Curriculum Content Map — **Subject: Computer Science**

			Term 1				Term 2			Term 3			
Month			September	October	November	December	January	February	March	April	May	June	July
	Units of Work		8.1 E-Safety 8.2 Intermediate Binary		8.3 Python Basics		*8.4 Website Development*		*8.5 My Party (Spreadsheets)*	*8.6 Hardware and Software*		*8.7 Logic Gate*	
Cultural Transmission	National Curriculum area – KS3		KS3.9 – Using technology safely KS3.6 Data representation		KS3.3 Textual programming language		KS3.7 Creative Projects		KS3.7 Analysis of data	KS3.5 Understanding hardware and software.		KS3.4 Boolean Logic	
	Substantive Knowledge	***The What!***	L1 E-Safety. Password security. L2 Binary place values.	L1 Binary place values. L2 The result of single-column binary addition. L3 Assessment	L1 - The meaning of syntax errors and what causes them. The meaning of the programming construct of Sequencing. L2-3 - The meaning of the programming construct Selection. L4 - The meaning of the programming construct of Iteration.	L1 - The meaning of the programming construct of Iteration. L2 - Assessment	L1 The purpose of HTML in developing websites. L2 The role of GUI design in web development. L3 The purpose of intuitive navigation in web development. L4 Creating web pages with a quality information, rather than quantity.	L1 The role of web forms in creating interactive websites. L2 Assessment L3 (8.5 Lesson 1) Understand the role of different formulae (SUM, +-/*)	L1 Costs of an event. L2 Dropdown boxes and VLOOKUP L3 Conditional formatting. L4 "What if" scenarios. L5 Assessment	L1 Input and output devices. L2 CPU properties.	L1 Memory - RAM/ROM L2 Storage properties. L3 Network hardware. L4 Assessment	L1 Outputs of AND/OR gates. L2 Outputs of NOT gates L3 Outputs of XOR gates. L4 Multiple gate systems.	L1 Assessments L2 Assessments L3 TBC
	Disciplinary knowledge	***The How!***	L1 - How to check the security of a password. L2 - The method of converting between binary and denary.	L1 - The method of converting from denary to binary. L2 - The method of adding multiple bits of binary (4 and 8 bit). L3 - Assessment.	L1 - The skill of creating print statements. L2 - The skill of implementing IF Statements. L3 - Creating a quiz programme L4 Implementing FOR Loops	L1 - Implementing WHILE loops. L2 - Assessment.	L1 How to create basic websites using HTML. L2 Students will gain experience of GUI design. L3 Students will create a basic website including a navigation bar and hyperlinks. L4 - Students will populate the pages of their website.	L1 Students will implement web forms. L2 Assessment L3 (8.5 Lesson 1) Create a basic spreadsheet including basic formulae.	L1 Students research costs for their chosen type of party, adding these to the spreadsheet. L2 Students add a VLOOKUP to load the cost for a chosen selection. L3 Students introduce conditional formatting to their spreadsheet. L4 Students use their spreadsheets to identify solutions to potential changes - e.g. more guests, reduced budget. L5 = Testing and evaluation	L1 Students select necessary input/output devices for given scenarios. L2 Students calculate the maximum number of instructions carried out per second on specific computers.	L1 Students explain what is stored in RAM and ROM. L2 Students choose storage types based on their properties. L3 Students identify the software required for a home network. L4 Assessment	L1 Students can complete trace tables based on AND/OR gate scenarios. L2 Students can complete trace tables based on AND/OR and NOT gate scenarios. L3 Students can complete trace tables based on XOR gate scenarios. L4 Students draw logic circuits based on written scenarios.	L1 Assessments L2 Assessments L3 TBC
	Sequencing (Flow)	***Retrieval & Extension***	Retrieval - E-Safety (building on assemblies and KS2 teaching).	Retrieval - column addition and subtraction (KS2). This unit will build upon 7.2 for students from Sepetmebr 2022.	Retrieval - builds upon skills developed in 7.3 (Kodu) and KS2 programming (Scratch)		Retrieval - students have a basic understanding of creating user interfaces in Powerpoint (KS2). Future year groups will have experience in App Development through the Apps 4 Good unit of study.		Retrieval - students may have experience entering data into spreadsheets.	Retrieval - students have experience using desktop pcs (and possibly laptops).		Retrieval - inputs and outputs relate to single binary bits (unit 8.2).	
	Summative Assessment		Written assessment focused on binary-denary conversions, binary addition and E-Safety.		Students will complete a brief assessment based on tracing programming code and completing missing pieces of code.		Students will be assessed based on their planning, website creation and testing.		Assessment of final developed spreadsheet.	Assessment based on hardware and software.		Assessment based on all topics studied during the academic year.	
Personal Empowerment	Virtue	***The opportunity to reflect, think deeply and critically about an issue.***	**Friendliness & Civility**	**Justice & Truthfulness**	**Courage**	**Generosity**	**Gratitude**	**Good Speech**	**Good Temper & Humour**	**Self-Mastery**		**Compassion**	**Good Sense**
	Link to Virtue		Safe and respectful online communication.	Students explore the truth about how computers store images	Students demonstrate courage by persevering when faced with error messages.	Students demonstrate good speech while giving effective feedback.	Students will develop a gratitude for how websites are made to meet user needs.	Students will demonstrate good speech while providing peer feedback.	Students demonstrate good humour while developing hypothetical life scenarios.	Students demonstrate self-mastery by exploring how to build a computer.		Students demonstrate compassion by developing systems which meet user needs.	Students demonstrate good sense while making effective decisions through the use of logic gates.
Preparation for Work	Skill	***Transferable skills***	**Listening**	**Leadership**	**Problem-Solving**	**Creativity**	**Staying Positive**	**Speaking**	**Staying Positive**	**Aiming High**		**Speaking**	**Teamwork**
	Link to Skill		Students consider listening while they consider online communication. Students learn binary as a method of listening to computers.	Students demonstrate leadership while working in groups to convert an image into binary.	Students problem solve by creating solutions to computational problems.	Students demonstrate good speech while giving effective feedback.	Students will stay positive during their first experience developing websites.	Students will provide meaningful feedback, including sharing potential improvement thoughtfully.	Students stay positive while writing and testing Excel formulae.	Students aim high by designing computer systems.		Students are able to articulate the decisions made while developing logic gates.	Students develop logic circuits as part of teams.
Preparation for Citizenship	SMSC & British Values	*Developing opinions on curent issues*	**SMSC - Cultural**	**SMSC - Cultural**	**BV - Individual Liberty**		**BV - Mutual Respect**		**SMSC - Mutual Respect**	**SMSC- Cultural**		**SMSC - Cultural**	
	Link to SMSC & British Values		Srudents will explore how to keep their accounts secure.	Students will explore how computers store information.	Students will develop programming skills, which will provide a wider range of employability options.		Students will explore how to design user-friendly websites.		Students will demonstrate an understanding of how to make user friendly systems.	Students will explore which hardware and software has the best impact in given situations.		Students will explore how to solve problems.	