

Year Group: 10		Subject: Combined Science		Term: Summer 2022	
Topic		Key Learning points		Assessment	
Biology: Health and Disease		<i>End Point: To know how different pathogens can cause us harm and understand the bodies' various defence mechanisms to infectious disease.</i> <ul style="list-style-type: none">Know the different facets of health including social, mental, emotional and how these are intertwined.Know that non-communicable diseases develop due to a number of factors including genetics, diet and lifestyle.Know that a pathogen is a micro-organism that causes humans harm and that there are different types of pathogen (bacteria, viruses and fungi).Know the mode of transmission for communicable diseases and the body's defences against infection.Know that immunity develops from exposure to a pathogen and that vaccinations are a safe way of exposing the immune system to pathogens.Know that antibiotics are used to treat bacterial infections and that the overuse of antibiotics has led to the rise of antibiotic resistant strains of bacteria.		<p>Students are formatively assessed during each topic by in-class assessment tasks which are self-marked.</p> <ul style="list-style-type: none">Recall starters focus on prior knowledge.Key takeaway plenaries focus on consolidating knowledge from that lesson.Structured exam-style question homework is set weekly which is assessed at the start of lessons. <p>At the end of each half-term students will have a summative assessment. This will be a 60-mark exam paper (20 marks from each topic). This is peer-assessed in the following lesson and feedforward tasks completed.</p>	
Chemistry: Using and obtaining metals. Mole calculations.		<i>End Point: To understand the reactivity of metals and methods that they can be extracted.</i> <ul style="list-style-type: none">Know that metals have different reactivities and that a more reactive metal will displace a less reactive metal from a compound.Know that displacement reactions are redox reactions because one substance is oxidised and another is reduced.Know that an ore is a rock containing metal compounds and that some unreactive metals occur in a native state and not in an ore.Know that metals less reactive than carbon can be extracted from ores by heating with carbon.Know that metals more reactive than carbon are extracted using electrolysis.(H) Know that bioleaching and phytoextraction are biological methods of extracting metals.Know that the empirical formula of a substance is the whole number ratio of atoms of each element and that the molecular formula is the actual number of atoms of each element.Know that mass is conserved in a chemical reaction.			
Physics: Forces doing work. Conservation of energy.		<i>End Point: To understand how energy can be stored and transferred, the applications of this to humans and how to calculate work and power.</i> <ul style="list-style-type: none">Know the different stores of energy including: chemical, kinetic, thermal, elastic potential, gravitational potential and nuclear.Know the ways energy is transferred: by mechanical work, electrical work, heating and radiation.Know that in energy transfers, energy is dissipated so that it is stored in less useful ways and that you can increase the efficiency of a transfer by reducing wasteful stores of energy developing.Know that thermal energy is the internal heat energy of an object.Know that thermal energy can be transferred by conduction, convection and radiation.Know how to calculate gravitational potential energy and kinetic energy.Know that energy resources used for generating electricity can be renewable or non-renewable.Know the advantages and disadvantages of using renewable or non-renewable energy.Know how calculations of work done and power can describe energy stores and transfers.			