

Kit's Clever Coding Guide: Creating an Algorithm

Learning objective: To design and write a clear, step-by-step algorithm to complete a specific task.

Kit the fox needs your help! An algorithm is a precise set of instructions used to solve a problem. Use the prompts below to write an algorithm for a simple task, such as making a cup of tea, brushing your teeth, or drawing a square. Remember to keep your steps in the correct order so that someone else can follow them perfectly.

To create a successful algorithm, you must break down a large task into small, clear instructions that follow a logical sequence.

Word bank: First of all · After that · Then · Next · Finally · Make sure to · If this happens, then · Carefully · Step-by-step · Sequence

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

2. Preparation: What items or equipment are needed before you begin? Start by saying: Before starting, you will need to gather... (2 marks)

3. The Algorithm (Steps 1-3): Write the first three instructions. Start by saying: First, you must... Next, you should... Then, ensure you... (3 marks)

4. Troubleshooting: What should the person do if something goes wrong? Start by saying: If a mistake occurs, you can fix it by... (2 marks)

5. Conclusion: How will the person know they have finished? Start by saying: Once you have completed these steps, the task is finished because... (2 marks)

Extension challenge: Challenge: Imagine your algorithm is for a robot. Can you add a 'loop' to your instructions? For example, 'Repeat these steps three times' to make your code more efficient.