

Kit's Coding Challenge: Scratch Logic

Learning objective: To understand and apply the sequence of Scratch blocks to create logical algorithms and predict outcomes.

Kit the fox is building a game in Scratch, but the code blocks have been mixed up! Look at the 'questions' below. For each task, you must place the correct code blocks in the right order (sequence) to make the sprite perform the action. Write the letter of the block in the order you would place them in the Scratch editor.

Word bank: Motion · Events · Control · Sequence · Algorithm · Sprite · Loop · Broadcast

1. Task 1: Make a sprite move across the screen and say hello. Blocks: A) 'say Hello! for 2 seconds', B) 'when green flag clicked', C) 'move 10 steps'. Order them correctly. (2 marks)

2. Task 2: Create a loop that makes a sprite change color five times. Blocks: A) 'change color effect by 25', B) 'repeat 5', C) 'when green flag clicked'. Order them correctly. (2 marks)

3. Task 3: Why is the 'when green flag clicked' block always placed at the very top of a script? (2 marks)

4. Task 4: If you use a 'forever' block, what happens to the code inside it? (2 marks)

5. Task 5: Kit wants his sprite to jump. He uses 'change y by 10' then 'change y by -10'. Why is this better than just using one block? (2 marks)

Draw: Draw a flowchart showing the steps a sprite takes to walk to the edge of the screen and turn around when it touches the border.

Extension challenge: Design your own complex algorithm on paper using Scratch block shapes. Include a 'wait' block and an 'if/then' condition to make your sprite react if it touches a different colored line.