

Year 12	Term 1	Term 2	Term 3
Unit (Tablet in 39 week plan)	3.1 Biological Molecules	3.3 Organisms and Exchange	3.4 Genetic Information and Variation
	3.2 Cells		
Key Retainable Knowledge (Required for Y11/13)	Types of biological molecule	Gas exchange	DNA structure
	DNA and RNA	Digestion and absorption	Protein synthesis
 What How Why 	Enzymes	Mass transport in plants and animals	Gene mutations
	ATP, water and ions		Natural selection
	Cell structure		Biodiversity
	Mitosis		
	Transport across membranes		
	Immunity		
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	Lipid, protein, carbohydrate, DNA, RNA, tertiary, nuclear envelope, osmosis, simple diffusion, facilitated diffusion, active transport, co-transport, phagocytosis.	Tidal volume, epithelium, endothelium, diffusion, facilitated diffusion, co-transport, ileum, micelle, artery, vein, capillary, tissue fluid, xylem, phloem, companion cell, osmosis.	Nucleic acid, transcription, translation, addition, deletion, substitution, frame shift, selection, mutation, adaptation, allele, diversity.
Opportunities for Reading	Textbooks and revision guides.	Textbooks and revision guides.	Textbooks and revision guides.
Developing Cultural Capital (exposure to very best- essential knowledge and skills of educated citizens –			



appreciation of human creativity and achievement.)			
Cross Curricular Links (Authentic Connections)	Maths and chemistry.	Maths and chemistry.	Maths and chemistry.
Key Assessment	3.1 and 3.2 end of topics and smaller assessments within topics.	3.3 end of topic and smaller assessments within topic.	3.4 end of topic and smaller assessments within topic.
How Science Work Skills in Science	 These skills will continuously throughout the year, some or all of which will be covered within each topic Variables Equipment Risk assessments Writing a method Presenting data (bar charts and line graphs) Interpreting data Types of error (measuring, systematic, random) Equations, calculations and units Evaluating Models 		
Year 13	Term 1	Term 2	Term 3
Unit (Tablet in 39 week plan)	3.5 Energy Transfers between Organisms3.6 Organisms Responding to Change3.7 Populations3.8 Gene Expression	3.1 Biological Molecules3.2 Cells3.3 Organisms and Exchange3.4 Genetic Information and VariationPaper 3	Exam Prep



Key Retainable	Respiration	Types of biological molecule	
for Y11/13)	Photosynthesis	DNA and RNA	
What How Why	Ecosystems	Enzymes	
	Nutrient Cycles	ATP, water and ions	
	Receptors	Cell structure	
	Nervous co-ordination	Mitosis	
	Homeostasis	Transport across membranes	
	Inheritance	Immunity	
	Evolution	Gas exchange	
	Control of gene expression	Digestion and absorption	
	Gene technology	Mass transport in plants and animals	
		DNA structure	
		Protein synthesis	
		Gene mutations	
		Natural selection	
		Biodiversity	
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	Light dependent, light independent, glycolysis, link reaction, Kreb's cycle, electron transport chain, production, decomposition. Taxes, kinesis, receptors, action	Paper 1 and paper 2 mocks	
	potential, neuromuscular, actin,		



	myosin, negative feedback, insulin, glucagon, osmoregulation, inheritance, selection, speciation. Mutation, stem cells, transcription, translation, epistasis, epigenetics, recombinant DNA.		
Opportunities for	Textbooks and revision quides	Textbooks and revision guides	Textbooks and revision guides
Reading			
Developing Cultural Capital (exposure to very best- essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)			
Cross Curricular Links (Authentic Connections)	Maths and chemistry.	Maths and chemistry.	Maths and chemistry.
Key Assessment	 3.5 end of topic and smaller assessments within topic. 3.6 and 3.7 end of topics and smaller assessments within topics. 3.8 end of topic and smaller assessments within topic. 		
How Science Work Skills in Science	 These skills will continuously throug Variables Equipment Risk assessments 	, ghout the year, some or all of which will be co	vered within each topic



 Writing a method Presenting data (bar charts and line graphs) Interpreting data Types of error (measuring, systematic, random) Equations, calculations and units
 Equations, calculations and units Evaluating
 Models