

	Half term 1			Half term 2		
Key focus	B1a Cell Structure and Transport	C1a Atomic Structure	P1a Energy	B1b Transport	C8 Chemical Analysis	P1b Energy Resources
Key knowledge and skills	a) Animal, plant and bacterial cell organisation and structures b) Microscopy c) Cell Division d) Differentiation of cells e) Stem cells	a) Atoms, Elements, Compounds and Mixtures b) Separating Mixtures c) Structure of the Atom	a) Energy stores and changes b) Energy calculations c) Conduction d) Convection e) Radiation f) Specific Heat Capacity g) Heating and Insulation	a) Movement of substances into and out of cells b) Osmosis	a) Purity of substances b) Chromatography c) Testing for gases	a) Renewable and non-renewable energy resources b) Evaluating methods of generating electricity
Key words/ vocabulary	<ul style="list-style-type: none"> Eukaryote Prokaryote Diffusion Osmosis Active Transport 	<ul style="list-style-type: none"> Proton Neutron Electron Compound Mixture Element 	<ul style="list-style-type: none"> Efficiency Kinetic Thermal Chemical Elastic potential Conduction Convection Radiation 	<ul style="list-style-type: none"> Diffusion Osmosis Active Transport 	<ul style="list-style-type: none"> Purity Melting Point Boiling Point 	<ul style="list-style-type: none"> Fossil Fuel Nuclear Biomass Hydroelectric Solar
Assessment method	<ul style="list-style-type: none"> End of Topic Test Practical (Microscopes) Extended Writing Tasks End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Test Extended Writing Practical (Separation techniques) End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Test Extended Writing Practical (Specific Heat Capacity) End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Test Extended Writing Practical (Osmosis) End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Test Extended Writing Practical (Chromatography) End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Test Extended Writing End of Year 9 Exam
Wider links	Maths – Fractions, Decimals, Standard Form	History – Timeline of discovery	Maths – Equations	Maths – Fractions and Percentages	Geography – Desalination to produce drinking water	Geography – Energy resources
Enrichment opportunities	Cell Biology – BBC Bitesize	Atomic Structure and the Periodic Table – BBC Bitesize	Energy – BBC Bitesize	Diffusion – Transport in cells – AQA – GCSE Combined Science Revision – AQA Trilogy – BBC Bitesize	Chemical analysis – GCSE Combined Science – BBC Bitesize	Energy – BBC Bitesize
Careers links	<ul style="list-style-type: none"> Biomedical scientist Forensic scientist 	<ul style="list-style-type: none"> Chemist Pharmacologist 	<ul style="list-style-type: none"> Physicist Product testing (efficiency) Chemical engineer 	<ul style="list-style-type: none"> Roles in the Medical Profession 	<ul style="list-style-type: none"> Lab Chemical Analysis Forensics 	<ul style="list-style-type: none"> Roles in the Renewable Energy Sector

	Half term 3		Half term 4		Half term 5	
Key focus	B3 Infection and Response	C5 Energy Changes	P3 Particle Model of Matter	C1b Periodic Table	B4a Photosynthesis	Revision
Key knowledge and skills	a) Types of diseases b) Human response to disease	a) Energy in reactions b) Reaction profiles	a) Particle Model b) Changes of State c) Heating and Cooling	a) Development of the periodic table b) Groups of the Periodic Table	a) Photosynthesis b) Limiting Factors c) Uses of Glucose	Preparation for the end-of-year exam.
Key words/ vocabulary	<ul style="list-style-type: none"> Communicable disease Pathogen Bacteria White blood cells Phagocytosis 	<ul style="list-style-type: none"> Exothermic Endothermic Reaction profile 	<ul style="list-style-type: none"> Kinetic Energy Particle Latent Heat Pressure 	<ul style="list-style-type: none"> Electron Shells Groups Periods Mendeleev 	<ul style="list-style-type: none"> Photosynthesis Limiting Factors Uses of Glucose 	
Assessment method	<ul style="list-style-type: none"> End of Topic Assessments Extended Writing End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Assessments Extended Writing Tasks Practical Element (Variables affecting temperature change) End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Assessments Extended Writing Practical (Measuring Density) End of Year 9 Exam 	<ul style="list-style-type: none"> End of Topic Assessments Extended Writing Tasks 	<ul style="list-style-type: none"> End of Topic Assessments Extended Writing Tasks Practical Element (Factors that affect Photosynthesis) End of Y9 Exam 	<ul style="list-style-type: none"> End of Y9 Exam
Wider links	Food Technology – Food hygiene and disease	Maths – Significant figures, means, graphs	Maths – Computation, Significant figures	ICT – Presenting information	Geography – Habitats and Biomes	General Revision Techniques
Enrichment opportunities	Infection and Response – BBC Bitesize	Energy Changes – BBC Bitesize	Particle model of matter – GCSE Combined Science – BBC Bitesize	Atomic Structure and the Periodic Table – BBC Bitesize	Bioenergetics – BBC Bitesize	
Careers links	<ul style="list-style-type: none"> Epidemiologist Doctor Roles in the Medical Profession Immunologist Public Health Officer 	<ul style="list-style-type: none"> Battery Scientist Fire Investigator 	<ul style="list-style-type: none"> Materials Engineer Mechanical Engineer Meteorologist 	<ul style="list-style-type: none"> Chemist Metallurgist Jeweller 	<ul style="list-style-type: none"> Personal trainer Physiotherapist Dietician/Nutritionist Farmer Conservation Scientist 	

	Half term 6	
Key focus	P4 Radioactivity	C4 Reactivity of Metals
Key knowledge and skills	a) Isotopes b) Models of the Atom c) Nuclear Radiation and its properties	a) Reactivity Series b) Displacement Reactions c) Extracting Metals
Key words/ vocabulary	<ul style="list-style-type: none"> • Isotope • Nuclear Radiation • Radioactive Decay • Half-Life • Irradiation • Contamination 	<ul style="list-style-type: none"> • Oxidation • Reduction • Displace • Reactivity Series • Ore • Acid
Assessment method	<ul style="list-style-type: none"> • End of Topic Assessments • Extended Writing Tasks 	<ul style="list-style-type: none"> • End of Topic Assessments • Extended Writing Tasks
Wider links	History – Timeline of discovery	Geography – Mining and quarrying; Design and Technology – material properties
Enrichment opportunities	Radioactivity – GCSE Combined Science – BBC Bitesize	Chemical changes – GCSE Combined Science – BBC Bitesize
Careers links	<ul style="list-style-type: none"> • Nuclear Physicist • Particle Physicist • Roles in the Energy Sector 	<ul style="list-style-type: none"> • Chemist • Pharmacologist • Metallurgist • Materials Engineer