Kit’s Clever Coding Adventure

Learning objective: I can understand what an algorithm is and how to debug a simple sequence of instructions.

About 15 minutes. Grown-up tip: Ask your child to explain the steps of making their favourite breakfast as if they were a computer.

An algorithm is a list of steps to finish a task. If the code does not work, we 'debug' it by finding and fixing the mistake.

Example: To make a sandwich, the algorithm is: 1. Get bread. 2. Spread butter. 3. Add jam. If you put jam on the bread first, the code is wrong!

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

1. Kit needs to walk to the oak tree. Write a simple sequence of 3 instructions (e.g., Forward, Turn Left) to help Kit reach it. (3 marks)

2. Look at this sequence for brushing teeth: 1. Put paste on brush. 2. Put brush in mouth. 3. Wash brush. Which step is missing in this sequence? (2 marks)

3. If an algorithm tells a robot to 'Turn Left' but it hits a wall, what is the action called when we fix the error? (1 mark)

4. Mo wrote code to draw a square: 1. Draw line. 2. Turn 90 degrees. 3. Draw line. 4. Turn 90 degrees. Why is this code incomplete? Give a reason. (2 marks)

5. Explain why the order of instructions (the sequence) is important when you are coding. Use an example to support your answer. (3 marks)

Draw: Kit the fox wearing a small red scarf and holding a computer tablet, standing in a sunny garden with an oak tree nearby.

Extension challenge: Design an algorithm for a classmate to follow to make a paper aeroplane. Test it and debug any steps that don't work!

I did it! Name: _____ Date: _____

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