

# Computing Progression Map

Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	<p><b>Pupils learn:</b></p> <p><b>Coding Unit A Beebots - Moving a floor robot</b></p> <p>To follow and give simple everyday commands or instructions</p> <p>To explore and predict what robot commands will do</p> <p>To combine four direction commands to make sequences</p> <p>To predict the outcome of sequences</p> <p>To read and write simple algorithms</p> <p>To plan and test a simple program</p> <p><b>Coding Unit B Online Early Coding Busy Things</b></p> <p>To show that an algorithm is series of commands can be joined to achieve a given purpose</p> <p>To use logical reasoning to predict what the next step will do</p> <p>To code a sequence of instructions using online software</p> <p>To run and test the code to fix errors</p> <p>To design an algorithm for a program</p> <p>To code, test and debug the program</p>	<p><b>Pupils learn:</b></p> <p><b>Coding Unit A Online Robots J2Code</b></p> <p>To describe a series of instructions as a sequence</p> <p>To explain what an algorithm is in everyday situations</p> <p>To use logical reasoning to predict the outcome of a program (series of commands)</p> <p>To explore algorithms and use them to sequence commands</p> <p>To design an algorithm for a program</p> <p>To create and debug a program that I have written</p> <p><b>Coding Unit B Sequencing Animations</b></p> <p>To explore how commands can be connected create simple sequences</p> <p>To explain that a sequence of commands has outcome</p> <p>To create a program using a given design</p> <p>To change a given design</p> <p>To create a program using my own design</p> <p>To decide how my project can be improved</p>	<p><b>Pupils learn:</b></p> <p><b>Coding Unit A – Code.org - Course B</b></p> <p>To drag and drop blocks of code</p> <p>To translate movements into a sequence algorithm</p> <p>To identify patterns of repetition in an algorithm</p> <p>To solve coding puzzles using repetition</p> <p>To create a program; run, test and debug it</p> <p>To solve coding challenges</p> <p><b>Coding Unit B- Sequencing with Scratch Animation</b></p> <p>To become familiar with the basic features in Scratch and tinker</p> <p>To predict and create a sequence to build a program using blocks</p> <p>To modify a given program by changing the input</p> <p>To plan and design a monologue</p> <p>To use input and output blocks to code a program</p> <p>To test and debug a program</p>	<p><b>Pupils learn:</b></p> <p><b>Coding Unit A- Multiple sequences Scratch Scene Dialogue</b></p> <p>To explore code sequences</p> <p>To plan and use an algorithm to code</p> <p>To add stage, sound and movement</p> <p>To use a sequence to plan dialogue between two sprites</p> <p>To add stage and sound effects to a program</p> <p>To evaluate, test and debug a program</p> <p><b>Coding Unit B- Repetition Scratch Shapes</b></p> <p>To identify the order and write an algorithm to draw a square on the screen</p> <p>To adapt a sequence of instructions to draw other 2D shapes</p> <p>To use repeat loops to simplify a program</p> <p>To create a program to draw different shapes using repetition loops and colours</p> <p>To compare different ways to code to draw shapes</p> <p>To evaluate, test and debug a program</p>	<p><b>Pupils learn:</b></p> <p><b>Coding Unit A - Selection Scratch Quiz</b></p> <p>To identify and role play conditional selection in everyday situations</p> <p>To explore selection code and use 'ask' and 'answer' variables</p> <p>To explain how selection directs the flow of a program</p> <p>To plan and write a program which uses selection</p> <p>To add another output to a program to check the answers</p> <p>To evaluate someone else's program and give feedback</p> <p><b>Coding Unit B- Variables in Scratch Games</b></p> <p>To read sections of code and predict what the code will do</p> <p>To make changes to the code to achieve specific results</p> <p>To design and draw a plan for a game</p> <p>To use my plan and algorithm to code my game</p> <p>To test and debug my program as I code</p> <p>To evaluate a program according to specific criteria and give feedback</p>	<p><b>Pupils learn:</b></p> <p><b>Coding Unit A -Variables in Games – Scratch</b></p> <p>To define a 'variable' as something that is changeable</p> <p>To predict and make changes to a program</p> <p>To choose how to improve a game by adding variables and modifying the code</p> <p>To design a project that builds on a given example</p> <p>To use my design and algorithms to code my game</p> <p>To test and debug my program</p> <p><b>Coding Unit B – Sensing - Microbits</b></p> <p>To create a program to run on a controllable device</p> <p>To explain that selection can control the flow of a program</p> <p>To update a variable with a user input</p> <p>To use an conditional statement to compare a variable to a value</p> <p>To design a project that uses inputs and outputs on a controllable device</p> <p>To develop a program to use inputs and outputs on a controllable device</p>

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<b>Digital Literacy and Information Technology</b>	<p><b>Pupils learn:</b></p> <p><b>IT - Digital Media - Multimedia and Digital Writing MUSIC and PAINTING - Busy Things</b></p> <p>To switch on, log in and access online resources and work (DL)</p> <p>To use the mouse/trackpad to move the cursor and interact with my computer (DL)</p> <p>To explore sounds and music using technology</p> <p>To use the keyboard to interact with the computer and type (DL)</p> <p>To use a computer on my own to paint a picture</p> <p>To compare painting a picture on a computer and on paper</p> <p><b>IT - Digital Media - Multimedia and Digital Writing - WRITING and PHOTOGRAPHY - Busy Things</b></p> <p>To use a computer to write</p> <p>To add and remove text on a computer</p> <p>To make careful choices when changing text</p> <p>To explain why I used the tools that I chose</p> <p>To compare writing on a computer with writing on paper</p> <p>To use a digital camera to take a picture and change it using filters</p> <p><b>DL - Technology around us</b></p> <p>To identify technology</p> <p>To identify examples of technology in the classroom and how it helps us</p> <p>To identify a computer and its main parts</p>	<p><b>Pupils learn:</b></p> <p><b>IT - Multimedia and Digital Writing – JIT</b></p> <p>To use the keyboard to type sentences (DL)</p> <p>To save and retrieve what I create (DL)</p> <p>To use a bookmark or a link to access a web page and find information to answer questions (DL)</p> <p>To select templates for my writing</p> <p>To format my typing to suit the task</p> <p>To review and refine our computer work</p> <p><b>IT - Creating Media - Digital Photography</b></p> <p>To know what devices can be used to take photographs</p> <p>To use a digital device to take a photograph</p> <p>To describe what makes a good photograph</p> <p>To decide how photographs can be improved</p> <p>To use tools to change an image</p> <p>To recognise that images can be changed</p> <p><b>DL - Uses of Computers and Information technology</b></p> <p>To recognise the uses and features of information technology</p> <p>To identify information technology beyond school and in the home</p> <p>To explain how information technology benefits us</p> <p>To know that the internet is made of computers connected around the world</p> <p>To know some uses of the internet</p>	<p><b>Pupils learn:</b></p> <p><b>IT - Multimedia and Digital Writing- Google Docs</b></p> <p>To become familiar with text and editing tools</p> <p>To add an image, resize and change layout in a document</p> <p>To use keyboard shortcuts to copy and paste images</p> <p>To add content to a desktop publishing publication and use basic formatting tools</p> <p>To consider how different layouts can suit different purposes</p> <p>To edit a publication using keyboard shortcuts and arrows</p> <p><b>IT Digital Media - Create, Share, Respond J2 Animate</b></p> <p>To explain that animation is a sequence of drawings or photographs</p> <p>To relate animated movement with a sequence of images</p> <p>To plan an animation</p> <p>To identify the need to work consistently and carefully</p> <p>To review and improve an animation</p> <p>To evaluate the impact of adding other media to an animation</p> <p><b>IT Branching Databases -J2E</b></p> <p>To use a branching database and explain how it works</p> <p>To select attributes to separate objects into groups with yes/no answers</p> <p>To create a branching database</p> <p>To select objects by attribute and make comparisons</p> <p>To identify the object attributes needed to collect relevant data</p> <p>To compare the information shown in a pictogram with a branching database</p>	<p><b>Pupils learn:</b></p> <p><b>DL- Computing Systems and Networks-The Internet</b></p> <p>To describe how networks physically connect to other networks</p> <p>To recognise how networked devices make up the internet</p> <p>To outline how websites can be shared via the World Wide Web</p> <p>To describe how content can be added and accessed on the World Wide Web</p> <p>To recognise how the content of the WWW is created by people</p> <p>To evaluate the consequences of unreliable content</p> <p><b>IT- Data Logging -NCCE</b></p> <p>To explain that data gathered over time can be used to answer questions</p> <p>To use a digital device to collect data automatically</p> <p>To explain that a data logger collects 'data points' from sensors over time</p> <p>To use data collected over a long duration to find information</p> <p>To identify the data needed to answer questions</p> <p>To use collected data to answer questions</p> <p><b>IT- Multimedia &amp; Digital Writing - Google Slides</b></p> <p>To choose an appropriate background theme and layouts to suit my work</p> <p>To insert, edit and format images within Google Slides</p> <p>To create and add animations and transitions to slides</p> <p>To edit the command (input) for an animation or transition in a presentation</p> <p>To explore different presenting features and use presenter notes</p> <p>To evaluate how changes can improve a presentation</p>	<p><b>Pupils learn:</b></p> <p><b>IT Multimedia &amp; Digital Writing- Vector Drawings (Google)</b></p> <p>To identify that drawing tools can be used to produce different outcomes</p> <p>To create a vector drawing by combining shapes</p> <p>To use tools to achieve a desired effect</p> <p>To recognise that vector drawings consist of layers</p> <p>To group objects to make them easier to work with</p> <p>To evaluate my vector drawing</p> <p><b>IT- Data &amp; Information – Spreadsheets</b></p> <p>To use a form to record information</p> <p>To compare paper and computer-based databases</p> <p>To outline how grouping and then sorting data allows us to answer questions</p> <p>To explain that tools can be used to select data to answer questions</p> <p>To select an appropriate chart to visually compare data</p> <p>To apply my knowledge of a database to ask and answer real-world questions</p> <p><b>DL- History of Computing &amp; Women in Computing</b></p> <p>To begin to understand how computers evolved and changed over time</p> <p>To understand the component parts of a computer and how they work</p> <p>To understand the drive behind the development of computing during the war</p> <p>To create a timeline to show the developments of computers overtime</p> <p>To show awareness of how we connect with others and know about the dangers and how to minimise them</p> <p>To evaluate different ways of working together online</p>	<p><b>Pupils learn:</b></p> <p><b>IT- Data &amp; Information- Microsoft Excel or Google Sheets</b></p> <p>To identify questions which can be answered using data</p> <p>To explain that objects can be described using data</p> <p>To explain that formula can be used to produce calculated data</p> <p>To apply formulas to data, including duplicating</p> <p>To create a spreadsheet to plan an event</p> <p>To choose suitable ways to present data</p> <p><b>DL - Computer Systems &amp; Networks – Communication</b></p> <p>To identify how to use a search engine</p> <p>To describe how search engines select results</p> <p>To explain how search results are ranked</p> <p>To recognise why the order of results is important, and to whom</p> <p>To recognise how we communicate using technology</p> <p>To evaluate different methods of online communication</p> <p><b>IT -3D Modelling – Tinkrcad</b></p> <p>To use a computer to create and manipulate three-dimensional (3D) digital objects</p> <p>To compare working digitally with 2D and 3D graphics</p> <p>To construct a digital 3D model of a physical object</p> <p>To identify that physical objects can be broken down into a collection of 3D shapes</p> <p>To design a digital model by combining 3D objects</p> <p>To develop and improve a digital 3D model</p>

<p>To create rules for using technology responsibly</p> <p>(To switch on and off and use keyboard and mouse/trackpad) part of IT lessons</p> <p><b>IT - Data groups and exploring Busy Things Statistics</b></p> <p>To label objects and describe objects in different ways</p> <p>To count objects with the same properties</p> <p>To compare groups of objects</p> <p>To answer questions about groups of objects</p> <p>To explore using pictograms to present data</p> <p>To talk about the link between the data and the information on the screen pictogram</p>	<p>To show how to use information technology safely</p> <p><b>IT - Data JIT Pictograms</b></p> <p>To recognise that we can count and compare objects using tally charts</p> <p>To recognise that objects can be represented as pictures</p> <p>To create a pictogram</p> <p>To select objects by attribute and make comparisons</p> <p>To use the pictograms to help me make comparisons</p> <p>To explain that we can present information using a computer</p>	<p><b>DL Connecting Systems &amp; Networks &amp; Hello Ruby</b></p> <p>To explain how digital devices function</p> <p>To identify inputs and outputs and design own digital device</p> <p>To explore how digital devices can be connected</p> <p>To recognise the physical components of a network</p> <p>To demonstrate how information can be passed between devices</p> <p>To identify the benefits of computer networks</p>	<p><b>IT - Digital Media- Creating Media- Audio editing</b></p> <p>To identify that sound can be digitally recorded</p> <p>To use a digital device to record sound</p> <p>To explain that a digital recording is stored as a file</p> <p>To explain that audio can be changed through editing</p> <p>To show that different types of audio can be combined and played together</p> <p>To evaluate editing choices made</p>	<p><b>IT- Digital Media - Video Creation &amp; Editing (iMovie)</b></p> <p>To identify digital devices that can record video and explore camera angles</p> <p>To plan a video project using a storyboard</p> <p>To record a video that demonstrates some of the features of an effective video</p> <p>To select the correct tools to make edits to my video</p> <p>To use an audio voiceover, theme music or sound effects in my project</p> <p>To consider the impact of the choices made when making and sharing a video</p>	
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