

Subject	Science		
	Interpretation of National Curriculum into Year group Endpoints		
Year	Term 1	Term 2	Term 3
10	<p>Students will describe and explain the concepts of:</p> <p>B4 Bioenergetics</p> <ul style="list-style-type: none"> the importance of cellular respiration; the processes of aerobic and anaerobic respiration photosynthesis as the key process for food production and therefore biomass for life the process of photosynthesis factors affecting the rate of photosynthesis <p>B3 Infection and response</p> <ul style="list-style-type: none"> the relationship between health and disease communicable diseases including sexually transmitted infections in humans (including HIV/AIDs) non-communicable diseases bacteria, viruses and fungi as pathogens in animals and plants body defences against pathogens and the role of the immune system against disease reducing and preventing the spread of infectious diseases in animals and plants the process of discovery and development of new medicines the impact of lifestyle factors on the incidence of non-communicable diseases <p>C3 Quantitative chemistry</p> <ul style="list-style-type: none"> the number of particles in a given mass of a substance determination of empirical formulae from the ratio of atoms of different kinds 	<p>Students will describe and explain the concepts of:</p> <p>B5 Homeostasis and response</p> <ul style="list-style-type: none"> principles of nervous coordination and control in humans the relationship between the structure and function of the human nervous system the relationship between structure and function in a reflex arc principles of hormonal coordination and control in humans hormones in human reproduction, hormonal and non-hormonal methods of contraception homeostasis <p>C6 The rate and extent of chemical change</p> <ul style="list-style-type: none"> factors that influence the rate of reaction: varying temperature or concentration, changing the surface area of a solid reactant or by adding a catalyst factors affecting reversible reactions <p>P4 Atomic structure</p> <ul style="list-style-type: none"> the nuclear model and its development in the light of changing evidence masses and sizes of nuclei, atoms and small molecules differences in numbers of protons, and neutrons related to masses and identities of nuclei, isotope characteristics and equations to represent changes ionisation; absorption or emission of radiation related to changes in electron orbits 	<p>Students will describe and explain the concepts of:</p> <p>B7 Ecology</p> <ul style="list-style-type: none"> methods of identifying species and measuring distribution, frequency and abundance of species within a habitat <p>C7 Organic chemistry</p> <ul style="list-style-type: none"> carbon compounds, both as fuels and feedstock, and the competing demands for limited resources fractional distillation of crude oil and cracking to make more useful materials <p>P5 Forces</p> <ul style="list-style-type: none"> forces and fields: electrostatic, magnetic, gravity forces as vectors calculating work done as force x distance; elastic and inelastic stretching pressure in fluids acts in all directions: variation in Earth's atmosphere with height, with depth for liquids, up-thrust force (qualitative). speed of sound, estimating speeds and accelerations in everyday contexts interpreting quantitatively graphs of distance, time, and speed acceleration caused by forces; Newton's First Law weight and gravitational field strength decelerations and braking distances involved on roads, safety.

Subject	Science		
	Interpretation of National Curriculum into Year group Endpoints		
Year	Term 1	Term 2	Term 3
	<ul style="list-style-type: none"> • balanced chemical equations, ionic equations and state symbols • quantitative interpretation of balanced equations • concentrations of solutions in relation to mass of solute and volume of solvent <p>C5 Energy changes</p> <ul style="list-style-type: none"> • measurement of energy changes in chemical reactions • bond breaking, bond making, activation energy and reaction profiles <p>P2 Electricity</p> <ul style="list-style-type: none"> • measuring resistance using p.d. and current measurements • exploring current, resistance and voltage relationships for different circuit elements; including their graphical representations • quantity of charge flowing as the product of current and time • drawing circuit diagrams; exploring equivalent resistance for resistors in series • the domestic a.c. supply; live, neutral and earth mains wires, safety measures • power transfer related to p.d. and current, or current and resistance. 	<ul style="list-style-type: none"> • radioactive nuclei: emission of alpha or beta particles, neutrons, or gamma rays, related to changes in the nuclear mass and/or charge • radioactive materials, half-life, irradiation, contamination and their associated hazardous effects, waste disposal • nuclear fission, nuclear fusion and our Sun's energy 	<p>Revision for, taking and review and intervention after Y10 PPEs</p>