

Long Term Plan: Biology Year 8

Half term	Unit title	Key knowledge/ Content to learn and retain	Essential skills to acquire (subject & generic)	Link to subject ethos and driver (rename)	Anticipated misconceptions	Links to previous KS	Links to future KS	Opportunity for stretch for high prior attainers	SMSC & British Values	Cultural Capital	Career Link
One	Interdependence	<p>Food webs and chains</p> <p>Plants as fundamental to food chains.</p> <p>Plant dependence on insect pollination</p>	<p>Accurate graphing of data</p> <p>Reading for comprehension</p> <p>Extended writing</p>		<p>Students often mix up the direction of arrows in the food chain.</p> <p>The definition of an arrow. Students need to know it shows the transfer of energy</p>	<p>Students study food chains, including identifying producers, predators and prey in Year 4; as part of a larger study of living things and their habitats</p>	<p>Study of ecology at KS4, including interspecies and intraspecies competition.</p> <p>Use of sampling techniques to study the impact of biotic and abiotic factors</p>	<p>Introduction of detritivores and the nutrient cycle.</p> <p>Explain predator-prey graphs with reference to abiotic factors</p>	<p>Care for the environment</p> <p>Where does our food come from?</p> <p>Considering humans as animals that depend on the ecosystem</p>	<p>Introduction to environments and habitats beyond the city</p> <p>Deeper understanding of the food industry and the farm to plate pathway</p>	<p>Farmers</p> <p>Conservationist</p> <p>Any work for the environment agency or DEFRA</p>
Two	Interdependence	<p>Trophic Levels</p> <p>Energy and biomass loss as trophic levels progress</p>	<p>Accurate graphing of data</p> <p>Reading for comprehension</p>		<p>That producers have to be plants</p> <p>Confusion between</p>	<p>Students study food chains, including identifying producers, predators and</p>	<p>Study of ecology at KS4, including interspecies and intraspecies competition.</p>	<p>Introduction of detritivores and the nutrient cycle.</p> <p>Explain predator-prey</p>	<p>Care for the environment</p> <p>Where does our food come from?</p>	<p>Introduction to environments and habitats beyond the city</p>	<p>Farmers</p> <p>Conservationist</p> <p>Any work for the</p>

		Bioaccumulation How organisms affect their environment	Extended writing		pyramids of biomass vs pyramids of number	prey in Year 4; as part of a larger study of living things and their habitats	Use of sampling techniques to study the impact of biotic and abiotic factors	graphs with reference to abiotic factors	Considering humans as animals that depend on the ecosystem	Deeper understanding of the food industry and the farm to plate pathway	environment agency or DEFRA
Three	Evolution	Heredity as a process by which genetic information is transmitted from one generation to the next. Simple model of chromosomes and DNA Discovery of DNA, to include the contributions of Watson, Crick, Wilkins and Franklin Continuous and discontinuous variation	Simple probability. Reading for comprehension Extended writing Construction and interpretation of timelines Classification of		Which traits are inherited and which traits are environmental That a single organism can evolve	The Year 6 programme of study includes evolution as change over time, fossils and variation	Builds onto the study of genetics and inheritance at KS4, including natural selection described in terms of gene survival. Adaptations and how organisms are adapted to their environment forms part of the KS4 study of ecology	Describing evolution in terms of genes and DNA Study of ring species and hybrid animals such as the mule	Considering humans as animals that depend on the ecosystem Considering the importance of maintaining good levels of biodiversity within the ecosystem	The theory of evolution and the story of it's development, including the "origin of species" Environments and habitats within and beyond Britain.	Farmers Conservationist Any work for the environment agency or DEFRA
Four	Evolution	Speciation and classification of organisms	Simple probability.		Which traits are inherited and which	The Year 6 programme of study includes	Builds onto the study of genetics and	Describing evolution in terms of	Considering humans as animals that	The theory of evolution and the story of	Farmers Conservationist

		<p>Evidence for evolution</p> <p>Extinction and fossil formation</p> <p>The importance of maintaining biodiversity</p>	<p>Reading for comprehension</p> <p>Extended writing</p>		<p>traits are environmental</p> <p>That a single organism can evolve</p>	<p>evolution as change over time, fossils and variation</p>	<p>inheritance at KS4, including natural selection described in terms of gene survival.</p> <p>Adaptations and how organisms are adapted to their environment forms part of the KS4 study of ecology</p>	<p>genes and DNA</p> <p>Study of ring species and hybrid animals such as the mule</p>	<p>depend on the ecosystem</p> <p>Considering the importance of maintaining good levels of biodiversity within the ecosystem</p>	<p>it's development, including the "origin of species"</p> <p>Environments and habitats within and beyond Britain.</p>	<p>st</p> <p>Any work for the environment agency or DEFRA</p>
Five	Staying Healthy	<p>Causes of disease</p> <p>Barriers to infection</p> <p>Simple understanding of the function of white blood cells</p> <p>Non-Communicable diseases</p>	<p>Reading for comprehension</p> <p>Extended Writing</p> <p>Interpreting simple graphs and tables to draw conclusions</p>		<p>"Germs"</p> <p>The use of antibiotics to treat viral infections</p> <p>That you can "catch" heart disease</p>	<p>The year six programme of study includes the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p>	<p>Lays the foundation for infection and response at KS4, including deeper study of the immune system, vaccination and risk factors for noncommunicable disease</p>	<p>Analyse graphical representations of data to comment on risk factors for non-communicable disease</p> <p>How vaccinations work</p>	<p>The effect and risks of drugs, smoking and alcohol.</p> <p>Preventing infection, including infection control mechanisms and hygiene</p> <p>The benefits of vaccination programmes</p>		<p>Anything from the wide variety of jobs available in the medical field.</p>
Six	Staying	Risk factors	Reading for		The concept	The year six	Lays the	Analyse	The effect and		Anything from

	Healthy	for non-communicable disease, including the effect of: Smoking Alcohol Drugs Obesity	comprehension Extended Writing Interpreting simple graphs and tables to draw conclusions		of a "risk factor"	programme of study includes the impact of diet, exercise, drugs and lifestyle on the way their bodies function	foundation for infection and response at KS4, including deeper study of the immune system, vaccination and risk factors for noncommunicable disease	graphical representations of data to comment on risk factors for non-communicable disease How vaccinations work	risks of drugs, smoking and alcohol. Preventing infection, including infection control mechanisms and hygiene The benefits of vaccination programmes		the wide variety of jobs available in the medical field.
--	---------	--	--	--	--------------------	--	---	--	--	--	--