4o5i4oProgramme of study for Year 7 Computer Science and IT

Autumn (1st term) Topic	Autumn (2nd term) Topic	Spring (1st term) Topic	Spring (2nd Term) Topic	Summer (1st term) Topic	Summer (2nd term) Topic
Protecting personal information and Internet Safety (3) Safeguarding personal information online and understanding online risks. Ethical behaviour on the internet and responsible use of digital tools. **Using School Systems (3)** School System	**Computer Hardware (3)** Components of a computer. Input/Output devices**.** Storage devices **Algorithms and Programming (3)** Programming algorithm solutions using Flowol. Use simulations of real-life automatic computer systems	**Word Basics (6)** Introduced to Microsoft Word to develop their writing and editing skills. They will learn to use the toolbar effectively for creating and formatting documents.	**Programming (6)** Introduction to a text-based language (Python Turtle) Sequencing, iteration, and creating simple procedures.	**Presentation Skills with PowerPoint and Data Analysis with Excel (6)** Introduction to how to use PowerPoint for presenting their work and Excel for analysing data. This will enhance their ability to communicate ideas clearly and use mathematical concepts in real-life scenarios.	**Create Vector Graphics (3)** Understand how vector graphics differ from bitmap images. Create a logo for a company or Organisation **Programming in Scratch:(3)** Learning the basics to become familiar with a different programming language and block code
Skills: Understanding the importance of protecting personal information. Recognising online risks and practicing ethical behaviour online.	**Skills:** Recognise, name and describe the roles of computer hardware. To analyse a problem and create an algorithmic solution to solve it.	**Skills:** Practicing writing skills by drafting and editing text. Enhancing written communication through the use of digital tools.	**Skills:** Learning to use basic programming syntax in Python to write simple programs. Developing logical thinking, computational thinking, and problem-solving skills.	**Skills:** Developing presentation skills using digital tools. Applying mathematical concepts for data analysis and problem-solving.	**Skills:** Critical thinking and creativity in designing graphics. Problem-solving by creating programs that respond dynamically to user inputs.
Key Learning Outcomes: Develop digital literacy skills, including understanding basic digital terminology, file management, and online safety.	**Key Learning Outcomes:** Recognise and describe the purpose of different computer parts. Understand how information flows through a computer system using algorithms and flowcharts.	**Key Learning Outcomes:** Understand how to navigate and use word processing software for academic tasks.	**Key Learning Outcomes:** Gain a foundational understanding of Python syntax, data types, and variables. Create simple programs that use conditional statements for decision-making.	**Key Learning Outcomes:** Learn how to create interactive presentations and analyse data using digital tools.	**Key Learning Outcomes:** Understand how to create and manipulate vector graphics. Develop basic programming skills using block code in Scratch.
Half Term 1 Evidence to cover: Understanding of the importance of protecting personal information.	**Half Term 2 Evidence to cover:** Computer components, Input Output devices,	**Half Term 3 Evidence to cover:** Use word to draft and edit an out document.	**Half Term 4 Evidence to cover:** Interpretation of code, data types and operators	**Half Term 5 Evidence to cover:** Creating a presentation Formatting and analysing Data	**Half Term 6 Evidence to cover:** Creation of a graphic, Creating coded animation

	Algorithms and Flowcharts.				
Rationale for sequence: The year begins with internet safety to build a foundation of responsible technology use.	**Rationale for sequence:** It progresses to understanding computer hardware and problem-solving, which are critical for more complex tasks like programming.	**Rationale for sequence:** Word processing is introduced to enhance core writing skills useful across subjects.	**Rationale for sequence:** Programming in Python is taught to encourage logical thinking and creativity.	**Rationale for sequence:** Presentation and data analysis skills are taught to foster clear communication and analytical thinking.	**Rationale for sequence:** The year concludes with creative tasks using vector graphics and Scratch to solidify students' coding and design skills.
Home – Learning: Practice typing skills	**Home – Learning:** Learn about the history of computing.	**Home – Learning:** Practice typing skills	**Home – Learning:** Complete Python coding challenges on W3Schools.	**Home – Learning:** Practice typing skills	**Home – Learning:** Explore online tutorials for Scratch.
Reading / High Quality Text: https://zapatopi.net/treeoctopus/ **Literacy:** Read the information website – take notes Students learn about evaluating information and how to tell fact from fiction on the web.	**Reading / High Quality Text:** How tech is reinventing healthcare https://www.wired.co.uk/article/future-of-health **Literacy:** Watch a video and compose a tweet explaining how computers function Technical terms related to computer systems.	**Reading / High Quality Text:** Basic tasks in word **https://support.microsoft.com/en-gb/office/basic-tasks-in-word-87b3243c-b0bf-4a29-82aa-09a681999fdc** **Literacy:** Technical terms related word	**Reading / High Quality Text:** Guide and tutorial on how to use python https://www.w3schools.com/python/ **Literacy:** Technical terms related to programming in python Document code with comments.	**Reading / High Quality Text:** Guide and tutorial on how to use excel **https://www.w3schools.com/excel/index.php** **Literacy:** Technical terms related to Excel	**Reading / High Quality Text:** What is vector art: **https://www.adobe.com/uk/creativecloud/illustration/discover/vector-art.html** Guide on from dragging out your first blocks of code to creating your own sprites **https://sip.scratch.mit.edu/scratchathome/** **Literacy:** Technical terms related to programming with scratch.
Numeracy: Validation - Time and Date	**Numeracy:** Count and analyse algorithm steps. Use of iteration	**Numeracy:** Font size, tables and using a timer for animation and slide transitions.	**Numeracy:** Basic geometry: Dimensions and Angles	**Numeracy: :** Data analysis, apply mathematical concepts in real-world scenarios, use	**Numeracy:** Numerical interaction: Measure and adjust proportions in your graphics. Scoring or timing. Simple calculations.

				calculations, and explore mathematical patterns.	Boolean Logic(and, or, and not)
Enrichment / opportunities to develop cultural capital (including careers, WRL and SMSC): Participate in coding challenges online. Attend tech-related conferences or workshops.					