



Year 11 Biology Combined Science Course outline

Students have two lessons per cycle taught by specialist Biology teachers. Homework is set one-two per cycle.			
	Topic and approximate duration	Key learning areas	Homework Options: Students will be guided by the class teacher as to which task to complete (according to target grade)
Autumn Term 1	Ecology (AQA)	This term we will complete the Ecology topic. We will determine and evaluate how to measure population size, We will explore how humans are threatening biodiversity as well as the natural systems that support it. We will also consider some actions we need to take to ensure our future health, prosperity and well-being. Assessed practical: Investigating population size Sub topics include: Biodiversity; human impacts to biodiversity and how to maintain it; sampling techniques; waste management and land use; deforestation; global warming.	Task 1: The impact of humans on biodiversity Task 2: Global warming Task 3: Biodiversity
	Bioenergetics (AQA)	In the second half of term we will start the Bioenergetics topic. Assessed practical: Investigating the impact of light intensity on the rate of photosynthesis Sub topics include: Photosynthesis, factors affecting photosynthesis	Task 4: Photosynthesis Task 5: Factors affecting rate of photosynthesis
	Nature of landmark assessment	Interim assessment and landmark assessment based on content covered: recall and application questions	
Autumn term 2	Bioenergetics (AQA)	In this term we will explore how plants harness the Sun's energy in photosynthesis in order to make food. This process liberates oxygen which has built up over millions of years in the Earth's atmosphere. Both animals and plants use this oxygen to oxidise food in a process called aerobic respiration which transfers the energy that the organism needs to perform its functions. Conversely, anaerobic respiration does not require oxygen to transfer energy. During vigorous exercise the human body is unable to supply the cells with sufficient oxygen and it switches to anaerobic respiration. This process will supply energy but also causes the build-up of lactic acid in muscles which causes fatigue. Assessed practical: NA Sub topics include: Uses of glucose; aerobic respiration; anaerobic respiration; response to exercise; metabolism	Task 1: Uses of glucose Task 2: Respiration Task 3: The impact of exercise
	Revision	In the 2 nd half of term students will focus on revision of topics covered so far: Cell Biology; Organisation; Infection and Response; Inheritance and evolution and ecology.	Revision based HW tasks

	Nature of landmark assessment	Interim assessment and landmark assessment based on content covered: recall and application questions There will be mock examinations in December.	
Spring term 1	Topic: Homeostasis	In this topic we examine how cells in the body can only survive within narrow physical and chemical limits. They require a constant temperature and pH as well as a constant supply of dissolved food and water. In order to do this the body requires control systems that constantly monitor and adjust the composition of the blood and tissues. These control systems include receptors which sense changes and effectors that bring about changes. In this section we will explore the structure and function of the nervous system and how it can bring about fast responses. We will also explore the hormonal system which usually brings about much slower changes. Assessed practical: Investigating reaction times Sub topics include: Homeostasis; the nervous system, reflex actions, hormonal control, controlling blood glucose	Task 1: The nervous system Task 2: Reflex actions Task 3: Hormonal vs nervous system Task 4: Importance of blood glucose control
	Nature of landmark assessment	Interim assessment and landmark assessment based on content covered: recall and application questions	
Spring term 2	Topic: Homeostasis	We will complete this topic by reviewing hormonal coordination in reproduction. Hormonal coordination is particularly important in reproduction since it controls the menstrual cycle. An understanding of the role of hormones in reproduction has allowed scientists to develop not only contraceptive drugs but also drugs which can increase fertility. Assessed practicals: NA Sub topics include: Hormones and human reproduction; Contraception; Using hormones for infertility; Negative feedback	Task 1: Human reproduction Task 2: Using hormones for infertility
	Revision	In the second half of this term we will revise content and examination application in preparation for the GCSE examinations. This topics are: Cell Biology Infection and response Organisation Inheritance and Evolution Bioenergetics Ecology Homeostasis	Revision based HW tasks
	Nature of landmark assessment	Interim assessment and landmark assessment based on content covered: recall and application questions	

Summer term	Revision	Revision in preparation for the GCSE examinations
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