

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

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