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 *Skills: Scientific thinking; Experimental skills; Analysis and evaluation; Scientific vocabulary*	Digestion; The periodic table; Light	Breathing and Respiration; Elements; Magnets and electromagnets	Inheritance; Types of chemical Reaction; Energy Resources	Natural Selection; Energy changes in Reactions; Levers and pressure	Projects	
Geography 5 units covered *Skills: Knowledge; Understanding; Enquiry*	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 9 units covered *Skills: Number Place Value & Four Operations; Number FDP & Ratio; Measurement & Units; Geometry, Angles & Shapes; Statistics; Problem Solving & Investigations*	Number 1: • Rounding to significant figures • Bounds of errors • Laws of indices • Standard form • Simplifying surds Algebra 1: • Developing algebraic skills • Working with terms and expressions • Expanding double brackets • Expanding triple brackets • Factorising quadratic expressions Geometry & Data 1: • Area and perimeter of compound shapes • Area and circumference of circles • Volume of prisms, pyramids & spheres • Surface area of prisms • Pythagoras	Number 2: • LCM and HCF using prime factors • Use of venn diagrams • Developing percentages skills • Simple and compound interest • Reverse percentages Algebra 2: • Developing skills with algebraic equations • Solving equations with fractions • Forming and solving equations • Rearranging formulae • Simultaneous equations Geometry & Data 2: • Probability scales and language • Probability of a single event • Listing outcomes • Expectation • Tree diagrams and venn diagrams	Number 3: • Recurring decimal conversions • Developing ratio skills • Exchange rate calculations • Proportion, including graphically • Direct proportion, including algebraically Algebra 3: • Straight lines in four quadrants • Plotting linear graphs • Gradient and y-intercept • Equation of a straight line • Plotting quadratic graphs Geometry & Data 3: • Developing angles skills • Bearings using angle facts • Angles in polygons, interior and exterior • Right-angled trigonometry • Similarity and congruence		

Computing **6 units covered** *Skills: Computational Thinking; Problem Solving; Analysis, Evaluation and Implementation; Technical Vocabulary*	Web Development Students will learn about creating basic content for the web including HTML, CSS and JS. Students will learn about the structure of web pages, web sites and interactive content with a firm basis in making content accessible and easy to use. Students will also learn about the difference between well-formed and valid markup and how this can impact the end user and the applications they use.	Object Orientated Programming Students will learn how to solve a variety of more complex computational problems and about the object-orientated programming paradigm. Students will understand why the object orientated paradigm is important and how it relates to modelling objects in the real world. Students will be able to explain when it is appropriate to use Object Orientation and the advantages of doing so for the programmer and others involved in the development process.	Computational Thinking Students will study common algorithms and how they are selected and applied to given contexts both in code and offline activities.	Networks Students will learn the hardware and software components that make up computer networks, and how computers communicate with one another and with other systems.	Combining Digital Skills Students will use a range of different applications to create and combine digital artefacts, making use of the most appropriate software for a varying set of related tasks.	Cryptography Students will learn about a range of cryptographic methods and how to encode and decode data using them. Students will understand the importance of cryptography and the role it has played in the past as well as how it is used in the current day.
PE **5 units covered** *Skills include: Empathy; Responsibility; Adaptability; Resilience*	Communication Basketball (PE1) Netball (PE2) Football (PE3) Cricket (PE1) Rounders (PE2) Tennis (PE3)	Intra-Personal Skills Rugby (PE1) Football (PE2) Trampolining (PE3) Tchoukball (PE1) Trampolining (PE2) Handball (PE3)	Resilience HRF (PE1) Basketball (PE2) Tchoukball (PE3) Athletics (PE1) Athletics (PE2) Athletics (PE3)	K&U of Health & Wellbeing Handball (PE1) HRF (PE2) Rugby (PE3) Trampolining (PE1) Rugby (PE2) HRF (PE3)		
DTA **Rotation of 5 units** *Skills: Investigation; Analyse; Generate Ideas; Make; Evaluate*	DT – Multi-Materials - Manufacturing processes and production, technical drawings and quality control.	DT – Graphic Products - Ergonomics, anthropometrics and emerging technologies. Design decisions and purpose/user needs	DT – Textiles - Developing sewing and machine skills. Printing processes and materials analysis. User needs. Revision of H&S.	Art & Design - Formal elements, colour, pattern and form. Annotated sketches and analysis	Food & Nutrition - Macronutrients, micronutrients, nutritional analysis.	