Kit’s Clever Coding Adventure

Learning objective: I can create and debug a sequence of instructions (an algorithm) to solve a puzzle.

About 15 minutes. Grown-up tip: Ask your child to explain their instructions out loud as if they were the computer following them.

Kit the fox is trying to navigate the woodland path to reach his den. An algorithm is a set of instructions in a specific order. Use the commands below to write a sequence.

Example: To move forward one square, write 'Move Forward'. To turn right, write 'Turn Right'.

Goal: Help Kit move from the start to the den. You must avoid the brambles!

Word bank: Move Forward · Turn Left · Turn Right · Stop · Repeat

1. Kit starts at (0,0). He needs to move forward 2 squares, turn right, and move forward 1 square to reach the den. Write the full sequence of 4 instructions. (2 marks)

2. Look at this sequence: Move Forward, Move Forward, Turn Left, Move Forward. If there is a puddle at the third square, why is this code wrong? (2 marks)

3. Kit wants to pick up an acorn. He must move forward 3 squares. Write the sequence using the word 'Repeat' to make it shorter. (2 marks)

4. If Kit is facing North and performs a 'Turn Right', which direction is he facing now? (1 mark)

5. Create a 5-step sequence for Kit to walk around a large oak tree and return to his starting spot. (3 marks)

Draw: A friendly cartoon fox named Kit standing on a grid map of a woodland, with an acorn icon and a cosy den icon nearby.

Extension challenge: Can you draw a map for a friend? Include one 'bug' (a mistake) in your code and see if they can spot and fix it!

I did it! Name: _____ Date: _____

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