Bishop Stopford's School

Curriculum Map Year 7   **Computer Science**

Curriculum Intent: To inspire every student to engage in lessons and want to explore the curriculum beyond the classroom

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of work	E-Safety	Programming in Scratch	Computer Networks	Control Systems with Flowol.	Understanding Computers.	Spreadsheet Modelling 1 - Computer models
Core Skills	The curriculum has been designed to ensure learners have sufficient knowledge to stay safe online and use computers safely in life whilst protecting personal data.	Programming, Computational thinking and Algorithmic Skills.	Analytical , Problem solving skills, ability to multi-task, Interpersonal skills. Decomposing larger problems into smaller sub problems Applying appropriate constructs to solve a problem	Relective learning skills, resilence, Problem Solving and abstract Thinking	Computer Systems Data and Information Technology Programming.	Modelling, Creating financial models, Using Formulas and functions and formatting.
Core Knowledge	Using Computers Safely Effectively and Responsibly, E Saftey, File Management, Social networking and how to keep personal data safe.	Types of networks, the various network topologies, and the advantages and disadvantages of networks. It provides insight into Client-server networks and Encryption.	Computational thinking and Programming.	Practical experience of programming. Understanding of Flowcharts; Algorithms through Sequencing, knowledge of the use of Sensors, Subroutines, Actuators and the use of Variables in programming.	Elements of the Computer, the Central Processing Unit, and its essential functions. Binary conversions and addition. It provides insight into Storage Devices, Convergence and New Technologies, The Internet and Connectivity.	Financial models, work through 'What if scenarios'; carry out Conditional formatting and validations; create Macros and charts.
Assment & Feedback	This will be in the formats specified: Class structured assessments. End of unit and topic assessments. Diagnostic Assessments with detailed constructive feedback given to improve and progress. Half Term assessment of skills by the student based on units delivered. Termly assessment of skills by the teacher (In addition to formal school reporting).					
Link to prior learning	The big ideas and underpinning theoretical concepts you will be studying this year are: Computer Systems, Programming, Algorithms and Computational thinking. In Year 6 (KS2), Students have studied how to evaluate digital content, learnt about the opportunities computer networks offer for collaboration, solved problems by decomposing them into smaller parts and used selection in programs. Students also learnt to work with variables and use logical reasoning to explain how some simple algorithms work and you further developed your understanding in how to detect and correct errors in algorithms. In Year 7 Student will study the importance of using Computers and technology safely and responsibly. You will develop your understanding in Networks and basic knowledge in Programming. Beyond Year 7, Students will learn more about programming and improve Programming skills. Students will also be taught Systems Architecture, how to represent data, the various hardware and software components of a computers and how they operate. They will further study the use of Algorithms in programming. Important skills students will develop will be techniques in writing Algorithms, Analytical and Computational thinking skills.					
Outside learning/trips	Google Headquarters, National Museum of Computing, Bletchley Park. Microsoft Store Coding Workshop. London Motor Museum. Centre for Computing History. Apple Store Workshop London.					