



## Curriculum Map: Science

### Year 7

Term	Unit of Work	Knowledge and Skills	Assessment
1	Skills	Using the Bunsen burner ; Hazards in the lab ; Identifying scientific equipment ; How science works skills	End of topic test
	Cells	Cell structure ; Using a microscope ; Converting unit	Milestone and end of topic test
2	Particles	States of Matter ; Particle Theory ; Reading graphs	Milestone and end of topic test
	Forces	Identifying and applying forces ; Rearranging equations	Milestone and end of topic test
3	Movement	Identifying bones, muscles and joints ; Analysing the motion of living things	Milestone and end of topic test
	Separating Mixtures	Comparing elements, compounds and mixtures ; Applying separation techniques to new situations	Milestone and end of topic test
4	Energy & Speed	Describing energy transfers ; Evaluating energy resources ; Calculating speed	Milestone and end of topic test
	Chemical Reactions	Constructing word equations ; Observing reactions ; pH Scale and application	Milestone and end of topic test
5	Reproduction & Inheritance	Reproductive organs; Types of reproduction ; Genetic Inheritance ; Dissection skills	Milestone and end of topic test
	Ecology	Analysing food chains and webs ; Sampling the natural world to make reasoned estimations ; Evaluating biological energy transfers	Milestone and end of topic test
6	Space	Analysing the effects of motion of named celestial bodies ; Discuss the history of space exploration and the importance of collaboration	Milestone and end of topic test



## Curriculum Map: Science

### Year 8

Term	Unit of Work	Knowledge and Skills	Assessment
1	Skills	Using the Bunsen burner ; Hazards in the lab ; Identifying scientific equipment ; How science works skills	End of topic test
	Electricity	Describe the properties of electrical circuits; build circuits based on instructions	Milestone & Test
2	Periodic Table	Describe how the periodic table is arranged, including stating the properties of different groups; Visualize and model atomic structures	Milestone & Test
	Digestion	State the importance and function of the digestive system; evaluate healthy diet choices	Milestone & Test
3	Heat Transfer	Describe how energy is transferred and wasted as heat; suggest ways to increase the energy efficiency of systems	Milestone & Test
	Types of Reaction	Analyse different types of reaction; Explain the energy losses and gains behind chemical reactions; perform experiments safely	Milestone & Test
4	Organisation	Describe the structure of the respiratory and cardiovascular systems; identify risk factors for cardiovascular disease	Milestone & Test
	Waves	Explain the properties of waves; Investigate the function of the eye and ear; Analyse the electromagnetic spectrum; Investigate how sound propagates	Milestone & Test
5	Bioenergetics	Describe the reactions behind energy generation in living organisms; investigate respiration and photosynthesis	Milestone & Test
6	Climate	Study the history of climate change since the origin of the Earth, with marked emphasis on current threats; apply lessons learnt to future challenges	Milestone & End of Year Exam
	Magnets	Examine how magnets interact and how electromagnets can be build and improved.	Milestone



## Curriculum Map: Science

### Year 9

Term	Unit of Work	Knowledge and Skills	Assessment
1	B1 Cell Biology	Cell structure ; Using a microscope ; Converting units ; Analysing diffusion, osmosis & active transport	Milestone & End of Topic Test
	Skills	Maths required in science; Graph skills; Performing investigations; Conclusion and Evaluation	End of Topic Assessment
2	C1 Atomic Structure & Periodic Table	History of the periodic table ; Drawing atoms ; Analysing the periodic table ; Observing chemical reactions	Milestone & End of Topic Test
3	P1 Energy	Stores & Transfers of energy ; Conservation of energy ; Rearranging equations ; Reducing dissipated energy	Milestone & End of Topic Test
4	C9 Chemistry of the Atmosphere	Analyse the formulation and construction of the atmosphere ; Evaluate human influences on the natural world	Milestone & End of Topic Test
	P3 Particle Model of Matter	Investigating the particle model ; Analysing the density of materials ; Applying specific latent heat ; Rearranging equations	Milestone & End of Topic Test
5	B2 Organisation	Investigate the cardiovascular, digestive and breathing systems in the body ; Analyse how our lifestyles effect our health ; Apply knowledge to real life application	Milestone & End of Topic Test
6	C10 Using Resources	Analysing the life cycles of products ; Explain how water resources are managed ; Distillation of water	Milestone & End of Topic Test



## Curriculum Map: Science

### Year 10

Term	Unit of Work	Knowledge and Skills	Assessment
1	B4 Bioenergetics	Describe and explain the processes of photosynthesis, aerobic and anaerobic respiration ; analysing limiting factors and how the rates of these reactions can be influenced ; reading and interpreting graphs	Milestone & End of Topic Test
	C2 Bonding, Structure & Properties of Matter	Constructing diagrams for and analysing ionic and covalent bonds ; Linking properties of materials to their structure ; Applying the periodic table	Milestone & End of Topic Test
2	P2 Electricity	Interpreting circuit diagrams and develop rules which govern circuits ; Investigate electricity in the home ; Carry out practical investigations to collect valid data	Milestone & End of Topic Test
	C4 Chemical Changes	Evaluating acids and alkalis ; Investigating electrolysis ; Planning investigations	Milestone & End of Topic Test
3	P4 Atomic Structure	Describe the structure of atoms, ions and isotopes. Examine the properties of each form of nuclear radiation.	Milestone & End of Topic Test
	B3 Infection & Response	Analyse and evaluate how our body protects itself from infection ; Illustrate and categorise pathogens and their effects	Milestone & End of Topic Test
4	C3 Quantitative Chemistry	Calculating moles, RFM and concentrations ; Applying these to chemical reactions ; Balancing symbol equations and rearranging mathematical equations	Milestone & End of Topic Test
	C5 Energy Changes	Comparing exothermic and endothermic reactions ; Calculating bond energies ; Interpreting graphs and using display formula	Milestone & End of Topic Test & Paper 1 Mocks
5	P5 Forces	Applying Newton's laws of motion to new situations ; Analysing speed, acceleration and stopping ; Rearranging equations	Milestone & End of Topic Test
	B7 Ecology	Model the processes which control the natural world ; Sample life in our surroundings and evaluate how it is interlinked	Milestone & End of Topic Test
6	P7 Magnetism & Electromagnetism	Investigate the properties of magnets and electromagnets ; Construct a motor and electromagnet and analyse their function	Milestone & End of Topic Test & Paper 2 Mocks



## Curriculum Map: Science

### Year 11

Term	Unit of Work	Knowledge and Skills	Assessment
1	C6 Rates & Extent of Chemical Change	Analysing factors which effect reaction rates and direction ; Applying Le Chatelier's Principle ; Performing calculations from graphs	Milestone & End of Topic Test
	B5 Homeostasis & Response	Comparing the responses of the endocrine and nervous systems ; Applying these to specific bodily processes	Milestone & End of Topic Test
2	Paper 1 Retrieval	Revision of paper 1 content	Mock Examinations
	P6 Waves	Comparing the properties and motion of longitudinal and transverse waves ; Investigating how wave length impacts uses	Milestone & End of Topic Test
3	C7 Organic Chemistry	Applying the structure and bonding of hydrocarbons to fractional distillation and cracking	Milestone & End of Topic Test & Paper 1 Mocks
	C8 Chemical Analysis	Practical skills of separation techniques ; Applying formula to practical investigations ; Testing for gases	Milestone & End of Topic Test
	Paper 2 Retrieval	Revision of paper 2 content	Mock Examinations
4	B6 Inheritance, Variation & Evolution	Describe the basics of genetic inheritance ; Explain how the variation in organisms leads to evolution ; Performing genetic crosses	Milestone & End of Topic Test
5	Revision & Exams	Revision techniques and knowledge retrieval	GCSE
6	Revision & Exams	Revision techniques and knowledge retrieval	GCSE