Year 9 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 3 *Skills: Scientific thinking; Experimental skills; Analysis and evaluation; Scientific vocabulary*	Cells biology 1 Atomic Structure and Periodic Table Energy		Infection and response Structure and bonding Energy 2		Working Scientifically	
Geography 5 units covered *Skills: Knowledge; Understanding; Enquiry*	G1 Earth's Resources – Needs; Pressures; Solutions	G2 Restless Planet - Processes; Effects; Case Studies	G3 Globalisation – Employment; UK; The World	G4 Ecosystems – Characteristics; Biomes; Challenges	G5 Middle East – Physical; Human; World role	
Maths *Skills: Number Place Value & Four Operations; Number FDP & Ratio; Measurement & Units; Geometry, Angles & Shapes; Statistics; Problem Solving & Investigations*	Number 1: • Calculating with bounds • Fractional & negative laws of indices • Standard form calculations • Calculating with surds • Rationalising the denominator Algebra 1: • Developing algebraic skills • Difference of two squares • Algebraic fractions • Nth term • Graphical inequalities Geometry & Data 1: • Vector notation and calculations • Translations • Reflections • Rotations • Enlargement		Number 2: • Developing all work on percentages • Growth and decay • Compound measures • Real life graphs • SDT calculations Algebra 2: • Developing skills with algebraic equations • Solving quadratic equations • Completing the square • Developing skills with simultaneous equations • Developing skills with rearranging formulae Geometry & Data 2: • Developing skills with area and volume • Developing skills with surface area • Developing skills with trigonometry • Sine and cosine rule • Introduction to circle theorems		Number 3: • Developing recurring decimals skills • Developing ratio skills • Direct proportion from a table • Direct proportion – algebraically • Inverse proportion – algebraically Geometry & Data 3: • Averages • Sampling methods • Collecting data • Bar charts, pictograms and line graphs • Pie charts • Scatter graphs • Cumulative frequency diagrams • Box and whisker diagrams • Histograms	

Computing *Skills: Computational Thinking; Problem Solving; Analysis, Evaluation and Implementation; Technical Vocabulary*	Computational Thinking - Students will study computer architecture and use of binary, input and output covered in previous learning and the Fetch-Decode-Execute cycle through practical activities. Binary to decimal conversion and how text characters are represented using the ASCII code.	Databases - Students will demonstrate knowledge of the hardware and software components that make up computer systems, and how they communicate with one another and with other systems.	MicroBit – Robotics - Students will study and extend their learning of MicroBit programming from year 7 and 8 to include understanding and applying these concepts they have leant to the topic of robotics.	Gamemaker - Students will study, design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems.	Spreadsheets - Students will study, design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems.	Animation - Students will undertake a creative project that involves selecting, using, and combining multiple applications achieve challenging goals, including collecting and analysing data and meeting the needs of known users.
PE **Rotation of 5 units** *Skills: Demonstrate; Analyse; Apply; Evaluate*	Outwitting opponents: the rules associated with the sport or activity The assessment methods to coach and develop performance How to manage an organised activity / event	Racket sports: the rules associated with the sport or activity The assessment methods to coach and develop performance How to manage an organised activity / event	Athletics: the rules associated with the sport or activity How to accurately officiate and score an event The assessment methods to coach and develop performance How to manage an organised activity / event	Striking and fielding: the rules associated with the sport or activity The assessment methods to coach and develop performance How to manage an organised activity / event	Creative movement / fitness: the safety precautions needed when planning a fitness session The assessment methods to coach and develop a fitness session	
DTA **Rotation of 5 units** *Skills: Investigation; Analyse; Generate Ideas; Make; Evaluate*	**DT: Multi-Materials** Design context, working to a design brief, client, user needs and purpose.	**DT: Graphic Products** CAD tools, research exploration, iterative processes and emerging technologies. Ergonomics and anthropometrics.	**DT: Textiles** Overlock and embroidery. Taking account of user needs, functionality and purpose when designing.	**Art & Design** Formal elements, proportions, composition and portraiture.	**Food & Nutrition** Where foods come from, specific dietary requirements and diet across life.	