



Science Department Curriculum Map KS4 Separate Science September 2023

Curriculum Intent			
<i>Our students will experience the nature of scientific processes through scientific enquiry and develop an understanding of the world we live in.</i>			
	Autumn Term	Spring Term	Summer Term
Year 9 Content	Consolidation, revision and working scientifically through several investigative projects: Practical skills Celebrating All Scientists Forensics Microbes Energy	B1a Cell structure B3a Enzymes (B3.4 - B3.7) C1 Atomic Structure C2 The Periodic Table P1 Conservation and dissipation of energy	B3b Digestive system (B3.1-3.3) B9 Respiration P2 Energy transfer by heating Revision and assessment fortnight Consolidation and working scientifically
Year 9 Skills	Investigative, presentation and practical skills Effective revision skills and exam technique Skills in working scientifically and application of knowledge to real-world situations	Required Practicals covered: <ul style="list-style-type: none"> RP B1 Microscopy (using a microscope, rearranging equations) RP B3 Enzymes 	Required Practicals covered: <ul style="list-style-type: none"> RP B3 Food tests P2 Specific Heat capacity (calculating gradients on a graph) Investigative and working scientifically skills
Year 9 Key Points	Celebrating Scientists project links to CC and SMSC KS4 Baseline assessment late October 2023 covering all topics covered in Y7 and 8	Interim block tests on topics covered	Interim block tests on topics covered Assessment fortnight in June 2024 End of Y9 test covering topics all KS4 topics covered to date



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Year 10 Content	B1b Movement of substances B8 Photosynthesis B4 Organisation of Plants and Animals B7 Non-communicable diseases C4 Chemical calculations C3 Structure and bonding C5 Chemical changes C7 Energy changes P2 Energy transfer by heating TS content only P4 Electric circuits P6 Molecules and matter P8 Forces in balance P9 Motion	B10 The human nervous system B14 Variation and Evolution B2 Cell division B13 Reproduction C6 Electrolysis C9 Crude oil and fuels C13 The Earth's Atmosphere P12 Wave properties P15 Electromagnetism P16 Space	B11 Hormonal co-ordination B12 Homeostasis in action B15 Genetics and evolution (taught backwards) C8 Rates and equilibrium C12 Chemical analysis P3 Energy resources P5 Electricity in the home
Year 10 Skills	Required Practicals covered: <ul style="list-style-type: none"> • RP B1 Osmosis (calculating change in mass, drawing tables and graphs) • RP B8 Photosynthesis (timing, drawing tables and graphs) • RP C5 making salts (using a bunsen burner) • C4 Neutralisation • RP C7 Temperature changes (reading a thermometer, drawing tables and graphs) • RP P2 Specific Heat capacity (reading a thermometer, drawing tables and graphs) • P2 Thermal Insulation • RP P4 Resistance (reading ammeters and voltmeters, calculating resistance) • RP P4 I-V Characteristics (reading ammeters and voltmeters, calculating resistance) • RP P6 Density (measuring distances and masses, calculating density) 	Required Practicals covered: <ul style="list-style-type: none"> • RP B10 Reaction Time (timing, drawing tables and graphs) • RP C6 Electrolysis • RP P12 Waves (measuring distances, calculating speed) Revision and Exam Technique	Required Practicals covered: <ul style="list-style-type: none"> • RP B11 Germination • RP C8 Rates of reaction (timing, drawing tables and graphs) • RP C12 Chromatography (measuring distances, calculating Rf values) • RP C12 Identifying ions Revision and Exam Technique
Year 10 Key Points	Interim tests on topics covered	Interim tests on topics covered January Assessment on Autumn Term and Year 9 content	Interim tests on topics covered June assessment on all Y9/10 content so far



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Year 11 Content	B5 Communicable diseases B6 Preventing and treating disease B11 Hormonal co-ordination B12 Homeostasis in action C10 Organic reactions C12 Chemical analysis C8 Rates and equilibrium C11 Polymers P3 Energy resources P5 Electricity in the home finish P7 Radioactivity P16 Space	B15 Genetics and evolution (taught backwards) B18 Biodiversity and ecosystems B17 Organising an ecosystem B16 Adaptations, interdependence and competition C14 The Earth's resources C15 Using our resources P10 Forces and motion P11 Force and pressure P13 Electromagnetic waves P14 Light	Programme of revision for biology, chemistry & physics in the run up to exams. Final Revision and GCSE Exams
Year 11 Skills	Required Practicals covered: <ul style="list-style-type: none">• B5 Microbiology• RP B11 Germination• RP C12 Chromatography (measuring distances, calculating Rf values)• RP C12 Identifying ions• RP C8 Rates of reaction (timing, drawing tables and graphs) Revision: 2 week plan	Required Practicals covered: <ul style="list-style-type: none">• B17 Decay• RP B16 Field investigation• RP C14 Water purification• RP P10 Force and Extension (measuring distances, drawing tables and graphs)• RP P10 Force and acceleration• RP P13 Radiation and Absorption (timing, reading a thermometer, drawing tables and graphs)• P14 Light	Revision 15 week plan
Year 11 Key Points	Y11 mocks on Paper 1 content		External exams start May 2024