

TITLE: Biology year 11

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	What should be included	
Unit	Unit Length	<p>Unit 6- Inheritance, variation and evolution - Trilogy 30 lessons, Triple- 35 lessons</p> <p>Unit 7 variation and evolution:</p> <p style="text-align: center;">Unit 7- Ecology- Trilogy 20, triple 28 lessons</p> <p style="text-align: center;">Exam preparation</p>
Assessment Objectives	Write out in full the GCSE assessment objectives	<p>A01 Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures</p> <p>A02 Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures.</p> <p>A03 Analyse information and ideas to: interpret and evaluate; make judgements and draw conclusions; develop and improve experimental procedures.</p>
Description of the topic and key learning outcomes.	<p>Unit : #Insert title</p> <p>Overview: Write a brief description of what the students will learn during this topic.</p>	<p>Autumn term 1- Unit 6 Inheritance variation and evolution</p> <p>Overview: This unit explores genetics, inheritance and how variation can lead to evolution. This unit explores how genetic mutations (although very rarely) can be beneficial, and consequently, lead to an increased fitness in the individual. Students must understand:</p> <ul style="list-style-type: none"> ✓ The number of chromosomes are halved during meiosis and then combined with new genes from the sexual partner to produced unique offspring. ✓ The differences between sexual and asexual reproduction. ✓ How genes, DNA and chromosomes link together and how mutations can lead to the development of genetic diseases. ✓ Students will study how these disorders can be passed through families and will learn how to construct genetic diagrams to show this. ✓ Students will also explore screening techniques. ✓ How to take genes from one species and produce them into the genome another by genetic engineering. ✓ Evaluate the use of genetic modification. ✓ That variation generated by mutations and sexual reproduction is the basis for natural selection; this is how species evolve. ✓ The process of natural selection ✓ How scientists can intervene through selective breeding to produce livestock with favoured characteristics. ✓ How new varieties of plants or animals have been produced it is possible to clone individuals to produce larger

		<p>numbers of identical individuals carrying the favourable characteristic.</p> <p>Triple only- Cloning, the theory of evolution (students should understand that it developed over time and from information gathered from many scientists), speciation, the understanding of genetics, (Mendel). Triple only- Advantages and disadvantages of sexual and asexual reproduction and DNA structure.</p> <p>Autumn term 2- Unit 8 ecology</p> <p>Overview: The sun is a source of energy that passes through ecosystems. Students must understand:</p> <ul style="list-style-type: none"> ✓ How materials including carbon and water are continually recycled by the living world, being released through respiration and of animals, plants and decomposing microorganisms and taken up by plants in photosynthesis. ✓ That all species live in ecosystems composed of complex communities of animals and plants dependent on each other and that are adapted to particular condition, both abiotic and biotic. ✓ These ecosystems provide essential services that support human life and continued development. ✓ In order to continue to benefit from these services human needs to engage with the environment in a sustainable way. ✓ This section 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. <p>Triple only- Decomposition, the impact of environmental change, trophic levels in an ecosystem and food production.</p> <p>Summer term- Exam preparations</p> <p>Overview:</p>
<p>Assessment objectives and skills being taught</p>	<p>Use abbreviations: A01, A02...</p> <p>AO skills that are being taught may differ to the</p>	<p>A01, A02 & A03</p>
<p>Milestone assessments</p>	<p>A brief description of each assessment paper structure and topics (where relevant) – do for</p>	<p>January- full paper 1 and paper 2 mocks</p> <p>Trilogy foundation and higher- 1hr 15, Triple- 1hr 45</p> <p>May- June GCSE exams</p>

	trilogy, add extra for separates.	
Wider reading	Select from a range of activities (in consultation with P McCarthy)	<p>A-S and A-level CGP textbooks (copies in science!)</p> <p>Bodyworlds exhibition- https://bodyworlds.com/about/philosophy/</p> <p>Research exotic plants that live in extreme environments</p> <p>The human genome project</p> <p>The human geographic project- https://genographic.nationalgeographic.com/</p>
Literacy programme	Select from a range of activities (in consultation with P McCarthy)	<p>Learn the meaning and correct spellings of the keywords from unit 3 and 4</p> <p>Challenge: Create an etymology chart for the following words: graph and diagram</p>
CEIAG	Farming and agriculture, botanist, geneticist, medicine, nursing, medical research	
Wider curriculum links	Geography, PE, Health and Social Care, Maths, English	
RRSA	<p>Article 6 Every child has the right to life. Governments must do all they can to make sure that children survive and develop to their full potential.</p> <p>Article 15 Every child has the right to meet with other children and to join groups and organisations, as long as this does not stop other people from enjoying their rights.</p> <p>Article 24 Every child has the right to the best possible health. Governments must work to provide good quality health care, clean water, nutritious food and a clean environment so that children can stay healthy. Richer countries must help poorer countries achieve this.</p> <p>Article 27 Every child has the right to a standard of living that is good enough to meet their physical, social and mental needs. Governments must help families who cannot afford to provide this.</p> <p>Article 29 Education must develop every child’s personality, talents and abilities to the full. It must encourage the child’s respect for human rights, as well as respect for their parents, their own and other cultures, and the environment. Article 30 Every child has the right to learn and use the language, customs and religion of their family, regardless of whether these are shared by the majority of the people in the country where they live</p>	
Independent Learning Tasks	Select from a range of activities (Year 7 to use knowledge organisers)	<p>Knowledge organisers and self-assessment quiz questions for each unit.</p> <p>Pixl independence booklets for each unit (students complete a minimum of 20 credits per week). Completion monitored by staff and self-assessed at the end of the unit.</p>

		Revision booklets for each unit- Practise GCSE examination questions using revision booklet that contains key point knowledge matts, knowledge questions, 'grasp it' questions and exam questions. More able students to also be provided with challenge 'think it' questions.
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