Name: _____   **Date: _____**

Answer Key: Operation Robot Picnic: Can You Fix the Pre-K Logic Glitches?

Pre-K learners synthesize multi-step instructions and debug complex sequence errors to help a tiny robot pack for a rainy day lunch.

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1. The robot is making a sandwich! First, it gets bread. Second, it adds jelly. Third, it gets another bread. What is the fourth step to make it ready to eat?

Answer: B) Press the two pieces of bread together

> In an algorithm, the assembly step is required to complete the specific goal of making a sandwich before it can be used.

2. If the robot wants to stay dry in the rain, it should put on its boots AFTER it opens its umbrella.

Answer: B) False

> To solve the problem of staying dry efficiently, the robot should put on boots before going out or opening the umbrella to ensure full protection.

3. The robot needs to organize 4 toys into two boxes. If it puts 2 toys in the blue box, how many go in the red box?

Answer: C) Two toys

> Decomposing the number 4 into two equal groups of 2 is a foundational step in algorithmic distribution.

4. Oh no! The robot is trying to walk through a closed door. What is the 'bug' in its plan?

Answer: B) The robot forgot the 'Open Door' step

> Debugging requires identifying the missing instruction in a sequence that prevents the goal from being reached.

5. To draw a square, the robot draws a line, then turns. It must do this ____ times total to finish the shape.

Answer: D) Four

> Executing a repeating loop of 4 steps is the algorithm for creating a closed square shape.

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6. The robot needs to find the biggest apple in a basket. How should it start?

Answer: A) Pick up two apples and compare them

> Sorting and selection algorithms thrive on comparing two items to determine which meets the criteria (greatest size).

7. A good robot 'algorithm' for washing hands means putting soap on AFTER drying them with a towel.

Answer: B) False

> Logical sequencing is vital; drying is the final step, and putting soap on last would result in a failed outcome (sticky hands).

8. The robot is at a wall and needs to go left. If it keeps walking straight and hits the wall, it needs to _____ its plan.

Answer: B) Debug

> When an outcome is unsuccessful, 'debugging' is the process of fixing the instructions to achieve the desired path.

9. The robot must cross a room with puddles. Which plan is the best (most efficient)?

Answer: C) Step over puddles to reach the finish quickly

> Efficiency involves choosing the path that reaches the destination safely with the fewest unnecessary actions.

10. To build a tower of 3 blocks, which logic is correct?

Answer: B) Foundation block, Middle block, Top block

> Construction algorithms require a bottom-up sequence to maintain the structural integrity of the solution.