

The Little School with the Big Heart

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

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

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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 | 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 instructions affects the result | Coding  -To understand what an algorithm is  -To design algorithms and then code them  -To compare different objects  -To use the repeat command  -To use the timer command  -To know what debugging is and debug programmes  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 an algorithm is  -To design algorithms and then code them  -To compare different objects  -To use the repeat command  -To use the timer command  -To know what debugging is and debug programmes | Coding  -To represent a programme design and algorithm  -To create a programme that simulates a physical system using decomposition  -To explore string and text variable types so that the most appropriate can be used in programs  -To launch the command in 2code gorilla  -To program a playable game with timers and scorepad  Game Creator  -To set the scene  -To create the game environment  -To create the game quest  -To finish and share the game  -To evaluate their peers’ games  Online Safety  -To gain a greater understanding of the impact that sharing digital content can have  Logo  -To learn the structure of the coding language of logo  -To input simple instructions in logo  -To use 2logo to create letter shapes  -To use the repeat function in logo to create shapes  -To use and build procedures in logo | Coding  -To represent a programme design and algorithm  -To create a programme that simulates a physical system using decomposition  -To explore string and text variable types so that the most appropriate can be used in programs  -To launch the command in 2code gorilla  -To program a playable game with timers and scorepad  Game Creator  -To set the scene  -To create the game environment  -To create the game quest  -To finish and share the game  -To evaluate their peers’ games  Online Safety  -To gain a greater understanding of the impact that sharing digital content can have  Networks  -To learn about what the internet consists of  -To find out what a LAN and WAN are  -To find out how the internet is accessed in school  -To research and find out about the age of the internet  -To think about what the future might hold  Text Adventures  -To find out what a text adventure is  -To plan a story adventure  -To make a story-based adventure  -To introduce map-based text adventures  -To code a map-based text adventure |
| Information Technology | Spreadsheets  -To know what a spreadsheet programme looks like  -How to open 2Calculate in Purple Mash  -How to enter data into spreadsheet cells  -To use 2Calculate image tools to add clipart to cells  -To use 2Calculate control tools: lock, move cell, speak and count  Grouping and Sorting  -To sort items using a range of criteria  -To sort items on the computer using the ‘Grouping’ activities in Purple Mash  Pictograms  -To understand that data can be represented in picture format  -To contribute to a class pictogram  -To use a pictogram to record the results of an experiment | Spreadsheets  -To know what a spreadsheet programme looks like  -How to open 2Calculate in Purple Mash  -How to enter data into spreadsheet cells  -To use 2Calculate image tools to add clipart to cells  -To use 2Calculate control tools: lock, move cell, speak and count  Effective Searching  -To understand the terminology associated with searching  -To gain a better understanding of searching on the internet  Pictograms  -To understand that data can be represented in picture format  -To contribute to a class pictogram  -To use a pictogram to record the results of an experiment  Creating Pictures  -To learn the functions of the 2Paint picture tool  -To learn about and recreate the impressionist style of art  -To recreate Pointillist art and look at the work of Pointillist artists  -To learn about the work of Piet Mondrian and recreate the style using the lines template  -To learn about the work of William Morris and recreate the style using the patterns template  Presenting Ideas  -To explore how a story can be presented in different ways  -To make a quiz about a story or class topic  -To make a fact file on a non-fiction topic  -To make a presentation to the class | Spreadsheets  -To use the symbols more than, less than and equal to, to compare values  -To use 2Calculate to collect data and produce a variety of graphs  -To use the advanced mode of 2Calculate to learn about cell references  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 the keyboard  -To learn how to use the home, top and bottom row keys  -To practice typing with the left and right hand  Branching Databases  -To sort objects using just ‘yes’ or ‘no’ questions  -To complete a branching database using 2Question  -To create a branching database of the children’s choice | 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 2calculate tools to test a hypothesis  -To add a formula to a cell to automatically make a calculation in that cell  -Using a spreadsheet to model a real-life situation and answer questions  Effective Searching  -To locate information on the search results page  -To use search effectively to find out information  -To assess whether an information source is true and reliable  Animation  -To discuss what makes a good animated film or cartoon  -To learn how animations are created by hand  -To find out how 2Animate can be created in a similar way using the computer  -To learn about onion skinning in animation  -To be introduced to ‘stop motion’ animation  -To share an animation on the class display board and by blogging  Concept Maps  -To understand the need for visual representation when generating and discussing complex ideas  -To understand and use the correct vocabulary when using a concept map  -To understand how a concept map can be used to retell stories and present information  -To create a collaborative concept map and present this to an audience | Spreadsheets  -To use a spreadsheet to investigate the probability of the results of throwing many dice  -Using the formula wizard to add a formula to a cell to automatically make a calculation that cell  -To create graphs showing the data collected  -To type in a formula for a cell to automatically make a calculation that cell  -Using a spreadsheet to create computational models and answer questions  Concept Maps  -To understand the need for visual representation when generating and discussing complex ideas  -To understand and use the correct vocabulary when using a concept map  -To understand how a concept map can be used to retell stories and present information  -To create a collaborative concept map and present this to an audience |
| 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 texts 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  Technology Outside School  -To walk around the local community and find examples of where technology is used  -To record examples of technology outside | 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 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  Technology Outside School  -To walk around the local community and find examples of where technology is used  -To record examples of technology outside  Effective Searching  -To create a leaflet to help someone search for information on the internet | 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 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  Email  -To think about different methods of communication  -To open and respond to an email using an address book  -To learn how to use email safely  -To add an attachment to an email  -To explore a simulated email scenario  Effective Searching  -To create a leaflet to help someone search for information on the internet | Online Safety  -To review sources of support when using technology and children’s responsibility to one another in their online behaviour  -To know how to maintain secure passwords  -To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this  -To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online  -To learn about how to reference sources in their work  -To search the internet with consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information | Online Safety  -To review sources of support when using technology and children’s responsibility to one another in their online behaviour  -To know how to maintain secure passwords  -To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this  -To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online  -To learn about how to reference sources in their work  -To search the internet with consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information |