

Biology (Science)



KS4 Curriculum Breakdown



<i>Year 10</i>		<i>Year 11</i>
HT1	Cells <ul style="list-style-type: none">• Microscopes• Animal and plant cells• Eukaryotic and prokaryotic cells• Specialised cells• Diffusion and osmosis• Active transport• Cell division• Stem cells• Culturing microorganisms	Homeostasis and response <ul style="list-style-type: none">• Homeostasis• Nervous system• Reflex actions• The brain• The eye and common problems• Hormone control• Control of blood glucose• Treating diabetes• Negative feedback• Human Reproduction• Hormones and menstrual cycle• Contraception and IVF• Plant hormones and responses• Controlling of body temperature• Removing waste products and kidneys• Dialysis and transplants

<p>HT2</p>	<p>Organisation</p> <ul style="list-style-type: none"> • Tissues and organs • Human digestive system • Food tests • Enzymes • The heart and blood vessels • The blood • Non-communicable disease and associated health issues • Plant tissues and organs • Transport systems in plants 	<p>Homeostasis and response (continued)</p> <ul style="list-style-type: none"> • Homeostasis • Nervous system • Reflex actions • The brain • The eye and common problems • Hormone control • Control of blood glucose • Treating diabetes • Negative feedback • Human Reproduction • Hormones and menstrual cycle • Contraception and IVF • Plant hormones and responses • Controlling of body temperature • Removing waste products and kidneys • Dialysis and transplants
<p>HT3</p>	<p>Infection & Response</p> <ul style="list-style-type: none"> • Communicable diseases • Viral diseases • Bacterial diseases • Fungal and protists diseases • Human defence systems • Vaccinations • Antibiotics and painkillers • Discovery and development of drugs • Monoclonal antibodies: producing and uses • Plant diseases 	<p>Inheritance, variation & evolution</p> <ul style="list-style-type: none"> • Types of reproduction • Cell division in sexual reproduction • DNA and genome • DNA structure and protein synthesis • Gene expression and mutation • Inheritance in action • Inherited disorders and screening of • Variation • Evolution of natural selection • Genetic engineering • Cloning and adult cell cloning • Ethics of genetic technologies • The history of genetics • Theories of evolution • Accepting Darwin's ideas • Evolution and speciation • Evidence for evolution

		<ul style="list-style-type: none"> • Fossils and extinction • Antibiotic resistant bacteria • Classification
HT4	Infection & Response (continued) <ul style="list-style-type: none"> • Communicable diseases • Viral diseases • Bacterial diseases • Fungal and protists diseases • Human defence systems • Vaccinations • Antibiotics and painkillers • Discovery and development of drugs • Monoclonal antibodies: producing and uses • Plant diseases 	Biology: Inheritance, variation & evolution (continued) <ul style="list-style-type: none"> • Types of reproduction • Cell division in sexual reproduction • DNA and genome • DNA structure and protein synthesis • Gene expression and mutation • Inheritance in action • Inherited disorders and screening of • Variation • Evolution of natural selection • Genetic engineering • Cloning and adult cell cloning • Ethics of genetic technologies • The history of genetics • Theories of evolution • Accepting Darwin's ideas • Evolution and speciation • Evidence for evolution • Fossils and extinction • Antibiotic resistant bacteria • Classification
HT5	Bioenergetics <ul style="list-style-type: none"> • Rate of photosynthesis • How plants use glucose • Anaerobic and aerobic respiration • Response to exercise • Metabolism 	Ecology <ul style="list-style-type: none"> • Importance of communities • Organisms in the environment • Distribution and abundance • Competition in animals and plants • Adaptations in animals and plants • Feeding relationships • Materials recycling • The carbon cycle

		<ul style="list-style-type: none"> • Rates of decomposition • Human population • Land, air and water pollution • Deforestation and peat destruction • Global warming • The impact of change • Maintaining diversity • Trophic levels and biomass • Biomass transfers • Factors affecting food security
HT6	<p>Key skill development Application and exam technique</p>	<p>Key skill development Application and exam technique</p>