## Biology Overview – Combined Science

Year 11										
	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6				
Topic	· Animal Coordination, Control and Homeostasis	· Plant Structures and their Functions	· Exchange and Transport in Animals	· Ecosystems and Control	· Ecosystems and Control					
Key Concept	Biological systems for life	Cells and Cellular Processes	Biological systems for life	Organisms and their interactions with the environment	Organisms and their interactions with the environment					
Learning Objectives	· Describe the role and function of the endocrine system. · Explain how hormones control the menstrual cycle. · Explain homeostasis using blood glucose control systems.	· Identify factors that affect the rate of photosynthesis. · Describe how the rate of water uptake is affected by environmental factors. · Identify the functions of leaf structures. · Describe translocation and transportation in plants.	· Explain diffusion rates using Fick's Law. · Explain the different types of respiration. · Describe how the lungs heart, blood vessels and blood are adapted for their functions. · Calculate cardiac output.	· State how ecosystems are organised. · Describe the effects of biotic and abiotic factors on an ecosystem. · Devise a plan to measure the abundance and distribution of organisms in an ecosystem. · Describe how energy is transferred through trophic levels. · Define the terms parasitism and mutualism.	· Explain how humans may affect and ecosystem. · Discuss the benefits of biodiversity. · Describe the importance of the water, carbon and nitrogen cycles. · State how indicator species are used to assess pollution levels.					
Scaffolding SEND	glossaries, targeted questions, knowledge	glossaries, targeted questions, knowledge	glossaries, targeted questions, knowledge	glossaries, targeted questions, knowledge	glossaries, targeted questions, knowledge	glossaries, targeted questions, knowledge				

	organisers, recall	organisers, recall	organisers, recall	organisers, recall	organisers, recall	organisers, recall
	quizzes	quizzes	quizzes	quizzes	quizzes	quizzes
Key Vocabulary	endocrine glands, target organs, glycogen, corpus luteum, glucagon, hypothalamus	cellulose, concentration gradient, active transport, phloem, xylem, transpiration, translocation	metabolism, urea, capillaries, veins, arteries, erythrocytes, haemoglobin, phagocytes, lymphocytes, mitochondria	Community, population, habitat, abundance, trophic levels, biotic, abiotic, quadrats, predation	Blackspot fungus	
Formative Assessment	6 mark question with teacher feedback	6 mark question with teacher feedback	6 mark question with teacher feedback	6 mark question with teacher feedback	6 mark question with teacher feedback	
Summative Assessment	End of unit test	End of unit test	End of unit test	End of unit test	End of unit test	
Careers	dietician, paramedic, sports scientist, urologist	botanist, conservationist	dietician, paramedic, sports scientist, urologist	botanist, conservationist, marine biologist	botanist, conservationist, marine biologist	
Links	To build on structure and function of human reproductive systems.  To prepare for the menstrual cycle.	To build on plants make their own food by photosynthesis.  To prepare for the importance of light and chlorophyll in photosynthesis.	To build on the digestive system.  To prepare for the respiratory system.	To build on the importance of photosynthesis.  To prepare for food chains and food webs.	To prepare for the effect the accumulation of toxic materials has on organisms.	