Kit’s Clever Computing Challenge: All About Algorithms

Learning objective: To understand that an algorithm is a precise set of instructions used to solve a problem or complete a task.

Help Kit the fox debug his logic! Read the questions carefully and select or write the correct answers to complete the challenge.

Answer Key: 1. A, 2. True, 3. False, 4. C, 5. Sequence, 6. True, 7. B, 8. True, 9. Debug, 10. D.

Word bank: Algorithm · Sequence · Input · Output · Debug · Loop · Instruction

1. 1. What is an algorithm? A) A list of instructions to complete a task*, B) A type of computer game, C) A piece of hardware, D) A secret code. (1 mark)

2. 2. True or False: Algorithms must be followed in the correct order to work properly. (1 mark)

3. 3. True or False: A computer can understand instructions even if they are not clear or precise. (1 mark)

4. 4. What do we call it when we find and fix an error in our code? A) Coding, B) Sequencing, C) Debugging*, D) Looping. (1 mark)

5. 5. What is the specific word for the order in which steps must be carried out in an algorithm? (1 mark)

6. 6. True or False: Making a jam sandwich is an example of an algorithm if you write down the steps in order. (1 mark)

7. 7. If you want a robot to repeat an action five times, which computing term are you using? A) Input, B) Loop*, C) Sequence, D) Output. (1 mark)

8. 8. True or False: An algorithm can be written for humans to follow, not just computers. (1 mark)

9. 9. Fill in the blank: If your algorithm doesn't work, you need to _____ your instructions to find the mistake. (1 mark)

10. 10. Which of these is the most important part of an algorithm? A) The colour of the font, B) Using long words, C) Having a funny title, D) Clear and logical steps*. (1 mark)

Draw: Draw a flow chart showing the 'algorithm' for how to brush your teeth. Use arrows to show the order of each step.

Extension challenge: Kit wants to make a cup of tea. Write a list of exactly 6 instructions (an algorithm) for a robot to make a cup of tea. Remember, the robot is very literal—don't miss any steps!