



Year 11 Biology Curriculum Summary



YEAR GROUP: 11 LETCH

When?	Knowledge	Understanding	Assessment
Reproduction	Will be able to: <ul style="list-style-type: none"> • Compare sexual and asexual reproduction • Describe meiosis and explain its role in genetic variation • Describe what is meant by dominant and recessive alleles and use punnet squares to predict what alleles an organisms will inherit. • Describe human genetic disorders and how embryos can be screened for these disorders. 	Students will carry out a range of practical experiments during these topics. Reproduction key vocabulary: <ul style="list-style-type: none"> alleles asexual reproduction carriers cystic fibrosis dominant allele genetic engineering genotype heterozygote homozygote meiosis phenotype Punnett square diagram recessive sex chromosomes sexual reproduction 	<p style="text-align: center;">Assessment: Reproduction Assessment</p>
Variation and Evolution	Will be able to: <ul style="list-style-type: none"> • Explain what causes variation in a population • Describe and explain how natural selection work and how this ensures that only the best adapted organisms will survive. • Describe what is meant by 	Students will carry out a range of practical experiments during these topics. Variation and Evolution key vocabulary: <ul style="list-style-type: none"> mutation natural selection selective breeding 	<p style="text-align: center;">Assessment: Genetics and Reproduction Assessment</p>



When?	Knowledge	Understanding	Assessment
	<p>selective breeding and the risks and benefits of selective breeding.</p> <ul style="list-style-type: none"> Describe how organisms can be genetically engineered and the potential benefits and risks involved in genetic engineering. 		
<p>Genetics and Evolution</p>	<p>Will be able to:</p> <ul style="list-style-type: none"> Describe the process by which fossils are formed. Describe how we can use the fossil record to reveal how organisms have evolved and to reveal how organism can go extinct. Explain the role which mutation plays in the development of antibiotic resistant bacteria and how people can reduce antibiotic resistance. Use the Linnaeus system, the Three Domain system and evolutionary trees to classify organisms. 	<p>Students will carry out a range of practical experiments during these topics.</p> <p>Genetics and Evolution key vocabulary: archaea classification domain evolutionary trees extinction species</p>	<p>Assessment: Genetics and Reproduction Assessment</p>
<p>adaptatio</p>	<p>Will be able to:</p> <ul style="list-style-type: none"> Explain how organisms in an 	<p>Students will carry out a range of practical experiments during</p>	



When?	Knowledge	Understanding	Assessment
<p>ns, interdepe ndence and competiti on</p>	<p>ecosystem are interdependent.</p> <ul style="list-style-type: none"> Describe the abiotic and biotic factors that affect communities. Carry out a practical to investigate the population size of a common species in a habitat. Describe the things which animals and plants compete for and the ways which they have adapted to successfully compete. 	<p>these topics.</p> <p>adaptations, interdependence and competition key vocabulary:</p> <p>abundance adaptations community competition distribution extremophile interdependence mean median mode quadrat quantitative sampling range sample size transect</p>	<p>Assessment: Ecology Assessment</p>
<p>Organisi ng an Ecosyste m</p>	<p>Will be able to:</p> <ul style="list-style-type: none"> Describe the main feeding relationships within a community. Describe the decay cycle, water cycle and carbon cycle and explain their importance in an ecosystem. 	<p>Students will carry out a range of practical experiments during these topics.</p> <p>Organising an Ecosystem Key vocabulary:</p> <p>biomass carbon cycle decomposers primary consumer</p>	<p>Assessment: Ecology Assessment</p>



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		producers secondary consumer	
Biodiversity and Ecosystems	Will be able to: <ul style="list-style-type: none"> • Explain what is meant by biodiversity and why it is important. • Describe how human activities pollute the land, water and air. • Describe what is meant by deforestation and its impact on biodiversity. • Explain how global warming could affect life on earth • Describe ways which humans are trying to maintain biodiversity. 	Students will carry out a range of practical experiments during these topics. Biodiversity and Ecosystems key vocabulary: Biodiversity	<p style="text-align: center;">Assessment: Ecology Assessment</p>