



Curriculum Map: Subject: Science

Year 7

Term	Unit of Work	Knowledge and Skills	Assessment
1	Skills Cells Particles	Using the Bunsen burner ; Hazards in the lab ; Identifying scientific equipment ; How science works skills Cell structure ; Using a microscope ; Converting units States of Matter ; Particle Theory ; Reading graphs	Milestone for each topic & Term 1 Test
2	Forces Reproduction	Identifying and applying forces ; Rearranging equations Reproductive organs; Types of reproduction ; Dissection skills	Milestone for each topic & Term 2 Test
3	Separating Mixtures Energy & Speed	Comparing elements, compounds and mixtures ; Applying separation techniques to new situations Describing energy transfers ; Evaluating energy resources ; Calculating speed ; Interpreting distance - time graphs ; Converting units ; Rearranging equations	Milestone for each topic & Term 3 Test
4	Chemical Reactions Movement	Constructing word equations ; Observing reactions ; pH Scale and application Identifying bones, muscles and joints ; Analysing the motion of living things	Milestone for each topic & Term 4 Test
5	Rocks & Weathering Interdependence	Comparing the characteristics of different rock types ; Analysing the structure of the Earth ; Linking concepts together into cycles Analysing food chains and webs ; Sampling the natural world to make reasoned estimations ; Evaluating biological energy transfers	Milestone for each topic & Term 5 Test
6	Space Skills	Analysing the effects of motion of named celestial bodies ; Discuss the history of space exploration and the importance of international collaboration Applying the scientific method to real world applications ; Learning to question the data presented by others and find the fact from fiction	Milestone for each topic & End of Year Exam

Year 8

Term	Unit of Work	Knowledge and Skills	Assessment
1	Electricity Periodic Table	Describe the properties of electrical circuits; build circuits based on instructions Describe how the periodic table is arranged, including stating the properties of different groups; Visualize and model atomic structures	Milestone for each topic & Term 1 Test
2	Digestion Heat Transfer	State the importance and function of the digestive system; evaluate healthy diet choices Describe how energy is transferred and wasted as heat; suggest ways to increase the energy efficiency of systems	Milestone for each topic & Term 2 Test



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3	Chemical Energy Organisation	Explain the energy losses and gains behind chemical reactions; perform experiments safely Describe the structure of the respiratory and cardiovascular systems; identify risk factors for cardiovascular disease	Milestone for each topic & Term 3 Test
4	Light & Sound Waves Properties	Explain the properties of light and sound Investigate the properties of light and sound, referring to wave structure and motion	Milestone for each topic & Term 4 Test
5	Respiration Climate	Describe the reactions behind energy generation in living organisms; investigate applications for plant and microbial respiration 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 for each topic & Term 5 Test
6	Types of Reactions Photosynthesis Skills	Analyse the main types of chemical reaction; perform laboratory experiments safely and accurately Describe the reactions and the importance of photosynthesis for life on Earth Investigate a question ; gather evidence and present the data ; write a conclusion for the investigation and evaluate the experiment	Milestone for each topic & End of Year Exam

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
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	P4 Atomic Structure	Drawing atoms ; Analysing the findings of Rutherford & Marsden ; Properties of nuclear radiation ; Uses of nuclear radiation ; Calculating half-life	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 & End of Year Exam
6	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



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Year 10

Term	Unit of Work	Knowledge and Skills	Assessment
1	B3 Infection & Response B4 Bioenergetics C2 Bonding, Structure & the Properties of Matter	Analyse and evaluate how our body protects itself from infection ; Illustrate and categorise pathogens and their effects 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 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 for each unit
2	C3 Quantitative Chemistry P2 Electricity P4 Atomic Structure	Calculating moles, RFM and concentrations ; Applying these to chemical reactions ; Balancing symbol equations and rearranging mathematical equations Interpreting circuit diagrams and develop rules which govern circuits ; Investigate electricity in the home ; Carry out practical investigations to collect valid data Drawing atoms ; Analysing the findings of Rutherford & Marsden ; Properties of nuclear radiation ; Uses of nuclear radiation ; Calculating half-life	Milestone & End of Topic Test for each unit
3	B2 Organisation P3 Particle Model of Matter	Investigate the cardiovascular, digestive and breathing systems in the body ; Analyse how our lifestyles effect our health ; Apply knowledge to real life application Investigating the particle model ; Analysing the density of materials ; Applying specific latent heat ; Rearranging equations	Milestone & End of Topic Test for each unit
4	P5 Forces C4 Chemical Changes	Applying Newton's laws of motion to new situations ; Analysing speed, acceleration and stopping ; Rearranging equations Evaluating acids and alkalis ; Investigating electrolysis ; Investigating titrations ; Planning investigations	Milestone & End of Topic Test for each unit
5	C5 Energy Changes B7 Ecology	Comparing exothermic and endothermic reactions ; Calculating bond energies ; Interpreting graphs and using display formula Model the processes which control the natural world ; Sample life in our surroundings and evaluate how it is interlinked	Milestone & End of Topic Test & Paper 1 Mock
6	C9 Chemistry of the Atmosphere C6 Rate and Extent of Chemical Change	Analyse the formulation and construction of the atmosphere ; Evaluate human influences on the natural world Analysing factors which effect reaction rates and direction ; Applying Le Chatelier's Principle ; Performing calculations from graphs	Milestone & End of Topic Test



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Year 11

Term	Unit of Work	Knowledge and Skills	Assessment
1	B6 Inheritance, Variation & Evolution C7 Organic Chemistry	Describe the basics of genetic inheritance ; Explain how the variation in organisms leads to evolution ; Performing genetic crosses Applying the structure and bonding of hydrocarbons to fractional distillation and cracking	Milestone & End of Topic Test Milestone & End of Topic Test
2	C8 Chemical Analysis P6 Waves	Practical skills of separation techniques ; Applying formula to practical investigations ; Testing for gases Comparing the properties and motion of longitudinal and transverse waves ; Investigating how wave length impacts uses; Analyse the use and function of lenses ; Contextualise the uses of ultrasound and Infrasonud	Milestone & End of Topic Test Milestone & End of Topic Test & Paper 1 Mocks Milestone & End of Topic Test
3	B5 Homeostasis & Response	Comparing the responses of the endocrine and nervous systems ; Applying these to specific bodily processes	Milestone & End of Topic Test
4	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 & Paper 2 Mocks Milestone & End of Topic Test
5	P7 Magnetism & Electromagnetism P8 Space Physics	Investigate the properties of magnets and electromagnets ; Construct a motor and electromagnet and analyse their function Investigate the Solar System and our place within it; Evaluate the evidence for the Big Bang; Analyse the life cycle of stars	Milestone & End of Topic Test
6	Revision & Exams	Revision techniques	GCSE