




YEAR 13 TERM 2

'An ambitious curriculum that meets the needs of all'

Medium Term Planning - Topic: Immunology and disease (option topic)

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| 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> <ul style="list-style-type: none"> • Diseases <ul style="list-style-type: none"> ○ Cholera ○ Tuberculosis ○ Smallpox ○ Influenza ○ Malaria • Antibiotics • The immune system |
| Spiritual, moral, social, and cultural development | <p>SMSC: Spread of disease, vaccination, pandemics PSHE/British Values: Ethics of mass vaccination Skills Builder: Practical work, independent investigation, data handling and analysis</p> |
| Numeracy | Interpreting data on disease spread in table or graphical formats |
| Literacy | <p>Vocabulary Tier 2: Infection, virus, bacteria, parasite, malaria, cholera, tuberculosis, smallpox, pandemic, inflammation, vaccination</p> <p>Vocabulary Tier 3: endemic, carriers, reservoirs, toxin, epidemic, antigen, antibody, antigenic drift, antigenic shift, vector, lytic, lysogenic, pathogen, broad spectrum antibiotic, narrow-spectrum antibiotic, bactericidal, bacteriostatic, peptidoglycan, lipopolysaccharide, Gram positive, Gram negative, antibiotic resistance, innate immune system, adaptive immune system, lymphocytes, phagocytes, macrophages, neutrophils, humoral response, cell-mediated response, antigen presenting cell, active immunity, passive immunity,</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 | 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. |
| 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> |

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| Implementation Curriculum Delivery | <p>To be able to:</p> <ul style="list-style-type: none"> • Explain that the body is a host to many other organisms • Describe characteristics and treatment of cholera, tuberculosis, smallpox, influenza and • Describe the relationship between the pathogenic action of viruses and their mode of reproduction • Describe the features of antibiotics, including the mechanism of action of penicillin and tetracycline • Understand how the overuse of antibiotics has resulted in the spread of antibiotic resistant strains of bacteria • Understand how natural barriers reduce the risk of infection • Distinguish the innate from the adaptive immune system • Describe the primary and secondary immune responses • Distinguish active from passive immunity • Describe the differential effectiveness of vaccines • Consider the ethical and moral implication of vaccination programmes <p>Red denotes interleaving; aspects of knowledge covered previously.</p> |  |
| Learning Outcomes (Knowledge) | | |
| Current learning to be developed in the future within: | Biology / biochemistry / biomedical science / medicine degree courses | |
| Assessment | Refer to assessment maps for formative and summative assessment opportunities. | |
| Impact | Attainment and Progress – Refer to assessment results / data review documentation. | |