

Year 8 Sciences Curriculum Map

Subject/Term	Term 1 Knowledge	Term 2 Knowledge	Term 3 Knowledge	Term 4 Knowledge	Term 5 Knowledge	Term 6 Knowledge
Science Rotation of 5 <i>Skills: Scientific thinking; Experimental skills; Analysis and evaluation; Scientific vocabulary</i>	Digestion; The periodic table; Light	Breathing and Respiration; Elements; Heating and cooling	Inheritance; Types of chemical Reaction; Magnets and electromagnets	Photosynthesis; Energy changes in Reactions; Levers and pressure	Evolution; Earth's Structure	
Geography 5 units covered <i>Skills: Knowledge; Understanding; Enquiry</i>	G1 Population - Growth; Impacts; The Future	G2 Coasts – Processes; Landforms; Management	G3 International Development – Indicators; Case Studies; Causes	G4 Weather and Climate Change – Causes; Measuring; Characteristics	G5 Asia and China – Countries; Physical; Human	
Maths <i>Skills: Number Place Value & Four Operations; Number FDP & Ratio; Measurement & Units; Geometry, Angles & Shapes; Statistics; Problem Solving & Investigations</i>	Number 1: <ul style="list-style-type: none"> Rounding to significant figures Bounds of errors Laws of indices Standard form Simplifying surds Algebra 1: <ul style="list-style-type: none"> Developing algebraic skills Working with terms and expressions Expanding double brackets Expanding triple brackets Factorising quadratic expressions Geometry & Data 1: <ul style="list-style-type: none"> Area and perimeter of compound shapes Area and circumference of circles Volume of prisms, pyramids & spheres Surface area of prisms 	Number 2: <ul style="list-style-type: none"> LCM and HCF using prime factors Use of venn diagrams Developing percentages skills Simple and compound interest Reverse percentages Algebra 2: <ul style="list-style-type: none"> Developing skills with algebraic equations Solving equations with fractions Forming and solving equations Rearranging formulae Simultaneous equations Geometry & Data 2: <ul style="list-style-type: none"> Probability scales and language Probability of a single event Listing outcomes Expectation 	Number 3: <ul style="list-style-type: none"> Recurring decimal conversions Developing ratio skills Exchange rate calculations Proportion, including graphically Direct proportion, including algebraically Algebra 3: <ul style="list-style-type: none"> Straight lines in four quadrants Plotting linear graphs Gradient and y-intercept Equation of a straight line Plotting quadratic graphs Geometry & Data 3: <ul style="list-style-type: none"> Developing angles skills Bearings using angle facts Angles in polygons, interior and exterior 			

	<ul style="list-style-type: none"> Pythagoras 		<ul style="list-style-type: none"> Tree diagrams and venn diagrams 		<ul style="list-style-type: none"> Right-angled trigonometry Similarity and congruence 	
Computing <i>Skills:</i> <i>Computational Thinking;</i> <i>Problem Solving;</i> <i>Analysis,</i> <i>Evaluation and Implementation;</i> <i>Technical Vocabulary</i>	<p>HTML - Students will learn how to use and combine multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users. They will create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability.</p>	<p>Python - Students will learn how to solve a variety of computational problems; make appropriate use of data structures; design and develop modular programs that use procedures and functions. They will understand several key algorithms that reflect computational thinking [for example, ones for sorting and searching]; use logical reasoning to compare the utility of alternative algorithms for the same problem.</p>	<p>MicroBit - Students will extend learning of MicroBit programming from year 7 to include knowledge of physical programming and the ways in which we can use a microcontroller in interact with the physical world.</p>	<p>Networks - Students will learn the hardware and software components that make up computer systems, and how they communicate with one another and with other systems. They will learn a range of ways to use technology safely, respectfully, responsibly and securely.</p>	<p>Project - Students will study several key algorithms that reflect computational thinking (for example, ones for sorting and searching); use logical reasoning to compare the utility of alternative algorithms for the same problem.</p>	<p>Cryptography - Students will learn a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.</p>
PE Rotation of 5 units <i>Skills:</i> <i>Demonstrate;</i> <i>Analyse; Apply;</i> <i>Evaluate</i>	<p>Outwitting opponents - Passing Defence / intercepting Attacking / shooting Rules of the game Movement</p>	<p>Racket sports – Variety of shots Movement across court Rallying Rules of the game</p>	<p>Athletics – Short distance Middle distance Jumps Throws How to measure and time</p>	<p>Striking and fielding – Throwing and catching Fielding Rules of the game Hitting Bowling</p>	<p>Creative movement / fitness – Gymnastics Routines Sequences Components of fitness Healthy lifestyles</p>	
DTA Rotation of 5 units <i>Skills:</i> <i>Investigation;</i> <i>Analyse;</i> <i>Generate Ideas;</i> <i>Make; Evaluate</i>	<p>DT – Multi-Materials - Manufacturing processes and production, technical drawings and quality control. Industrial context</p>	<p>DT – Graphic Products - Ergonomics, anthropometrics and emerging technologies. Design decisions and purpose/User needs</p>	<p>DT – Textiles - Developing sewing and machine skills. Printing processes and materials analysis. User needs. Revision of Health & Safety.</p>	<p>Art & Design - Formal elements, colour, pattern and form. Annotated sketches and analysis</p>	<p>Food & Nutrition - Macronutrients, micronutrients, nutritional analysis.</p>	