Kit’s Code-Cracking Challenge

Learning objective: To understand the process of debugging and identify errors in a logical sequence.

Help Kit the fox fix the computer glitches! Read the questions carefully and use your knowledge of algorithms and debugging to select the correct answers.

Answer Key: 1.C, 2.True, 3.False, 4.B, 5.True, 6.A, 7.Bug, 8.B, 9.False, 10.Debug. (Note: A bug is a mistake in code. Debugging is the process of finding and fixing those mistakes. Always check your sequence first!)

Word bank: algorithm · bug · debug · sequence · syntax · logical · error

1. 1. What do we call a mistake in a computer program that stops it from working correctly? A) A feature, B) A glitch-glam, C) A bug*, D) A patch (1 mark)

2. 2. True or False: Debugging is the process of finding and fixing errors in your code. (1 mark)

3. 3. True or False: If your code doesn't work, you should delete the whole program and start over immediately. (1 mark)

4. 4. Which of these is the best way to debug? A) Guessing randomly, B) Checking the sequence of your instructions step-by-step*, C) Turning the computer off, D) Asking a friend to write it for you (1 mark)

5. 5. True or False: A logical error means the computer does exactly what you told it to do, even if it wasn't what you meant for it to do. (1 mark)

6. 6. When Kit writes an algorithm, what is he creating? A) A set of instructions to complete a task*, B) A picture of a fox, C) A computer virus, D) A type of hardware (1 mark)

7. 7. What is the missing word? A '---' is a problem in the code that causes an unexpected result. (1 mark)

8. 8. Why is it important to test code frequently? A) To show off, B) To find errors early before they get complicated*, C) To waste time, D) To make the file size larger (1 mark)

9. 9. True or False: All computer errors are caused by the computer being broken. (1 mark)

10. 10. What is the term for the action of removing a bug from your code? (1 mark)

Draw: Draw a picture of Kit the fox wearing a detective hat and using a magnifying glass to look at a piece of paper covered in messy computer code.

Extension challenge: Imagine you are building a robot to make a jam sandwich. Write a list of 5 steps for your algorithm. Then, purposefully swap two steps to create a 'bug'. Ask a partner to debug your algorithm by putting the steps back in the correct order.