



BIOLOGY CURRICULUM LEARNING JOURNEY

Knowledge & Concepts increase students depth/ challenge and build on previous learning where topics are revisited throughout their learning journey

Due to facility and resource considerations, not all classes study the same topics at the same time. The table below depicts the content covered within each year group and also how the curriculum progresses where topics are revisited.

		Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
Half Term 1	Topics	Cells	Health and lifestyle	Cell structure and transport	Communicable Disease and Treating and preventing disease	Adaptations, interdependence and competition	Biological molecules and Cells	Energy transfer in and between organisms, Organisms respond to changes in their environments
	Knowledge	Observing cells, microscopy, Plant and animals cell structures and Specialised cells,	Nutrients, Food tests, Unhealthy diet and digestive system, Bacteria and enzymes is digestion	Plant and animal cells, cell specialisation, transport across membranes; diffusion, osmosis and active transport	Communicable diseases, vaccinations and development of drugs	Communities, competition and adaptation in plants and in animals	Biological molecules, Nucleic acids,	Photosynthesis, Respiration and energy and ecosystems, Response to stimuli
Half Term 2	Topics	Transport in cells	Health and lifestyle	Cell division	Respiration and the human nervous system	Organising and ecosystem, Biodiversity and ecosystems	Cells	Organisms respond to changes in their environments and
	Knowledge	Movement of substances into and out of cells, unicellular organisms	The effect of Drugs, Alcohol and smoking on the body	How cells divide, grow and differentiate. What stems cells are and their uses.	Aerobic and anaerobic respiration, metabolism, Nervous system, reflexes, eyes and brain.	Feeding relationships, carbon cycle, decomposition, Effect of Human population growth, air pollution, global warming and food security	Cell structure and Transport across cell membranes	Nervous coordination and muscles, Homeostasis,
Half Term 3	Topics	Structure and function of body systems	Ecosystems and adaptation	Organisation and the Digestive system	Hormonal Coordination	Exam revision	Immunology	Genetics, Population and evolution
	Knowledge	Levels of organisation, gas exchange and breathing	Photosynthesis, Leaves, plants minerals chemosynthesis and aerobic and anaerobic respiration	Cells to organ system, digestive system, enzymes and enzymes action	Hormonal control, blood glucose control, diabetes, menstrual cycle, fertility, Plant hormones	Exam practice and technique	Cell recognition and the immune system.	Inherited change, population and evolution and Population in ecosystems

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Half Term 4	Topics	Structure and function of body systems	Ecosystem processes	Organising animals and plants	Homeostasis in action and Reproduction	Exam revision	Organism exchange substances with their environment	The control of gene expression
	Knowledge	Skeleton, movement: joints and muscles	Food chains, food webs, disruption to food chains and webs, ecosystems	Circulatory system, respiratory system and gas exchange in Animals. Organisation of plant cells, tissues and organs transpiration.	Kidneys, dialysis, types of reproduction, DNA and the genome	Exam practice and technique	Exchange and mass transport in animals and plants	Gene expression, Recombinant DNA technology
Half Term 5	Topics	Reproduction in animals	Adaptation and Inheritance	Non-communicable disease	Variation and Evolution	Exam revision	Genetic information, variation	Exam revision
	Knowledge	Adolescence, Puberty, Male and female reproductive organs, Fertilisation and implantation, Development of foetus, The menstrual cycle	Competition and adaptation, adapting to change, variation – continuous and discontinuous	Cancer, smoking and the risk of disease, Alcohol and other carcinogens and their effect on health.	Causes of variation, evolution, selective breeding, genetic engineering and cloning	Exam practice and technique	DNA, genes and protein synthesis,	Exam practice and technique
Half Term 6	Topics	Reproduction in plants	Adaptation and Inheritance	Photosynthesis	Genetics and Evolution	Exam revision	Variation and relationships between organisms	Exam revision
	Knowledge	Flowers and pollination, Fertilisation and germination, Seed dispersal	Inheritance, natural selection and extinction	Photosynthesis, rate of photosynthesis and how plants use glucose made and how photosynthesis can be optimised.	Theories of evolution, Darwin and his evidence, fossils, extinction, antibiotic resistance and classification	Exam practice and technique	Genetic diversity, Biodiversity.	Exam practice and technique