Curriculum Map

Subject: Computer Science

Year group: 8

	Autumn 1/Autumn 2	Spring 1	Spring 2	Spring 2/Summer 1	Summer 2
Content *Declarative Knowledge – * *'Know What'*	**Developing Programming Skills** An introduction to Python programming. *Programming* *Algorithms*	**Cyber Security** A look into the world of cyber security. Students will *Digital Literacy* *Information Technology*	**Cyber Security** *Communication & Networks*	**Computer Modelling (with Microsoft Excel)** *Information Technology* *Data Representation*	**Website Development with GLITCH** *Information Technology* *Communication & Networks* *Programming*
Skills *Procedural Knowledge – 'Know How'*	I can apply block based programming concepts to high level programming. I can create programs that implement algorithms to achieve given goals. I can use loops and a sequence of selection statements in programs, including an IF, THEN and ELSE statement.	I can show responsible use of modern technologies and online services, and I know a range of ways to report concerns. I know how to identify cyber threats and recommend appropriate methods to avoid these.	I can recognise ethical issues surrounding the application of information technology beyond school. I know data transmission between digital computers over networks, including the internet i.e. IP addresses and packet switching.	I can use criteria to evaluate the quality of solutions and can identify improvements making some refinements to future solutions. Analyse and evaluate data and information, and I know that poor quality data leads to unreliable results, and inaccurate conclusions.	I know how to construct static web pages using HTML and CSS. I know how to effectively use search engines, and I know how search results are selected, including that search engines use 'web crawler programs'.
Key Questions	How can I use computational thinking to solve problems? How can I use sequence, selection and iteration to develop a program to solve a problem?	What are the modern dangers of technology relating to safety and security that affects both individuals and organisations?	What are the vulnerabilities of networking hardware and software?	How can I create and reuse digital artefacts and multiple applications across a range of devices to present information suitable for my audience?	How can I develop online-based platforms for a specific purpose?
Assessment	Assessment of programming project (Magic 8 Ball)	Cyber Security End of unit knowledge online test		End of unit online test and practical assessment	Students to create a basic website under timed conditions
Literacy/Numeracy/ SMSC/Character	Writing and presenting information suitable for audience and purpose	Understanding responsible ways to use technology. Aspiration. Tolerance.	Understanding modern technological terminologies. Integrity.	Initiative, Aspiration, Resilience. Using Microsoft Excel for mathematical calculations	Initiative, Aspiration. Resilience, Problem Solving. Algorithmic thinking