Kit’s Clever Coding Quest

1. 1. Move Forward, 2. Move Forward, 3. Turn Right (or Left, depending on gate position). (2 marks)

Working: The student must provide a logical sequence of three commands to reach a destination.

Award 1 mark for using valid commands, 1 mark for a logical sequence of three steps.

2. The sequence is wrong because you cannot decorate a cake before you mix the ingredients. (2 marks)

Look for: The student must identify that the order (sequence) is incorrect for the task.

Good: The program is broken because you have to mix it first.

Better: The sequence is wrong because you need to mix the ingredients before you decorate the cake.

Best: The sequence is incorrect because the steps are in the wrong order; you must mix the ingredients before you can decorate the cake.

What moves an answer up: Moving from 'good' to 'best' involves using the term 'sequence' and explaining the logical dependency of the steps.

3. 4 times. (1 mark)

Working: A square has 4 sides and 4 corners, requiring 4 repetitions of the movement and turn.

Award 1 mark for the correct number.

4. This error is called a 'bug'. He needs to 'debug' his program by changing the order of the commands. (2 marks)

Working: The student identifies the error as a bug and the process as debugging.

Award 1 mark for identifying the error as a 'bug', 1 mark for stating he needs to 'debug' or fix the order.

5. Yes, the order matters. If you walk into the rain before opening the umbrella, you will get wet. (2 marks)

Look for: The student must explain that the outcome changes if the sequence is reversed.

Good: Yes, it matters because you would get wet.

Better: Yes, the order matters because you need to open the umbrella before you go into the rain.

Best: Yes, the order matters because if you walk into the rain first, you will get wet before you have the chance to open the umbrella.

What moves an answer up: Moving from 'good' to 'best' involves clearly linking the consequence of the action to the specific order of the sequence.

What a secure answer looks like

A secure answer demonstrates an understanding that computers follow instructions literally and that the order of steps is vital for a successful outcome.

If your child is stuck

Ask the child to act out the steps physically. If they try to put on shoes before socks, ask them if the 'computer' (themselves) would be successful.

Common mistakes to watch for

Children often forget that computers cannot 'guess' what you mean, so they may skip steps. They also sometimes confuse the word 'bug' with a literal insect.