

Year	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
7	<p>Organisation 1: Cells as building blocks:</p> <p>What are cells?</p> <p>What are the parts of cells?</p> <p>How do we study cells?</p> <p>What are unicellular organisms?</p> <p>How are cells specialised?</p> <p>How are cells organised?</p>	<p>Organisation 1: Cells as building blocks:</p> <p>What is diffusion</p> <p>Organisation 2: Systems:</p> <p>What is an organ system?</p> <p>What does the respiratory system do and how does it work?</p>	<p>Organisation 2: Systems:</p> <p>What does the circulatory system do and how does it work?</p> <p>What does the muscular skeletal system do and how does it work?</p> <p>What does the digestive system do and how does it work?</p> <p>What are the benefits of exercise?</p>	<p>Inheritance 1: Reproduction:</p> <p>What is the reproductive system and how does it work?</p> <p>What happens during puberty?</p> <p>What happens during the menstrual cycle?</p> <p>How do sperm and egg cells meet?</p> <p>What happens during pregnancy?</p>	<p>Inheritance 1: Reproduction:</p> <p>What happens during birth?</p> <p>Inheritance 2: Variation:</p> <p>What is variation?</p> <p>What are the types and causes of variation?</p> <p>How can we investigate variation</p>	<p>Inheritance 2: Variation:</p> <p>What is biodiversity?</p> <p>Where is biodiversity found?</p> <p>How can we investigate biodiversity?</p>
8	<p>Resources 1: Respiration and photosynthesis:</p> <p>What is photosynthesis?</p> <p>How can we investigate photosynthesis?</p> <p>How are plants adapted for photosynthesis?</p> <p>What is respiration?</p> <p>What is meant by aerobic and anaerobic respiration?</p>	<p>Organisation 1: Health:</p> <p>What is a healthy diet and why is it important?</p> <p>What are the consequences of smoking?</p> <p>What are drugs and what are the consequences of taking them?</p> <p>What are communicable diseases?</p>	<p>Organisation 1: Health:</p> <p>What does the immune system do and how does it work?</p> <p>What are vaccines and how do they work?</p> <p>Inheritance 1: DNA:</p> <p>What is heredity?</p> <p>What is DNA?</p> <p>How was DNA discovered?</p> <p>How do plants reproduce?</p>	<p>Inheritance 3: Plant reproduction</p> <p>How do plants disperse their seeds?</p> <p>How can we investigate seed dispersal?</p> <p>Resources 2: Ecology:</p> <p>What are feeding relationships?</p> <p>What is interdependence and why is it important?</p>	<p>Resources 2: Ecology:</p> <p>What are adaptations?</p> <p>What is sampling?</p> <p>What is food security and why are plants important in it?</p> <p>What is bioaccumulation?</p>	<p>Evolution 1: Evolution</p> <p>What is selective breeding?</p> <p>What is natural selection?</p> <p>What is extinction?</p> <p>What is conservation?</p>

	What are the commercial applications of respiration?					
9	<p>Organisation 1: Cell structure and Transport:</p> <ul style="list-style-type: none"> Eukaryotic cells Prokaryotic cells Specialised cells <p>How to use microscopes to produce biological drawings</p> <ul style="list-style-type: none"> Diffusion Osmosis Active transport 	<p>Organisation 2: Organisation in Animals:</p> <ul style="list-style-type: none"> Principles of organisation Nutrition Digestive system Enzymes Circulatory system Blood and blood vessels Gas exchange 	<p>Resources 1: Bioenergetics:</p> <ul style="list-style-type: none"> Aerobic respiration Anaerobic respiration Metabolism Response to exercise Photosynthesis Investigating photosynthesis Limiting factors of photosynthesis Greenhouse effect 	<p>Organisation 3: Organisation in Plants:</p> <ul style="list-style-type: none"> Plant tissues Transpiration Investigating transpiration Translocation <p>Resources 2: Ecology:</p> <ul style="list-style-type: none"> Organisation in an ecosystem Trophic levels 	<p>Resources 2: Ecology:</p> <ul style="list-style-type: none"> Food chains Pyramids of biomass Energy transfers in ecosystems Interdependence Food webs Adaptations Biotic and abiotic factors Investigating ecosystems Decomposition Investigating decomposition 	<p>Resources 2: Ecology:</p> <ul style="list-style-type: none"> Impact of environmental change Water cycle Carbon cycle
10	<p>Inheritance 1: Reproduction</p> <ul style="list-style-type: none"> Mitosis Meiosis Stem cells <p>Sexual and asexual reproduction</p> <p>Sex determination</p>	<p>Inheritance 1: Reproduction</p> <ul style="list-style-type: none"> Selective breeding <p>Organisation 1: Disease</p> <ul style="list-style-type: none"> What is disease? Viral diseases Fungal diseases Protist diseases 	<p>Organisation 1: Disease</p> <ul style="list-style-type: none"> Bacterial diseases Studying microorganisms Painkillers Antibiotics 	<p>Organisation 1: Disease</p> <ul style="list-style-type: none"> Drug trials What diseases do plants get? Plant defences? Coronary heart disease The effect of lifestyle Cancer 	<p>Inheritance 2: Genetics</p> <ul style="list-style-type: none"> DNA Protein synthesis Genetic inheritance Genetic disorders 	<p>Inheritance:</p> <ul style="list-style-type: none"> Mendel Genetic engineering Cloning in plants Cloning in animals

11	<p>Organisation 1: Nervous control:</p> <p>Human nervous system</p> <p>Reflexes</p> <p>Investigating reflexes</p> <p>The brain</p> <p>The eye</p> <p>Eye defects</p> <p>Organisation 2: Hormonal control:</p> <p>The endocrine system</p> <p>Control of body temperature</p> <p>Control of blood glucose</p>	<p>Organisation 2: Hormonal control:</p> <p>Diabetes</p> <p>Regulation of water</p> <p>The kidney</p> <p>Kidney failure</p> <p>Reproductive hormones</p> <p>Contraception</p> <p>Infertility treatments</p> <p>Adrenaline and thyroxine</p>	<p>Organisation 2: Hormonal control:</p> <p>Plant hormones</p> <p>Uses of plant hormones</p> <p>Evolution 1: Variation and evolution:</p> <p>Variation</p> <p>Selective breeding</p> <p>Natural selection</p> <p>Speciation</p> <p>The development of the theory of natural selection</p> <p>Evidence for evolution</p> <p>Extinction</p>	<p>Evolution 1: Variation and evolution:</p> <p>Classification</p> <p>Resources 1: Human impact:</p> <p>Biodiversity</p> <p>Waste management</p> <p>Loss of habitat</p> <p>Global warming</p> <p>Conservation</p> <p>Food production</p> <p>Biotechnology</p>	<p>Revision and exams</p> <p>Review of GCSE content tailored to the needs of the class</p> <p>Exam technique</p>	<p>Revision and exams</p> <p>Review of GCSE content tailored to the needs of the class</p> <p>Exam technique</p>
12	<p>Teacher 1:</p> <p>Organisation 2: Biological Molecules</p> <p>Water</p> <p>Inorganic ions</p> <p>Monomers and polymers</p> <p>Condensation and hydrolysis reactions</p>	<p>Teacher 1:</p> <p>Organisation 2: Biological Molecules</p> <p>Enzymes</p> <p>Nucleic acids</p> <p>Semi-conservative replication of DNA</p> <p>ATP</p>	<p>Teacher 1:</p> <p>Resources 2: Exchange of Substances</p> <p>Surface Area : Volume</p> <p>Digestive system</p> <p>Gas exchange in mammals, fish and plants</p> <p>Lung cancer</p> <p>Statistical tests</p>	<p>Teacher 1:</p> <p>Resources 2: Exchange of Substances</p> <p>Gas exchange in mammals, fish and plants</p> <p>Xerophytes</p> <p>Transport in plants</p> <p>Circulatory system</p>	<p>Teacher 1:</p> <p>Resources 2: Exchange of Substances</p> <p>Circulatory system</p> <p>Resources 4: Energy and ecosystems</p> <p>Sugars from photosynthesis</p> <p>Calorimetry</p>	<p>Teacher 1:</p> <p>Resources 4: Energy and ecosystems</p> <p>Nutrient cycles</p> <p>Saprobionts</p> <p>Mycorrhizae</p> <p>Farming</p> <p>Succession</p>

	<p>Carbohydrates Lipids Proteins</p> <p>Tests for biological molecules</p> <p>Chromatography</p> <p>Teacher 2:</p> <p>Organisation 1: Cells</p> <p>Eukaryotic cells Specialised cells Microscopes Cell fractionation Prokaryotic cells</p> <p>Resources 1: Transport across cell membranes</p> <p>The fluid mosaic model of cell membranes Transport across cell membranes</p>	<p>Teacher 2:</p> <p>Organisation 3: Cell division</p> <p>Cell cycle and cell division Cancer</p> <p>Organisation 4: Immunity</p> <p>Antigens Immunity Monoclonal antibodies HIV Viruses</p>	<p>Teacher 2:</p> <p>Inheritance 1: DNA, protein synthesis, and cell division</p> <p>Coding and non-coding DNA</p> <p>Protein synthesis Mutations Meiosis Genetic diversity</p>	<p>Teacher 2:</p> <p>Evolution 1: Natural selection</p> <p>Natural selection Type of selection Species Classification</p>	<p>Production Nutrient cycles</p> <p>Teacher 2:</p> <p>Evolution 1: Natural selection</p> <p>Biodiversity Farming</p> <p>Resources 3: Populations in ecosystems</p> <p>Ecosystems Abiotic and biotic factors Sampling techniques</p>	<p>Conservation</p> <p>Teacher 2:</p> <p>Resources 3: Populations in ecosystems</p> <p>Preparation for and write up of extended research on the impact of environmental factors on biodiversity</p>
13	<p>Teacher 1:</p> <p>Inheritance 1: Genetics</p> <p>Monohybrid crosses Dihybrid crosses Chi Squared test Codominance Multiple alleles Sex linkage</p>	<p>Teacher 1:</p> <p>Inheritance 2: Populations</p> <p>Investigating phenotypes</p> <p>Evolution 1: Evolution and speciation</p> <p>Variation Natural selection</p>	<p>Teacher 1:</p> <p>Inheritance 3: Control of gene expression</p> <p>Mutation Stem cells Investigating tissue culture Transcription factors</p>	<p>Teacher 1:</p> <p>Inheritance 3: Control of gene expression</p> <p>siRNA Cancer</p> <p>Inheritance 4: Gene technologies</p> <p>Sequencing DNA</p>	<p>Revision and exams:</p> <p>Essay preparation Focused revision based on needs of classes Exam technique</p>	<p>Revision and exams:</p> <p>Essay preparation Focused revision based on needs of classes Exam technique</p>

	<p>Epistasis Autosomal linkage Inheritance 2: Populations Species Allele frequency Hardy-Weinberg Teacher 2: Resources 1: Photosynthesis Light dependent and independent reactions Chromatography Limiting factors Investigating dehydrogenase</p>	<p>Speciation Genetic drift Teacher 2: Resources 2: Respiration Aerobic respiration Anaerobic respiration Organisation 1: Nervous co-ordination Tropisms, taxes and kinesis Neurones and action potentials Receptors Pacinian corpuscles Retina</p>	<p>Epigenetics Teacher 2: Organisation 1: Nervous co-ordination Synapses Effects of drugs Regulation of heartbeat</p>	<p>Recombinant DNA technology Cloning PCR Genetic modification Gene therapy Genetic counselling Genetic fingerprinting Teacher 2: Organisation 1: Nervous co-ordination Muscles Organisation 2: Homeostasis Regulation of glucose Osmoregulation & the kidney</p>		
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