

**SIMON HAUGHTON'S COMPUTING LONG TERM OVERVIEW**

Information Technology

Digital Literacy

Computer Science – Programming

Computer Science - Theory

	Autumn	Spring	Summer
Year 1		Programming robots Creating a multimedia e-book Components of a computer Technology uses beyond school E-safety: basic rules QR Codes	Programming sequences of commands to animate pictures Internet searching skills E-safety: media players Basic photo editing skills
Year 2	Typing skills Basic word processing Digital painting		
Year 3	Word processor text formatting tools Photo collages Creating posters using text boxes Programming commands to run at different times	Algorithms Using conditional events in programs Digital communication methods E-safety: passwords	Exploring digital maps Uses of technology and their impact Digital painting Creating an e-book E-safety: gaming safely
Year 4	URLs and the topology of the Internet E-safety: child-friendly websites Internet searching skills Photo editing Movie making Online quiz making	LOGO-type programming Using a variable in a program Using repeat events in a program Debugging	Trifold leaflet design Board game design Internet terminology E-safety: Message sharing consequences
Year 5	Poster design Spreadsheets Internet searching skills Drawing tools – shape pictures	E-safety: Zip it Block it Flag it History of technology Linear on-screen presentation Using numbers in a program	E-safety: messaging safely, digital footprints, sharing safely and vlogging rules Photo editing Impact of technology on society
Year 6	Internet searching skills App design Photo editing Animation presentation E-safety: sharing photos safely	Algorithms and flowcharts Programming complex games Digital maps – route finding Spreadsheet maths programs E-safety: digital citizen behaviours	E-safety: concept cartoons Stop motion animations Binary numbers

Year	Information Technology	Digital Literacy	Computer Science - Programming	Computer Science - Theory
Year 1	<ul style="list-style-type: none"> <li>To learn how to type words quickly and correctly using a keyboard.</li> <li>To make simple word processed documents and change the appearance of text.</li> <li>To use and combine a variety of painting tools to create a picture.</li> </ul>	<ul style="list-style-type: none"> <li>To learn how to communicate sensibly using Showbie.</li> <li>To know how to use a web browser to navigate a website when doing Internet research.</li> <li>To search for images online and insert them into a document.</li> <li>To explain how to stay safe online and where to go for help or support, including how to safely use online media players.</li> <li>To scan and create QR codes.</li> </ul>	<ul style="list-style-type: none"> <li>To understand that an algorithm is a sequence of instructions which can programmed on a digital device.</li> <li>To control a real and on-screen robots to move along routes.</li> <li>To design computer programs in which pictures animate around a scene based on different events – at the start, when they are clicked on and when you swipe the screen.</li> <li>To debug programs so they run correctly.</li> </ul>	<ul style="list-style-type: none"> <li>To identify the main internal components of a computer.</li> <li>To name and compare common input and output devices of computer systems</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>To create simple interactive games to play.</li> <li>To create a multimedia e-book combining: text, painted pictures and recorded sound.</li> <li>To compose music using ICT.</li> <li>To compare tools for editing images saved from the web.</li> </ul>			
Year 3	<ul style="list-style-type: none"> <li>To type text into different programs and change its style by applying a range of font effects.</li> <li>To create documents and posters by combining text boxes with inserted images.</li> <li>To create a photo collage.</li> <li>To create a multimedia e-book combining: text, images voice recordings and shapes.</li> <li>To paint a picture by combining different brush styles.</li> <li>To shoot a digital photo and explore tools to edit it.</li> </ul>	<ul style="list-style-type: none"> <li>To compare digital communication methods, including when they are appropriate to use.</li> <li>To explain the features of a strong password.</li> <li>To know what electronic mail is and the services offered by an email client.</li> <li>To explore a virtual map and compare different viewing options on it.</li> <li>To understand how to stay safe when playing computer games.</li> </ul>	<ul style="list-style-type: none"> <li>To use logical reasoning to explain how simple algorithms work.</li> <li>To program a sequence of actions using timings to create a simple animation.</li> <li>To test, debug and improve programs.</li> <li>To write code that includes conditional events (e.g. run commands when objects hit).</li> </ul>	<ul style="list-style-type: none"> <li>To identify uses of technology beyond school and discuss reasons why they are helpful (e.g. robots and simulations).</li> <li>To understand how a computer stores data.</li> <li>To understand the main hardware components of a computer system, including the functions of different input and output devices.</li> </ul>

Year	Information Technology	Digital Literacy	Computer Science - Programming	Computer Science - Theory
Year 4	<ul style="list-style-type: none"> <li>To type and design a variety of documents, posters and leaflets using ICT.</li> <li>To learn rules for creating neat word processed work.</li> <li>To produce a multimedia video topic about topic with music and narration.</li> <li>To create online multiple-choice quizzes.</li> <li>To shoot and edit digital photos effectively.</li> <li>To create a word collage.</li> </ul>	<ul style="list-style-type: none"> <li>To learn how to search the web effectively.</li> <li>To learn how to interpret URLs.</li> <li>To learn about the importance of only joining and using child-friendly websites.</li> <li>To understand that there are consequences for making bad decisions online.</li> </ul>	<ul style="list-style-type: none"> <li>To enter and repeat LOGO commands to program an on-screen turtle so it draws shapes, patterns and pictures.</li> <li>To create games and apps that include variables in them (e.g. as a score counter).</li> <li>To test, debug and improve programs.</li> </ul>	<ul style="list-style-type: none"> <li>To learn how the Internet works, including how it is structured and how data travels along it.</li> <li>To understand how search engines operate, including how they rank results.</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>To type and design an information booklet.</li> <li>To enter formulae into a spreadsheet to solve calculations and model scenarios, including using =SUM() and statistical functions.</li> <li>To change the format of cells of cells using: text alignment, borders and data types.</li> <li>To create pictures using drawing tools (shapes).</li> <li>To create an animated GIF image.</li> <li>To create a multimedia on-screen presentation over several slides, adding animation and transition effects to enhance it.</li> <li>To compare ways for manipulating digital images to enhance them.</li> </ul>	<ul style="list-style-type: none"> <li>To compare online encyclopedias for doing Internet research on.</li> <li>To cross-reference search results to help validate information on them.</li> <li>To describe online hazards and how to respond to them safely.</li> <li>To explain the 'Zip it, Block it, Flag it' slogan.</li> <li>To understand what is meant by the term 'digital footprint' and describe strategies for reducing it.</li> <li>To know how to stay safe when watching and recording vlogs.</li> <li>To compare techniques used for manipulating and putting pressure on people online.</li> <li>To understand how to safely send text messages.</li> </ul>	<ul style="list-style-type: none"> <li>To design and program games that include variables (e.g. for a score counter) and changing object properties (e.g. the speed and direction of a moving car).</li> <li>To use generate random numbers in code.</li> <li>To detect and correct errors in programs (syntax and logical bugs).</li> </ul>	<ul style="list-style-type: none"> <li>To understand how digital images are stored and displayed on a computer.</li> <li>To describe the impact of technology on society, including on people's: spiritual, moral, social and cultural development.</li> <li>To understand what e-commerce is and what its impact is.</li> <li>To find out about the history of computing.</li> <li>To describe uses of GPS.</li> </ul>

Year	Information Technology	Digital Literacy	Computer Science - Programming	Computer Science - Theory
Year 6	<ul style="list-style-type: none"> <li>• To design an information app that contains multimedia pages linked together using hyperlinks.</li> <li>• To create an on-screen presentation with slide transitions, advanced animation effects and action buttons.</li> <li>• To develop spreadsheets skills, writing formulae to solves mathematical problems.</li> <li>• To edit images using layering techniques.</li> <li>• To create and edit a stop motion animation.</li> </ul>	<ul style="list-style-type: none"> <li>• To revise strategies for doing effective Internet research and learn how to evaluate the usefulness of a website.</li> <li>• To discuss reasons for and against sharing material publicly online.</li> <li>• To learn how to safely share images online.</li> <li>• To research localities using a digital map and use advanced tools like route finders.</li> <li>• To describe the safest response to possibly dangerous online scenarios (concept cartoons).</li> </ul>	<ul style="list-style-type: none"> <li>• To create flowcharts showing how steps of algorithms are linked together.</li> <li>• To design and program games that include conditional events, score variables, random number generators and time limits.</li> <li>• To detect and correct errors in programs (syntax and logical bugs).programming language.</li> <li>• To learn how to write code using a text-based language (e.g. Python and/or HTML).</li> </ul>	<ul style="list-style-type: none"> <li>• To describe the services offered by the Internet.</li> <li>• To understand the history of WWII computer code breaking.</li> <li>• To understand how binary numbers work.</li> </ul>