



Year 7					
Biology		Chemistry		Physics	
1	2	1	2	1	2
<p><b>Swifter Higher Stronger –</b></p> <ul style="list-style-type: none"> <li>• Healthy Diet making good food choices and diabetes;</li> <li>• Skeleton, muscles, muscle contraction</li> <li>• Respiration aerobic and anaerobic</li> <li>• Antagonistic muscles,</li> <li>• Heart circulatory system, double pump, blood vessels.</li> <li>• Heart disease Respiratory system. Asthma; exercise; smoking cigarettes. Cancer.</li> </ul>	<p><b>Inheritance of Life -</b></p> <ul style="list-style-type: none"> <li>• 7 characteristics of living things;</li> <li>• Cells, organs and systems;</li> <li>• Plant and animal cells;</li> <li>• specialised cells;</li> <li>• fermentation,</li> <li>• bacteria</li> <li>• Puberty, reproduction, pregnancy and birth;</li> <li>• Classification, internal, external fertilisation;</li> <li>• Variation continuous and discontinuous,</li> <li>• DNA structure, evolution, selective breeding and genetic Engineering.</li> </ul>	<p><b>All that Matters –</b></p> <ul style="list-style-type: none"> <li>• States of matter and changes of state</li> <li>• Cooling curves</li> <li>• Diffusion</li> <li>• Separation methods, filtration, evaporation, distillation and chromatography</li> <li>• Combustion</li> <li>• The fire triangle</li> <li>• Water plant and water purification methods</li> <li>• Hard and soft water</li> </ul>	<p><b>Exploring Reactions –</b></p> <ul style="list-style-type: none"> <li>• Atoms, elements compounds and mixtures</li> <li>• Periodic table and predicting reactivity</li> <li>• Metals and their properties</li> <li>• Metals and non-metals and reactions</li> <li>• Acid and acid reactions</li> <li>• Acid and alkali</li> <li>• The pH scale</li> <li>• Acids and bases</li> <li>• Alkalis and salts</li> <li>• Neutralisation</li> <li>• Carbonates</li> <li>• Reactions and properties</li> </ul>	<p><b>Forces and space-</b></p> <ul style="list-style-type: none"> <li>• Basic types of forces</li> <li>• Units for force</li> <li>• Balanced and unbalanced forces</li> <li>• Force diagrams</li> <li>• Stretching a spring</li> <li>• Hooke’s law</li> <li>• Resistive forces</li> <li>• Friction and air resistance</li> <li>• Speed</li> <li>• Speed calculations</li> <li>• Forces acting on helicopter investigation</li> <li>• Terminal velocity</li> <li>• Speed distance time graphs</li> <li>• The solar system planets , stars , asteroids comets.</li> <li>• Rockets and space missions</li> <li>• The planet Earth</li> <li>• The Universe and the big bang</li> </ul>	<p><b>Energy and electricity –</b></p> <ul style="list-style-type: none"> <li>• Energy stores and pathways</li> <li>• Conduction</li> <li>• Convection</li> <li>• Radiation</li> <li>• Insulation and insulators</li> <li>• Fuels renewable and non-renewable</li> <li>• Power</li> <li>• Calculating power</li> <li>• Energy sources</li> <li>• Charge</li> <li>• Circuits</li> <li>• Series circuits</li> <li>• Parallel circuits</li> <li>• Batteries</li> </ul>

<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>• Cells</li> <li>• Reproduction</li> <li>• Respiration</li> <li>• Inheritance and evolution</li> </ul> <p>Skills/topics Word and symbol equations Data interpretation</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>• Nutrition</li> <li>• Circulation</li> <li>• Effects of exercise</li> <li>• Smoking</li> </ul> <p>Skills/topics Graph plotting concluding and evaluation Data interpretation</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>• Changes of state</li> <li>• Diffusion</li> <li>• Separation of mixtures</li> <li>• Combustion</li> </ul> <p>Skills/topics Graph plotting Experimental planning and execution.</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>• Periodic table</li> <li>• Atoms elements and compounds</li> <li>• Metal reactions</li> <li>• Acid reactions</li> </ul> <p>Skills/topics Word and symbol equations</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>• Springs</li> <li>• Resistive forces</li> <li>• Speed calculations</li> <li>• Space</li> </ul> <p>Skills/topics Rearranging equations Graph plotting and interpretation</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>• Energy pathways and stores</li> <li>• Heat transfer</li> <li>• Circuits</li> <li>• Energy sources</li> </ul> <p>Skills/topics</p>
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Year 8					
Biology		Chemistry		Physics	
1	2	1	2	1	2
<b>Plant power –</b> <ul style="list-style-type: none"> <li>• Parts of the plant</li> <li>• Adaptations of the leaf</li> <li>• Photosynthesis and limiting factors</li> <li>• Plant nutrition</li> <li>• Testing for starch</li> <li>• Modern farming methods</li> <li>• Plant reproduction and cloning</li> <li>• Plant respiration</li> <li>• Food chains and food webs</li> <li>• Pyramids of biomass and number</li> <li>• Bioaccumulation and DDT</li> <li>• Carbon cycle</li> <li>• Global climate change</li> <li>• Factors affecting climate change</li> <li>• Impacts of climate change</li> <li>• Modern climate change issues</li> <li>• Interpretation of global climate change data</li> </ul>	<b>Body systems -</b> <ul style="list-style-type: none"> <li>• Nutrient types</li> <li>• Food tests for sugar starch and protein.</li> <li>• Digestion and the digestive system</li> <li>• Bacteria in digestion</li> <li>• Adaptations of the stomach and small intestine</li> <li>• Enzyme action and factors affecting enzyme action</li> <li>• Nervous system and nervous responses</li> <li>• Effect of drugs on the nervous system</li> <li>• Reflex arc</li> <li>• Synapses</li> <li>• Fighting disease</li> <li>• Phagocytosis</li> <li>• Antibodies and antigens</li> <li>• Vaccination and immunity</li> <li>• Staying healthy and medical professions in the NHS</li> </ul>	<b>Earth resources and products –</b> <ul style="list-style-type: none"> <li>• Structure of the earth and atmosphere</li> <li>• Rocks and the rock cycle</li> <li>• Volcanos</li> <li>• Fossilisation</li> <li>• Corrosion</li> <li>• Erosion</li> <li>• Weathering</li> <li>• Rusting and prevention of rusting</li> <li>• Extracting metals</li> <li>• Electrolysis</li> <li>• Crude oil</li> <li>• Plastics from oils</li> <li>• Problems with plastics modern day</li> <li>• Recycling</li> </ul>	<b>Rates and reactions –</b> <ul style="list-style-type: none"> <li>• Word and symbol equations</li> <li>• chemical formulae</li> <li>• Balancing equations</li> <li>• Endothermic reactions</li> <li>• Exothermic reactions</li> <li>• Acid rain</li> <li>• Combustion</li> <li>• Reaction rates and temperature, concentration, surface area and with a catalyst</li> <li>• Reactivity series</li> <li>• Displacement reactions</li> <li>• Gas reactions</li> <li>• Thermal decomposition</li> <li>• Conservation of mass</li> </ul>	<b>Sound and light –</b> <ul style="list-style-type: none"> <li>• Light and ray diagrams</li> <li>• Shadows</li> <li>• Reflection and laws of reflection</li> <li>• Refraction and application</li> <li>• Coloured objects</li> <li>• Filters</li> <li>• Lenses</li> <li>• Spectrum of light and dispersion</li> <li>• The eye</li> <li>• Cameras</li> <li>• Electromagnetic spectrum</li> <li>• Wave diagrams</li> <li>• Frequency</li> <li>• Sound waves</li> <li>• Wave speed calculations</li> <li>• Longitudinal and transverse waves</li> <li>• Pitch and amplitude</li> <li>• Volume</li> <li>• Ultrasound</li> <li>• Hearing</li> <li>• Recap electromagnets</li> <li>• Loudspeakers</li> <li>• Microphones</li> </ul>	<b>Moving the world –</b> <ul style="list-style-type: none"> <li>• Voltage in circuits</li> <li>• Resistance and <math>V=IR</math> characteristics and calculations</li> <li>• Magnetic fields and the earth's magnetic field</li> <li>• Electromagnets and their uses</li> <li>• Calculating gravitational forces</li> <li>• Forces</li> <li>• Balancing forces</li> <li>• Moments calculations</li> <li>• Pressure and pressure calculations</li> <li>• Pressure in liquids and gases</li> <li>• Work done calculations</li> <li>• Density and floating and sinking.</li> </ul>

	<ul style="list-style-type: none"> <li>Antibiotics and painkillers</li> </ul>				
<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Factors affecting photosynthesis</li> <li>Adaptations of a leaf</li> <li>Food chains and webs and pyramids</li> <li>Causes and consequences of global climate change</li> </ul> <p>Skills/topics Planning investigation and plotting graph and interpretation of data</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Digestive system</li> <li>Enzyme investigation</li> <li>Treatment of disease</li> <li>Effect of drugs on the nervous system</li> </ul> <p>Skills/topics Graph plotting and analysis</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Plastics</li> <li>Recycling</li> <li>Rock types</li> <li>Electrolysis</li> </ul> <p>Skills/topics Word and symbol equations</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Elements chemical formulae and equations</li> <li>Gas reactions and experimental variables</li> <li>Planning investigation into rates of reaction</li> <li>Reactivity series and equations</li> </ul> <p>Skills/topics Word and symbol equations Planning investigation Graph plotting</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Light and ray diagrams</li> <li>Reflection and refraction</li> <li>Filters and coloured objects</li> <li>Waves and wave calculations</li> </ul> <p>Skills/topics Manipulating equations</p>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Resistance of a wire</li> <li>Magnets</li> <li>Electromagnets</li> <li>Pressure</li> </ul> <p>Skills/topics Manipulating equations</p>