Year Group: 11	Subject: Triple Science	Term: Autumn 2021
Topic	**Key Learning points**	**Assessment**
Biology: Plant structures and Animal coordination	*End Point: To understand transport systems in plants and how photosynthesis can be measured. To understand homeostasis in animals.* • Know how to describe photosynthesis and explain the factors that affect rate of photosynthesis. • Know how plants absorb water and mineral through the roots and how it is transported via transpiration and xylem vessels. • Know how sucrose is transported in phloem vessels through translocation. • Know the structure and general function of the endocrine system to include names of glands and hormones. • Know how blood glucose is regulated and the importance of insulin. • Know how diabetes is a malfunction in blood glucose regulation and that it is treated with exercise, diet and insulin injections depending on the type. • Know the sequence of the menstrual cycle and how hormones control different events such as ovulation. • Know how hormones are used in reproductive therapy and in contraception. • Know how hormones such as adrenaline and thyroxine contribute to changes in metabolism.	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: Rates of Reaction, Reversible reactions, Bulk and surface properties and Hydrocarbons	*End Point: To understand the features of chemical reactions and how we measure them.* • Know that the rate of a reaction is the speed at which reactants are converted into products. • Know that the rate of a reaction can be measured by measuring change in mass of the reactants or products in a reaction and how factors such as concentration, temperature, pressure and surface area can affect the rate of reactions. • Know that reactions can be classed as endothermic or exothermic depending on whether they absorb or release energy. • Know that catalysts reduce the activation energy of a reaction thereby speeding it up. • Know the properties and uses of nanoparticle structures and materials. • Know the structure and formulae of alkanes and alkenes including how to test for them and their properties. • Know that dynamic equilibrium occurs in a reversible reaction where forward and backward reactions balance each other but that this can only occur in a closed system.	
Physics: Electricity, Static electricity and Magnetism	*End Point: To understand how force fields exert a force on particles and how the components of an electrical circuit function.* • Know the components in an electrical circuit and how they function. • Know that current is the flow of electrons in a circuit and that potential difference is the energy difference between two points in a circuit. • Know that resistance slows down the current and can lead to heating of components. • Know calculations involving current, potential difference, resistance and power. • Know that magnets exert a force on magnetic objects within the forcefield surrounding the magnet. • Know that an electromagnet is where a current is passed through a coil of wire surrounding an iron core creating a magnetic field. • Know that a transformer uses electromagnetic induction to vary the voltage in different circuits. • Know that a step-up transformer increases the voltage of a circuit whilst decreasing the current and vice versa for a step-down transformer. • Know how static electricity occurs, its uses and hazards in industry	