

Kit's Coding Command Centre

Learning objective: To design an algorithm for a simple computer program using sequence, selection, and debugging techniques.

Help Kit the fox create a new computer program! You are going to write a set of instructions (an algorithm) for a robot to follow. Remember that computers need very clear, step-by-step instructions. If your robot gets stuck, look at your 'debug' section to see how you can fix the mistake.

Word bank: Algorithm · Sequence · Debug · Input · Output · Loop · Variable · Command

1. Program Goal: What task do you want your robot to complete? (e.g., making a sandwich or tidying a bedroom) (2 marks)

2. Step-by-Step Algorithm: Write your instructions in order. Remember, if the robot misses a step, the program might fail! (5 marks)

3. The 'If' Statement: Computers use selection. Write an 'If' statement for your robot. (e.g., If the floor is messy, then pick up the toy). (3 marks)

4. Debugging: What is one thing that could go wrong with your code? How would you 'debug' or fix that error? (3 marks)

5. Looping: Which part of your instructions could be repeated (a loop) to save space in your code? (2 marks)

Extension challenge: Imagine your robot has a 'Variable' to remember something, like how many toys it has picked up. Write down how you would update that number each time it completes a task.