| Year Group: 12 | Subject: Biology | Term: Summer 2021 |
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| Topic | Key Learning points | Assessment |
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| **4.1.1: Communicable diseases** | *End Point: To know how diseases are transmitted and the defences animals and plants employ to fight off infection.*<br>• Know the different types of pathogen and explain how they can be transmitted.<br>• To be able to describe the non-specific defence against pathogens in animals and plants.<br>• Know the form and function of immune cells to include neutrophils, antigen-presenting cells, phagosomes and lysosomes.<br>• Know the specific immune response including the action of B and T lymphocytes.<br>• Know how immunity to a pathogen develops through the action of T memory cells and B memory cells.<br>• Understand the difference between active, passive, natural and artificial immunity.<br>• Know how vaccinations are created and their role in preventing the spread of infectious disease.<br>• Know sources of medicines and the increased benefit of personalised medicine.<br>• | Students will be formatively assessed during each topic by past paper questions completed in lesson time.<br><br>Students will complete homework assignments as ongoing assessment of understanding.<br>Teachers will provide students with targeted feedback, based on their test performance.<br><br>At the end of the term students will have a summative assessment. This will be a 60-mark exam paper which will be marked by their teacher |
| **4.2.1: Biodiversity** | *End Point: To understand the importance of biodiversity and methods to preserve it.*<br>• Know that biodiversity occurs at the habitat and genetic level.<br>• Know how to measure biodiversity including species richness, species evenness and Simpson's diversity index.<br>• Know different sampling techniques and be able to apply the appropriate technique to the right organism.<br>• Understand the impact humans have had on biodiversity including monoculture, habitat destruction and climate change.<br>• Know the different methods of conservation including the various organisations that aid conservation efforts.<br>• Know how genetic biodiversity can be assessed using proportion of polymorphic gene loci.<br>• | |
| **4.2.2: Classification and Evolution** | End point: To know the development of classification systems. To know the mechanisms of evolution through natural selection.<br>• Know the taxonomic hierarchy that results in the binomial classification of organisms.<br>• Know how genetic analysis lead to the three-domain model for classifying organisms.<br>• Know the different types of variation including interspecific, intraspecific, continuous and discontinuous.<br>• Know how organisms can be adapted anatomically, physiologically or behaviourally.<br>• Understand the process of natural selection and how it leads to evolution of organisms.<br>• Understand the implications of evolution on human populations to include pesticide and antibiotic resistance and the impact of climate change. | |