




YEAR 12 TERM 3

‘An ambitious curriculum that meets the needs of all’

Medium Term Planning - Topic: Plant reproduction

Curriculum Intent	<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"> • Flower structure • Gamete development • Pollination • Fertilisation • Development of the fruit and seed • Germination <p>Specified practical work:</p> <ul style="list-style-type: none"> • Dissection of wind and insect pollinated plants • Scientific drawing of a low power plan of a prepared slide of an anther • Scientific drawing of an anther to show stages of meiosis • Investigation of the digestion of starch agar using germinating seeds
Skills/National Curriculum Links	
Spiritual, moral, social, and cultural development	<p>SMSC:</p> <p>PSHE/British Values: Role of plants in food chains, importance of bees</p> <p>Skills Builder: Practical skills, reading a scientific method, recording results, observation</p>
Numeracy	Magnification calculations
Literacy	<p>Vocabulary Tier 2: pollination, insect pollinated, wind pollinated, fertilisation, dormant, germination,</p> <p>Vocabulary Tier 3: Stamen, anther, filament, carpel, stigma, style, ovule, sepal, nectary, receptacle, tapetum, pollen sac, lateral groove, tube nucleus, generative nucleus, dehiscence, micropyle, integuments, funicle, polar nuclei, antipodals, synergids, oosphere, polar nucleus, self-pollination, cross-pollination, protandry, endosperm, cotyledon, radicle, plumule, coleoptile, testa, gibberellin</p> <p>Reading: 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>Writing: 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>Oracy: 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>
Becoming future ready	<p>Careers/Employability: 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>
Adaptation	Throughout this topic, quality first teaching will provide adaptive teaching accessible to all students:
QFT/SEND Provision	<p>By product: Assessments have opportunities for students to achieve all grades, with structured questions and opportunities for development of extended writing for all abilities.</p> <p>By Intervention: by providing different levels of supervision and support in theory and in practical lessons.</p> <p>By Progressive Questioning: exploring pupils’ understanding through interactive dialogue.</p> <p>By Grouping: according to prior attainment, gender, social preference.</p> <p>By Task: 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>By Offering Optional Activities: 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>
Implementation	<p>To be able to:</p> <ul style="list-style-type: none"> • Describe the basic structure and functions of the parts of the flower

Curriculum Delivery	<ul style="list-style-type: none"> Describe how the male and female gametes develop Compare an insect and a wind pollinated flower Explain what is meant by pollination and describe how cross-pollination results in a far greater genetic variation than self-pollination Describe the process of double fertilisation in flowering plants Describe the development of the fruit and the seed Explain the differences between a fruit and a seed Describe the structure of a maize fruit and a seed of the broad bean Describe the requirements for germination and how food reserves are mobilised from the food store to the embryo plant Describe the role of gibberellin in seed germination 	
Learning Outcomes (Knowledge)	Red denotes interleaving; aspects of knowledge covered previously.	
Current learning to be developed in the future within:	Sexual reproduction in humans Variation and evolution Application of reproduction and genetics	
Assessment	Refer to assessment maps for formative and summative assessment opportunities.	
Impact	Attainment and Progress – Refer to assessment results / data review documentation.	