

Kit's Coding Quest: Mastering Scratch

Learning objective: To assess understanding of block-based programming concepts, including sequencing, selection, variables, and debugging within the Scratch environment.

Help Kit the fox debug his latest project! Read each question carefully and select or provide the correct answer based on your knowledge of Scratch blocks and logic.

Answer Key: 1.C, 2.True, 3.Variable, 4.B, 5.False, 6.A, 7.Loop, 8.D, 9.True, 10.B. Debugging involves systematically identifying and fixing errors in code. A sequence is the order of instructions. Loops repeat actions. Variables store changing data like scores. Conditionals use 'if-then' logic.

Word bank: Algorithm · Variable · Loop · Sprite · Debugging · Broadcast · Conditional · Sequence

1. Which block category would you use to make a sprite change its appearance? A) Motion B) Sound C) Looks* D) Control (1 mark)

2. True or False: An algorithm is a precise set of instructions used to complete a task. (1 mark)

3. What is the technical term for a container used to store information that can change, such as a player's score? (1 mark)

4. Which block is used to make a sprite repeat a set of instructions? A) If then B) Repeat* C) Move 10 steps D) Say Hello (1 mark)

5. True or False: 'Debugging' means writing the code for the first time. (1 mark)

6. Which logic structure uses an 'if-then' statement? A) Selection* B) Sequence C) Iteration D) Parallelism (1 mark)

7. What do we call the character or object that performs actions on the Stage? (1 mark)

8. Which of these is a valid way to trigger a script? A) When green flag clicked B) When space key pressed C) When this sprite clicked D) All of the above* (1 mark)

9. True or False: A broadcast block allows one sprite to send a message to trigger an action in another sprite. (1 mark)

10. 10. If a sprite is at X: 0, Y: 0 and you use the 'Move 10 steps' block, which axis changes?
A) Y-axis B) X-axis* C) Both D) Neither (1 mark)

Draw: Draw a flowchart showing the steps Kit the fox takes to build a simple game: Start, then 'Move', then 'If touching edge, bounce', then 'Repeat'.



Extension challenge: 1. Explain why it is important to test your code frequently while building a project. 2. Compare and contrast a 'Repeat' loop with a 'Forever' loop. 3. Justify why using variables is more efficient than writing down scores manually. 4. What might happen if you forget to include a 'Wait' block inside a 'Forever' loop when moving a sprite? 5. Design a pseudocode algorithm for a sprite that greets the user, asks for their name, and then says 'Hello' followed by that name. 6. If you were creating a platformer game, how would you use gravity (a variable) to ensure the sprite lands on a platform instead of falling forever?