

Learning Programme GCSE Biology OCR Gateway 9-1 2018-2019

St Ambrose College Year 3 (MF group only)

Topic/Content	Objectives/Skills	Homework	Assessment	Success Criteria OCR Gateway Biology from gov.org 9-1 GCSE	Stretch & Challenge (Thirst for Learning)
<p>Progress will be according to the teaching group needs as teachers will use differentiated approaches to tailor delivery appropriately.</p> <p>Below is expected topic delivery timing.</p> <p><u>First half term</u> B1.1 b Explain how the main subcellular structures of Eukaryotic cells (Plants and Animals) and Prokaryotic cells are related to their functions.</p>	<p><b>Objective Requirements</b></p> <p><b>Weighting</b></p> <p><b>AO1 Demonstrate knowledge and understanding of:</b></p> <ul style="list-style-type: none"> <li>• scientific ideas</li> <li>• scientific techniques and procedures <b>40%</b></li> </ul> <p><b>AO2 Apply knowledge and understanding of:</b></p> <ul style="list-style-type: none"> <li>• scientific ideas</li> <li>• scientific enquiry, techniques and procedures <b>40%</b></li> </ul> <p><b>AO3 Analyse information and ideas to:</b></p> <ul style="list-style-type: none"> <li>• interpret and evaluate</li> <li>• make judgements and draw conclusions</li> </ul>	<p>Pupils need to spend at least one hour per week consolidating their class work using their class notes, Kerboodle online resources and senecalearning.com as a minimum.</p> <p>Pupils will also be set topic appropriate tasks and work either on past examination questions to be completed at home or as formal assessment within lessons.</p>	<p><b>Tasks listed below will be teacher assessed with diagnostic feedback provided. These tasks are to be carried out under exam conditions in lessons. All tasks are Exam Board questions or Exam Board practical skills assessments. If pupils are absent for these assessments, if time permits they will complete them upon their return ASAP before data reporting is completed.</b></p> <p><b>These will be used to form judgements/interim grades. Final grades will be based using these and the end of unit tests, and end of year examinations.</b></p>	<p><b>1. Grades 8 and 8-8</b></p> <p><b>1.1 To achieve grades 8 and 8-8 candidates will be able to:</b></p> <ul style="list-style-type: none"> <li>• demonstrate relevant and comprehensive knowledge and understanding and apply these correctly to both familiar and unfamiliar contexts using accurate scientific terminology</li> <li>• use a range of mathematical skills to perform complex scientific calculations</li> <li>• critically analyse qualitative and quantitative data to draw logical, well-evidenced conclusions</li> <li>• critically evaluate and refine methodologies, and judge the validity of scientific conclusions</li> </ul> <p><b>2. Grades 5 and 5-5</b></p> <p><b>2.1 To achieve grades 5 and 5-5 candidates will be able to:</b></p>	<p>Access to Kerboodle resources and online textbook</p> <p>Resources on school shared area for boys to stretch and challenge themselves</p> <p>Free access to senecalearning.com which uses intelligent algorithms and mind palace skills and is an excellent accelerated learning platform</p> <p>Boys have access to the online school archive of Biological Sciences Review magazines from 1993-date via Dynamic Learning to improve their independent learning skills</p>

<p>To include nucleus genetic material, chromosomes, plasmids, mitochondria (contain enzymes for cellular respiration), chloroplasts (contain chlorophyll) and cell membranes (contain receptor molecules, provides a selective barrier to molecules)</p> <p><u>B1.2g</u> Explain the mechanism of enzyme action To include the role of enzymes in metabolism, the role of the active site, enzyme specificity (lock and key hypothesis) and factors affecting the rate of enzyme-controlled</p>	<p>• <b>develop and improve experimental procedures 20%</b></p>		<p><b>Other tasks will be set in lessons and homework that will be self or peer assessed, and the marks will be recorded. These will be appropriate to the teaching group and the topic being delivered at the time.</b></p> <p><u>First half term</u> Exam questions on subcellular structures of Eukaryotic cells, Exam questions on Enzymes <u>PAG B4 Rates of Enzyme controlled reactions</u></p> <p><u>Second half term</u> Exam questions on respiration <u>PAG B6 Physiology, responses respiration (Investigate the effect of exercise on pulse rate, ventilation rate and recovery)</u> Exam questions on Respiration practical involving Enzymes</p> <p><u>Christmas break</u></p>	<ul style="list-style-type: none"> <li>demonstrate mostly accurate and appropriate knowledge and understanding and apply these mostly correctly to familiar and unfamiliar contexts, using mostly accurate scientific terminology</li> <li>use appropriate mathematical skills to perform multi-step calculations</li> <li>analyse qualitative and quantitative data to draw plausible conclusions supported by some evidence</li> <li>evaluate methodologies to suggest improvements to experimental methods, and comment on scientific conclusions</li> </ul> <p><b>3. Grades 2 and 2-2</b></p> <p><b>3.1 To achieve grades 2 and 2-2 candidates will be able to:</b></p> <ul style="list-style-type: none"> <li>demonstrate some relevant scientific knowledge and understanding using limited scientific terminology</li> <li>perform basic calculations</li> <li>draw simple conclusions from qualitative or quantitative data</li> </ul>	<p>Biology Society every week where boys choose topics to present to their peers, and prepare for Q &amp; A sessions after their presentation</p> <p>Boys can visit MOSI museum</p> <p>Boys can visit the Science Department Library in rm 2207 1-130pm Monday, Tuesday and Friday to view books available. If they wish to borrow books they will need to see Mrs White (HOD) to sign them out/in</p> <p>Boys can plan activities for the KS3 Science Society run on Thursday lunchtimes, for younger boys</p>
--	---	--	--	--	---

<p>reactions (pH, temperature, substrate and enzyme concentration)  <u>B1.2f</u>  Describe experiments that can be used to investigate enzymatic reactions.</p> <p><u>Second half term</u>  <u>B1.3</u>  Respiration whole content  To include <u>B1.3 a-1.3f</u></p> <p><u>Christmas break</u></p> <p><u>Third half term</u>  <u>B2</u> Scaling up  Selective topics  <u>B2.1a</u> Explain how substances are transported into and out of cells through diffusion,</p>			<p><u>Third half term</u>  <u>PAG B1</u> Examination of a range of specialised cells using a light microscope  Exam questions on specialised cells  Exam questions on Movement in and out of cells</p> <p><u>Fourth half term</u>  Exam questions on the Heart  Exam questions on Circulation</p> <p><u>Easter break</u></p> <p><u>Fifth half term</u>  Exam questions on Nervous System  Exam questions on the Brain</p> <p><u>Sixth half term</u>  END OF YEAR EXAM  Exam questions on Coordination and Control</p>	<ul style="list-style-type: none"> <li>• make basic comments relating to experimental methods</li> </ul>	
---	--	--	---	--	--

<p>osmosis and active transport</p> <p><u>B2.1c</u> Explain the importance of cell differentiation to include the production of specialised cells allowing organisms to become more efficient and examples of specialised cells</p> <p><u>B2.2</u> Challenges of size from <u>B2.2a – B2.2e</u></p> <p><u>Fourth half term</u> If necessary, complete Challenges of Size</p> <p>Start <u>B3</u> Organism level systems Coordination and Control - The Nervous System</p>					
--	--	--	--	--	--

<p><u>B3.1a - B3.1h</u></p> <p><u>Easter break</u></p> <p><u>Fifth half term</u> Complete B3.1 if needed Revision for End of Year Exam</p> <p><u>Sixth half term</u> Complete B3.1 if needed and begin B3.2 Coordination and Control - the Endocrine System</p>					
---	--	--	--	--	--