



Year 9/10 Science` 2018/19	
Term	Curriculum outline
Autumn 1	<p>Health and safety in the Science lab.</p> <p>Biology: Communicable diseases; Health and disease; Pathogens and disease; Preventing infections; Viral diseases; Bacterial diseases; Diseases caused by fungi and protists; Human defence response.</p> <p>Preventing and treating disease: Vaccination; Antibiotics and pain killers; Discovering drugs; Developing drugs.</p> <p>Non-communicable disease: Cancer; smoking and the risk of disease; Diet, exercise and disease; Alcohol and other carcinogens.</p>
Autumn 2	<p>Chemistry: Chemical changes: The reactivity series; Displacement reactions; Extracting metals; Salts from metals Salts from insoluble bases; Making more salts; Neutralisation and the pH scale; Strong and weak acids;</p> <p>Electrolysis; Introduction to electrolysis; Changes at the electrodes; the extraction of aluminium; Electrolysis of aqueous solutions.</p>
Spring 1	<p>Physics: Molecules and matter; Density; States of matter; Changes of state; Internal energy; Specific latent heat; Gas pressure and temperature.</p> <p>Radioactivity: Atoms and radiation; the discovery of the nucleus; Changes in the nucleus; More about alpha, beta and gamma radiation; Activity and the half-life.</p>
Spring 2	<p>Biology: The human nervous system; Principles of homeostasis; The structure and function of the human nervous system. Reflex actions.</p> <p>Hormonal coordination: Principles of hormonal control; the control of blood glucose levels; Treating diabetes; The role of negative feedback; Human reproduction; Hormones and the menstrual cycle; The artificial control of fertility; Infertility treatments.</p> <p>Reproduction: Types of evolution; Cell division in sexual reproduction; DNA and the genome; Inheritance in action; More about genetics; Inherited disorders; Screening for genetic disorders.</p>
Summer 1	<p>Chemistry: Energy changes; Exothermic and endothermic reactions; Using energy transfers from reactions; Reaction profiles; Bond energy calculations; Chemical cells and batteries; Fuel cells.</p> <p>Rates and equilibrium: Rate of reaction; Collision theory and surface area; The effect of temperature; The effect of concentration and pressure; The effect of catalysts; Energy and reversible reactions; Dynamic equilibrium; Altering conditions.</p>
Summer 2	<p>Physics: Forces in balance: Vectors and scalars; Forces between objects; Resultant forces; Centre of mass; The parallelogram of forces; Resolution of forces;</p> <p>Motion: Speed and distance-time graphs; Velocity and acceleration; More about velocity-time graphs; Analysing motion graphs.</p>



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