



Curriculum Map

Subject: Computer Science

Year group: 7

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content <i>Declarative Knowledge – ‘Know What’</i>	<i>Introduction to Google Chromebook and workspace</i> <i>Introduction to Block based Programming Language</i>	<i>Scratch Programming</i>	<i>Python Programming</i>	Python Programming continued .. <i>Layers of Computer Systems continued</i>	<i>Layers of Computer Systems</i>	<i>Media - Gaining support for a cause</i>
Skills <i>Procedural Knowledge – ‘Know How’</i>	Organise files and folders in Google Drive Rename files and folders in Google Drive Upload files to Google Drive Understand how to share files and folders Format text within a Google Doc Create and edit tables within a Google Doc Import images from the Internet into a Google Doc Block Based Programing: Predict the outcome of a simple sequence Define a variable as a name that refers to data being stored by the computer Recognise that computers follow the control flow of	Create conditions that use comparison operators (>,<,<=) Create conditions that use logic operators (and/or/not) Identify where selection statements can be used in a program that include comparison and logical operators Define iteration as a group of instructions that are repeatedly executed Describe the need for iteration Identify where count-controlled iteration can be used in a program Implement count-controlled iteration in a program Detect and correct errors in a program (debugging) Independently design and	Describe what algorithms and programs are and how they differ Locate and correct common syntax errors - Recall that a program written in a programming language needs to be translated in order to be executed by a machine -Write simple Python programs that display messages, assign values to variables, and receive keyboard input Describe the semantics of assignment statements - Receive input from the keyboard and convert it to a numerical value - Use simple arithmetic expressions in assignment statements to calculate values	Recall that a general-purpose computing system is a device for executing programs Recall that a program is a sequence of instructions that specify operations that are to be performed on data Explain the difference between a general-purpose computing system and a purpose-built device Describe the function of the hardware components used in computing systems Describe how the hardware components used in computing systems work together in order to execute programs Recall that all computing systems, regardless of form, have a similar structure ('architecture')	Provide broad definitions of 'artificial intelligence' and 'machine learning' Identify examples of artificial intelligence and machine learning in the real world Describe the steps involved in training machines to perform tasks (gathering data, training, testing) Describe how machine learning differs from traditional programming Associate the use of artificial intelligence with moral dilemmas Explain the implications of sharing program code How instructions are stored and executed within a computer system?	Select the most appropriate software to use to complete a task Identify the key features of a word processor Apply the key features of a word processor to format a document Evaluate formatting techniques to understand why we format documents Select appropriate images for a given context Apply appropriate formatting techniques Demonstrate an understanding of licensing issues involving online content by applying appropriate Creative Commons licences



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	input/process/output Predict the outcome of a simple sequence that includes variables Trace the values of variables within a sequence Make a sequence that includes a variable Define a condition as an expression that will be evaluated as either true or Identify that selection uses conditions to control the flow of a sequence Identify where selection statements can be used in a program Modify a program to include selection	apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)	Generate and use random integers - Use binary selection (if, else statements) to control the flow of program execution - Use relational operators to form logical expressions Describe how iteration (while statements) controls the flow of program execution - Use multi-branch selection (if, elif, else statements) to control the flow of program execution Use iteration (while loops) to control the flow of program execution - Use variables as counters in iterative programs Combine iteration and selection to control the flow of program execution - Use Boolean variables as flags	Analyse how the hardware components used in computing systems work together in order to execute programs Define what an operating system is, and recall its role in controlling program execution Describe the NOT, AND, and OR logical operators, and how they are used to form logical expressions Use logic gates to construct logic circuits, and associate these with logical operators and expressions Describe how hardware is built out of increasingly complex logic circuits Recall that, since hardware is built out of logic circuits, data and instructions alike need to be represented using binary digits	How is binary used to store various data types? How can computers collect data from various input devices, including sensors and application software. What is the difference between hardware and application software, and their roles within a computer system. I know that digital computers use binary to represent all data.	Demonstrate the ability to credit the original source of an image Critique digital content for credibility Apply techniques in order to identify whether or not a source is credible Apply referencing techniques and understand the concept of plagiarism Evaluate online sources for use in own work Construct a blog using appropriate software Organise the content of the blog based on credible sources Apply referencing techniques that credit authors appropriately Design the layout of the content to make it suitable for the audience Construct a blog using appropriate software Organise the content of blog based on credible sources
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						Apply referencing techniques that credit authors appropriately Design the layout of the content to make it suitable for the audience
Key Questions		What makes a good presentation? What are the appropriate fonts to use? Who is my audience? Why does my audience matter? How can I use sequence, selection and iteration to develop a program to solve a problem? What is the difference between, and appropriately I can use if and if, then and else statements. Can I use a variable and relational operators within a loop to govern termination. Can I use loops and a sequence of selection statements in programs, including an IF, THEN and ELSE statement.	How can I use sequence, selection and iteration to develop a program to solve a problem? What is the difference between, and appropriately I can use if and if, then and else statements. Can I use a variable and relational operators within a loop to govern termination. Can I use loops and a sequence of selection statements in programs, including an IF, THEN and ELSE statement			What are application software? How do I identify the most appropriate type of software to use that is most suitable for the problem to be solved. When is a source credible? Can I use this source in my work? What is a creative commons licence? What is a blog? What makes a good blog? What is the most suitable layout for my blog? How do I format correctly so that the information I am trying to get across is effective and gets the message across.
Assessment	Chromebook - Skills based End of Unit test	Scratch Programming - End of unit test	Python Programming - Mid assessment	Python programming - End of Unit Test	End of Unit Test - Layers of Computer systems	Portfolio of work



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Literacy/ Numeracy/ SMSC/ Character	Resilience : Enhancing document readability and emphasising important information. Confidence: Organizing data logically within a document and presenting it in an accessible way. Initiative: Selecting images that enhance the document's content and correctly attributing sources when necessary. Basic arithmetic to keep track of storage usage and file sizes. Using basic arithmetic for data entry, managing table dimensions, and ensuring the logical presentation of numerical information.	Problem solving and algorithmic thinking. Peer support and experimentation. Confidence. Resilience. Initiative. Video Game responsibility	Problem solving and algorithmic thinking. Peer support and experimentation. Confidence. Resilience. Initiative. Video Game responsibility	Problem solving and algorithmic thinking. Peer support and experimentation. Confidence. Resilience. Initiative. Video Game responsibility	Definitions and Understanding: AI and ML Real-world Examples of AI and ML Training Machines Ethical Analysis and Decision Making Resilience, Confidence, Initiative, Responsibility	Resilience : Identify and Use Appropriate Software Responsibility and initiate: Word Processing Skills: Confidence:Peer support and experimentation. Confidence. Resilience. Initiative. Digital Content Skills: Blogging Skills: