

Year 11 Curriculum Overview [2020-2021]
Subject – Science

Autumn Term	Knowledge & Understanding			Literacy Skills Opportunities for developing literacy skills	Employability Skills [if any]	Assessment Opportunities
	Composites	Components [includes understanding of KEY concepts & subject specific vocab]	Formal Retrieval [if any]			
HT1	Plants (10 includes spacing and retrieval))	<ul style="list-style-type: none"> • Photosynthesis • Transport Processes • Cell adaptations • Translocation • Transpiration 	B1 Biological Concepts Osmosis Enzymes Microscopes	Command words Evaluation – how to improve results / modify investigations – apply knowledge of CP to elodea practical. Extended writing focus: <ul style="list-style-type: none"> • Leaf adaptations • Transpiration vs translocation • Phloem vs Xylem • Explain how mineral ions are transported in plants. • Explain how sucrose is transported to storage organs. 	<ul style="list-style-type: none"> • Ecologist • Botanist 	Assessment point 1 Linear B6 Plants, P7&8 Energy, C16 Fuels & P13 The particle Model
	Fuels (5)	<ul style="list-style-type: none"> • Hydrocarbons • Fractional Distillation • Alkanes • Combustion • Pollution • Cracking 	<ul style="list-style-type: none"> • C5 Ionic Bonding 	Compare two waves of measuring properties (CP links)	<ul style="list-style-type: none"> • Meteorologists • Optoelectronic Field Engineer 	
	The Particle Model (6)	<ul style="list-style-type: none"> • Density • Changes of State • Energy Calculations • Gas Temperature and Pressure. 	<ul style="list-style-type: none"> • P7 Work and Power • P8 Forces and their affects 	Role of Meiosis in reproduction.	<ul style="list-style-type: none"> • Glaciologists • Heating systems designer • ISS research 	

HT2	Homeostasis (& Animal Coordination) (6)	<ul style="list-style-type: none"> Endocrine system Hormones The Menstrual Cycle Controlling Diabetes 	<ul style="list-style-type: none"> C16 FD and Cracking B6 Leaf Adaptations and Transpiration 	Extended writing for a road-safety website	<ul style="list-style-type: none"> Endocrinologist Midwifery Reproductive assistance clinic IVF procedures Phlebotomy technician 	Assessment Point 2 Mock Paper 1 Examination In Biology, Chemistry & Physics
	Groups in The Periodic Table (5)	<ul style="list-style-type: none"> Group 1 Group 7 Group 0 	<ul style="list-style-type: none"> C3 Atomic Structure C4 The Periodic Table B6 Transport of water and minerals 	<ul style="list-style-type: none"> Scientific Research and presentations – 	<ul style="list-style-type: none"> Making chemical products - Bleaches, Soaps, salts, signs, toothpaste 	
	Electricity and Circuits (11)	<ul style="list-style-type: none"> Current Potential Difference Resistance Transferring Energy Power Electrical Safety. 	<ul style="list-style-type: none"> P5 Refraction C16 Combustion equations P13 Energy Calculations 	Exam style questions using command words P6 assessment questions selected	<ul style="list-style-type: none"> Apprenticeship careers – Electrician, at the National Grid (Cadent). 	
	Dynamic Equilibrium Electrolysis (6 includes spacing and retrieval)	<ul style="list-style-type: none"> Reversible reactions Haber Process Equilibrium Copper sulphate (CP) Sodium chloride Acidified water with sulphuric acid 	<ul style="list-style-type: none"> B7 Adrenal system Electrolysis (Half equations HA) Secure foundation knowledge 	Explaining equilibrium shifts	<ul style="list-style-type: none"> Mining Mineral extraction metallurgist 	
	Metals (2)	<ul style="list-style-type: none"> Reactivity Displacement REDOX Equations 	<ul style="list-style-type: none"> The Reactivity series Biological extraction Corrosion Recycling P9 Resistance 	<ul style="list-style-type: none"> Collaboration – the future of recycling metals Evaluating biological and non-biological methods of metal extraction. 	<ul style="list-style-type: none"> Mining Mineral extraction metallurgist 	
HT3	Animal Exchange & Transport (5)	<ul style="list-style-type: none"> Exchange systems Circulatory System Cellular Respiration 	<ul style="list-style-type: none"> B5 The Immune system P9 Calculations and use of formula B7 Diabetes 	<ul style="list-style-type: none"> Compare and contrast aerobic respiration with anaerobic respiration 	<ul style="list-style-type: none"> Biomedical Scientist Heart surgeon Cheese/wine/beer production Astronaut 	

	Rates of Reaction (7)	<ul style="list-style-type: none"> Surface Area Temperature Concentration Catalysts 	<ul style="list-style-type: none"> B7 Hormones and the menstrual cycle P9 Transferring energy by electricity B4 Selective Breeding 	Oral explanations - how to make a salt / investigating neutralisation.	<ul style="list-style-type: none"> Cool Jobs – explosive pursuits Medicinal Chemist 	
	Magnetism & its Effects (8)	<ul style="list-style-type: none"> Magnetic Fields, Motor Effect Electromagnetism, Transformers 	<ul style="list-style-type: none"> B8 CP skills Respiration P3 conservation of energy C14 Rates CP skills 	Presenting work on the Reflex Arc Extended writing – specialised cells, synapses, reflex arc,	<ul style="list-style-type: none"> Electrical Engineer Electrician 	
		•	•		•	

Year 11 Curriculum Overview [2020-2021]

Subject – Science

Spring Term	Knowledge & Understanding			Literacy Skills Opportunities for developing literacy skills	Employability Skills [if any]	Assessment Opportunities
	Composites	Components [includes understanding of KEY concepts & subject specific vocab]	Formal Retrieval [if any]			
	Energy Changes In Reactions (2)	<ul style="list-style-type: none"> Exothermic Reactions Endothermic Reactions Bond Energies 	<ul style="list-style-type: none"> C8 CP Investigating neutralisation C11 Reactivity & Displacement B8 The Circulatory system 	<ul style="list-style-type: none"> 3 mark explanations 	<ul style="list-style-type: none"> Ammunition technician Manufacturer of products involving chemical changes (heat / ice packs) 	Assessment point 3 – Class Assessment Paper 2 Content
HT4	Ecosystems (10)	<ul style="list-style-type: none"> Abiotic Factors Quadrats and Transects Biotic Factors and Communities Feeding Relationships 	<ul style="list-style-type: none"> P12 Electromagnetism C13 Group 7 C14 Catalysts 	<ul style="list-style-type: none"> Compare and Contrast allotropes of Carbon Research – C60 discovery 	<ul style="list-style-type: none"> Careers involving pollution control Conservationist Organic Farmers 	

		<ul style="list-style-type: none"> Biodiversity Material Cycles 				
	Forces & Matter (5)	<ul style="list-style-type: none"> Bending and Stretching Springs Extension and Energy Transfers. 	<ul style="list-style-type: none"> P2 Forces & Motion B9 CP Transect line B9 Cycles P12 Transformers C15 Exo and endo 	<ul style="list-style-type: none"> Evaluating processes 	<ul style="list-style-type: none"> Mechanics Engineer Pole Vaulter 	<ul style="list-style-type: none"> Assessment Point 4 Mock Examination Paper 2 in Biology, Chemistry, Physics
	Earth & Atmospheric Science (4)	<ul style="list-style-type: none"> The Atmosphere (Past & Present) Climate Change. 	<ul style="list-style-type: none"> P14 Bending and Stretching C16 Alkanes C16 Pollution P11 Motor effect 	<ul style="list-style-type: none"> Extended writing: 	<ul style="list-style-type: none"> Meteorologists Geologist 	

Year 11 Interim Curriculum Overview [2020-2021]
Subject –Science

Summer Term	Knowledge & Understanding			Literacy Skills Opportunities for developing literacy skills	Employability Skills [if any]	Assessment Opportunities
	Composites	Components [includes understanding of KEY concepts & subject specific vocab]	Formal Retrieval [if any]			
HT5	GCSE Preparation	<ul style="list-style-type: none"> Biology Chemistry Physics 			<ul style="list-style-type: none"> N/A 	GCSE Examinations