









<b>Half Term 1: Future Olympian, OE007, OE009.</b>		
<p><b>Substantive Knowledge:</b> How to calculate speed How to interpret distance-time graphs How to interpret velocity-time graphs forces: associated with deforming objects; stretching and squashing springs. Force extension linear relation; Hooke's Law as a special case Moment as the turning effect of a force Simple machines give bigger force but at the expense of smaller movement Atmospheric pressure decreases with increase of height as weight of air above decreases with height. pressure in liquids, increasing with depth, upthrust effects, floating and sinking. pressure measured by ratio force over area - acting normal to any surface. forces: associated; resistance to motion of air and water.</p> <p><b>Disciplinary Knowledge:</b> Graph analysis of distance-time graphs Calculate speed Use scientific and mathematical conventions and vocabulary when communicating Suggest how collaborative approaches to specific experiments or investigations may improve the evidence collected Categorise data as quantitative or qualitative Draw straight forward conclusions from data presented Identify aspects of our lives, or the jobs that people do, which are based on scientific ideas. Use abstract models when describing processes or phenomena.</p>		Skim reading Decoding – modelled Etymology of key terms Syllabification
		Acceleration, Deceleration, Velocity, Antidoping, Deform, Resultant force, Directly proportional, Moment, Rotate, Pivot, Extension, Fluid, Upthrust, Density, Surface Area, Air resistance, Drag, Streamline
		End of unit assessments Recall tests
		Homework booklets – include revision cards and exam questions
<b>Half Term 2: CR5, BBL5, BE5.</b>		
<p><b>Substantive Knowledge:</b> The order of metals and carbon in the reactivity series The use of carbon in obtaining metals from metal oxides What catalysts do Properties of ceramics, polymers and composites (qualitative) Introduction to symbol equations Heredity as the process by which genetic information is transmitted from one generation to the next. A simple model of chromosomes, genes and DNA in heredity, including the part played by Watson, Crick, Wilkins and Franklin in the development of the DNA model. Differences between species. The variation between species being continuous or discontinuous, to include measurement and graphical representation of variation. The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection. Changes in the environment may leave individuals within a species. The Earth's axis is tilted at 23.5 degrees, which affects the length of days and seasons. It is summer when the hemisphere is tilted towards the Sun, experiencing longer days and more direct sunlight. It is winter when the hemisphere is tilted away from the Sun, experiencing shorter days and less direct sunlight. Day and night are caused by the Earth's rotation on its axis every 24 hours. The angle of the Sun's rays affects the intensity of heat on Earth's surface.</p> <p><b>Disciplinary Knowledge:</b> Use straight forward scientific evidence to answer questions, or to support their findings. Draw straight forward conclusions from data presented. Give specific examples of scientific or technological development, stating the purpose. Formulate a prediction based on learnt science. Use ratios Identify simple ethical or moral issues linked to scientific or technological developments. Identify data as categoric, discrete or continuous. Use appropriate sampling techniques/ and or scientific procedures to collect data Construct a frequency table, identifying appropriate headings/values Construct and interpret histograms Plot two variables from experimental data Identify simple advantages of working together on experiments or investigations.</p>		Skim reading Decoding – modelled Etymology of key terms Syllabification
		Extraction, Catalyst, Polymer, Ceramic, Composite, Genome, Chromosome, Gene, DNA, Natural selection, Evolution, Biodiversity, Conservation, axis, hemisphere, direct sunlight, indirect sunlight, equator, tilt
		End of unit assessments Recall tests
		Homework booklets – include revision cards and exam questions