Kit's Clever Coding Challenge

1. C) An algorithm (1 mark)

Working: An algorithm is defined as a set of step-by-step instructions.

Award 1 mark for the correct letter.

2. True (1 mark)

Working: Computers follow the sequence of instructions exactly as written.

Award 1 mark for the correct answer.

3. A bug (1 mark)

Working: The word bank defines a mistake in code as a 'bug'.

Award 1 mark for the correct term.

4. B) Move 2 steps, turn right (1 mark)

Working: The instructions must match the goal in the correct order.

Award 1 mark for the correct letter.

5. False (1 mark)

Working: Testing should happen throughout the process to find bugs early.

Award 1 mark for the correct answer.

6. B) Debugging (1 mark)

Working: Debugging is the process of finding and fixing errors.

Award 1 mark for the correct letter.

7. A) Check the code and change the instructions (1 mark)

Working: This is the definition of debugging to solve a problem.

Award 1 mark for the correct letter.

8. Sequence (1 mark)

Working: A sequence is the order in which steps are performed.

Award 1 mark for the correct term.

9. A) The shape will not be a square (1 mark)

Working: If a turn is missing, the lines will not connect to form a square.

Award 1 mark for the correct letter.

10. I would look at my code, find the mistake, and fix it. (1 mark)

Look for: The child should mention checking the steps/code and correcting the error.

Good: I would check the code to see where it went wrong and fix it.

Better: I would look at the instructions one by one to find the bug and then change it so it works.

Best: I would test the program to find the bug, look at the sequence of instructions, and then edit the code so the robot follows the right path.

What moves an answer up: The answer moves up by including specific vocabulary like 'sequence' and 'test' and explaining the process clearly.

What a secure answer looks like

A secure learner understands that programming is a logical process where order (sequence) is vital. They should be comfortable identifying that mistakes are part of the process, not a failure.

If your child is stuck

Ask the child to imagine they are giving instructions to a friend to make a jam sandwich. If they forget to open the jar first, that is a 'bug'!

Common mistakes to watch for

Children often think computers can 'guess' what they mean, or they may confuse 'algorithm' with 'sequence'. Remind them that computers are literal and follow exactly what is written.