




YEAR 12 TERM 1

'An ambitious curriculum that meets the needs of all'

Medium Term Planning - Topic: Core concepts: chemical elements and biological compounds

Curriculum Intent	
Skills/National Curriculum Links	<p>Developing knowledge from GCSE Biology or GCSE Combined Science, pupils will be taught, following National Curriculum guidelines, the following this topic:</p> <p>The biological roles and properties of:</p> <ul style="list-style-type: none"> Inorganic ions Water Carbohydrates Lipids Proteins <p>Specified practical work:</p> <ul style="list-style-type: none"> Tests for carbohydrates, proteins and lipids
Spiritual, moral, social, and cultural development	<p>SMSC: n/a</p> <p>PSHE/British Values: Diet and impact on health</p> <p>Skills Builder: Practical skills, reading a scientific method, recording results</p>
Numeracy	<p>Qualitative and quantitative assessment of concentration.</p> <p>Construction of standard curves and their use in identifying concentration.</p>
Literacy	<p>Vocabulary Tier 2: starch, glucose, glycogen, cellulose, carbohydrate, protein, lipid, condensation, hydrolysis, saturated, unsaturated, globular, fibrous</p> <p>Vocabulary Tier 3: phosphate, monosaccharide, disaccharide, polysaccharide, polypeptide, triglyceride, phospholipid, glycosidic bond, peptide bond, ester bond, chitin, disulfide bridge, hydrophobic, hydrophilic, ionic bond, hydrogen bond</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	<p>Throughout this topic, quality first teaching will provide adaptive teaching accessible to all students:</p>
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 Curriculum Delivery	<p>To be able to:</p> <ul style="list-style-type: none"> • Know the role of some key elements and ions in living organisms • Know the properties of water and how they relate to its role in living organisms • Know the structure, properties and functions of carbohydrates • Know the structure, properties and functions of triglycerides and phospholipids • Understand the implication of dietary fats for human health • Know the structure and roles of amino acids and proteins • Understand the structure of proteins <p>Red denotes interleaving; aspects of knowledge covered previously.</p>	
Learning Outcomes (Knowledge)		
Current learning to be developed in the future within:	Core concept topics are developed further in all three final exam Components.	
Assessment	Refer to assessment maps for formative and summative assessment opportunities.	
Impact	Attainment and Progress – Refer to assessment results / data review documentation.	