

Rainford High School – Department: Science

	Year 8 Curriculum		
Term	Term 1	Term 2	Term 3
Topics	Biology: Bioenergetics Chemistry: Atoms, Elements & Compounds Physics: Energy	Biology: Genetics & Evolution Chemistry: Acids & Alkalis Physics: Waves	Biology: Ecosystems Chemistry: Earth & Atmosphere Physics: Energy in Matter
Essential knowledge, skills and understanding	<p><u>Biology</u></p> <ul style="list-style-type: none"> • Risk assessment • Photosynthesis • Leaves & stomata • Respiratory system • Breathing & gas exchange • Aerobic respiration • Anaerobic respiration • Fermentation • Circulatory system • Blood & vessels <p><u>Chemistry</u></p> <ul style="list-style-type: none"> • Evaluations • Atoms & elements • Compounds • Mixtures • Chemical formula • Periodic table • Metals & non-metals • Group 1 • Group 7 • Group 0 	<p><u>Biology</u></p> <ul style="list-style-type: none"> • Percentages • Variation • DNA • Development of the DNA model • Genetic crosses • Evolution • Speciation • Extinction • Selective breeding <p><u>Chemistry</u></p> <ul style="list-style-type: none"> • Method writing • Making an indicator • Universal indicator & the pH scale • Neutralisation • Naming salts • Acids & metal carbonates • Acid & metals • Uses of acids and alkalis • Acid rain 	<p><u>Biology</u></p> <ul style="list-style-type: none"> • Repeatability & reproducibility • Food chains and webs • Pyramids of number • Pyramids of biomass • Animal adaptation • Plant adaptation • Biodiversity • Random sampling • Transects <p><u>Chemistry</u></p> <ul style="list-style-type: none"> • Extended answers • Earth's structure • Weathering & erosion • Sedimentary rocks • Metamorphic rocks • Igneous rocks • Rock cycle • Changes in atmosphere • Air pollution

	<p>Physics</p> <ul style="list-style-type: none"> • Equation triangles • Energy stores • Energy transfers • Work done • Power • Energy costs • Energy efficiency • Fossil fuels • Nuclear energy • Renewable energy 	<p>Physics</p> <ul style="list-style-type: none"> • Anomalous results & averages • Waves • Reflection • Refraction • Colours & filters • Sound • The ear • Ultrasound & infrasound • EM spectrum 	<p>Physics</p> <ul style="list-style-type: none"> • Precision & accuracy • Forces in matter • Pressure • Gas pressure • Density • Conduction • Convection • Thermal conductivity
Assessment	<p>Retrieval testing of knowledge organiser throughout</p> <p>End of topic assessment:</p> <p>ASSESSMENT WINDOW 1 Summative assessment 1: Bioenergetics, atoms, elements and compounds</p>	<p>Retrieval testing of knowledge organiser throughout</p> <p>End of topic assessment:</p> <p>Summative assessment 2: Energy, genetics and evolution, and acids and alkalis</p>	<p>Retrieval testing of knowledge organiser throughout</p> <p>End of topic assessment:</p> <p>ASSESSMENT WINDOW 2 Summative assessment 3: Waves and ecosystems</p>