

The Little School with the Big Heart

‘With God All Things are Possible’ Matthew 19:26

**Computing Skills and Knowledge Progression (Cycle A)**

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|  | **KS1** | | **KS2** | | |
|  | Class 1 (EYFS/Year 1) | Class 2  (Year 1/Year 2) | Class 3  (Year 2/year3) | Class 4  (Year 4/year 5) | Class 5  (year 5/year 6) |
| Computer Science | Maze Explorers  -To understand the functionality of the direction keys  -To understand how to create and debug a set of instructions (algorithm)  -To use the additional direction keys as part of an algorithm  -To understand how to change and extend the algorithm list  -To create a longer algorithm for an activity  -To set challenges for peers  -To access peer challenges set by the teacher as 2dos | Coding  -To understand what coding means  -To use design mode and set up a scene  -To add characters  -To use code blocks to make the character perform actions  -To use collision detection  Lego Builders  -To compare the effects of adhering strictly to instructions to completing tasks without instructions  -To follow and create simple instructions on the computer  -To consider how the order of instructs affects the result | Coding  -To design algorithms using flow charts  -To design an algorithm that represents a physical system and code this representation  -To use selection in coding with the ‘if’ command  -To understand and use variables in 2 code  -To deepen understanding of the difference between timers and repeat commands | Coding  -To use selection in coding with if/else command  -To understand and use variables in 2code  -To use flowcharts for design of algorithms including selection  -To use the ‘repeat until’ with variables to determine the repeat  -To learn about and use computational thinking terms, decomposition and abstraction  Hardware  -To understand the different parts that make up a computer  -To recall all the different parts that make up a computer | Coding  -To use the programme design process, including flowcharts, to develop algorithms for more complex programmes using and understanding of abstraction and decomposition to define the important aspects of the programme  -To code, test and debug from these designs  -To use function and tabs in 2code to improve the quality of the code  -To code user interactivity using input functions  Online Safety  -Identify the benefits and risks of mobile devices broadcasting the location of the user/device  Blogging  -To understand the importance of regularly updating the contents of a blog  -To understand how to contribute to an existing blog |
| Information Technology | Animated Stories  -To introduce e-books and the 2Create a story tool  -To add animation to a story  -To add sound to a story, including voice recording and music the children have composed  -To work on a more complex story including adding backgrounds and copying and pasting pages  -To share e-books on a class display board | Spreadsheets  -To use 2calculate image, lock, move cell, speak and count tools to make a counting machine  -To learn how to copy and paste in 2calculate  -To use the totalling tools  -To use a spreadsheet for money calculations  -To use 2calculate equals tool to check calculations  -To use 2calculate to collect data and produce a graph  Making Music  -To make music digitally using 2sequence  -To explore, edit and combine sounds using 2sequence  -To edit and refine composed music  -To think about how music can be used to express feelings and create tunes which depict feelings  -To upload a sound from the bank of sounds into the sound section  -To record and upload environmental sounds into Purple Mash  -To use these sounds to create tunes in 2 sequence  Questioning  -To learn about data handling tools that can give more information than pictograms  -To use yes/no questions to separate information  -To construct a binary tree to identify items  -To use 2 question to answer questions  -To use a database to answer more complex search questions  -To use the search tool to find information  Animated Stories  -To introduce e-books and the 2create a story tool  -To add animation to a story  -To add sound to a story, including voice recording and music the children have composed  -To work on a more complex story including adding backgrounds and copying and pasting pages  -To share e-books on a class display board  Coding  -To save and share work  -To know the save, print, open and new icon  Grouping and Sorting  -To sort items using a range of criteria  -To sort items on the computer using ‘grouping’ activities on Purple Mash | Spreadsheets  -To use 2calculate image, lock, move cell, speak and count tools to make a counting machine  -To learn how to copy and paste in 2calculate  -To use the totalling tools  -To use a spreadsheet for money calculations  -To use 2calculate equals tool to check calculations  -To use 2calculate to collect data and produce a graph  Making Music  -To make music digitally using 2sequence  -To explore, edit and combine sounds using 2sequence  -To edit and refine composed music  -To think about how music can be used to express feelings and create tunes which depict feelings  -To upload a sound from the bank of sounds into the sound section  -To record and upload environmental sounds into Purple Mash  -To use these sounds to create tunes in 2 sequence  Questioning  -To learn about data handling tools that can give more information than pictograms  -To use yes/no questions to separate information  -To construct a binary tree to identify items  -To use 2 question to answer questions  -To use a database to answer more complex search questions  -To use the search tool to find information  Effective Searching  -To understand the terminology associated with searching  -To gain a better understanding of searching on the internet  Typing  -To introduce typing terminology  -To understand the correct way to sit at a keyboard  -To learn how to use the home, top and bottom row keys  -To practice typing with the left and right hand  Simulations  -To consider what simulations are  -To explore a simulation  -To analyse and evaluate a simulation  Grouping  -To enter data into a graph and answer questions  -To solve an investigation and present the results in graphic form | Spreadsheets  -Formatting cells as currency, percentage, decimal to different decimal places or fraction  -Using the formula wizards to check averages  -Combining tools to make spreadsheet activities such as timed times tables tests  -Using a spreadsheet to model a real-life situation  -To add a formula to a cell to automatically make a calculation in that cell  3D Modelling  -To be introduced to ‘2Design and Make’ and the skills of computer aided design  -To explore the effects of moving points when designing  -To understand designing for a purpose  -To understand printing and making  Databases  -To learn for search for information in a database  -To contribute to a class database  -To create a database around a chosen topic  Writing for Different Audiences  -To explore how font size and style can affect the impact of a text  -To use a simulated scenario to produce a news report  -To use a simulated scenario to write for a community campaign | Spreadsheets  -Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell  To copy and paste within 2Calculate  -Using 2Calcluate tools to test a hypothesis  -To add a formula to a cell to automatically make a calculation that that cell  -Using a spreadsheet to model a real-life situation and answer questions  3D Modelling  -To be introduced to ‘2Design and Make’ and the skills of computer aided design  -To explore the effects of moving points when designing  -To understand designing for a purpose  -To understand printing and making  Databases  -To learn for search for information in a database  -To contribute to a class database  -To create a database around a chosen topic  Quizzing  -To create a picture-based quiz for young children  -To learn how to use the question types within 2Quiz  -To explore the grammar quizzes  -To make a quiz that requires the player to search a database  Blogging  -To identify the purpose of writing a blog and its key features  -To plan the theme and content for a blog and write the content  -To consider the effect upon the audience of changing the visual properties of the blog  Online Safety  -Identify secure sites by looking for privacy seals of approval |
| Digital Literacy | Online Safety  -To log in safely  -To learn how to find saved work in the online work area and find teacher comments  -To learn how to search Purple Mash to find resources  -To become familiar with the icons and types of resources available in the topics section  -To start to add pictures and text to work  -To explore the tools and games section of Purple Mash  -To learn how to open, save and print  -To understand the importance of logging out | Online Safety  -To know how to refine searches using the search tool  -To use digital technology to share work on Purple Mash to communicate and connect with others locally  -To have some knowledge and understanding about sharing more globally on the internet  -To introduce email as a communication tool using 2respond simulations  -To understand how we should talk to others in an online situation  -To open and send simple online communications in for the form of email  -To understand that information put online leaves a digital footprint or trail  -To identify the steps that can be taken to keep personal data and hardware secure | Online Safety  -To know what makes a safe password  -Methods for keeping passwords safe  -To understand how the internet can be used in effective communication  -To understand how a blog can be used to communicate with a wider audience  -To consider the truth of the content of websites  -To learn about the meaning of age restriction symbols on digital media and devices  Effective Searching  -To create a leaflet to help someone search for information on the internet | Online Safety  -To understand how children can protect themselves from an online identity theft  -Understand that information put online leaves a digital footprint or trail and that this can aid identity theft  -To identify the risks and benefits to installing software, including apps  -To understand that copying the work of others and presenting it as their own is called ‘plagiarism’ and to consider the consequences of plagiarism  -To identify appropriate behaviour when participating or contributing to collaborative online projects for learning  -To identify the positive and negative influences of technology on health and the environment  -To understand the importance of balancing game and screen time with other parts of their lives | Online Safety  -Identify the benefits and risks of giving personal information  -To review the meaning of a digital footprint  -To have a clear idea of appropriate online behaviour  -To being to understand how information online can persist  -To understand the importance of balancing game and screen time with other parts of their lives  -To identify the positive and negative influences of technology on health and the environment  Blogging  To understand how and why blog posts need to be approved by a teacher |