

Computing Assessment: Programming with Kit the Fox

Learning objective: To understand algorithms, debugging, and simple programming sequences.

Read each question carefully. Use the word bank to help you. Write your answers in the boxes provided. If you get stuck, look at the pictures to help you.

Kit the Fox is building a robot. Kit needs to write a set of instructions for the robot to move across the room. These instructions must be in the right order to work. If the robot makes a mistake, Kit has to find the error and fix it.

Word bank: Algorithm · Debug · Sequence · Code · Loop · Bug

1. 1. What do we call a set of clear instructions that tell a computer what to do? (1 mark) (1 mark)

2. 2. Kit's robot stopped moving because there was a mistake in the code. What is the special name for fixing a mistake in a computer program? (2 marks) (2 marks)

3. 3. Look at the steps for making a sandwich: 1. Spread butter, 2. Put bread on plate, 3. Add cheese. Why is this sequence wrong? (3 marks) (3 marks)

4. 4. If you want a robot to walk forward three times, instead of writing 'walk' three times, what could you use to make the code shorter? (4 marks) (4 marks)

5. 5. Imagine you are teaching a robot to draw a square. Write a list of 5 steps the robot needs to follow. Use words like 'move forward', 'turn right', and 'repeat'. (5 marks) (5 marks)

6. 6. Why is it important for a computer programmer to test their code after writing it? (5 marks) (5 marks)

Draw: Draw a simple path for Kit the Fox's robot. Draw arrows to show the robot moving forward, turning left, and turning right.



Extension challenge: Total: /25. Challenge: Can you write a piece of code that uses a loop to make a robot walk in a circle?