



# Computing Medium Term Plan - Year 5/6 - Cycle B

|                             | Autumn 1 -Coding                                                                                                                                                                                                                                                                                                                                                                                                           | Autumn 2 - Online Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Spring 1 - Spreadsheets                                                                                                                                                                                                                                                                                                                                        | Spring 2 - Blogging                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Summer 1 - Text Adventures                                                                                                                                                                        | Summer 2 - Quizzing                                                                                                                                                                                                           |
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| <b>Big Concept</b>          |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                  | <br>                        | <br>                                                    |
| <b>Big question</b>         | How can you use Tabs in 2Code Gorilla?<br>What is a function in coding?                                                                                                                                                                                                                                                                                                                                                    | Why do I need to be aware of the dangers of being online?<br>What is meant by my digital footprint?<br>Why is it important to think about how much time to use a screen for?                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | How would you add a formula so that the cell shows the total of a column of cells?<br>What is a computational model and what it can be used for?                                                                                                                                                                                                               | What is a blog?<br>What can a blog be about?<br>How are the audience involved in a blog?                                                                                                                                                                                                                                                                                                                                                                                                                            | What is a text based adventure?<br>Why is it important to plan a text based adventure?                                                                                                            | What factors do you need to consider when creating a quiz?<br>Apart from the questions, what else does a quiz need to contain?                                                                                                |
| <b>Vision and rationale</b> | Children will use the program design process, including flowcharts, to develop algorithms for more complex programs using an understanding of abstraction and decomposition to define the important aspects of the program. They will code, test and debug from these designs and use functions and tabs in 2Code to improve the quality of the code.<br>Children will also code user interactivity using input functions. | Pupils will be able to identify benefits and risks of mobile devices broadcasting the location of the user/device They will identify secure sites by looking for privacy seals of approval and identify the benefits and risks of giving personal information. Pupils will review the meaning of a digital footprint and have a clear idea of appropriate online behaviour. Children will begin to understand how information online can persist and understand the importance of balancing game and screen time with other parts of their lives. They will identify the positive and negative influences of technology on health and the environment | Children will use a spreadsheet to investigate the probability of the results of throwing many dice. • Using the formula wizard, children will add a formula to a cell to automatically make a calculation in that cell. They will create graphs showing the data collected and type in a formula for a cell to automatically make a calculation in that cell. | Children will identify the purpose of writing a blog and its key features and plan the theme and content for a blog and write the content. They will consider the effect upon the audience of changing the visual properties of the blog. Pupils will understand the importance of regularly updating the content of a blog and understand how to contribute to an existing blog. Children will understand how and why blog posts are approved by the teacher and understand the importance of commenting on blogs. | Pupils will find out what a text adventure is, plan a story adventure and make a story-based adventure. They will be introduced to map-based text adventures and code a map-based text adventure. | Children will create a picture-based quiz for young children, learn how to use the question types within 2Quiz and explore the grammar quizzes. They will make a quiz that requires the player to search a database.          |
| <b>Prior knowledge</b>      | <ul style="list-style-type: none"> <li>• Logical decision processing</li> <li>• Modelling selection on a binary model.</li> </ul> Code, test, debug process<br><ul style="list-style-type: none"> <li>• IF statements</li> </ul>                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Evaluating communications</li> <li>• Email safety</li> <li>• Sharing images - safety</li> <li>• Not meeting</li> <li>• Email attachments</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Data representation</li> <li>• Use software to investigate data</li> <li>• Formula wizard</li> <li>• Cell formatting</li> </ul>                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Safe logins</li> <li>• Concept of privacy</li> <li>• Concept of ownership</li> <li>• The need to logout</li> <li>• Communication methods</li> </ul>                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Familiarity with the functionality of coding apps</li> <li>• Planning and designing for a logical outcome.</li> <li>• Debugging</li> </ul>               | <ul style="list-style-type: none"> <li>• Understanding structure of YES/NO questions in a branching database</li> <li>• Considering understanding and abilities of an audience</li> <li>• Creating and searching a</li> </ul> |



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|                         | <ul style="list-style-type: none"> <li>• Repeat Until and IF/ ELSE Statements</li> <li>• Number Variables</li> </ul> <p>Text-based coding</p> <ul style="list-style-type: none"> <li>• Utilise understanding of coding structures</li> <li>• Sequencing and animation in logical steps</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Phishing</li> <li>• Digital footprint</li> <li>• Malware and viruses</li> <li>• Plagiarism</li> <li>• Screen time</li> <li>• Reliable sources</li> <li>• Search algorithms - impact on what you see</li> </ul> | <ul style="list-style-type: none"> <li>• Timer, random number and spin buttons</li> <li>• Budget planner sheet               <ul style="list-style-type: none"> <li>• Line graphs</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Shared blog</li> <li>• Reliability of information and spoof websites</li> <li>• Emotional effects</li> <li>• Cyberbullying</li> <li>• Reporting problems</li> <li>• Evaluating communications</li> <li>• Email safety</li> <li>• Sharing images - safety</li> <li>• Attachments</li> <li>• Email simulations</li> <li>• Phishing</li> <li>• Digital footprint</li> <li>• Malware and viruses</li> <li>• Plagiarism</li> <li>• Reliable sources</li> <li>• Search algorithms - impact on what you see</li> </ul> | <ul style="list-style-type: none"> <li>• Logical decision processing</li> <li>• Modelling selection on a binary model.</li> <li>• Game Design planning</li> <li>• Refining and reviewing games</li> </ul> | <p>database for information</p> <ul style="list-style-type: none"> <li>• Wording of questions to be effectively answered by searching a database</li> <li>• Creating game environment</li> <li>• Writing instructions</li> <li>• Considering playability and challenge for audience</li> </ul> |
| <b>Key Vocabulary</b>   | Action, Alert, Algorithm, Code Design, Command, Control, Debug/Debugging, Event, Flowchart Bug, Function, Get Input, If/Else, Input, If, Output, Repeat, Object, Simulation, Tabs, Selection, Sequence, Timer, Variable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Digital footprint, Password, PEGI rating, Phishing, Screen time, Spoof website,                                                                                                                                                                         | Average, Advance mode, Copy and Paste, Columns, Cells, Charts, Count (how many) tool, Dice, Equals tool, Formula, Formula Wizard, Move cell tool, Random tool, Rows, Spin Tool, Spreadsheet, Timer.      | Audience, Blog, Blog page, Blog post, Collaborative, Icon.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Text-based adventure, Concept map, Debug, Sprite, Function.                                                                                                                                               | Audience, Collaboration, Concept map, Database, Quiz                                                                                                                                                                                                                                           |
| <b>Key Resources</b>    | Tools<br>2Dos<br>2Chart<br>Free code gorilla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2Investigate<br>2DIY<br>2DIY3D<br>Free code gorilla                                                                                                                                                                                                     | 2Calculate                                                                                                                                                                                               | 2Blog<br>2Connect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2Create a Story<br>2Connect                                                                                                                                                                               | 2Quiz<br>2DIY<br>Text Toolkit<br>2Connect<br>2Investigate                                                                                                                                                                                                                                      |
| <b>Computing skills</b> | <p><b>Computer science</b></p> <ul style="list-style-type: none"> <li>• I can turn a more complex programming task into an algorithm by identifying the important aspects of the task.</li> <li>• I can test and debug my program as I go and use logical methods to identify the cause of bugs.</li> <li>• I can demonstrate a systematic approach to try to identify a particular line of code causing a problem.</li> <li>• I can translate algorithms that include sequence, selection and repetition into code.</li> <li>• I can interpret a program in parts.</li> <li>• I can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.</li> <li>• I can explain in some depth the difference between the internet and the World Wide Web.</li> </ul> <p><b>Information technology</b></p> <ul style="list-style-type: none"> <li>• I can readily apply filters when searching for digital content.</li> <li>• I can explain in detail how credible a webpage is and the information it contains.</li> <li>• I can compare a range of digital content sources.</li> <li>• I can use critical thinking skills in everyday use of online communication.</li> <li>• I can make clear connections to the audience when designing and creating digital content.</li> <li>• I can design and create my own blogs to become a content creator on the internet.</li> <li>• I can evaluate the quality of digital solutions and identify improvements, making some refinements.</li> </ul> |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                |



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## **Digital literacy**

- I can demonstrate the safe and respectful use of a range of different technologies and online services.
- I can identify more discreet inappropriate behaviours through developing critical thinking.
- I can recognise the value in preserving my privacy when online for my own and other people's safety.