Kit’s Clever Coding Challenge

Learning objective: I can understand how to create, test, and debug simple computer programs.

About 15 minutes. Grown-up tip: Ask your child to explain their favourite computer game or app and see if they can describe the 'rules' the computer has to follow.

Read each question carefully. Choose the best answer or write your response clearly. Remember: a 'bug' is a mistake in your code, and 'debugging' is fixing it! Example: If a robot moves the wrong way, we need to change its instructions.

Answer Key: 1.C, 2.True, 3.Algorithm, 4.B, 5.False, 6.B, 7.A, 8.Sequence, 9.A, 10.Debug. For Q10: A good answer explains that we check the steps one by one to find the error and change it so the program works correctly.

Word bank: Algorithm · Bug · Debug · Sequence · Input

1. 1. What do we call a set of step-by-step instructions for a computer? A) A recipe B) A drawing C) An algorithm* D) A game (1 mark)

2. 2. True or False: Computers follow instructions in the exact order you give them. (1 mark)

3. 3. If your code has a mistake and does not work, what is this mistake called? (1 mark)

4. 4. Kit wants a robot to move forward 2 steps and turn right. Which is the correct order? A) Turn right, move 2 steps B) Move 2 steps, turn right* C) Turn right, turn right, move 2 steps D) Move 1 step, move 1 step, turn left (1 mark)

5. 5. True or False: You only need to test your code once when you finish writing it. (1 mark)

6. 6. Which tool helps you find and fix errors in your programme? A) A dictionary B) Debugging* C) A calculator D) A map (1 mark)

7. 7. If you tell a robot to 'move forward' but it hits a wall, what is the best thing to do? A) Check the code and change the instructions* B) Give up and turn the robot off C) Tell the robot it is naughty D) Ignore the wall (1 mark)

8. 8. What is the word for the order in which computer instructions happen? (1 mark)

9. 9. Mo is writing code to draw a square. If he misses a turn command, what will happen? A) The shape will not be a square* B) The computer will crash C) The robot will spin forever D) Nothing happens (1 mark)

10. 10. Explain how you would 'debug' a programme that isn't working. Give a reason for your answer. (1 mark)

Draw: Kit the fox wearing a small headset, sitting at a desk with a laptop, looking at a screen showing colourful blocks of code with a friendly, concentrated expression.

Extension challenge: Imagine you are a robot! Write down 4 instructions to help a friend walk from the classroom door to their desk. Remember to use clear steps like 'turn left' or 'take 3 steps'.

I did it! Name: _____ Date: _____

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