

Name: _____ Date: _____

Answer Key: Tiny Robots, Big Rules: A 1st Grade Logic Adventure

Decomposition, sequencing, and debugging — the core logic skills required to help a digital friend finish its chores and solve tricky puzzles.

1. A robot needs to put on its shoes. It has a 'Function' called TIE_SHOES. If the robot forgets to put the shoes on its feet first, what happens?

Answer: C) The robot tries to tie the laces in the air (a bug).

Computers follow steps in a specific order (sequence). If a step is missing or out of order, it creates a mistake called a bug.

2. In a game, you have a box named 'StickerCount'. Every time you win, the number inside changes from 2 to 3. This box is called a _____.

Answer: B) Variable

A variable is like a container or box that holds information that can change, such as a score or a count.

3. True or False: A robot uses a 'Condition' to decide whether to carry an umbrella by checking if it is raining outside.

Answer: A) True

Conditionals (If/Then) allow a program to make decisions based on specific information, like the weather.

4. You want a dancer to clap 100 times. Instead of writing 'Clap' 100 times, which tool should you use to save time?

Answer: C) A Loop

Loops are used to repeat an action many times without having to write the instruction over and over.

5. If your code tells a robot to 'Walk forward' but there is a wall in the way, the robot stops. This error in your plan is called a _____.

Answer: D) Bug

In programming, any mistake that prevents the program from working correctly is called a bug.

Name: _____ **Date:** _____

6. True or False: A 'Function' is a set of steps you give a name to so you can use those steps again and again easily.

Answer: A) True

Functions group instructions together under one name, like 'GIVE_HUG', so the computer knows all the small steps involved.

7. Identify the 'Condition' in this rule: 'If the plate is empty, then put it in the sink.'

Answer: B) The plate is empty

The condition is the 'If' part; it is the specific situation the computer checks before doing an action.

8. A chef has a recipe called 'Make_Pizza'. In coding, this group of organized steps is known as a ____.

Answer: C) Function

Just like a recipe, a function is a named collection of steps that achieves a specific goal.

9. True or False: If you change the number in a Variable, the computer forgets the old number and only knows the new one.

Answer: A) True

When a variable is updated with a new value, it replaces the old data stored in that memory 'box'.

10. Look at these steps: 1. Open door. 2. Walk through. 3. Close door. If you switch steps 1 and 2, what happens?

Answer: A) The robot walks through the closed door and crashes.

Computers need precise sequences. Trying to walk through a door before opening it is a logical error in the sequence.