Year Group: 10	Subject: Triple Science	Term: Summer 2021

Topic	Key Learning points	Assessment
Biology: Health and Disease	*End Point: To know how different pathogens can cause us harm and understand the bodies various defence mechanisms to infectious disease.* • 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.	Students will be formatively assessed during each topic by past paper question end of topic tests completed in lesson time. • Students will complete a variety of consolidation homework throughout the term • After each end of topic test there will be an opportunity for students to review their understanding • Teachers will provide students with targeted feedback, based on their test performance At the end of the term students will have a summative assessment. This will be a 60-mark exam paper (20 marks from each discipline), which will be marked by their teacher.
Chemistry: Using and obtaining metals. Mole calculations. Transition metals and quantitative analysis	*End Point: To understand the reactivity of metals and methods that they can be extracted.* • 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. • Know that an ore is a rock containing metal compounds, some unreactive metals occur in a native state. • 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 the properties of transition metals and why converting pure metals to alloys changes their properties. • Know the actual yield of a reaction is lower than theoretical yield and be able to calculate percentage yield. • Know how to use Avogadro's law to calculate volumes of gases involved in a gaseous reaction.	
Physics: Astronomy Forces doing work. Conservation of energy.	*End Point: To understand how energy can be stored and transferred, the applications of this to humans and how to calculate work and power.* • Know the parts of the solar system and how they interact. • Know the evidence for the origin of the Universe and the life-cycle of a star. • Know that energy cannot be created or destroyed it can only be stored or transferred. • Know that energy efficiency is calculated by dividing the useful energy by the total energy in a system. • Know that when a force makes an object move, we say work is being done and can measure this in Joules. • Know that power is defined as the rate at which work is being done and is measured in Watts. • Know that objects can interact by exerting forces on each other and these forces can be contact or non-contact. • Know that forces are vectors as they have a magnitude and direction. • Know that the space around an object where it can affect other objects is called a force-field. • (H) Know how to use a scale diagram to calculate resultant force on an object with multiple forces acting on it.	