Year 8 Curriculum Implementation: Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 (Carousel)	Summer 2 (Carousel)
Knowledge & Skills	**Understanding Computers & Networks** enable students to have a greater understanding of how computers work by finding out about: Input and Output devices, the Central Processing Unit, Binary, Logic Gates, File Types, Storage Devices, Operating Systems and Networks. They will also gain an understanding of how hardware and software communicate with each other.	**Flowol** To enable students to embed the programming constructs (sequencing, selection and iteration) and develop their problem solving skills through the use of abstraction and decomposition. The knowledge and skills learned will enable students to think about how to design a program based on the description of a problem by creating a flowchart.	**Databases** To enable students to develop their database skills further by gaining an understanding of how a database is created and can link tables together to form a relational database. The knowledge and skills learned will allow students to understand the need to consider how to structure a database effectively by removing duplicated data and ensuring that data types are considered.	**Spreadsheets** To enable students to develop their logical thinking skills further and consolidate their knowledge of spreadsheet applications by understanding how a spreadsheet makes calculations using formulae and functions, ensuring formatting is used to improve presentation of information, using graphs and charts and extending modelling skills using absolute cell referencing. The knowledge and skills learned will allow students to understand the need for using spreadsheets by almost all businesses in order for them to organise, track and present their numerical data and information.	**Small Basic** To enable students to develop their logical thinking and programming skills further and become confident users of text-based programming languages by consolidating their understanding of how a program is structured and how variables are used to store data. The knowledge and skills learned will allow students to consolidate their understanding of the key programming constructs (sequence, selection and iteration) and create programs which utilise these constructs. **Microbit** To enable students to develop their logical thinking and programming skills by using the Microbit 'Let's Code' to develop programs and become confident users of block based programming languages. The knowledge and skills learned will allow students to consolidate their understanding of the key programming constructs (sequence, selection and iteration) and create programs which utilise these constructs. **Developing for the Web** To enable students to understand the technologies that make up the internet and World Wide Web. Students will learn the building blocks of the World Wide Web: HTML, and CSS. Students will understand how websites are catalogued and organised for effective retrieval using search engines. By the end of the unit, learners will have created a functioning website.	
Links to prior learning	• Year 7 Core Skills • Year 7 Scratch	• Year 7 Core Skills • Year 7 Scratch	• Year 7 Core Skills • Year 7 Scratch • Year 7 Databases	• Year 7 Core Skills • Year 7 Databases	• Year 7 Core Skills • Year 7 Scratch • Year 7 Websites • Year 8 Flowol • Year 8 Spreadsheets • Year 8 Computers & Networks	
Assessment	• MCQ's and Written Assessment	• Written Assessment	• Suspects Database	• Written Assessment	• Assessment Portfolio (Small Basic) • Written Assessment (Microbit) • Written & Practical Assessment (Developing for the Web)	
Home learning	• Binary • Logic Gates	• Flowol Symbols and Key Terms	• Database Terminology • Table Relationships	• Cells and Formulae • Basic Functions	• Small Basic Key Terms • Microbit Key Terms • HTML Key Terms • Programming Constructs	
Cultural Capital and extra-curricular opportunities	• Wide Reading • iDEA	• Wide Reading • iDEA	• Safer Internet Day • Wide Reading • iDEA	• Wide Reading • iDEA	• Wide Reading • iDEA • Compute IT	
Literacy	• Oracy: Discussion in pairs and groups	• Year 8 Spellings • Oracy: Discussion in pairs and groups	• Oracy: Discussion in pairs and groups	• Oracy: Discussion in pairs and groups	• Oracy: Discussion in pairs and groups	
Numeracy	• Binary numbers • Truth Tables • Data Units	• Storing values in variables • Loop counting and control • Executing code paths based on specific conditions	• Numerical data types • Unique identifiers	• Numerical calculations • Averages	• Storing values in variables • Loop counting and control • Executing code paths based on specific conditions	
Careers Information, Education, Advice and Guidance (CEIAG)	• Careers in Computer Network Engineering	• Careers in Planning and Development	• Careers in Database Management and Analysis	• Careers in Business Administration and Accountancy	• Careers in Software Development	
Spirituality	• Principles: Truth • 1 Corinthians 14:33: "For God is not a God of confusion but of peace, as in all the churches of the saints." • Computing is built on binary code and precise logical rules. This verse can be used to reflect on the importance of order and a lack of confusion in the way a computer processes information	• Principles: Truth • Proverbs 16:9 "In their hearts humans plan their course, but the Lord establishes their steps." • Creating flowcharts in Flowol is about planning and mapping out processes. This verse highlights the importance of thoughtful planning and trusting in guidance for each step	• Principles: Patience, Truth • Proverbs 2:6 "For the Lord gives wisdom; from his mouth come knowledge and understanding". • We use data to gain understanding, not just to store facts. This leads to an understanding of the "bigger picture"	• Principles: Truth • Proverbs 21:5: "The plans of the diligent lead to profit as surely as haste leads to poverty." • Spreadsheets are the perfect tool for creating a budget or a business plan, allowing us to think ahead and make decisions based on numbers rather than impulse. They help us to be diligent and avoid the "haste" that leads to negative outcomes	• Principles: Patience and Truth • Matthew 7:24-25: "Therefore everyone who hears these words of mine and puts them into practice is like a wise man who built his house on the rock. The rain came down, the streams rose, and the winds blew and beat against that house; yet it did not fall, because it had its foundation on the rock." • Learning the fundamental concepts in Small Basic is like building a strong foundation. The "house" is a student's future programming knowledge. By mastering the basics, they are prepared for more advanced challenges ("the rain and wind") • Exodus 35:35: "He has filled them with skill to do all kinds of work as engravers, designers, embroiderers...all of them skilled workers and designers." • This verse specifically mentions that God gives people skills for craftsmanship and design. It can be used to affirm the value of a student's technical and creative abilities, seeing them as God-given talents to be developed and used for good	

How can parents support the curriculum?	• Checking homework • Support with any Computers and Networks questions	• Checking homework • Support with any flowcharting questions	• Checking homework • Support with any Database questions	• Checking homework • Support with any Spreadsheet questions	• Checking homework • Support with any programming questions