

KS3 Website Curriculum Overview 21/22



	AUT 1	AUT 2	SPR 1	SPR 2	SUM 1	SUM 2
Year 7	<p>Chemistry – Unit 1 Particles and atoms</p> <p>Objects are made from materials that are made from atoms. Understanding how these atoms are arranged in different substances will form the foundation of this topic which is a fundamental big idea in Chemistry.</p>	<p>Physics – Unit 2 Energy</p> <p>Types of energy store and how energy is transferred from store to store are studied in this topic. Energy stored in food and fuels is analysed in detail here, to link to energy needs in everyday life.</p>	<p>Biology – Unit 3 Cells and organisation</p> <p>Cells are the basic building blocks of life and students' journey into biological systems starts here. Microscopes will be used to see in real life the structures inside plant and animal cells we will be studying.</p>	<p>Chemistry – Unit 4 Chemical reactions 1</p> <p>Students will look closer at the sub-structure of atoms and will be introduced to the Periodic Table. Students will build on the knowledge of atoms to investigate how chemicals react, specifically analysing oxidation, thermal decomposition, and neutralisation reactions.</p>	<p>Physics – Unit 5 Forces</p> <p>The different types of contact and non-contact force will be studied, their effects and what is meant by an interaction pair. Students will investigate the impact of forces and the effects lubricants can have on motion. Levers will also be studied to allow understanding of turning effects on objects.</p>	<p>Biology – Unit 6 Organ systems</p> <p>Students will build on their knowledge of plant and animal cells to zoom out and look at full organ systems in the human body. The digestive system, skeletal muscular system, circulatory system, and respiratory system and their roles in the body will all be unpicked here.</p>
Year 8	<p>Chemistry – Unit 7 Solutions</p> <p>Most Chemical reactions happen in solutions. This topic will uncover, using the particle model, what happens when a solute dissolve in a solvent. The key scientific processes of diffusion and chromatography will also be introduced here.</p> <p>Physics- Unit 8 Waves</p>	<p>Physics- Unit 8 Waves (continued)</p> <p>Biology – Unit 9 Bioenergetics</p> <p>Building on knowledge of energy stores, students will explore the processes of photosynthesis and respiration in organisms. The importance of photosynthetic organisms for life will be introduced and emphasised in this topic.</p>	<p>Biology – Unit 9 Bioenergetics continued</p> <p>Chemistry – Unit 10 Chemical reactions 2</p> <p>Students will develop the skill of writing chemical equations in word and symbol form and look at how Mendeleev developed the periodic table. Further reactions of acids and metals, exothermic and endothermic reactions</p>	<p>Chemistry – Unit 10 Chemical reactions 2 continued</p> <p>Physics – Unit 11 Moving by force</p> <p>Changing the movement of objects requires there to be a net force acting. Students will investigate how speed, time and distance are linked and how drag affects motion. Students will also explore the phenomenon of</p>	<p>Biology – Unit 12 Healthy Living</p> <p>Building on the knowledge of the digestive system, students will discover the elements of a healthy diet and what can happen if diet is imbalanced. Exercise and its impacts on the body also form part of this topic as well as how smoking and drugs affect normal bodily functions.</p>	<p>Physics – Unit 13 Static electricity and basic circuits</p> <p>Students will start their learning journey on electricity with looking at static electricity and charge. They will then work up to be able to represent circuits with common component symbols and will practically set up series and parallel circuits for investigations. The electricians tool the multimeter, will also be used to take</p>

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	Students will learn the types of wave and that waves transfer energy. The ear, as the human means to hear sound will be studied. For light waves, study will focus on how light waves interact with their environment		and combustion will be practically introduced.	elasticity and Hooke's law.		measurements in circuits.
Year 9	<p>Biology- Unit 14 Transport</p> <p>Cell membranes selectively allow different essential substances into cells and facilitate removal of waste products. Students will build on this to look at the biological transport methods of diffusion, osmosis and active transport.</p> <p>Chemistry – Unit 15 Separating mixtures</p> <p>Practically, students will explore the methods Chemists use to separate out mixtures including filtration, evaporation, simple</p>	<p>Physics - Unit 16 electricity and magnetism</p> <p>Building on simple circuits, learning centres around current, potential difference and resistance rules in series and parallel circuits. The phenomenon of magnetism is also taught in this topic and students will learn how to plot magnetic fields.</p> <p>Biology – Unit 17 Reproduction and heredity</p> <p>Students will study 'the molecule of life', DNA and will explore it's function in reproduction and heredity. Students will look at plant</p>	<p>Biology – Unit 17 Reproduction and heredity continued</p> <p>Chemistry – Unit 18 Metals and materials</p> <p>Displacement reactions start this topic and students will look at how this process allows metals to be extracted from their ores. The materials ceramic, polymers and composites will also be explored and students will look at which materials are best suited for different functions and why.</p>	<p>Physics – Unit 19 Pressure</p> <p>Students will investigate how pressure, force and area are linked. Water is moved along pipes by pressure and students will apply their understanding of pressure to fluids. Density will also be introduced here and examine whether different objects would float or sink.</p> <p>Biology – Unit 20 Ecosystems and ecology</p> <p>Looking outward to the environment, in this topic we will examine the symbiosis of living organisms and explore</p>	<p>Biology – Unit 20 Ecosystems and ecology continued</p>	<p>Chemistry – Unit 21 Earth Science</p> <p>Students will look at the chemical processes that are contributing to climate change and will analyse a variety of sources to explore the climate crisis. The formation of crude oil also forms a part of this topic so that students can understand why it's impacts are so negative and start to explore and suggest alternative methods of obtaining fuel for a cleaner future.</p>

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	distillation and fractional distillation	reproduction and human reproduction as an example of reproduction in mammals.		their reliance on each other for survival. Students will examine the impacts we as humans have on the environment around us including looking at the impact continued population growth will have on ecosystems.		
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