

**Long
Term Plan**

Building on the foundations of knowledge from Y7, students will focus on the building blocks for all scientific disciplines during the course of Y8, where the separate sciences will become more overt. Students are encouraged to build on their practical ability fostered in Y7 to look at the validity and reliability of data, particularly that which is presented to us in the media.

Year 8: Science

	Learning Cycle	Key Concepts and Themes	Vocabulary
HT1	Inheritance and the genome	<ul style="list-style-type: none"> Environmental and inherited characteristics DNA Punnett Squares 	DNA, Chromosome, Gene, Genome, Proteins
	Heating and Cooling	<ul style="list-style-type: none"> Temperature Heating and cooling Thermal conduction Thermal store of energy 	Particle, Temperature, Expand, Contract, Dissipation, Conservation, Transfer, Conduction, Insulator
HT2	How we see	<ul style="list-style-type: none"> The 'passive eye' model of vision Seeing in colour 	Pupil, Light ray, Reflected, Prism, Emitted, Spectrum, Refraction
	Reproduction	<ul style="list-style-type: none"> Sexual Reproduction in humans Sexual and Asexual reproduction in plants Contraception 	Fertilisation, Conception, Gestation, Gamete, Stamen
HT3	Elements and compounds	<ul style="list-style-type: none"> Atoms and molecules Symbols and formulae 	Malleable, Ductile, Subscript, Superscript, Coefficient
HT4	From cells to organ systems	<ul style="list-style-type: none"> Cells, tissues and organ systems Circulatory, Digestive and Gas exchange systems Human skeleton and muscles 	Unicellular, Multicellular, Transplant, Enzyme, Substrate
	Moving by force	<ul style="list-style-type: none"> Speed Motion graphs Changing Motion and acceleration Drag 	Velocity, Terminal Velocity, Retard, Stationary, Accelerate
HT5	Chemical Change	<ul style="list-style-type: none"> Formation of new substances Rearrangement of atoms Representing reactions Conservation of mass 	Oxidation, Thermal Decomposition, Displacement, Precipitate
HT6	Classification and Interdependence of Organisms	<ul style="list-style-type: none"> Identifying and classifying organisms Food chains and food webs Interdependence within ecosystems 	
	Simple Electric Circuits	<ul style="list-style-type: none"> Making circuits Electric current Voltage Static electricity 	

Skill Development	<ul style="list-style-type: none"> To be able to define the independent, dependent and control variables for a scientific investigation To be able to interpret data in graphical form and describe what it shows To be able to collect data in tabular form and plot this data graphically
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