



YEAR 9 CURRICULUM SUMMARY



When?	Knowledge	Understanding	Assessment
<p>Rotation 1</p> <p>Topic 1: B1 Cell Structure</p>	<ul style="list-style-type: none"> • Use microscopy techniques to observe a cell • Compare the components of animal and plant cells • Compare eukaryotic cells and prokaryotic cells • Describe the structure and functions of specialised plant and animal cells. 	<p>Students will carry out a range of practical experiments during these topics.</p> <p>Topic 1: B1 Cell Structure key vocabulary:</p> <p>alveoli bacteria cell membrane cell wall cellulose chlorophyll chloroplasts cytoplasm eukaryotic cells mitochondria nucleus prokaryotic cells ribosomes sperm</p>	<p>Assessment: B1 Cell Structure Assessment (40 Mark)</p>
<p>Rotation 1</p> <p>Topic 2 : B1 Cell Transport</p>	<ul style="list-style-type: none"> • Compare diffusion , osmosis and active transport • Describe the importance of osmosis in plant cells and animals cells • Carry out an investigation to observe the effect of different solution types have on plant cells • Describe the factors which affect the 	<p>Students will carry out a range of practical experiments during these topics.</p> <p>Topic 2 : B1 Cell Transport key vocabulary:</p> <p>active transport algae cell membrane</p>	<p>Assessment: B1 Cell Transport Assessment (40 marks)</p>



When?	Knowledge	Understanding	Assessment
	<p>rate of material exchange</p>	<p>cell wall cellulose diffusion hypertonic (osmosis) isotonic (osmosis) osmosis partially permeable membrane phloem plasmolysis resolving power stomata turgor ventilated xylem</p>	
<p>Rotation 2 Topic 3: B2 Cell Division</p>	<ul style="list-style-type: none"> Describe the cell cycle with a particular focus on mitosis Compare how cell differentiation is different in plants and animals with a focus on undifferentiated cells and their functions. Describe the potential benefits , risks and social and ethical issues associated with the use of stem cells in medical research and treatment 	<p>Students will carry out a range of practical experiments during these topics.</p> <p>Topic 3: B2 Cell Division key vocabulary: adult stem cells cell cycle cloning differentiate embryonic stem cells mitosis stem cells therapeutic cloning zygote</p>	<p>Assessment: B2 Cell Division Assessment (40 marks)</p>



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<p>Rotation 2</p> <p>Topic 4 : B4 Organisation and the Digestive System</p>	<ul style="list-style-type: none"> • Be able to describe the different levels of organisation with a particular focus on the human digestive system • Describe the basic structure of lipids, proteins and carbohydrates. • Carry out an investigation to identify the main food groups. • Describe how enzymes work as a biological catalyst and carry out their function • Illustrate the different factors which affect the rate of enzyme action • Carry out an investigation to investigate the effect of pH on the rate of enzyme action 	<p>Students will carry out a range of practical experiments during these topics.</p> <p>Topic 4 : B4 Organisation and the Digestive System key vocabulary:</p> <p>active site amino acids amylase bile carbohydrases carbohydrates catalyst denatured differentiate digestive system enzymes fatty acids glycerol lipase lipids metabolism organ organ system proteases</p>	<p>Assessment: B3 Organisation and the Digestive System Assessment (40 mark)</p>



When?	Knowledge	Understanding	Assessment
		proteins simple sugars tissue	