

| Computer Studies/Computing |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Concept                    | A) Computer Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Year Group                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Year 1                     | <ol style="list-style-type: none"> <li>1. I can explain that an algorithm is a set of instructions.</li> <li>2. I know that an algorithm written for a computer is called a program.</li> <li>3. I can work out what is wrong when the steps are out of order in instructions.</li> <li>4. I can say that if something does not work how it should it is because my code is incorrect.</li> <li>5. I can try and fix my code if it isn't working properly.</li> <li>6. I can make good guesses of what is going to happen in a program. For example, where the turtle might go.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Year 2                     | <ol style="list-style-type: none"> <li>1. I can explain an algorithm is a set of instructions to complete a task.</li> <li>2. I know I need to carefully plan my algorithm so it will work when I make it into code.</li> <li>3. I can design a simple program using 2Code that achieves a purpose.</li> <li>4. I can find and correct some errors in my program.</li> <li>5. I can say what will happen in a program.</li> <li>6. I can spot something in a program that has an action or effect (does something).</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Year 3                     | <ol style="list-style-type: none"> <li>1. I can make a real-life situation into an algorithm for a program.</li> <li>2. I can design an algorithm carefully, thinking about what I want it to do and how I can turn it into code.</li> <li>3. I can identify an error in my program and fix it.</li> <li>4. I can experiment with timers in my programs.</li> <li>5. I can identify the difference in using between the effect of a timer or repeat command in my code.</li> <li>6. I know that a variable stores information while a program is running (executing).</li> <li>7. I can identify 'If' statements, repetition and variables.</li> <li>8. I can read programs with several steps and predict what it will do.</li> <li>9. I can identify different ways that the internet can be used for communication.</li> <li>10. I can use email such as 2Email to respond to others appropriately and attach files.</li> </ol>                                                                         |
| Year 4                     | <ol style="list-style-type: none"> <li>1. I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code.</li> <li>2. I can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered.</li> <li>3. I can use timers within my program designs more accurately to create repetition effects. For example, I can create a counting machine.</li> <li>4. I can use selection (decision) in my programming. For example, using an 'if statement' for a question being asked and the program takes one of two paths.</li> <li>5. I can use variables within my program and know how to change the value of variables.</li> <li>6. I can use the user inputs and output features within my program, such as 'Print to screen'.</li> <li>7. I can identify errors in my code by using different methods, such as stepping through lines of code and fixing them.</li> </ol> |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <ol style="list-style-type: none"> <li>8. I can read programs that contain several steps and predict the outcomes with increasing accuracy.</li> <li>9. I recognise the main component parts of hardware which allow computers to join and form a network.</li> <li>10. I understand that network and communication components can be found in many different devices which allow them to join the internet.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Year 5 | <ol style="list-style-type: none"> <li>1. I can make more complex real-life problems into algorithms for a program.</li> <li>2. I can test and debug my programs as I work.</li> <li>3. I can convert (translate) algorithms that contain sequence, selection and repetition into code that works.</li> <li>4. I can use sequence, selection, repetition, and some other coding structures in my code.</li> <li>5. I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently.</li> <li>6. I can use logical methods to identify the cause of any bug with support to identify the specific line of code.</li> <li>7. I know the importance of computer networks and how they help solve problems and enhance communication.</li> <li>8. I recognise the main dangers that can be perpetuated via computer networks.</li> <li>9. I can explain what personal information is and know strategies for keeping this safe.</li> <li>10. I can use the most appropriate form of online communication according to the digital content. For example, use 2Email, 2Blog and Display Boards</li> </ol>                                                                                                                 |
| Year 6 | <ol style="list-style-type: none"> <li>1. I can turn a complex programming task into an algorithm.</li> <li>2. I can identify the important aspects of a programming task (abstraction).</li> <li>3. I can decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work.</li> <li>4. I can test and debug my program as I work on it and use logical methods to identify a cause of a bug.</li> <li>5. I can identify a specific line of code that is causing a problem in my program and attempt a fix.</li> <li>6. I can translate algorithms that include sequence, selection and repetition into code and nest these structures within each other.</li> <li>7. I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object</li> <li>8. I can interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program as a whole.</li> <li>9. I can explain the difference between the internet and the World Wide Web.</li> <li>10. I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.</li> </ol> |