

SHS Science Department Curriculum Map 2023-24

Unit understanding and skills will be tested using a range of written and online assessments - including CATs and exam questions.

Terms	KS3 Science Year 7	KS3 Science Year 8
1 & 2	Energy (Biology & Physics) Reproduction (Biology) Acids & Alkalis (Chemistry) Test 1	Plants (Biology) Light (Physics) Materials (Chemistry) Digestion (Biology)
3 & 4	Particles (Chemistry) Getting Organised – cells, systems and classification (Biology) Forces (Physics) Test 2	Test 1 Sound (Physics) Acids and Bases (Chemistry) Respiration (Biology) Test 2
5 & 6	Bubbles & Bangs - chemical reactions (Chemistry) Electricity (Physics) Test 3	Electromagnetism (Physics) Microorganisms & Medicine (Biology) Chemical Earth (Chemistry) End of Year exam Space (Physics)

KS4 Biology	Y9 (on a rota with Chemistry and Physics)	Y10	Y11
T1 & T2	1 – DNA and Inheritance 2 – Communicable Diseases	5 - Respiration and Photosynthesis (CAT) 6 - Animal Transport and Defence	10 - More Hormones and Homeostasis 11 - Nervous System (CAT)
T3 & T4	3 – Non-communicable Diseases 4 - Enzymes (CAT)	7 - Plant Transport and Defence (CAT) 8 - Microscopes and Ecosystems (CAT)	12 - Genes and Proteins 13 - Feeding Humans and its Impact (CAT) Mock Exam
T5 & T6	Formal Exam	9 - Cell Division and Differentiation Formal Exam	Revision and GCSE Exams
KS4 Chemistry	Y9 (on a rota with Biology and Physics)	Y10	Y11
T1 & T2	States of Matter Periodic Table and Atomic Structure	Periodic Table Groups Crude Oil & Burning of Fuels (CAT) Cracking, Alkenes, Polymerisation, Carboxylic Acids & Alcohols	Earth Science Mole Calculations Part 2 (CAT) Acids and Alkalis (CAT) Mock Exam
T3 & 4	Ionic and Covalent Bonding Structures and Properties	Electrolysis Extraction of metals (CAT)	Energetics & Equilibria (CAT) Carboxylic Acids and Alcohols Core Practicals
T5 & 6	Formal Assessment Structures and Properties (CAT)	Formal Exam Rates of reaction (CAT) Mole Calculations Part 1	Revision and GCSE Exams
KS4 Physics	Y9 (on a rota with Biology and Chemistry)	Y10	Y11
T1 & T2	Pressure and Moments Particles (CAT)	Units Materials (CAT) Waves	Force and Motion (CAT) Mains Radioactivity (CAT) Further Light (not combined science) Electromagnetic Spectrum (CAT) Mock Exam
T3 & T4	Hot and Cold	Motion Electricity (CAT) GPE/KE	Electromagnetism Momentum Gas Laws Solar System (not combined science)
T5 & T6	Energy Formal Assessment Energy Resources	Nuclear Power (CAT) Charge (not combined science) Formal Exam	Revision and GCSE Exams

KS5 BIOLOGY

Term	Y12		Y13	
T1 & T2	Cardiovascular Disease + Data Analysis CPA x2 Termly Tests x2	Biochemistry Molecules, Genetics + Inheritance CPA x2	Photosynthesis, Climate Change, Core Practicals + Evolution CPA x3 Term 1 Test	Specific Immune Response Muscles + Joints MOCK EXAM
T3 & T4	Cell Structure + Cycle + Meiosis + Epigenetics CPA Termly Tests x2	Biodiversity, Sustainability + Genetic Analysis CPA	Nervous System, Brain, Behaviour and Genetic Modification CPA	Respiration, Enhancing Exercise Performance, Homeostasis CPA x2
T5 & T6	Exam Practice + Formal End of Year Exam Ecology Fieldwork + Interdependence CPA	Plant Core Practicals + Revision Forensics Time of Death + Bacterial Disease CPA x4	Plant Responses + Revision	Revision, Past Papers and exam Practice Scientific Article Preparation

KS5 CHEMISTRY

Term	Y12		Y13	
T1 & T2	Practical skills, Structure and Bonding, Redox, Organic Chemistry basic concepts	Mole calculations, CPA Acids and Bases, CPA Alkanes and Alkenes,	Practical skills, CPA Thermodynamics, Aromatic chemistry, Carboxylic acids and esters,	Acid base equilibrium, Amines, Amino acids and polymers MOCK EXAM
T3 & T4	Practical skills, Chemical equilibrium, Group 2 and Group 7, Alcohols and Analytical techniques.	Enthalpy changes, CPA Periodicity, Haloalkanes, CPA	Practical skills, CPA x 2 Spectroscopy (NMR, IR, MS), Organic synthesis and analysis, CPA Chromatography and functional group testing	Redox potentials, Exam practice, Transition metals, CPA
T5 & T6	Practical skills, Rates introduction, CPA Carbonyl compounds,	Chemical equilibrium, Organic synthesis, Mock papers and revision across all areas.	Practical skills, Exam practice and revision across all areas	

KS5 PHYSICS

Term	Y12		Y13	
T1 & T2	Measurement and Their Errors Current Electricity 1	Materials CPA Particles	Gravitational Fields Thermal Electric CPA Magnetic Fields 1 CPA	Radioactivity 1 CPA Periodic Motion Non-ionising imaging
T3 & T4	Mechanics 1 CPA Current Electricity 2 CPA x 2 Mechanics 2	Progressive and Stationary Waves CPA Quantum Phenomenon	Physics of the Eye Magnetic Fields 2 CPA Physics of the Ear and Heart MOCK EXAM	X-rays Capacitance CPA Radioactivity 2 Radionuclide Imaging and Therapy
T5 & T6	Formal Assessment Electric Fields	Refraction, Diffraction and Interference CPA Momentum Periodic Motion CPA	Revision and Past Paper Exam Practice	