

Year Group: 9		Subject: Science	Term: Autumn 2021
Topic	Key Learning points		Assessment
Biology: Health and Disease	<p><i>End Point: Have a strong knowledge of the human body. Understand factors affecting physical, mental and social health and well-being, including diseases and their risk factors, such as drug & alcohol abuse and sexual health</i></p> <ul style="list-style-type: none"> Know how to draw and label an animal cell and describe the functions of the nucleus, mitochondria, cytoplasm and cell membrane Know the function of the circulatory system, digestive system, respiratory system and nervous system Know that the circulatory system transports substances around the body in the blood Know that homeostasis is the maintenance of a constant internal environment Know that health is a state of physical, mental and social wellbeing and not merely the absence of disease or infirmity Know the law regarding the supply and possession of legal and illegal substances Know that a communicable disease can be spread directly from one person to another and that a non-communicable disease cannot be spread from person to person Know that pathogens can be spread by air, water, direct contact, bodily fluids, food and vectors Know of common sexually transmitted infections including chlamydia, gonorrhoea, genital warts, herpes and HIV/AIDS and how they are spread Describe the immune response and know that white blood cells engulf and digest pathogens Know that immunisation can be triggered artificially using a vaccine 		<p>Students will be formatively assessed during each topic by weekly multiple-choice tests in class:</p> <ul style="list-style-type: none"> 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
Chemistry: Earth and Atmosphere	<p><i>End Point: Know the structure of the earth and composition of the earth's atmosphere. Describe processes that cycle carbon and rocks. Understand how earth's atmosphere has changed and the effects of today's changing atmosphere on the climate.</i></p> <ul style="list-style-type: none"> Know how to label the crust, mantle, outer core and inner core on a diagram of the Earth Know that rocks can be classified as igneous, sedimentary or metamorphic Know that weathering is the process that causes rocks to break into fragments Know that the rock cycle is all of the processes that are involved in creating, changing and destroying rocks Know how to label a diagram of the rock cycle to show weathering and erosion, transportation and deposition, sedimentation, compaction and cementation, burial, melting and uplift to the surface Know that fossils fuels are fuels formed from the dead remains of organisms over millions of years Know that combustion is a chemical reaction in which a compound reacts with oxygen Know how to represent a compound using chemical formula and know how to balance a chemical equation Know the composition of gases in the Earth's atmosphere Know that carbon dioxide levels in the atmosphere are increasing Know that global warming is a gradual increase in the temperature of the earth's atmosphere 		
Physics: Motion and Pressure	<p><i>End Point: Have a strong knowledge of forces and apply it to understanding pressure. Describe the effect of forces on objects in motion, using calculations for speed and acceleration. Understand energy and use calculations for work done.</i></p> <ul style="list-style-type: none"> Know that a force is a push or a pull acting on an object and that forces are measured in Newtons Know that the resultant force is the total force when two or more forces are acting on a single object Know that weight = mass x gravitational field strength Know that pressure is the measure of the force on an area, it is measured in Newtons per metre squared (N/m²) Know that an object partially or completely submerged in a liquid experience an upwards force called up-thrust Know that gas pressure is caused by the collision of gas particles with a surface Know that speed is a measure of the distance an object travels in a given time, it is measured in metres per second (m/s) Know that acceleration is a measure of how quickly the speed of an object changes, it is measured in metres per second squared (m/s²) Know that the journey of an object can be represented on a distance/time graph Know that energy can exist in a chemical, thermal, kinetic, gravitational potential or elastic potential store Know that work done is a measure of the energy transferred when a force acts through a distance Know that a moment is the turning effect of a force, it is measured in newton metres (Nm) 		<p>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</p>