

The Little School with the Big Heart

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

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

|  |  |  |
| --- | --- | --- |
|  | **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 detectionLego 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 abstractionHardware-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 functionsOnline Safety-Identify the benefits and risks of mobile devices broadcasting the location of the user/deviceBlogging-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 graphMaking 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 sequenceQuestioning-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 informationAnimated 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 boardCoding-To save and share work-To know the save, print, open and new iconGrouping 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 graphMaking 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 sequenceQuestioning-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 informationEffective Searching-To understand the terminology associated with searching-To gain a better understanding of searching on the internetTyping-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 handSimulations-To consider what simulations are-To explore a simulation-To analyse and evaluate a simulationGrouping-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 cell3D 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 makingDatabases-To learn for search for information in a database-To contribute to a class database-To create a database around a chosen topicWriting 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 cellTo 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 questions3D 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 makingDatabases-To learn for search for information in a database-To contribute to a class database-To create a database around a chosen topicQuizzing-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 databaseBlogging-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 blogOnline 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 devicesEffective 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 environmentBloggingTo understand how and why blog posts need to be approved by a teacher |