

GCSE Biology Curriculum Map

Topic 1 <u>Cell Biology</u>	Topic 2 <u>Cell organisation</u>	Topic 3 <u>Respiration</u>	Topic 4 <u>Plants and Photosynthesis</u>	Topic 5 <u>Human Infection and Response</u>
<ul style="list-style-type: none"> ➤ Animal and plant cells ➤ Prokaryotic cells ➤ Cells, Tissues, Organs and Organ Systems ➤ Microscopes ➤ Microscopes – Required Practical ➤ Specialised cells ➤ Mitosis ➤ Stem cells ➤ Diffusion ➤ Osmosis ➤ Osmosis – Required Practical ➤ Active Transport ➤ Exchange surfaces 	<ul style="list-style-type: none"> ➤ Food groups ➤ Food chemistry ➤ Food tests - Required Practical ➤ Enzymes ➤ Enzymes – Required Practical ➤ The digestive system ➤ Digestive enzymes ➤ Blood ➤ Blood vessels ➤ The heart ➤ Coronary heart disease 	<ul style="list-style-type: none"> ➤ The respiratory system ➤ Aerobic respiration ➤ Anaerobic respiration in animals ➤ Anaerobic respiration in plants ➤ Response to exercise ➤ Metabolism 	<ul style="list-style-type: none"> ➤ Plant cells recap ➤ Plant cells, tissues and organs ➤ The leaf ➤ Transport system in plants ➤ Photosynthesis ➤ What affects photosynthesis ➤ Photosynthesis required practical ➤ How do plants use glucose? 	<ul style="list-style-type: none"> ➤ Health and disease ➤ Cancer ➤ Communicable diseases ➤ Viral diseases ➤ Bacterial diseases ➤ Fungal and protist diseases ➤ Culturing microorganisms ➤ Our body's defences ➤ Vaccination ➤ Antibiotics and painkillers ➤ Drug development ➤ Plant diseases and defences

Assessments

Students are assessed at the end of Year 11 with two 1 hour 45-minute terminal examinations each worth 50% of the final grade.

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Topic 6 <u>Ecosystems</u>	Topic 7 <u>Homeostasis</u>	Topic 8 <u>Inheritance</u>	Topic 9 <u>Evolution</u>	Topic 10 <u>Humans and the environment</u>
<ul style="list-style-type: none"> ➤ Classification ➤ Ecosystems ➤ Food chains/webs ➤ Competition ➤ Adaptations ➤ Biomass ➤ Biodiversity ➤ Quadrats Required Practical 	<ul style="list-style-type: none"> ➤ Homeostasis ➤ The nervous system ➤ Synapse and reflexes ➤ Reaction time Required Practical ➤ The brain ➤ The eye ➤ The endocrine system ➤ Controlling blood glucose ➤ Diabetes ➤ The kidneys ➤ Human reproduction ➤ Contraception ➤ Plant hormones ➤ Plant hormones Required Practical 	<ul style="list-style-type: none"> ➤ Reproduction ➤ Meiosis ➤ DNA and the genome ➤ DNA structure ➤ Genetic inheritance ➤ Punnet Squares ➤ Inherited Disorders ➤ Sex determination 	<ul style="list-style-type: none"> ➤ Variation ➤ Gregor Mendel ➤ Evolution by natural selection ➤ Other Theories of evolution + accepting Darwin's ideas ➤ Speciation ➤ Extinction and Fossils ➤ Selective breeding ➤ Genetic Engineering ➤ Cloning 	<ul style="list-style-type: none"> ➤ Decay ➤ Decay Required Practical ➤ How materials are cycled ➤ Carbon Cycle ➤ Water cycle ➤ Human population and biodiversity ➤ Land and water pollution ➤ Air pollution ➤ Global warming ➤ Food security and production ➤ Farming techniques & fishing ➤ Biotechnology

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