

Programme of Study, updated Dec' 2020

SCIENCE

Year	Term 1		Term 2	Term 3
KS3 Y7	<ul style="list-style-type: none"> Cells, tissues and organs The particle model and separating mixtures 		<ul style="list-style-type: none"> Forces, gravity and space Structure of the earth and the rock cycle Sound and light Ecosystems 	<ul style="list-style-type: none"> Acids and Alkalis, metals and non-metals Enquiry processes Energy, electricity and magnetism
KS3 Y8	<ul style="list-style-type: none"> Human reproduction Elements and the periodic table Forces Energy transfer Photosynthesis and respiration 		<ul style="list-style-type: none"> Immunity and vaccination Breathing and digestion Sound and light Climate and earth's resources 	<ul style="list-style-type: none"> Evolution and inheritance Chemical reactions Electromagnets
KS4 Y9	Biology:	B1: Cell structure and transport	B3: Organisation and the digestive system B4: Organising animals and plants	B8: Photosynthesis B9: Respiration
	Chemistry:	C1 Atomic Structure	C2 The Periodic Table	C3 Structure and Bonding
	Physics	P1 Conservation and Dissipation of Energy	P2 Energy Transfer by Heating	P6 Molecules and Matter
KS4 Y10	Biology:	B2: Cell division B5: Communicable and diseases	B6: Preventing and treating disease B7: Non-communicable diseases B10: The human nervous system	B11: Hormonal coordination *B12 : Homeostasis in action
	Chemistry:	C5 Chemical Changes C6 Electrolysis C7 Energy Changes	C4 Chemical calculations C8 Rates and Equilibrium	C9 Crude Oil and Fuels *C10 Organic Reactions* *C11 Polymers* C13 The Earth's Atmosphere

	Physics	P4 Electric Circuits P3 Energy Resources P5 Electricity in the home	P7 Radioactivity P8 Forces in Balance	P9 Motion P10 Force and Motion *P11 Force and Pressure*
KS4 Y11	Biology:	B13: Reproduction B14: Variation and evolution B15: Genetics and evolution	B16: Adaptations, interdependence and competition B17: Organising an ecosystem B18: Biodiversity and ecosystems	Revision
	Chemistry:	C12 Chemical analysis C14 The Earth's Resources *C15 Using Our Resources*	C4 Chemical Calculations Revision	Revision
	Physics	P12 Wave properties P13 Electromagnetic waves P14 *Light*	P15 Electromagnetism *P16 Space*	Revision

Topics denoted with '' are only learnt by students sitting the Separate Science course**

**Please state if KS4 starts in Y9. In any case, Y9 is a bridging year between the key stages and the PoS must demonstrate a step change in challenge*

* Fieldwork visit to be considered within this topic

KS5 Y12	Biology:	Section 1: Biological molecules Section 2: Cells	Section 3: Organisms Exchange substances with their environment Section 4: Genetic information, variation and relationships between organisms,	Section 5: Energy transfers between organisms (photosynthesis) Section 7: Genetics, populations, evolution and ecosystems (populations in ecosystems)
	Chemistry:	Year 12 Lead in Programme Physical - Atomic structure, Amount of Substance, Bonding, Energetics, Kinetics	Physical - Equilibria, Oxidation and Reduction Organic - Introduction to Organic Chemistry, Alkanes Inorganic - Periodicity, Group 2	Organic - Alkenes, Alcohols, Organic analysis Inorganic - Group 7
	Physics	Year 12 Lead-in Programme 1 Matter and Radiation 2 Quarks and Leptons 4 Waves 5 Optics	3 Quantum Phenomena 6 Forces and Equilibrium 7 On the Move 12 Electric Current 13 Dc Circuits	8 Newton's Laws of Motion 9 Force and Momentum 10 Work, Energy and Power 11 Materials 17 Motion in a Circle 19 Thermal Physics
KS5 Y13	Biology:	Section 5: Energy transfers between organisms (Respiration, Energy and Ecosystems) Section 7: Genetics, populations, evolution and ecosystems (Inherited change, Populations and evolution)	Section 6: Organisms respond to changes in their environments Section 8: Control of Gene Expression	Section 6: Organisms respond to changes in their environments Section 8: Control of Gene Expression

	Chemistry:	Physical - Thermodynamic, Kinetics, Equilibria constant Organic - Nomenclature and isomerism, Compounds containing the carbonyl group, Aromatic compounds	Physical - Electrode potentials and electrochemical cells, Acids, bases and buffers Organic - Amines, Polymerisation, Amino acids, proteins and DNA, Organic synthesis and analysis	Inorganic - Periodicity, The transition metals, Reactions of inorganic compounds in aqueous solutions Organic - Structure determination, Chromatography
	Physics	19 Thermal Physics 20 Gases 21 Gravitational Fields 18 Simple Harmonic Motion 26 Radioactivity	27 Nuclear Energy 22 Electric Fields 24 Magnetic Fields 25 Electromagnetic Induction 23 Capacitors	Option Module - Astrophysics