

Computing Progression Map

The technology strand has been removed from the revised EYFS framework. However, we aim to provide opportunities to effectively prepare children for studying the computing curriculum.

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	<p><u>Robots</u> To make a floor robot (bee bot) move forward and backwards</p> <p>To follow positional language command instructions in small-world role-play (forwards, backwards, stop, start)</p>	<p><u>Robots</u> To be able to describe a route that is in progress and a path taken by another person while it is being enacted.</p> <p>To be able to follow a route taken by another person after it has been enacted.</p> <p>To plan routes for toy vehicles and follow plans for toy vehicles.</p> <p>To use the buttons on a floor robot to make it move developing to using buttons with greater purpose e.g., program several buttons to make it move.</p> <p>To be able to interpret simple instructions to predict an outcome.</p> <p>To be able to plan and input instructions for a floor robot building up to several steps</p>	<p><u>Grouping & Sorting</u> To sort items using a range of criteria.</p> <p>To understand how to use software for grouping items such as tools within Purple Mash.</p> <p><u>Lego Builders</u> To know how to compare the effects of strictly adhering to instructions when completing tasks without instructions.</p> <p>To know how to follow and create simple instructions on the computer.</p> <p>To know that the order of instructions affects the result for a given instructional task.</p> <p><u>Maze Explorers</u> To know the functionality of the direction keys in 2GO.</p> <p>To know how to create and debug a set of simple instructions (algorithm).</p> <p>To know how to use the additional direction keys within 2Go as part of an algorithm.</p> <p>To know how to change and extend the algorithm list in 2Go.</p> <p><u>Coding</u> To know what instructions are and can predict what might happen when they are followed.</p> <p>To know how to plan and make a simple computer program e.g. fish moves right, crab moves up.</p>	<p><u>Coding</u> To know what an algorithm is and can explain that it is a set of instructions and that algorithms follow a sequence.</p> <p>To know how to create a computer program using an algorithm.</p> <p>To know how to create a computer program from a given design.</p> <p>To know that collision detection is an event type in coding.</p> <p>To know how to design an algorithm that follows a timed sequence.</p> <p>To know that different objects within the coding environment have different properties.</p> <p>To know that there are different events in coding and know what some of these events are.</p> <p>To know the function of buttons in the coding environment.</p> <p>To know how to interpret and debug simple programs.</p>	<p><u>Coding</u> To write the code to move a sprite.</p> <p>To use the script to control a sprite.</p> <p>To make a character dance.</p> <p>To use the if statement</p> <p>To move a sprite using a keyboard.</p> <p>To sequence coding to reflect need</p>	<p><u>Coding</u> To create sequences for movement</p> <p>To use knowledge of loops to repeat movements</p> <p>To begin to understand variables and their uses</p> <p>To create a basic game which keeps score</p> <p><u>Python</u> To start to understand the difference between block coding and typed coding</p> <p>To generate a sprite</p> <p>To move the sprite</p> <p>To colour code the sprite, pen up and pen down</p> <p>To create a repeated sequence to generate an image.</p>	<p><u>Coding</u> To use more than one variable</p> <p>To adapt backgrounds and sprites to create 'Levels' within a game</p> <p>Code a game which keeps score, holds text and conveys information.</p>	<p><u>3D modelling</u> Understand what 3D modelling is</p> <p>To rotate and position objects in 3D space</p> <p>Understand use of tools</p> <p>To understand 'negative space' in 3d Objects</p> <p>Use program to create objects in 3D space</p> <p><u>Micro bits</u> To generate block-based code to create a pedometer</p> <p>To use loops and sequence-based coding</p> <p>To upload and download elements of code onto the micro bit to test</p>

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			<p>To know what objects, actions and backgrounds are within a coding environment.</p> <p>To know what an event is and know how to use an event to control an object.</p> <p>To begin to know how code executes when a program is run.</p>					
Vocabulary	<p>Forwards Backwards Stop start</p>	<p>Forwards Backwards Turn Left Right Stop Start Under Over in-between position directions route input steps instructions output when clicked</p>	<p>Instruction Algorithm Computer program Debug Action Background Code Command Debugging Direction Challenge Event Arrow Execute Input Object Properties Output Run Scale Sound Scene when clicked undo rewind</p>	<p>Action Algorithm Background Button design mode collision detection event command debug/debugging execute interval object run test predict scale text properties scene timer sequence when clicked when swiped sound nesting</p>	<p>Scratch Programming Blocks Commands Code Sprite Costume Stage Backdrop Motion Turn Point in direction go to glide sequence event task design run the code order note chord algorithm bug debug algorithm logic move resize extension block pen up set up pen action debugging errors setup code test actions</p>	<p>Algorithm Code Repetition Sequencing Determine Create Explore Sprite Animate Movement Co-ordination Programme Solutions Bugs Program Turtle Commands Code snippet value trace Decompose Algorithm Design Debug Pattern Repeat/ repetition count-controlled loop Procedure</p>	<p>Algorithm Code Repetition Sequencing Determine Create Explore Variables adjust Sprite Animate Movement Co-ordination Programme Solutions Bugs Upload reload</p>	<p>3D modelling Three-dimensional object Work plane Tinkercad Object Viewpoint The View Cube Resize Colour Rotate group, Handle Modify Axis Align Group Ungroup Combine Placeholder Hole Surface Interior exterior microbit flow variable modify sensor algorithm USB</p>

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<p>Information Technology</p>	<p><u>Drawing Skills</u> To be able to select colours. To be able to mark make purposefully on a screen. To be able to draw using a touch screen.</p> <p><u>Sounds</u> To explore sounds on a device.</p> <p><u>Photography</u> To understand that things can be recorded e.g. with cameras or tablets To use a digital device to take a photograph.</p>	<p><u>Drawing Skills</u> To be able to select colours . To be able to mark make purposefully on a screen. To be able to control the pencil width. To be able to control tools to experiment with. To be able to use the undo function. To be able to erase parts of pictures. To be able to draw using a touch screen.</p> <p><u>Sounds</u> To experiment in the music area of Mini Mash to combine sounds. To use the built-in sound effects in Purple Mash. To be able to record spoken words and play these back.</p> <p><u>Photography</u> To be able to look at photos and identify features. To be able to take photos using a device. To be able to use the webcam in Mini Mash. To be able to open photos in Purple Mash. To be able to use own photos in work on a digital device</p> <p><u>Quizzes</u> To know what a quiz is.</p>	<p><u>Pictograms</u> To know that data can be represented in a picture format e.g. pictogram. To know how to contribute to a class pictogram. To know how to use software such as 2Count to record the results of an experiment into a pictogram format. <u>Animal Story Books</u> To know what e-books are. To know of software such as 2Create a Story that allows users to create interactive stories. To know how to add animation to an interactive story. To know how to add sound, including voice recordings and music to a story they have created using software. To begin to know how to work on more complex digital stories, including adding backgrounds, and copying and pasted pages. To know how to share digital stories with others such as using Digital Display Boards. <u>Spreadsheets</u> To know what a spreadsheet program environment looks like including cells, rows and columns. To know basically what a spreadsheet program can help do. To know how to enter data into spreadsheet cells. To know how to add images to cells. To know how to use some tools within spreadsheets e.g. with</p>	<p><u>Spreadsheets</u> To know how to copy, cut and paste in spreadsheet software such as 2Calculate. To know what totalling tools are and how to use them. To know how to use a spreadsheet to perform calculations for purpose. For example, adding and totalling money. To know how to use some tools within a spreadsheet to support calculations. For example, using the equals tool in 2Calculate to check calculations. To know how to create a manual block graph within a spreadsheet from data. <u>Questioning</u> To know that pictograms provide limited information. To know that other data handling tools can give more information than pictograms. To know how to use yes/no questions to separate information. To know how to construct a binary tree to identify items. To know how to use a binary tree database (such as 2Question), to answer questions. To know how to use a database to answer more complex search questions. To know how to use a search feature at a basic level when trying to locate data within a database such as 2Investigate.</p>	<p><u>Word Processing</u> To create titles and borders To use text boxes To adapt fonts and sizes to fit a purpose To use the spell check function to correct work To create and use a table to store information (as a group) Begin to use more than 2 fingers to type <u>Photography</u> To use a camera independently. To zoom in and out. To download still images. <u>Art</u> Use the program paint to create a repetitive image</p>	<p><u>Word Processing</u> To use copy and paste between programmes To delete, insert and replace text for clarity and editing To insert moveable pictures To choose layout and previously taught skills to match purpose To adapt the document to the audience. <u>PowerPoints</u> To create a simple slide show of 3-5 slides of a topic the children are knowledgeable about Use taught Word skills and apply them to PowerPoint. To choose a design appropriate to the topic Start to use two hands when typing</p>	<p><u>Word Processing</u> To format text to show significance To justify text Begin to use grammar checker correctly Use find and replace to adjust writing <u>PowerPoints</u> Create a 4-6 slide presentation Insert images effectively Use annotations between slides Use transitions to show emphasis and create excitement <u>Excel</u> To understand basic terminology used in Excel To create a basic table Use said table to create a basic bar chart Use simple formulae- totalling, addition and multiplication across cells Understand cells can have different formatting depending on the information gathered. Attempt touch typing/ typing with some speed. <u>Vectors</u> Understand basic elements of 'drawing' with images To use a variety of tools to create an image</p>	<p><u>Presentations</u> Choose the best Microsoft tool to match the audience and purpose Use different layouts to match purpose Use sound bites or own voice recordings To present information to others. Change formats of columns and cells to match need Start to touch type with some accuracy/confidence <u>Web Design</u> Understand what makes a good website To explore basic website to gather information Begin to code to create basic web page Be able to review web page for audience and effectiveness</p>
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		<p>To be able to participate in a multiple-choice quiz using pictures.</p> <p>To be able to participate in a sequencing quiz using pictures.</p> <p>To be able to answer quiz questions by typing.</p> <p>To be able to participate in a cloze quiz.</p> <p>To be able to participate in a sorting and sequencing quiz .</p> <p>To be able to complete a quiz with mixed questions.</p> <p>To be able to play a quiz game.</p>	<p>2Calculate can use lock cell, move cell, speak and count.</p>	<p><u>Creating pictures</u></p> <p>To know the purpose and benefits of painting software tools such as 2Paint a Picture.</p> <p>To know how to recreate Impressionism, surrealism and Pointillism using features within 2Paint a Picture.</p> <p>To know how to reproduce the style of William Morris by using repeating patterns, manipulating patterns and adding multiple effects in painting software such as 2Paint a picture.</p> <p><u>Making Music</u></p> <p>To know how to make forms of music (digitally) using age-appropriate software such as 2Sequence.</p> <p>To know how to edit and combine sounds using 2Sequence.</p> <p>To know how to refine composed music.</p> <p>To know how to upload/import and record sounds beyond the software environment.</p> <p><u>Presenting ideas</u></p> <p>To know that digital content can be presented in many different forms e.g. stories.</p> <p>To know how to use presentational or interactive software such as a quiz, making improvements to it based on people feedback.</p> <p>To know that data can be structured in tables to make it useful for an audience.</p> <p>To know how to add images such as clipart and photos to Presentational software.</p>			<p>To attempt to layer images</p> <p>To group and organise elements for replication</p> <p>To generate a scene of vector drawings</p>	
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				To know how to collect, organise and present data and information in digital format.				
Vocabulary	Computer Device Digital touch screen record photographs camera	Click Action Scroll Laptop touchpad, touch screen erase undo arrow key sound effects photos device webcam digital multiple choice type sort sequence music tools microphone compose record device photographs upload images camera	Pictogram Data Collate Animation eBook Font File sound effect display, board count tool spreadsheet lock tool speak tool arrow keys backspace key cells cursor columns Clipart count tool delete key image toolbox rows	Backspace Copy Paste Columns Cells count tool lock tool equal tool image toolbox move cell tool rows speak tool spreadsheet Pictogram Question Data Collate binary tree avatar database drag, palette share template Bpm Composition Digitally sound effects soundtrack tempo volume presentation node animated	Text Images Advantages Disadvantages Communicate Font Style Landscape Portrait Orientation Placeholder Template Layout Content desktop publishing copy paste purpose benefits text images	Copy Paste Insert Replace Tight Audience Copyright Program Shortcuts Presentation Slide Slideshow Table Toolbar Design Spreadsheet Cell Image Edit Digital Crop Rotate Undo Save Retouch clone background foreground Alter Adjustments Effects Colours Hue Saturation Sepia vignette Composite Cut Copy Paste	Copy Paste Insert Replace Tight Audience Copyright Program Shortcuts Touch typing Vector drawing tools object toolbar Reflection Grouping Layers modify Move Resize Colour rotate duplicate/copy reuse paste align	Presentation Slide Slideshow Table Formulae Audience Toolbar Design Spreadsheet Cell Row Column

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<p>Digital Literacy</p>	<p><u>Technology around us</u> To know the technology used in the home and school.</p> <p><u>Hardware</u> To be able to take appropriate actions before using technology.</p> <p>To be able to understand why food should be kept away from devices.</p> <p>To be able to identify electrical safety as important.</p> <p>To know safe ways to transport portable devices.</p> <p>To be able to relate being gentle and sharing to the use of devices.</p> <p><u>Safety and Privacy</u> To begin to understand what private means when using technology</p> <p>To begin to be aware of the impact of a lot of screen time.</p>	<p><u>Technology around us</u> To know the technology used in the home.</p> <p>To be able to identify how technology is used outdoors.</p> <p>To be able to identify technology used in the wider world.</p> <p><u>Hardware</u> To be able to take appropriate actions before using technology.</p> <p>To be able to understand why food should be kept away from devices.</p> <p>To be able to identify electrical safety as important.</p> <p>To know safe ways to transport portable devices. To be able to relate being gentle and sharing to the use of devices.</p> <p>To be able to understand what technology is.</p> <p>To be able to identify the main parts of a computer.</p> <p><u>Safety and Privacy</u> To be able to explain what it means to own digital content.</p> <p>To be able to explain what 'private' means when using technology.</p> <p>To be able to express how it feels to be uncomfortable with something.</p>	<p><u>Online Safety and Exploring Purple Mash</u></p> <p>To know how to log in safely.</p> <p>To know how to navigate to a document area where saved work by a child can be found.</p> <p>To know how to use search to locate applications or resources on a platform such as Purple Mash.</p> <p>To know how to enhance work by adding multimodal items such as text and images.</p> <p>To know how to open, save and print work.</p> <p>To know the importance of logging out of an account.</p> <p><u>Technology Outside School</u></p> <p>To find and understand where technology is used in the local community</p>	<p><u>Online Safety</u> To know how searches can be refined when searching digitally and therefore attempts refining when searching.</p> <p>To know that digitally created work can be shared with others e.g. Purple Mash Display Boards.</p> <p>To have knowledge and understanding about sharing more globally on the Internet.</p> <p>To know that email is a type of communication tool.</p> <p>To know how to open and send simple online communications in the form of email e.g. 2Email (virtual email client).</p> <p>To know that there is an appropriate way to communicate with others in an online situation.</p> <p>To know that information put online leaves a digital footprint.</p> <p>To know some steps that can be taken to keep personal data and hardware secure.</p> <p><u>Effective searching</u> To know the meaning of key Internet and searching terms.</p> <p>To know the basic parts of a web search engine page.</p> <p>To know how to navigate a web search results page.</p>	<p><u>Online Safety</u> Introduce e-safety programme. Purpose and practise Introduce SMART Crew</p> <p><u>Computing systems and networks</u> To understand how each computer can be part of a network.</p> <p>To be able to use, sign in and out of our school system independently</p> <p>To turn on and off our school computers safely - understanding the impact on incorrect shut down</p>	<p><u>Online Safety</u> Recap SMART <3 rules and apply to situations</p> <p>Understand how the internet is not always accurate</p> <p>How to research with a critical eye</p> <p>What is copyright?</p> <p><u>Hardware</u> Applying knowledge of a 'tower' based computer to a laptop</p>	<p><u>Online Safety</u> What is privacy?</p> <p>How to spot 'click bait'.</p> <p>Understanding your part in keeping your information private</p> <p>What is video sharing?</p> <p><u>Hardware</u> Applying knowledge of a 'tower' based computer to a Chrome book</p>	<p><u>Online Safety</u> To recognise the positive and negative experiences we can have online and devise ways to build digital resilience</p> <p>To know what to do if something worries you online</p> <p>To recognise that information can spread quickly and widely online, even when sent privately.</p> <p>To identify ways in which one can minimise information being spread online or get help if there is a problem with content being used inappropriately</p> <p>To recognise similarities and differences between in-person bullying, and cyberbullying.</p> <p>Identify strategies for dealing with cyberbullying and how they can be upstanders for those being bullied.</p> <p>To identify de-escalation strategies when dealing with digital drama.</p> <p>To reflect on how digital drama can affect not only oneself but also those around us</p> <p>To recognise the impact of AI in our lives- positive and negative.</p> <p>To begin to recognise the potential risks of AI</p>
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		<p>To be able to name 5 people who can help with negative feelings.</p> <p>To be able to think about how to show kindness to others.</p> <p>To be aware of the impact of a lot of screen time.</p> <p><u>Using Purple Mash with an individual Login</u> To navigate to PM login page.</p> <p>Using login shortcuts.</p> <p>Login in picture password.</p> <p>Login in numbers.</p> <p>Login in words.</p> <p>My work area. 2Dos.</p>		<p>To know how to search the Internet to some degree for answers to a quiz.</p> <p>To know the premise of what effective Internet searching is.</p>				<p>To recognise the need for critical thinking when dealing with ai generated responses because ai can produce incorrect information or reflect bias data,</p> <p>To begin to develop an understanding of deep fakes</p>
Vocabulary	<p>electrical safety private portable devices screen time</p>	<p>Technology electrical safety portable device computer private digital login password 2Do's work area</p>	<p>Technology Log in Username password log out my work avatar notification topics tools save</p>	<p>Search display board internet email digital footprint internet search search engine</p>	<p>digital device input process output program digital non-digital connection network switch server wireless access point cables sockets SMART Safe Meet Accept Reliable Tell Compassion Communication limitation</p>	<p>Internet Devices Digital footprint URL Reliability Source Search engine Threat Privacy Virus Copyright</p>	<p>Internet Devices Reliability Source Streaming Online Information Location Spam Threat Privacy Anonymous Respect Sites Communication Password Consent Social Media</p>	<p>Positive Negative Online digital resilience Challenge video Block Digital Platform Content Privacy settings cyberbullying online disinhibition effect upstander de-escalate digital drama AI Generative AI Manipulation Misinformation Cyberbullying Privacy AI generated Deep fake</p>