

**CURRICULUM MAP (Long term plan)**

**SUBJECT : Computing**

**YEAR GROUP: 7**

	<b>Cycle 1 Autumn</b>	<b>Cycle 2 Spring</b>	<b>Cycle 3 Summer</b>
<b>Substantive knowledge –</b> Essential knowledge & conceptual understanding of the National Curriculum	<p><b>Collaborating online</b></p> <p>Creating Media Design and development Effective use of tools Information Technology Safety and security</p> <p><b>Spreadsheets</b></p> <p>Data and Information Effective use of digital tools Programming</p>	<p><b>Programming essentials in Scratch</b></p> <p>Algorithms Programming</p>	<p><b>Networks</b></p> <p>Creating Media Computer Systems Design and development Data and Information Information Technology Effective use of technology</p> <p><b>Using Media</b></p> <p>Creating Media Design and Development Effective use of tools Information technology</p>
<b>Disciplinary knowledge - what skills are practiced?</b>	<p><b>Collaborating online</b></p> <p>Import images from the Internet into Google Slides</p> <p>Work collaboratively with a classmate in creating Slide Deck</p> <p>Learn how to effectively create a Slide deck/presentation.</p> <p><b>Spreadsheets</b></p> <p>Identify columns, rows, cells, and cell references in spreadsheet software</p>	<p><b>Programming essentials in Scratch</b></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><b>Networks</b></p> <p>Define what a computer network is and explain how data is transmitted between computers across networks</p> <p>Define ‘protocol’ and provide examples of non-networking protocols</p> <p>List examples of the hardware necessary for connecting devices to networks</p> <p>Compare wired to wireless connections and list examples of specific technologies currently used to implement such connections</p>

	<p>Use formatting techniques in a spreadsheet</p> <p>Use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /)</p> <p>Use the autofill tool to replicate cell data</p> <p>Explain the difference between data and information</p> <p>Explain the difference between primary and secondary sources of data</p> <p>Collect data Analyse data Create appropriate charts in a spreadsheet</p> <p>Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet</p> <p>Analyse data</p> <p>Use a spreadsheet to sort and filter data</p> <p>Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet</p> <p>Use conditional formatting in a spreadsheet</p>	<p>Create conditions that use comparison operators (&gt;,&lt;=)</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 apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)</p>	<p>Define 'bandwidth', using the appropriate units for measuring the rate at which data is transmitted, and discuss familiar examples where bandwidth is important</p> <p>Define what the internet is</p> <p>Explain how data travels between computers across the internet</p> <p>Describe key words such as 'protocols', 'packets', and 'addressing'</p> <p>Explain the difference between the internet, its services, and the World Wide Web</p> <p>Describe how services are provided over the internet</p> <p>List some of these services and the context in which they are used</p> <p>Explain the term 'connectivity' as the capacity for connected devices ('Internet of Things') to collect and share information about me with or without my knowledge (including microphones, cameras, and geolocation)</p> <p>Describe how internet-connected devices can affect me</p> <p>Describe components (servers, browsers, pages, HTTP and HTTPS protocols, etc.) and how they work together</p>
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			Design the layout of the content to make it suitable for the audience
<p><b>Key questions</b> (What is the learning about?)</p>	<p>What makes a good presentation?</p> <p>What are the appropriate fonts to use?</p> <p>Who is my audience? Why does my audience matter?</p> <p>How can I analyse and evaluate data to become information?</p> <p>Do I know that poor quality data leads to unreliable results, and inaccurate conclusions for individuals and organisations?</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 I can appropriately use, if and if, then and else statements? 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 is a network? What are the components needed to make a network? What is network connectivity?</p> <p>What is the internet? Is it a protocol? What are packets?</p> <p>What is the difference between the internet and the world wide web?</p> <p>What is 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? 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>
<p><b>Assessment</b></p> <p>Verbal feedback used in place of live marking approach.</p>	<p>Collaborating - Teacher assessment of project</p> <p>Spreadsheets - End of unit online test</p>	<p>Midway assessment of students capabilities on Scratch.</p> <p>End of unit assessment of Scratch game.</p>	<p>Networks - End of unit online test</p> <p>Using Media - End of unit online test and practical assessment</p>
<p><b>Literacy (L), Numeracy (N), Oracy (O) opportunities</b></p>	<p>Writing and presenting information suitable for audience and purpose. Timekeeping skills with timed presentations.</p>	<p>Problem solving and algorithmic thinking.</p>	<p>Writing and presenting information suitable for audience and purpose. Understanding Networking and related terminologies.</p>



	Using Microsoft Excel for mathematical calculations.		
<b>Cross Curricular Opportunities</b>	<p>Citizenship - recognising e-safety</p> <p>PE - looking at league tables of sports</p> <p>Geography - spreadsheets showing the size of worldwide cities</p>	<p>Music - looking at dance through Scratch animations.</p> <p>Geography - One of the projects is a Geography quiz.</p> <p>Science - The concept of gravity is discussed in one of the projects.</p>	Citizenship - learning about creative commons law
<b>SMSC / Character/Careers/Cultural Capital</b> (personal development)	Resilience, initiative, aspiration.	Peer support and experimentation. Confidence. Resilience. Initiative. Video Game responsibility	Integrity. Aspiration, Creativity. Resilience, Initiative, Confidence.
<b>Equality and Diversity</b>	Names and characters used in presentations represent people with disabilities and different ethnicities.	Names and characters used in presentations represent people with disabilities and different ethnicities.	Names and characters used in presentations represent people with disabilities and different ethnicities.
<b>Super Curriculum</b> (personal development)	Code club	Code club	Code club