

HIGHFIELDS SCHOOL

CURRICULUM OVERVIEW 2023-2024



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SUBJECT: A LEVEL BIOLOGY

EXAMINATION BOARD: OCR

AUTUMN TERM - YEAR 12	SPRING TERM - YEAR 12	SUMMER TERM - YEAR 12
<p>Module 2 – Foundations in biology</p> <ul style="list-style-type: none"> 2.1 Cell structure 2.2 Biological molecules 2.3 Nucleotides and nucleic acids 2.4 Enzymes 2.5 Biological membranes 2.6. Cell division, cell diversity and cellular organisation <p>Module 1 will be integrated within other modules of the specification</p> <p>Potential Practical Activities</p> <ul style="list-style-type: none"> Stage micrometers and graticules Observation of specialised tissue and testing for reducing sugars, proteins and lipids Osmosis in plant tissue Enzyme investigations looking at factors that affect the rate of reaction e.g. substrate concentration, use of colorimeters 	<p>Module 3 – Exchange and transport</p> <ul style="list-style-type: none"> 3.1 Exchange surfaces 3.2 Transport in animals 3.3 Transport in plants <p>Module 4 – Biodiversity, evolution and disease</p> <ul style="list-style-type: none"> 4.1 Communicable diseases, disease prevention and the immune system 4.2 Biodiversity <p>Module 1 will be integrated within other modules of the specification.</p> <p>Potential Practical Activities</p> <ul style="list-style-type: none"> Potometers to measure the rate of transpiration Heart dissection Lung dissection Stem dissection Estimating population techniques 	<p>Module 4 – Biodiversity, evolution and disease</p> <ul style="list-style-type: none"> 4.3 Classification and evolution <p>Module 5 – Communication, homeostasis and energy</p> <ul style="list-style-type: none"> 5.1 Communication and homeostasis 5.2 Excretion as an example of homeostatic control 5.4 Hormonal Communication <p>Module 6 – Genetics, evolution and ecosystems</p> <ul style="list-style-type: none"> 6.4 Cloning and biotechnology <p>Module 1 will be integrated within other modules of the specification</p> <p>Potential Practical Activities</p> <ul style="list-style-type: none"> Investigating pH change during yoghurt production Estimating microbial populations using plating method
<p>ASSESSMENT</p> <p>Cell Structure Exam Biological Molecules Exam December Exam (Enzymes, Biological Membranes, Nucleic Acids and Cell Division and Specialisation) PAGs 1, 4, 5, 9, 8</p>	<p>ASSESSMENT</p> <p>Plant Transport Exam Animal Transport Exam Biodiversity and Evolution Exam Mock Exam PAGs 1, 2, 3, 5, 10</p>	<p>ASSESSMENT</p> <p>Year 12 Examination (Modules 1 to 4) PAG 7</p>

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AUTUMN TERM - YEAR 13	SPRING TERM - YEAR 13	SUMMER TERM - YEAR 13
<p>Module 6 – Genetics, evolution and ecosystems</p> <ul style="list-style-type: none">6.1 - Cellular control6.3 - Manipulating genomes <p>Module 5 – Communication, homeostasis and energy</p> <ul style="list-style-type: none">5.5 – Plant and animal responses5.6 - Photosynthesis5.7 - Respiration <p>Module 1 will be integrated within other modules of the specification</p> <p>Potential Practical Activities</p> <ul style="list-style-type: none">Investigating Respiration in Yeast	<p>Module 6 – Genetics, evolution and Ecosystems</p> <ul style="list-style-type: none">6.2 - Patterns of inheritance6.5 - Ecosystems6.6 - Populations and sustainability <p>Module 1 will be integrated within other modules of the specification</p> <p>Potential Practical Activities</p> <ul style="list-style-type: none">Investigating changes in pulse rate during exerciseInvestigating factors affecting the rate of photosynthesis	<p>Revision and examination preparation - Modules 1 to 6</p>
<p>ASSESSMENT Autumn Term Mock Biology PAG 12</p>	<p>ASSESSMENT Year 13 A2 School Mock Examinations PAG 11</p>	<p>ASSESSMENT Final Examinations Biological processes 100 marks (2 hour 15 minutes) Biological diversity 100 marks (2 hour 15 minutes) Unified biology (1 hour 30 minutes)</p>