

Science Department Curriculum Map 2025-26

Intent:

The Science curriculum aims to:

- Enable pupils to build on and develop the necessary skills to analyse and question the world around them in a critical way.
- Develop their practical skills by working scientifically, and, in doing so, provide opportunities for pupils to think and act like scientists do in the real world, to prepare them for their future learning or employment.
- Equip our students with the scientific knowledge and skills that are needed to understand the important role Science plays in society, both now and in the future, addressing any misconceptions they may have.
- Educate our pupils about key issues in science, including climate change, finding alternatives to using finite resources, the ethics of cloning, COVID-19, and lifestyle choices that impact our health.
- To make links between the different subject areas, and have understanding of the 'big' ideas' underpinning the curriculum
- Give our pupils a heightened awareness about the need for greater sustainability in all that we do as individuals and collectively to ensure the safekeeping of our planet for future generations, helping them to understand the essential role they will play in this.

Term	Autumn 1		Autumn 2		Spring 1	Spring 2		Summer 1	Summer 2
Year 7	<u>WS1.1 Working scientifically</u> <u>B1.1 Cells</u>	Assessment 1	<u>C1.1 Particles and their behavior</u> <u>C1.2 Elements, atoms, and compounds</u>	Assessment 2	<u>P1.1 Forces</u> <u>B1.2 Structure and function of body systems</u>	<u>C1.3 Reactions</u> <u>C1.4 Acids and alkalis</u>	Assessment 3	<u>P1.2 Sound</u> <u>P1.3 Light</u> <u>B1.3 Reproduction</u>	<u>Exams</u> End of Year <u>P1.4 Space</u>
Year 8	Working Scientifically B2.1 Health and Lifestyle	Assessment 1	C2.1 The Periodic Table P2.1 Electricity and magnetism	Assessment 2	B2.2 Biological Processes C2.2 Separation techniques	P2.2 Energy B2.3 Ecosystems and Adaptations	Assessment 3	B2.4 Inheritance C2.3 Metals and Other Materials	P2.3 Motion and Pressure C2.4 The Earth

Year 9	Working scientifically B3.1 Cells B3.2 Cell Systems	Assessment 1	C3.1: Particle model and state change C3.2 Atoms and the periodic table	Assessment 2	P3.1 Forces and motion P3.2 Energy	B3.3 Fertilisation and implantation B3.4 Variation and natural selection – 7 lessons	Assessment 3	C3.3 Chemical changes C3.3.1 Reactivate C3.4 Useful chemical reactions	P3.3 Waves, sound and light P3.4 Electricity and magnetism
Year 10 CS	<u>Biology</u> B1 Cell structure B2 Cell division B3 Organisation and the digestive system B4 Organising animals and plants	Assessment 1	<u>Chemistry</u> C1 Atomic structure C2 The Periodic Table C3 Structure and bonding <u>Physics</u> P1 Conservation and dissipation of energy	Assessment 2	<u>Biology:</u> B5 Communicable diseases <u>Physics</u> P2 Energy transfer by heating P3 Energy resources	<u>Biology:</u> B6 Preventing and treating disease B7 Non-communicable diseases <u>Chemistry</u> C4 Chemical calculations C5 Chemical changes	Assessment 3	<u>Biology:</u> B8 Photosynthesis B9 Respiration <u>Physics</u> P4 Electric circuits P5 Electricity in the home <u>Chemistry</u> C6 Electrolysis	<u>Chemistry</u> C7 Energy changes <u>Physics:</u> P6 Molecules and matter P7 Radioactivity

Year 10 TS	<u>Biology:</u> B1 Cell structure B2 Cell division B3 Organisation and the digestive system B4 Organising animals and plants <u>Chemistry:</u> C1 Atomic structure C2 The Periodic Table	Assessment 1	<u>Biology:</u> B5 Communicable diseases <u>Chemistry:</u> C3 Structure and bonding <u>Physics:</u> P1 Conservation and dissipation of energy P2 Energy transfer by heating P3 Energy resources	Assessment 2	<u>Biology:</u> B6 Preventing and treating disease B7 Non-communicable diseases <u>Chemistry:</u> C4 Chemical calculations C5 Chemical changes	<u>Biology:</u> B8 Photosynthesis B9 Respiration <u>Physics:</u> P4 Electric circuits P5 Electricity in the home	Assessment 3	<u>Chemistry:</u> C6 Electrolysis C7 Energy changes <u>Physics:</u> P6 Molecules and matter P7 Radioactivity	<u>Biology:</u> B10 The human nervous system B11 Hormonal coordination <u>Physics:</u> P8 Forces in balance
Year 11 CS	<u>Biology:</u> B8 Photosynthesis B9 Respiration <u>Chemistry:</u> C6 Electrolysis C7 Energy changes <u>Physics:</u> P4 Electric circuits P5 Electricity in the home	Mock Exam 1	<u>Biology:</u> B10 The human nervous system B11 Hormonal coordination B13 Reproduction <u>Physics:</u> P7 Radioactivity P8 Forces in balance P9 Motion P10 Force and motion	Mock Exam 2	<u>Biology:</u> B14 Variation and evolution B15 Genetics and evolution <u>Chemistry:</u> C8 Rates and equilibrium C9 Crude oil and fuels C12 Chemical analysis	<u>Biology:</u> B16 Adaptations, interdependence and competition B17 Organising an ecosystem B18 Biodiversity and ecosystems <u>Chemistry:</u> C13 The Earth's atmosphere C14 The Earth's resources <u>Physics:</u> 12 Wave properties P13 Electromagnetic waves P15 Electromagnetism	Mock Exam 3	<u>Revision and Recap, practice papers and exams</u>	

Year 11 TS	<u>Biology:</u> B10 The human nervous system B11 Hormonal coordination <u>Physics:</u> P7 Radioactivity P8 Forces in balance P9 Motion P10 Force and motion P11 Force and pressure	Mock Exam 1	<u>Biology:</u> B12 Homeostasis in action <u>Chemistry:</u> C8 Rates and equilibrium C9 Crude oil and fuels C10 Organic reactions C11 Polymers <u>Physics:</u> 12 Wave properties P13 Electromagnetic waves	Mock Exam 2	<u>Biology:</u> B13 Reproduction B14 Variation and evolution B15 Genetics and evolution <u>Physics:</u> P14 Light P15 Electromagnetism P16 Space	<u>Biology:</u> B16 Adaptations, interdependence and competition B17 Organising an ecosystem B18 Biodiversity and ecosystems <u>Chemistry:</u> C12 Chemical analysis C13 The Earth's atmosphere C14 The Earth's resources C15 Using our resources	Mock Exam 3	<u>Revision and Recap, practice papers and exams</u>
Year 12 Biology	<u>Topic 1</u> Biological molecules <u>Topic 2A</u> Cell structure and division		<u>Topic 2A</u> Cell structure and division <u>Topic 2B</u> Cell membranes <u>Topic 2C</u> Cells and the immune system <u>Topic 3</u> Exchange and transport systems		<u>Topic 3</u> Exchange and transport systems	<u>Topic 3</u> Exchange and transport systems <u>Topic 4</u> Genetic information <u>Topic 5</u> Photosynthesis and respiration		<u>Topic 5</u> Photosynthesis and respiration <u>Exam Practice</u>

Year 12 Chemistry	<u>Unit 1: Atomic Structure, Calculations and Bonding</u>		<u>Unit 1: Energetics, Kinetics, Equilibria and Redox</u>		<u>Unit 2: Periodicity</u> <u>Unit 3: Organic Chemistry</u>	<u>Unit 3: Organic Analysis</u> <u>Unit 4: Thermodynamics</u>		<u>Unit 4: Equilibrium Constant</u> <u>Unit 4: Acid and Bases</u> <u>Exam Practice</u>
Year 12 Physics	<u>Section 1: Particles and Radiation</u> <u>Sections 2: electromagnetic Radiation and Quantum Phenomena</u>		<u>Section 3: Waves</u>		<u>Section 4: Mechanics</u> <u>Section 5: Materials</u>	<u>Section 6: Electricity</u>		<u>Exam practice</u>

Year 13 Biology	<u>Topic 5</u> <u>Energy transfers and nutrient cycles</u> – biomass, farming, nitrogen and phosphorus cycle, fertilisers, fungi <u>Topic 6 Stimuli and response</u> - Survival, phototropisms, reflex and heart coordination, receptors, nervous coordination		<u>Topic 6 Stimuli and response</u> - Positive feedback, negative feedback, hormones, the kidney <u>Topic 7 Genetics, population, evolution, ecosystems</u> – inheritance, genetic crosses, epistasis, chi squared test, variation, natural selection, speciation, ecosystems, populations		<u>Topic 8 Gene expression</u> – transcription and translation, mutagenic agents, mutations and cancer, epigenetics	<u>Topic 8 Gene expression</u> – genome project and gene technologies		<u>Revision and Exam Practice</u>
Year 13 Chemistry	Thermodynamics Carboxylic acids and derivatives, Aromatic Chemistry		Rate Equations and K_p Amines, Polymers, Amino acids, proteins and DNA		Electrode potentials and Electrochemical cells Organic Synthesis	Transition metals and reactions of ions in aqueous solution Acids and Bases		Revision and Exam Practice

Year 13 Physics	<u>S8 Thermal Physics</u> <u>S9 Gravitational and Electric Fields</u>		<u>S9 Gravitational and Electric Fields</u>		<u>S11 Magnetic Fields</u>	<u>S12 Nuclear Physics</u> <u>S13 Option</u>		Exam Practice
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