Kit’s Code-Cracking Challenge

Learning objective: I can identify and fix bugs in a set of instructions.

About 15 minutes. Grown-up tip: Ask your child to explain why the 'buggy' instruction would cause a problem in real life.

Kit the fox has written some instructions for a robot to walk across the playground to the oak tree. However, there are mistakes called 'bugs'. Your job is to find the bug, circle it, and write the correct instruction.

Example: If the instructions say '1. Jump, 2. Sit, 3. Turn left', but the robot needs to turn right, you would circle 'Turn left' and write 'Turn right' next to it.

Word bank: algorithm · bug · debug · sequence · instruction

1. The robot needs to walk to the bench. Instructions: 1. Move forward 5 steps. 2. Turn left. 3. Hop like a frog. 4. Stop at the bench. Which instruction is the bug? (2 marks)

2. The robot needs to reach the red ball. Instructions: 1. Move forward 3 steps. 2. Move forward 3 steps. 3. Move backward 10 steps. 4. Pick up the ball. Which instruction stops it from reaching the ball? (2 marks)

3. Sophie wants to draw a square. Her code: 1. Draw line 5cm. 2. Turn 90 degrees. 3. Draw line 5cm. 4. Draw line 5cm. 5. Turn 90 degrees. 6. Draw line 5cm. What is missing to make it a square? (2 marks)

4. Kofi is writing a sequence to make a sandwich. 1. Butter bread. 2. Put cheese on bread. 3. Eat the sandwich. 4. Close the sandwich. Which two steps are in the wrong order? (2 marks)

5. Mo needs to walk to the school gate. 1. Start at classroom door. 2. Turn right. 3. Walk 20 metres. 4. Turn left. 5. Walk 5 metres. 6. Spin around. 7. You are at the gate. Which instruction is unnecessary? (2 marks)

Draw: A friendly fox named Kit wearing a small pair of glasses, holding a tablet with a digital maze on it, standing in a sunny school playground near a large oak tree.

Extension challenge: Write your own 4-step algorithm to help a friend find a hidden object in the classroom, but include one deliberate 'bug' for your partner to find and fix!

I did it! Name: _____ Date: _____

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