



## Computing Curriculum Map- Key stage 1

Information is taken from the Teach Computing, National Centre for Computing Education, Scheme of work.



|                   | Teach Computing- Year 1                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                      |
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|                   | <u>Term 1</u><br>Computing systems and networks-Technology around us                                                                                                                                                                                                                                   | <u>Term 2</u><br>Creating media- Digital Painting                                                                                                                                                                                                                                                                                      | <u>Term 3</u><br>Programming A - Moving a robot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>Term 4</u><br>Data and information- Grouping Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>Term 5</u><br>Creating Media- Digital writing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>Term 6</u><br>Programming B- Programming animations                                                                                                                                                                                                                                                                                               |
| <u>Term Focus</u> | Children will develop their understanding of technology and how it can help them in their everyday lives. They will start to become familiar with the different components of a computer by developing their keyboard and mouse skills. Learners will also consider how to use technology responsibly. | Children will develop their understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings, gaining inspiration from a range of artist's work. The unit concludes with children considering their preferences when painting with and without the use of digital devices. | Children will be introduced to early programming concepts. Learners will explore using individual commands, both with other Children and as part of a computer program. They will identify what each command for the floor robot does, and use that knowledge to start predicting the outcome of programs. The unit is paced to ensure time is spent on all aspects of programming, and builds knowledge in a structured manner. Learners are also introduced to the early stages of program design through the introduction of algorithms. | This unit introduces children to data and information. Labelling, grouping, and searching are important aspects of data and information. Searching is a common operation in many applications, and requires an understanding that to search data, it must have labels. This unit of work focuses on assigning data (images) with different labels in order to demonstrate how computers are able to group and present data.<br><br>During this unit, children will be logging on to the computers, opening their documents, and saving their documents. | Children will develop their understanding of the various aspects of using a computer to create and manipulate text. They will become more familiar with using a keyboard and mouse to enter and remove text. Children will also consider how to change the look of their text, and will be able to justify their reasoning in making these changes. Finally, Children will consider the differences between using a computer to create text, and writing text on paper. They will be able to explain which method they prefer and explain their reasoning for choosing this. | Children will be introduced to on-screen programming through ScratchJr. Children will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Children will also be introduced to the early stages of program design through the introduction of algorithms. |

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| <u>Key Vocabulary</u> | Technology, desktop, laptop computer, logging in, Function, typing, save, safely                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Draw, paint, mark, tools, recreate, artists, digital,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Robots, buttons, direction, forwards, backwards, point, instruction, outcome, command, left and right turn, program, route, design,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Labels, match, group, grouping, properties, classify, compare, images, input, data, information, function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Keyboard, text, word processor, keys, backspace, interact, toolbar, caps lock, mouse, cursor, select, font, undo, double clicking, click, drag,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Compare, block, backgrounds, delete, algorithms, change, value, sprites, project, program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <u>Main Outcomes</u>  | <p>To identify rules to keep us safe and healthy when we are using technology in and beyond the home.</p> <p>To explain technology as something that helps us.</p> <p>To locate examples of technology in the classroom.</p> <p>To explain how these technology examples help us.</p> <p>To name the main parts of a computer.</p> <p>To switch on and log into a computer.</p> <p>To use a mouse to open a program.</p> <p>To click and drag to make objects on a screen.</p> <p>To say what a keyboard is for.</p> <p>To type my name on a computer.</p> <p>To save my work to a file.</p> <p>To open my work from a file.</p> | <p>To make marks on a screen and explain which tools I used.</p> <p>To use the paint tools to draw a picture.</p> <p>To make marks with a square and line tool.</p> <p>To make marks on a screen and explain which tools I used. To use paint tools to create a picture.</p> <p>To explain that different paint tools do different jobs.</p> <p>To explain that pictures can be made in lots of different ways.</p> <p>To say whether I prefer painting using a computer or using paper.</p> <p>To spot the differences between painting on a computer and on paper.</p> | <p>To predict the outcome of a command on a device.</p> <p>To match a command to an outcome.</p> <p>To run a command on a device.</p> <p>To follow an instruction.</p> <p>To give a direction.</p> <p>To predict the outcome of a sequence involving forwards and backwards commands.</p> <p>To experiment with turn and move commands to move a robot.</p> <p>To explain what my program should do.</p> <p>To choose the order of commands in a sequence.</p> <p>To debug my program.</p> <p>To identify several possible solutions,</p> <p>To plan two programs.</p> <p>To use two different programs to get to the same place.</p> | <p>To describe objects using labels.</p> <p>To match objects to groups.</p> <p>To identify the label for a group of objects.</p> <p>To count a group of objects.</p> <p>To describe an object.</p> <p>To describe a property of an object.</p> <p>To find objects with similar properties.</p> <p>To group similar objects.</p> <p>To group objects in more than one way.</p> <p>To count how many objects share a property.</p> <p>To record how many objects are in a group.</p> <p>To decide how to group objects to answer a question.</p> <p>To compare groups of objects.</p> <p>To record and share what I have found.</p> | <p>To open a word processor.</p> <p>To recognise keys on a keyboard.</p> <p>To identify and find keys on a keyboard.</p> <p>To enter text into a computer.</p> <p>To use letter, number, and Space keys.</p> <p>To use Backspace to remove text.</p> <p>To type capital letters.</p> <p>To explain what the keys that I have already learnt about do.</p> <p>To identify the toolbar and use bold, italic, and underline.</p> <p>To select a word by double-clicking.</p> <p>To select all of the text by clicking and dragging.</p> <p>To change the font.</p> <p>To say what tool I used to change the text.</p> <p>To decide if my changes have improved my writing.</p> | <p>To choose a command for a given purpose.</p> <p>To compare different programming tools.</p> <p>To show that a series of commands can be joined together.</p> <p>To run my program.</p> <p>To identify the effect of changing a value.</p> <p>To find blocks that have numbers.</p> <p>To change the value.</p> <p>To say what happens when I change a value.</p> <p>To explain that each sprite has its own instructions.</p> <p>To design the parts of a project.</p> <p>To choose appropriate artwork for my project.</p> <p>To decide how each sprite will move.</p> |

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|  |  |  |  |  | <p>To use 'Undo' to remove changes.</p> <p>To compare typing on a computer to writing on paper.</p> | <p>To create an algorithm for each sprite.</p> <p>To use my algorithm to create a program.</p> <p>To test the programs, I have created.</p> |
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| Teach Computing Year 2 |                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                        | <u>Term 1</u><br>Computing systems and networks-IT around us                                                                                                                                                                                                                                                                                                                  | <u>Term 2</u><br>Creating media- Digital Photography                                                                                                                                                                                                          | <u>Term 3</u><br>Programming A - Robot algorithms                                                                                                                                                                                                                                                                                                                                                                                            | <u>Term 4</u><br>Data and information- Pictograms                                                                                                                                                                                                                                                                                                                                                                             | <u>Term 5</u><br>Creating Media- Digital music                                                                                                                                                                                                                                                 | <u>Term 6</u><br>Programming B- Programming quizzes                                                                                                                                                                                                                                                                                                                                                       |
| <u>Term Focus</u>      | <p>Children will develop their understanding of what information technology (IT) is and will begin to identify examples. They will discuss where they have seen IT in school and beyond, in settings such as shops, hospitals, and libraries. Children will then investigate how IT improves our world, and they will learn about the importance of using IT responsibly.</p> | <p>Children will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.</p> | <p>Children will develop an understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Children will use given commands in different orders to investigate how the order affects the outcome. They will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them.</p> | <p>Children will begin to understand what the term data means and how data can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data visually using software. Children will use the data presented to answer questions. During this unit of work Children will use the j2e pictogram and j2e chart tools.</p> | <p>Children will be using a computer to create music. They will listen to a variety of pieces of music and consider how music can make them think and feel. Children will compare creating music digitally and non-digitally. Learners will look at patterns and purposefully create music</p> | <p>This unit initially recaps on learning from the Year 1 ScratchJr unit 'Programming B - Programming animations'. Children begin to understand that sequences of commands have an outcome, and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr, and realise these designs in ScratchJr using blocks of code. Finally, Children</p> |

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| <u>Key Vocabulary</u> | Information technology, devices, computer, IT, benefit, safe,                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Photograph, capture, device, landscape, portrait, photographer, composition, focus, flash, artificial light, autofocus, edit,                                                                                                                                                                                                                                                                                                                                      | Instruction, language, sequence, complete, precise, algorithm, clear, unambiguous instructions, predictions, program, step by step, logical reasoning, design, create, test, debugging, fix, errors                                                                                                                                                                                                                                                                                                                                        | Data, counting, comparing, pictograms, collect, statement, represent, data, organize, tally chart, attribute, conclusion, present                                                                                                                                                                                                                                                                                                                                           | Musical, emotions, rhythms, patterns, percussion, pitch, refine, melody,                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Program, sequence, background, algorithm, predict, create, design, quiz, feature, errors, devices,                                                                                                                                                                                                                                                                                                                                      |
| <u>Main Outcomes</u>  | <p>To recognise the uses and features of information technology.</p> <p>To identify examples of computers.</p> <p>To describe some uses of computers.</p> <p>To identify that a computer is a part of IT.</p> <p>To identify the uses of information technology in the school.</p> <p>To sort school IT by what it's used for.</p> <p>To identify that some IT can be used in more than one way.</p> <p>To identify information technology beyond school.</p> <p>To explain how information technology helps us.</p> | <p>To use a digital device to take a photograph.</p> <p>To explain what I did to capture a digital photo.</p> <p>To make choices when taking a photograph.</p> <p>To explain the process of taking a good photograph.</p> <p>To take photos in both landscape and portrait format.</p> <p>To explain why a photo looks better in portrait or landscape format.</p> <p>To describe what makes a good photograph.</p> <p>To improve a photograph by retaking it.</p> | <p>To follow instructions given by someone else.</p> <p>To choose a series of words that can be acted out as a sequence.</p> <p>To give clear instructions. To explain what happens when we change the order of instructions.</p> <p>To use the same instructions to create different algorithms.</p> <p>To use an algorithm to program a sequence on a floor robot.</p> <p>To show the difference in outcomes between two sequences that consist of the same instructions.</p> <p>To describe a series of instructions as a sequence.</p> | <p>To recognise that we can count and compare objects using tally charts.</p> <p>To record data in a tally chart.</p> <p>To represent a tally count as a total.</p> <p>To compare totals in a tally chart.</p> <p>To recognise that objects can be represented as pictures.</p> <p>To enter data onto a computer.</p> <p>To create a pictogram.</p> <p>To organise data in a tally chart.</p> <p>To use a tally chart to create a pictogram.</p> <p>To explain what the</p> | <p>To say how music can make us feel.</p> <p>To identify simple differences in pieces of music.</p> <p>To describe music using adjectives.</p> <p>To say what I do and don't like about a piece of music.</p> <p>To identify that there are patterns in music.</p> <p>To create a rhythm pattern.</p> <p>To play an instrument following a rhythm pattern.</p> <p>To explain that music is created and played by humans.</p> <p>To experiment with sound using a computer.</p> <p>To use a computer to create a musical pattern.</p> | <p>To explain that a sequence of commands has a start.</p> <p>To identify the start of a sequence.</p> <p>To identify that a program needs to be started.</p> <p>To show how to run my program.</p> <p>To explain that a sequence of commands has an outcome.</p> <p>To predict the outcome of a sequence of commands.</p> <p>To match two sequences with the same outcome.</p> <p>To change the outcome of a sequence of commands.</p> |

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|  | <p>To recognise common types of technology.</p> <p>To explain how to use information technology safely.</p> <p>To talk about different rules for using IT.</p> <p>To say how rules can help keep me safe.</p> <p>To recognise that choices are made when using information technology.</p> | <p>To decide how photographs can be improved.</p> <p>To explore the effect that light has on a photo.</p> <p>To experiment with different light sources.</p> <p>To explain why a picture may be unclear.</p> <p>To use tools to change an image.</p> <p>To recognise that photos can be changed.</p> | <p>To use logical reasoning to predict the outcome of a program.</p> <p>To explain that programming projects can have code and artwork.</p> <p>To design an algorithm.</p> <p>To explain what my algorithm should achieve.</p> <p>To create an algorithm to meet my goal.</p> <p>To use my algorithm to create a program.</p> <p>To create and debug a program that I have written.</p> | <p>pictogram shows.</p> <p>To select objects by attribute and make comparisons.</p> <p>To choose a suitable attribute to compare people.</p> <p>To collect the data I need.</p> <p>To create a pictogram and draw conclusions from it.</p> <p>To explain that we can present information using a computer.</p> <p>To use a computer program to present information in different ways.</p> <p>To share what I have found out using a computer.</p> <p>To give simple examples of why information should not be shared.</p> | <p>To refine my musical pattern on a computer.</p> <p>To create music for a purpose.</p> <p>To review and refine our computer work.</p> <p>To review my work.</p> <p>To explain how I changed my work.</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 choose the images for my own design.</p> <p>To create an algorithm.</p> <p>To build sequences of blocks to match my design.</p> <p>To decide how my project can be improved.</p> <p>To compare my project to my design.</p> <p>To improve my project by adding features.</p> <p>To debug my program.</p> |
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