

Kit's Computing Logic: Programming Plan

Learning objective: To design, write, and debug a sequence of commands in a block-based programming environment, using selection and repetition.

Use this template to plan your project before you start coding in Scratch. Think like Kit the fox—break your big idea down into smaller, logical steps. For every block you use, ensure you understand why it is needed to make your sprite behave exactly as you intend.

Word bank: algorithm · sequence · selection · iteration · variable · debug · sprite · broadcast · operator

1. Project Overview: What is the primary goal of your program? Describe the outcome you want to achieve when the green flag is clicked. (2 marks)

2. The Algorithm: List the first three steps your sprite must take. Explain why the order of these steps is vital for your program to function correctly. (3 marks)

3. Repetition and Loops: Identify one part of your code where an action needs to repeat. Which 'iteration' block will you use to make this happen? (2 marks)

4. Selection (If/Then statements): Explain a scenario where your program needs to make a choice. What condition must be met for the action to trigger? (3 marks)

5. Debugging Strategy: If your code does not run as expected, what steps will you take to find the error? Justify why systematic testing is more effective than random changes. (3 marks)

6. Evaluation: Compare your final project to your initial plan. What might happen if you removed one of the variables or loops from your code? (3 marks)

Extension challenge: Design a 'Greater Depth' feature for your project. If you added a scoring system using a variable, how would you justify the use of a 'reset' command at the start of the game? Propose an original way to make your program more interactive for the user.