of study</b> <b>Pearson Edexcel Level 3 Advanced GCE in Physics (9PH0)</b>		
<i>Term</i>	<i>Year 12</i>	<i>Year 13</i>
1	<i>Waves and particle nature of light Mechanics</i>	
2	<i>Assessment I Waves and particle nature of light Mechanics</i>	
3	<i>Assessment II Waves ad particle nature of light Mechanics I</i>	
4	<i>Assessment II Electrical circuits Materials</i>	
5	<i>Assessment III Electrical circuits Materials Space</i>	
6	<i>CREST AWARD Trial Exams</i>	

	<i>Gravitational fields</i>	
--	-----------------------------	--