



# Curriculum Map

**Subject:** Computer Science

**Year group:** 7

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



# Curriculum Map

	<p>input/process/output</p> <p>Predict the outcome of a simple sequence that includes variables</p> <p>Trace the values of variables within a sequence</p> <p>Make a sequence that includes a variable</p> <p>Define a condition as an expression that will be evaluated as either true or</p> <p>Identify that selection uses conditions to control the flow of a sequence</p> <p>Identify where selection statements can be used in a program</p> <p>Modify a program to include selection</p>	<p>apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)</p>	<p>Generate and use random integers</p> <ul style="list-style-type: none"> <li>- Use binary selection (if, else statements) to control the flow of program execution</li> <li>- Use relational operators to form logical expressions</li> </ul> <p>Describe how iteration (while statements) controls the flow of program execution</p> <ul style="list-style-type: none"> <li>- Use multi-branch selection (if, elif, else statements) to control the flow of program execution</li> <li>Use iteration (while loops) to control the flow of program execution</li> <li>- Use variables as counters in iterative programs</li> <li>Combine iteration and selection to control the flow of program execution</li> <li>- Use Boolean variables as flags</li> </ul>	<p>Analyse how the hardware components used in computing systems work together in order to execute programs</p> <p>Define what an operating system is, and recall its role in controlling program execution</p> <p>Describe the NOT, AND, and OR logical operators, and how they are used to form logical expressions</p> <p>Use logic gates to construct logic circuits, and associate these with logical operators and expressions</p> <p>Describe how hardware is built out of increasingly complex logic circuits</p> <p>Recall that, since hardware is built out of logic circuits, data and instructions alike need to be represented using binary digits</p>	<p>How is binary used to store various data types?</p> <p>How can computers collect data from various input devices, including sensors and application software.</p> <p>What is the difference between hardware and application software, and their roles within a computer system.</p> <p>I know that digital computers use binary to represent all data.</p>	<p>Demonstrate the ability to credit the original source of an image</p> <p>Critique digital content for credibility</p> <p>Apply techniques in order to identify whether or not a source is credible</p> <p>Apply referencing techniques and understand the concept of plagiarism</p> <p>Evaluate online sources for use in own work</p> <p>Construct a blog using appropriate software</p> <p>Organise the content of the blog based on credible sources</p> <p>Apply referencing techniques that credit authors appropriately</p> <p>Design the layout of the content to make it suitable for the audience</p> <p>Construct a blog using appropriate software</p> <p>Organise the content of blog based on credible sources</p>
--	--	--	--	---	--	--



# Curriculum Map

						<p>Apply referencing techniques that credit authors appropriately</p> <p>Design the layout of the content to make it suitable for the audience</p>
<b>Key Questions</b>		<p>What makes a good presentation? What are the appropriate fonts to use? Who is my audience? Why does my audience matter?</p> <p>How can I use sequence, selection and iteration to develop a program to solve a problem?</p> <p>What is the difference between, and appropriately I can use if and if, then and else statements.</p> <p>Can I use a variable and relational operators within a loop to govern termination.</p> <p>Can I use loops and a sequence of selection statements in programs, including an IF, THEN and ELSE statement.</p>	<p>How can I use sequence, selection and iteration to develop a program to solve a problem?</p> <p>What is the difference between, and appropriately I can use if and if, then and else statements.</p> <p>Can I use a variable and relational operators within a loop to govern termination.</p> <p>Can I use loops and a sequence of selection statements in programs, including an IF, THEN and ELSE statement</p>			<p>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.</p> <p>When is a source credible?</p> <p>Can I use this source in my work? What is a creative commons licence?</p> <p>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.</p>
<b>Assessment</b>	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



# Curriculum Map

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