Year Group: 7	Subject: Science	Term: Summer 2020

Topic	Key Learning points	Assessment
Biology: Classification and Feeding Relationships	*End Point: Have an understanding of how living organisms are classified by their characteristics and behaviour. Know how plants reproduce and understand the importance of insect-pollination on human food security. Describe the interdependence of organisms in an ecosystem, including accumulation of toxins, using food chains, webs, and pyramid of numbers and mass.* • Know that living things are classified into groups according to common observable characteristics and based on similarities and differences • Describe the process of sexual reproduction in plants • Know how to draw a food chain/ food web and label the producer, primary consumer, secondary consumer, tertiary consumer and apex predator • Know that a pyramid of numbers shows the relative number of organisms at each stage in a food chain • Know that a pyramid of biomass shows the mass of organisms at each stage in a food chain • Know that organisms in an ecosystem depend on each other, such as for food, shelter and pollination • Know about the importance of plant reproduction through insect pollination in human food security • Know that bioaccumulation is the build-up of toxic materials in a food chain • Know that sampling can be used to estimate the number of organisms living in a habitat • Know how to experimentally determine the number of organisms in an area by random sampling using quadrats	Students will be formatively assessed during each topic by weekly multiple-choice tests in class: • Before each assessment students will complete a revision homework • After each assessment 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 45-mark exam paper (15 marks from each topic), which will be marked by their teacher
Chemistry: Chemical Reactions	*End Point: Develop a basic understanding of atomic structure and how atoms interact in chemical reactions. Describe chemical reactions using equations and begin to understand energy changes during reactions.* • Know how to deduce the type and number of atoms in a compound from the chemical formula • Understand how the name of a compound is related to the atoms it contains • Describe the difference between physical and chemical changes • Know that a chemical reaction can be represented by a word equation • Know that the total mass of reactants is always equal to the total mass of products in a chemical reaction • Know how to calculate the masses of reactants and products • Know that the rate of reaction is how quickly the reactants become the products • Know that thermal decomposition is a type of reaction where a compound breaks down to form two or more substances when heated • Know that chemical reactions involve a transfer or energy either to or from the surroundings	
Physics: Introduction to Electricity	*End Point: Have an understanding of how an electrical circuit can transfer energy through the flow of charged particles. Know how to draw circuit diagrams to represent simple circuits and how to measure the current and potential difference in a circuit. Know how fuels and energy resources generate domestic power and compare the power ratings and fuel bills and costs.* • Know how to draw the circuit symbol for a cell, battery, bulb, open switch, closed switch, motor and buzzer • Know that current is the flow of charged particles, measured in amperes (amps) • Know that potential difference is the energy given to the charged particles in a circuit, measured in volts • Know that efficiency = Useful energy out / Total Energy in • Know that power is the rate at which energy is used, measured in watts • Know that energy suppliers measure energy in kilowatt hours (kWh) • Know that cost = energy used in kWh x cost of 1 kWh • Compare the advantages and disadvantages of renewable energy and fossil fuels	