

Year 11 Curriculum Map : Biology			
	Autumn	Spring	Summer
Assessment Objectives	AO1 - Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures (40%) AO2 - Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. (40%) AO3 - Analyse information and ideas to: interpret and evaluate; make judgements and draw conclusions; develop and improve experimental procedures. (20%)		
Unit Length	Topic: B5 – Homeostasis and Response	Topic: B6 – Inheritance and Variation	Topic: B7 – Ecology
Key Learning Outcomes	<ol style="list-style-type: none"> 1) Nervous system and homeostasis 2) Nervous system 3) Reflex actions 4) The brain 5) Required Practical: Reactions 6) The eye 7) Seeing in focus and eye defects 8) Endocrine system 9) Thermoregulation 10) Controlling blood sugars 11) The kidneys 12) Kidney conditions 13) Reproduction 14) Contraception and fertility treatments 15) Plant hormones 	<ol style="list-style-type: none"> 1) Species and adaptations 2) Variation 3) Alleles, genotype and phenotype 4) DNA organisation 5) Genetic crosses 6) Mendel 7) Protein synthesis 8) Asexual reproduction 9) Selective breeding 10) Natural selection 11) Speciation 12) Evolution 13) Classification 14) Genetic engineering 15) Antibiotic resistance 	<ol style="list-style-type: none"> 1) Ecology 2) Adaptations 3) The distributions of organisms 4) Biodiversity and waste management
Prior knowledge	<u>Year 6</u> Transport of nutrients in blood Single celled organisms in living things <u>Year 7:</u> <ul style="list-style-type: none"> • Cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope • The functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts • The similarities and differences between plant and animal cells • The role of diffusion in the movement of materials in and between cells • The structural adaptations of some unicellular organisms • The hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms • Reproduction in humans and puberty <u>Year 8:</u> <ul style="list-style-type: none"> • The structure and functions of the gas exchange system in humans, including adaptations to function • The mechanism of breathing to move air in and out of the lungs, using a pressure model to explain the movement of gases, including simple measurements of lung volume • The dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in 	<u>Year 6</u> Single celled organisms in living things <u>Year 7:</u> <ul style="list-style-type: none"> • Unicellular organisms • The effect of lifestyle on the developing foetus • Barrier methods of contraception <u>Year 8:</u> <ul style="list-style-type: none"> • The structure and functions of the gas exchange system in humans, including adaptations to function • The mechanism of breathing to move air in and out of the lungs, using a pressure model to explain the movement of gases, including simple measurements of lung volume • The dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere • <u>Year 9:</u> <ul style="list-style-type: none"> • What is the structure and functions of prokaryotic and eukaryotic cells? • What is meant by the term ‘good health’ (physical and mental health)? • Communicable diseases. What pathogens are and how they can be spread between organisms. • Culturing bacteria • Describe examples of communicable diseases in plants and animals • Describe defences against communicable diseases 	<u>Year 3</u> Plant reproduction inc. Parts/functions <u>Year 4</u> Constructing food chains and understanding predators and prey <u>Year 4</u> Describe the positive and negative impact of humans on the environment <u>Year 7</u> <ul style="list-style-type: none"> • Can you describe the relationships within a food web? • What is the impact of bioaccumulation? • Why are insects so important to food security? • The importance of plant reproduction through insect pollination in human food security <u>Year 9</u> <ul style="list-style-type: none"> • Describe the organisation of ecosystems and describe examples • Describe a range of habitats of plants and animals • Describe what plants and animals compete for • How plants and animals are adapted to their habitat • Carry out sampling techniques to assess how many organisms live in an environment • Human impact on ecosystems • Improving human impact on ecosystems

	<p>photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere</p> <p><u>Year 9:</u></p> <ul style="list-style-type: none"> How are substances transported in and out of cells? What is meant by the term 'good health' (physical and mental health)? Communicable diseases. What pathogens are and how they can be spread between organisms. Non-communicable diseases including, CHD, COPD, cancer <p><u>Year 10:</u></p> <ul style="list-style-type: none"> Organisation principles The heart Blood and vessels The respiratory system Exchange surfaces 	<ul style="list-style-type: none"> Non-communicable diseases including, CHD, COPD, cancer <p><u>Year 10:</u></p> <ul style="list-style-type: none"> What is the structure and functions of prokaryotic and eukaryotic cells? How are substances transported in and out of cells? Communicable diseases. What pathogens are and how they can be spread between organisms. Culturing bacteria Describe examples of communicable diseases in plants and animals Describe defences against communicable diseases Non-communicable diseases including, CHD, COPD, cancer 	
CEIAG Specific careers links	<p>Scientific research Medicine Hormone therapy nurse Family counsellor Fertility clinician</p>	<p>Scientific research Medicine Epidemiologist Bioinformatics Geneticist Family Genetics Counsellor</p>	<p>Scientific research Ecologist Hydrologist Agricultural scientist</p>
RRSA	<p>Article 14: Freedom of thought, belief and religion Article 24: Health and the Health services Article 28: Right to education Article 29: Goals of education Article 27: Adequate standard of living</p>	<p>Article 14: Freedom of thought, belief and religion Article 24: Health and the Health services Article 28: Right to education Article 29: Goals of education Article 27: Adequate standard of living</p>	<p>Article 14: Freedom of thought, belief and religion Article 28: Right to education Article 29: Goals of education Article 27: Adequate standard of living</p>
Cross curricular links	<p>Geography, Mathematics, Chemistry, Careers</p>	<p>Geography, Mathematics, Chemistry, Careers</p>	<p>Geography, Mathematics, Chemistry, Careers</p>
Useful websites/videos	<p>https://www.savemyexams.co.uk/gcse/biology/aqa/18/revision-notes/5-homeostasis--response/5-1-the-human-nervous-system/5-1-1-structure--function/</p>	<p>https://www.savemyexams.co.uk/gcse/biology/aqa/18/revision-notes/6-inheritance-variation--evolution/6-1-reproduction/6-1-1-sexual--asexual-reproduction/</p>	<p>https://www.savemyexams.co.uk/gcse/biology/aqa/18/revision-notes/7-ecology/7-1-adaptations-interdependence-competition/7-1-1-communities/</p>
Wider Reading	<p>https://www.bbc.co.uk/news/health-61527680</p>	<p>https://www.sciencefocus.com/news/first-complete-human-genome-reveals-genetic-variants-disease/</p>	<p>https://www.bbc.co.uk/news/science-environment-61563299</p>
Literacy Programme	<ul style="list-style-type: none"> Decode it NOW Guided practice/model answers Sentence Starters Writing strategies 	<ul style="list-style-type: none"> Decode it NOW Guided practice/model answers Sentence Starters Writing strategies 	<ul style="list-style-type: none"> Decode it NOW Guided practice/model answers Sentence Starters Writing strategies
Independent Learning Tasks	<p>Mind-map revision homework Retrieval practice homework</p>	<p>Mind-map revision homework Retrieval practice homework</p>	<p>Mind-map revision homework Retrieval practice homework</p>

	Knowledge Organiser practice Questions. Selective reading activity. Points grid ILT.	Knowledge Organiser practice Questions. Selective reading activity. Points grid ILT.	Knowledge Organiser practice Questions. Selective reading activity. Points grid ILT.
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