Computing – Year 2

Autumn 2	Progamming A – Robot Algorithms					
Prior learning	In year 1, the children were first introuced to robots, progams and commands. They learnt how to use the buttons on the beebot to create a sequence and program it to move.					
Lesson objective	To describe a series of instructions as a sequence	To explain what happens when we change the order of instructions	To use logical reasoning to predict the outcome of a program	To explain that programming projects can have code and artwork	To design an algorithm	To create and debug a program that I have written
Key vocabulary	Instruction, sequence, clear, unambiguous, algorithm, program, Forwards, Backwards, Turn, Right, Left	Sequence, order, algorithm, instructions, Forwards, Backwards, Turn, Right, Left	Sequence, prediction, program	Artwork, design, route, mat	Algorithm	Debugging, algorithm, program, decomposition
Creative context						
Substantive knowledge	Computers are given instructions, by clicking, tapping, or key pressing. Robots follow instructions.	The order of instructions will impact the outcome. An algorithm is a precise set of ordered instructions, which can be turned into code on a computer.	Algorithms and programs are predictable, and that predictions are based on following a program.	Programs contain code and artwork.	An algorithm is a precise set of ordered instructions, which can be turned into code on a computer. Fixing a program is called **debugging.**	A bug is a mistake in a program which means it does not do what you expect it to – They are a normal part of programming.
Disciplinary knowledge	How to give clear instructions in order for a person or computer to follow them.	How to use specific commands to create an algorithm.	How to predict the end point of a sequence using the steps in the sequence.	How to create a map with obstacles. How to plan a route around a map.	How to create a program/ algorithm to move the bee bot around the map.	How to identify where the algorithm is wrong. How to create a more complex algorthim with multiple destinations.
Recorded learning	No recorded learning – Photos in the floorbook.	No recorded learning – Photos in the floor book.	Making the predictions and then testing them with the	Designing and creating their own maps for the bee bot to follow (Activity 1).	Designing and testing their own algorithm to move the bee bot	Children will identify where an algorithm is wrong (Activity 1).

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			bee bots (Activities 1 and 2) Photos in floor book.	Photos in floorbook.	around their maps from lesson 4. Photos in floor book.	Children will create a program to move their bee bot to 2 destinations (Activity 2 and 3). Photos/videos in floor book.
Outcome for unit	Over the course of this unit, you will be evidencing the progress the children have made through pictures, quotes or videos in the floor book. At the end of the unit, could you please complete the unit evaluation, either as a self assessment or teacher assessment. The slide is at the end of the unit in the floor book; Add the children's names into the boxes that are the best fit.					
Future learning	The children will do a programming unit in every year until year 6. This unit will establish the importance of commands, instructions and debugging within programming that they need for all future units.					