Year 7 Computer Science – Outline Programme of Study

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Big ideas/ topics	**Google Applications Introduction**	**E-Safety: Impact of Technology**	**Spreadsheet Modelling**	**Computer Networks & Protocols**	**Scratch: Block Programming Basics**	**Scratch: Block Programming Advanced**
Key Knowledge	- Able to login and access resources in Google Classroom. - Able to access and use the Google Suite of applications including Docs, Slides, Drive and Forms. - Use the school email using Office 365 Outlook. - Able to demonstrate a wide range of word processing skills and formatting features to appropriately enhance and to review documents and work created. - Shows excellent file management and organisation of work within Google Drive.	- Will consider the rules and codes of conduct when using technology. - Learn about health and safety in the workplace. - Describe how to communicate appropriately with peers online. - Be able to describe and explain the effects of cyberbullying. - How to report and deal with incidents of cyberbullying. - Learn how to check who you are talking to online.	- Explain the concept of spreadsheets and why they are useful. - Identify columns, rows, cells, and cell references in spreadsheet software. - Use formatting techniques in a spreadsheet. - Use basic formulas with cell references for calculations in a spreadsheet. - Use the autofill tool to replicate cell data. - Create appropriate charts in a spreadsheet. - Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet.	- Explain what a computer network and a protocol is. - Understand the role of a hub, router and server. - Define 'bandwidth', using the appropriate units for measuring the rate. - Explore the advantages and disadvantages of wired and wireless networks. - Define what the internet is. - Describe how services are provided over the internet.	- Define and program a sequence of instructions within Scratch. - Trace the values of variables within a sequence. - Identify where selection statements can be used in a program. - Create conditions that use comparison and logic operators. - Implement count-controlled iteration in a program. - Design and apply programming constructs	- Identify how subroutines can be used for decomposition. - Implement condition-controlled iteration in a program. - Identify when lists can be used in a program. - Decompose a larger problem into smaller subproblems. - Apply appropriate constructs to solve a problem.

Further information and reading list
- Our Key Stage 3 prepares students for Computer Science (AQA 8525) and Creative Media (OCR J834) at GCSE.   - Book: KS3 Computing Complete Revision & Practice (CGP) https://www.cgpbooks.co.uk/secondary-books/ks3/computing/cos31-ks3-computing-complete-revision Useful websites: - Oak Academy: https://classroom.thenational.academy/subjects-by-key-stage/key-stage-3/subjects/computing   - BBC Bitesize: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f   - Code Club: https://projects.raspberrypi.org/en/codeclub   - GCF Global: https://edu.gcfglobal.org/en/topics/googleapps/
Ways to support and extend student learning in this subject
Support guidance: - Students need to be secure in their understanding and use of the Google applications. They should be able to access resources, work collaboratively online and submit a range of assignments through the Google Classroom portal. For additional support please use GCF Global and the YouTube tutorials: https://edu.gcfglobal.org/en/topics/googleapps/   - If you wish to revise or revisit a topic, then you can use Oak Academy with its online tutorials: https://classroom.thenational.academy/subjects-by-key-stage/key-stage-3/subjects/computing High-achieving guidance: - Students can access online resources to extend their knowledge e.g., Complete online tutorials within Scratch: https://scratch.mit.edu/projects/editor/?tutorial=getStarted , explore the classroom topics further via the BBC Bitesize website: https://www.bbc.co.uk/bitesize/subjects/zvc9q6f or continue independently learning programming skills with Code Club: https://projects.raspberrypi.org/en/codeclub