

Biology Year 8 Curriculum Overview 2023-24

	Autumn		Spring		Summer	
	Learning Cycle 1		Learning Cycle 3	Learning Cycle 4	Learning Cycle 5	Learning Cycle 6
Topic	Breathing	Digestion	Photosynthesis	Respiration	Evolution	Inheritance
Critical Prior Knowledge	Y7 Movement	Y7 Cells, tissues, organs, organ systems Y7 Movement	KS2: living things and their habitats, plants (evergreen and deciduous)	Y7 Cells	Y7 Interdependence	Y7 Variation
Overall Intent (Big ideas and key concepts)	This topic builds on knowledge learnt about diet, exercise and drugs at KS2 and organisms in Yr 7. It leads into a deeper understanding of GCSE Biology Topic 2 and 3 - Organisation and infection and response.		This topic builds on knowledge learnt about plants in Yr 3 at KS2 and Biology in Yr 7. It leads into a deeper understanding of GCSE Biology Topic 4 – Bioenergetics After the End of Year 8 assessment the students will have a sequence of lessons designed to develop skills and understanding of number use in Science.		This topic builds on knowledge learnt about fossils and variation in Yr 6 and genes in Yr 7 and leads into a deeper understanding of GCSE Biology Topics 6 and 7 - Inheritance and Evolution and Ecology.	
Essential Knowledge milestones (What students must master)	Name the parts of the gas exchange system. - State that the parts of the gas exchange system are adapted to their function. - State that the composition of the air inhaled and exhaled are different using data provided. State what happens to the ribcage and diaphragm during inhaling and exhaling.	Name some nutrients in a given diet. - Name the nutrients required by the human body. - Extract nutritional information from food packaging. - State that food can be tested for starch, lipids, sugar, and protein. - State that food tests show colour changes. - Use appropriate techniques to carry	- State where photosynthesis occurs in a plant. - State the products of photosynthesis. - State how to test for the presence of oxygen. - Name the main structures of a leaf. - State the function of the chloroplasts in a leaf. - Use observations from the underside of a leaf to label a diagram. - Carry out an experiment to test for	To do	To do	To do

	<ul style="list-style-type: none"> - State what each part of the bell-jar model represents. - State a value of lung volume. - Use apparatus provided to obtain a lung volume. - Name some recreational and medicinal drugs. - State one effect of a drug on health or behaviour - Make observations during an experiment. - Name one effect of alcohol on health or behaviour. - State whether alcohol affects conception and pregnancy. - Record results in a given table and plot a graph of results obtained. Name an effect of tobacco smoke on health. - State whether or not tobacco smoke affects the development of a fetus. 	<ul style="list-style-type: none"> out a food test safely. - State one potential problem for someone with an unhealthy diet. - State that different people require different amounts of energy. - Collect experimental data and record observations. Name the main parts of the digestive system. - State what is meant by digestion. - Identify the main structures in the digestive system on a model. - Name some enzymes used in digestion. - State where bacteria are found in the digestive system. - Record measurements from an experiment. 	<ul style="list-style-type: none"> the presence of starch in a leaf. - List the factors that affect the rate of photosynthesis. - State two experiments which can be used to prove photosynthesis has taken place. - Name the minerals required by plants. - State that nitrates are essential for plant growth. - Record measurements of plant growth. 			
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	- Interpret secondary data and present this data on a bar chart.					
Cultural Capital	Dangers of alcohol and drugs and impact on safety, especially by the sea.	Importance of a healthy diet – links to fast food and healthier choices in Exmouth/Exeter.	Use of knowledge in farming and horticulture – Bicton College and arboretum. Green fingers garden centre			
Assessment points	<p>In class teacher led reviews and formative feedback – this low-risk challenge and review environment for pupils will include:</p> <ul style="list-style-type: none"> - recap recall quick starters, homework (Educake) (know) - review tasks, multiple choice and extended questions (extend) - in class exam style questions (apply) <p>Through rigorous, reliable and accessible assessment</p> <ul style="list-style-type: none"> - Formal assessments at the end of every unit of work (Mastery assessments – 10 question recall) across all 3 science subjects - End of learning cycle assessments (Progress check tests – a longer exam style question paper) 					
ECC Student Characteristics	Through these units we will encourage students to work hard and be resilient individuals who embrace challenge and through their creativity and endeavours become reflective learners . Mastering the key concepts of each topic before being able to build on these ideas as they are interleaved through other units later in the course.					
Connection to future learning (When is this developed / revisited)?						