

Curriculum Sequencing Grid: A-Level Biology

Year 12	Term 1	Term 2	Term 3
Unit (Tablet in 39 week plan)	3.1 Biological Molecules 3.2 Cells	3.3 Organisms and Exchange	3.4 Genetic Information and Variation
Key Retainable Knowledge (Required for Y11/13) <ul style="list-style-type: none"> What... How.... Why.... 	Types of biological molecule DNA and RNA Enzymes ATP, water and ions Cell structure Mitosis Transport across membranes Immunity	Gas exchange Digestion and absorption 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.)	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.)			

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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	<ul style="list-style-type: none"> • These skills will continuously throughout the year, some or all of which will be covered within each topic <ul style="list-style-type: none"> ○ 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 Organisms 3.6 Organisms Responding to Change 3.7 Populations 3.8 Gene Expression	3.1 Biological Molecules 3.2 Cells 3.3 Organisms and Exchange 3.4 Genetic Information and Variation Paper 3	Exam Prep
Key Retainable Knowledge (Required for Y11/13) <ul style="list-style-type: none"> • What... How.... Why.... 	Respiration Photosynthesis Ecosystems Nutrient Cycles Receptors	Types of biological molecule DNA and RNA Enzymes ATP, water and ions Cell structure	

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	<p>Nervous co-ordination</p> <p>Homeostasis</p> <p>Inheritance</p> <p>Evolution</p> <p>Control of gene expression</p> <p>Gene technology</p>	<p>Mitosis</p> <p>Transport across membranes</p> <p>Immunity</p> <p>Gas exchange</p> <p>Digestion and absorption</p> <p>Mass transport in plants and animals</p> <p>DNA structure</p> <p>Protein synthesis</p> <p>Gene mutations</p> <p>Natural selection</p> <p>Biodiversity</p>	
<p>Key Technical Vocabulary (To be modelled and deliberately practiced in context.)</p>	<p>Light dependent, light independent, glycolysis, link reaction, Krebs's cycle, electron transport chain, production, decomposition.</p> <p>Taxes, kinesis, receptors, action potential, neuromuscular, actin, myosin, negative feedback, insulin, glucagon, osmoregulation, inheritance, selection, speciation.</p> <p>Mutation, stem cells, transcription, translation, epistasis, epigenetics, recombinant DNA.</p>	<p>Paper 1 and paper 2 mocks</p>	
<p>Opportunities for Reading</p>	<p>Textbooks and revision guides.</p>	<p>Textbooks and revision guides.</p>	<p>Textbooks and revision guides.</p>

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<p>Developing Cultural Capital (exposure to very best- essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)</p>			
<p>Cross Curricular Links (Authentic Connections)</p>	<p>Maths and chemistry.</p>	<p>Maths and chemistry.</p>	<p>Maths and chemistry.</p>
<p>Key Assessment</p>	<p>3.5 end of topic and smaller assessments within topic.</p> <p>3.6 and 3.7 end of topics and smaller assessments within topics.</p> <p>3.8 end of topic and smaller assessments within topic.</p>		
<p>How Science Work Skills in Science</p>	<ul style="list-style-type: none"> • These skills will continuously throughout the year, some or all of which will be covered within each topic <ul style="list-style-type: none"> ○ 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 		