

Kit's Coding Challenge: Designing My Own Game

Learning objective: To design a logical sequence of instructions (an algorithm) for a computer game and explain how to debug errors.

Use this writing frame to plan your own game concept. Think like Kit the Fox—break your big idea down into smaller, logical steps so the computer knows exactly what to do.

My brand new computer game is called [Insert Title Here], and it is a fast-paced adventure set in a world where players must collect falling stars.

Word bank: algorithm · sequence · debug · loop · input · output · firstly · consequently · if this happens, then... · to solve the problem

1. The Aim of the Game: What is the main goal the player needs to achieve? Start your answer with: The primary objective of the player is to... (2 marks)

2. Creating the Algorithm: List the first three steps the computer must follow when the 'Start' button is pressed. Use words like 'first', 'next', and 'then'. (3 marks)

3. Using Loops: Where could you use a 'loop' in your game to make the code more efficient? Start your answer with: I would use a loop when... (2 marks)

4. Debugging: Imagine your character walks through a wall by mistake. What is a potential bug in your code, and how would you fix it? Start your answer with: If the character moves through a wall, the error might be... (3 marks)

5. Refining the Design: Why is it important to test your game multiple times before showing it to others? Start your answer with: It is important to test the code because... (2 marks)

Extension challenge: Imagine you are Kit the Fox. Write a short 'bug report' for a friend, explaining exactly which line of your code caused the game to crash and how you changed the instructions to fix it.