

## Subject: Science

### Curriculum intent:

The study of Science at Hazelwood will provide students with the foundations of understanding the world around them through the teaching of Biology, Chemistry and Physics. The course will enable students to question real life reactions in the home and around them and to question why these things happen and understand the in-depth Science that causes these phenomena. Students will be encouraged to question, predict and explain both familiar and unfamiliar contexts through the course to allow in-depth knowledge and understanding of Science; this will stimulate the student's natural curiosity teaching them core methods of enquiry and investigation skills to find out the answer on their own. Our aim is to instil the love of learning through a practical hand on experience which allows students to become inquisitive young scientist who aspire to further develop their Science knowledge as they leave us.

## KS3

	Autumn Term	Spring Term	Summer Term
Year 7	<p>Forces and their effects.</p> <p>Energy stores, transfers, and efficiency.</p> <p>Particle arrangement of solids, liquids and gases, mixtures, and dissolving, separating mixtures.</p>	<p>Chemical reactions, acids and alkalis, reactions of metals.</p> <p>Feeding relationships, food chains/webs, and impact of chemicals in food webs.</p> <p>Organisation of living organisms, structure of cells, specialised cells, diffusion.</p>	<p>Electrical components and circuits.</p> <p>Types of rocks and formation of rocks in the rock cycle.</p> <p>Reproductive systems, pregnancy, and birth. Light and sound waves. Space.</p>
Year 8	<p>Heat transfer through conduction, convection, and radiation.</p> <p>The electromagnetic spectrum.</p> <p>Climate change and its impact. Variation and biodiversity. Elements, compounds, and mixtures.</p>	<p>Reactivity series of metals and displacement reactions.</p> <p>Respiration and photosynthesis.</p> <p>Nutrients and the digestive system.</p>	<p>Respiratory system and gas exchange.</p> <p>Genetic inheritance.</p> <p>The periodic table.</p> <p>Friction and pressure.</p> <p>Magnetism and electromagnets.</p>

Year 9	Distance time graphs and turning forces.	Groups in the periodic table.	Energy stores, methods of energy transfer, conservation of energy.
	Reflection, refraction, and dispersion.	Endothermic and exothermic reactions.	Newton's Laws, velocity time graphs, centre of mass, stopping distances.
	Adaptations of specialised cells and how to make exchange efficient.	Producing a soluble salt, osmosis investigation, endothermic and exothermic reactions.	
	Anaerobic respiration and plant nutrients.		

### KS4 Science: AQA GCSE Combined Science Trilogy 8464

	Autumn Term	Spring Term	Summer Term
Year 10	<p>Cell structure, transport of substances, light and electron microscopes.</p> <p>Communicable diseases and treating disease.</p> <p>Non-communicable diseases. Structure of atoms, development of the periodic table and trends in periodic groups.</p>	<p>Ionic, covalent, and metallic bonding.</p> <p>Reactions of acids and bases, extraction of metals.</p> <p>The digestive system and function of enzymes.</p> <p>The blood, blood vessels, and the heart.</p> <p>Thermal energy of particles and infrared radiation.</p>	<p>Specific heat capacity and internal energy of materials.</p> <p>Endothermic and exothermic reactions.</p> <p>Rates of chemical reactions and reversible reactions.</p> <p>Transpiration, xylem, and phloem.</p> <p>Ecosystems and feeding relationships.</p> <p>Sampling techniques.</p> <p>Carbon, water, and decay cycles.</p>

Year 11	<p>The nervous and endocrine system.</p> <p>Radioactivity.</p> <p>Electrical circuits and electricity in the home.</p> <p>Electrolysis.</p> <p>Reflection, refraction, and dispersion.</p> <p>Uses and dangers of the electromagnetic spectrum.</p> <p>Magnetism and motor effect.</p>	<p>Hydrocarbons and fossil fuels.</p> <p>Evolution of the atmosphere and impact of atmospheric pollutants.</p> <p>Cell cycle, genetic inheritance.</p> <p>Natural selection and evolution.</p> <p>Classification and taxonomy.</p>	<p>Revision and exam practice.</p>
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### KS4 Science: Triple Science: AQA Biology AQA Chemistry AQA Physics

	Autumn Term	Spring Term	Summer Term
Year 10	<p>Cell structure, transport of substances, light and electron microscopes.</p> <p>Communicable diseases and treating disease.</p> <p>Non-communicable diseases.</p> <p>Structure of atoms, development of the periodic table and trends in periodic groups.</p> <p>Ionic, covalent, and metallic bonding.</p> <p>Reactions of acids and bases, extraction of metals.</p>	<p>The digestive system and function of enzymes.</p> <p>The blood, blood vessels, and the heart.</p> <p>Thermal energy of particles and infrared radiation.</p> <p>Specific heat capacity and internal energy of materials.</p> <p>Endothermic and exothermic reactions.</p> <p>Rates of chemical reactions and reversible reactions.</p>	<p>Electrical circuits and electricity in the home.</p> <p>Electrolysis.</p> <p>Chemical calculations.</p>

		<p>Transpiration, xylem, and phloem.</p> <p>Ecosystems and feeding relationships.</p> <p>Sampling techniques.</p> <p>Carbon, water, and decay cycles.</p>	
Year 11	<p>The nervous and endocrine system.</p> <p>The brain and sense organs.</p> <p>Cell cycle, genetic inheritance.</p> <p>Natural selection and evolution.</p> <p>Classification and taxonomy.</p>	<p>Hydrocarbons and fossil fuels.</p> <p>Evolution of the atmosphere and impact of atmospheric pollutants.</p> <p>Organic compounds and their reactions.</p>	<p>Reflection, refraction, and dispersion.</p> <p>Uses and dangers of the electromagnetic spectrum.</p> <p>Magnetism and motor effect.</p> <p>Space and the life cycle of stars.</p>

