Kit’s Computing Challenge: Designing My First Algorithm

Learning objective: To design and write a clear, logical algorithm for a specific task using sequencing and commands.

Kit the fox needs your help! He is building a new computer program but needs a set of clear instructions (an algorithm) to make it work. Use the prompts below to write your step-by-step guide for a simple task, like 'making a sandwich' or 'brushing your teeth'. Remember to be precise!

To create a successful program, I must break down my goal into a sequence of small, clear steps that a computer can follow without getting confused.

Word bank: First · Next · Then · After that · Finally · Before · If · Otherwise · Repeat · Sequence · Precision · Logical

1. Introduction: What is the goal of your algorithm? Start by saying: 'The purpose of this algorithm is to teach a computer how to...' (2 marks)

2. The Sequence: List the first three steps of your task. Remember to use sequential language like 'First', 'Next', and 'Then'. (3 marks)

3. Debugging: Imagine your program makes a mistake. What is one potential error that could happen and how would you fix it? Start with: 'If the computer does X, then I would need to...' (3 marks)

4. Refining: Why is it important to use precise language when writing code? Start with: 'Precision is vital because...' (2 marks)

5. Conclusion: Summarise how your algorithm helps the computer. Start with: 'By following these steps, the computer will successfully...' (2 marks)

Extension challenge: Try drawing a flow chart to represent your algorithm. Use a diamond shape for 'If' questions (decisions) and a rectangle for actions.