

Curriculum Map: Year 11 Biology

	Half Term 2	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Topic	Adaptations, ecosystems and biodiversity	Communities, biotic and abiotic factors and sampling	DNA and Inheritance	Variation and Evolution	Classification Revision	Revision
Intent	Students will learn to explain how organisms are adapted to their environment, both to abiotic and biotic factors. Students will build on their understanding of food webs and effects of changing populations. Students will explore how humans are threatening biodiversity as well as natural systems that support it and evaluate situations.	Students will develop their appreciation of ecology, learning about how all species live together in ecosystems made up of complex communities of animals and plants that depend on each other and how they are affected by both abiotic and biotic factors. Students will learn how to sample habitats and determine distribution and abundance of organisms.	Students will discover how cells produce gametes by meiosis and how the recombination of gametes results in variation of offspring. They will develop an understanding of how mutations can lead to genetic disorders and interpret family trees and pedigrees.	Students will learn how species evolve through the principles of natural selection. They will learn about how scientists can use their knowledge of selection and genetic engineering to produce organisms with desired characteristics to the benefit of the human population and explore the ethics surrounding the processes.	Students will learn how living things are classified using the Linnaeus system and how to interpret evolutionary trees. Consolidate learning from year 9, 10 and 11 Prepare for paper 1 and 2.	Students will: Consolidate learning from year 9, 10 and 11. Prepare for paper 1 and 2.
Key Knowledge	Structural, behavioural and functional adaptations Extremophiles Structure of food chains Carbon cycle Water cycle Role of micro-organisms in decay Importance of biodiversity Examples of how to maintain biodiversity.	Define community Describe what organisms compete for. Abiotic factors Biotic factors Methods of sampling	The structure of DNA The steps of meiosis How alleles are inherited, using genetic diagrams. Cause and inheritance of cystic fibrosis and polydactyly The economic, social and ethical issues surrounding embryo screening. How gender is determined.	The theory of natural selection. The formation of a new species. The process of selective breeding The process of genetic engineering Benefits, concerns and risks associated with genetic engineering How fossils are formed and give evidence of evolution Causes of extinction	The binomial naming system The Linnaean order of classification Interpret how evolutionary trees show how related organisms are. GCSE Biology from year 9 - 11	GCSE Biology from year 9 - 11

Key Skills	Use scientific vocabulary, terminology and definitions confidently in both written and spoken work. Graph interpretation of predator prey cycles. Interpret diagrams. Evaluation of given information.	Use scientific vocabulary, terminology and definitions confidently in both written and spoken work. Interpretation of situations in relation to competition and environmental factors. Maths. Sampling.	Use scientific vocabulary, terminology and definitions confidently in both written and spoken work. Practical skills. Drawing. Interpreting diagrams. Calculating probability.	Use scientific vocabulary, terminology and definitions confidently in both written and spoken work. Oracy. Data interpretation. Analysis of graphs.	Use scientific vocabulary, terminology and definitions confidently in both written and spoken work. Oracy. Problem solving. Data interpretation. Analysis of graphs. Revision techniques.	Use scientific vocabulary, terminology and definitions confidently in both written and spoken work. Revision techniques.
Key Vocabulary	Biodiversity, adaptation, consumer, producer, secondary, tertiary, atmosphere, decay, decomposer, peat, cattle, breeding, regeneration, hedgerows, agriculture, emissions, deforestation.	Community, interdependence, competition, ecosystem, abiotic, biotic, habitat, territory, predator, prey, breed, transect, quadrat, abundance, mean, median, mode.	DNA, double helix, chromosomes, genome, gamete, allele, dominant, recessive, homozygous, heterozygous, genotype, phenotype, polydactyly, cystic fibrosis, ethics.	Variation, mutation, evolution, Darwin, theory, interbreed, offspring, characteristic, resistance, modifying, splice, vector, fossil, extinction, strains.	Domain, kingdom, phylum, class, order, family, genus, species All GCSE Science specific terminology.	All GCSE Science specific terminology.
Key Reading	CGP revision guide BBC bitesize GCSE Combined Science Biology	CGP revision guide BBC bitesize GCSE Combined Science Biology	BBC Bitesize: combined Science Trilogy CGP revision guide	BBC Bitesize: combined Science Trilogy CGP revision guide	BBC Bitesize: combined Science Trilogy CGP revision guide	BBC Bitesize: combined Science Trilogy CGP revision guide
End Point	Students are competent in answering structured and longer response exam style questions.	Students are competent in answering structured and longer response exam style questions. Graph skills. Required Practical 7.	Students are competent in answering structured and longer response exam style questions. Students are competent in answering maths and data based questions.	Students are competent in answering structured and longer response exam style questions. Able to structure evaluations. Can interpret diagrams and flow charts.	Students are competent in answering structured and longer response exam style questions. Students are competent in answering maths, data	Students are competent in answering structured and longer response exam style questions. Students are competent in

			Able to interpret genetic diagrams and pedigrees. Required Practical 6		and graph-based questions. Able to structure comparative sentences. Can recall practical methods. Students can plot and analyse line graphs.	answering maths, data and graph-based questions. Able to structure comparative sentences. Can recall practical methods. Students can plot and analyse line graphs.
Form of Assessment	Exam ready questions	Exam ready questions Mocks/DC3	Exam Ready Questions	Exam Ready Questions Paper 2 mock/DC3	Exam Ready Questions	Exam Ready Questions
Enrichment Opportunities	Use of outdoor classroom As Universities start to offer science-based workshops again Y11 will be given the opportunity to take part in trips to local universities to gain insights into scientific courses and careers.					
Leadership Opportunities	Chances to formally present within lessons and take ownership of that process. Student examples to demonstrate good quality work. Group work					



AMBITION



RESILIENCE



COURTESY



KINDNESS