



# YEAR 12 TERM 3

‘An ambitious curriculum that meets the needs of all’

## Medium Term Planning - Topic: Classification and Biodiversity

<b>Curriculum Intent</b>	
<b>Skills/National Curriculum Links</b>	<p>Developing knowledge from GCSE Biology or GCSE Combined Science, pupils will be taught, following National Curriculum guidelines, the following this topic:</p> <ul style="list-style-type: none"> <li>• Classification</li> <li>• Assessing the relatedness of organisms</li> <li>• Biodiversity</li> <li>• Assessing biodiversity</li> <li>• Biodiversity and natural selection</li> <li>• Adaptive traits</li> </ul> <p>Specified practical work</p> <ul style="list-style-type: none"> <li>• Investigation into biodiversity in a habitat (this is usually carried out during our residential field trip)</li> </ul>
<b>Spiritual, moral, social, and cultural development</b>	<p><b>SMSC:</b> Preservation of biodiversity</p> <p><b>PSHE/British Values:</b> Preservation of biodiversity, wildlife charities</p> <p><b>Skills Builder:</b> Team work during outside practical</p>
<b>Numeracy</b>	<p>Simpson’s Index of Diversity</p> <p>Random number generation</p>
<b>Literacy</b>	<p><b>Vocabulary Tier 2:</b> biodiversity, classification, hierarchy, species, evolution (convergent / divergent), analogous, homologous, adaptation,</p> <p><b>Vocabulary Tier 3:</b> taxonomy, phylogenetic tree, taxon, domain, kingdom, phylum, class, order, family, genus, binomial, pentadactyl, DNA hybridization, polymorphic loci,</p> <p><b>Reading:</b> Students are given opportunity to develop their skills in specified tasks that develop disciplinary literacy. Throughout the A Level Biology course they develop their understanding of the requirements of exam questions and the key terminology in questions. In addition, they read practical methodology and translate this to actions in laboratory tasks.</p> <p><b>Writing:</b> Students construct answers independently and through class teaching. Their answers range from single word answers to the planning and writing of 9-mark “extended writing” tasks that require linking of multiple concepts from a topic or across topics. These often develop students’ ability to construct written evaluations of contrasting situations, or data, where the use of comparative connectives are required.</p> <p><b>Oracy:</b> Students are regularly given the opportunity to practice their scientific vocabulary in class discussion, through choral response, pair or group discussion and in giving instruction to others during practical activities.</p>
<b>Becoming future ready</b>	<p><b>Careers/Employability:</b> A Level Biology students from Crompton House progress on to a wide range of undergraduate degrees, degree apprenticeships and into work. Opportunities to develop effective communication skills, concise written work, following written and verbal instructions as well as extending their problem solving skills are all key skills identified by business leaders for future success.</p>
<b>Adaptation</b>	<p>Throughout this topic, quality first teaching will provide adaptive teaching accessible to all students:</p>
<b>QFT/SEND Provision</b>	<p><b>By product:</b> Assessments have opportunities for students to achieve all grades, with structured questions and opportunities for development of extended writing for all abilities.</p> <p><b>By Intervention:</b> by providing different levels of supervision and support in theory and in practical lessons.</p> <p><b>By Progressive Questioning:</b> exploring pupils’ understanding through interactive dialogue.</p> <p><b>By Grouping:</b> according to prior attainment, gender, social preference.</p> <p><b>By Task:</b> Pupils are involved in the identification of targets which are meaningful to them and in the selection of an appropriate task to develop specific skills further.</p> <p><b>By Offering Optional Activities:</b> In class or as homework, to extend learning.</p> <p>This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work.</p>
<b>Implementation Curriculum Delivery</b>	<p>To be able to:</p> <ul style="list-style-type: none"> <li>• Understand the system of biological classification into a taxonomic hierarchy</li> <li>• Describe the three domain and five kingdom systems</li> </ul>

<b>Learning Outcomes (Knowledge)</b>	<ul style="list-style-type: none"> <li>• Describe the characteristic features of the five kingdoms</li> <li>• Outline how physical features and biochemical methods are used to assess the relatedness of organisms</li> <li>• Understand the concept of a species</li> <li>• Understand the binomial system</li> <li>• Explain the concept of biodiversity</li> <li>• Understand that biodiversity has been generated through natural selection and adaptation over a long period of time and is not constant</li> <li>• Know how biodiversity can be assessed at population, molecular and genetic levels</li> <li>• Describe the adaptive traits of organisms' anatomy, physiology, and behaviour</li> <li>• Know how to estimate biodiversity in different habitats</li> </ul> <p>Red denotes interleaving; aspects of knowledge covered previously.</p>
<b>Current learning to be developed in the future within:</b>	<p>Variation and evolution Population and ecosystems Inheritance Application of reproduction and genetics</p>
<b>Assessment</b>	<p>Refer to assessment maps for formative and summative assessment opportunities.</p>
<b>Impact</b>	<p>Attainment and Progress – Refer to assessment results / data review documentation.</p>

