UNPLUGGED

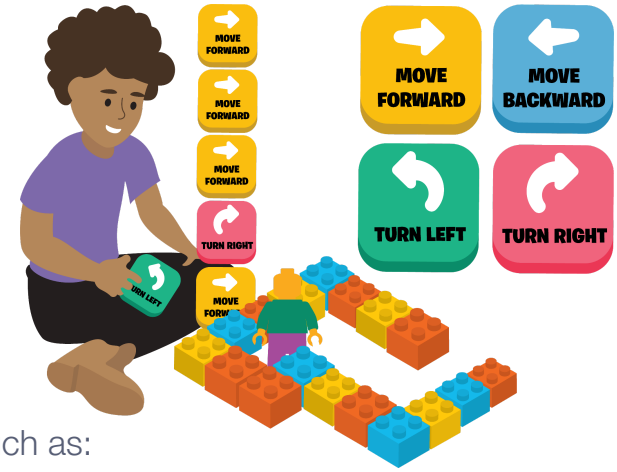
Code a Lego Maze

Design a simple maze using Lego bricks. Now, using four commands: move forward, move backward, turn left, and turn right, can you direct a character through the maze successfully by writing an algorithm?

Step 1: Create a simple maze using Lego bricks. You could use any bricks you'd like regardless of length, as long as the studs are visible to count *(see Step 3)*.

Step 2: Position a character at the start of your maze. To program the character to move through the maze, you'll use four instructions:

- Move Forward
- Move Backward
- Turn Left
- Turn Right



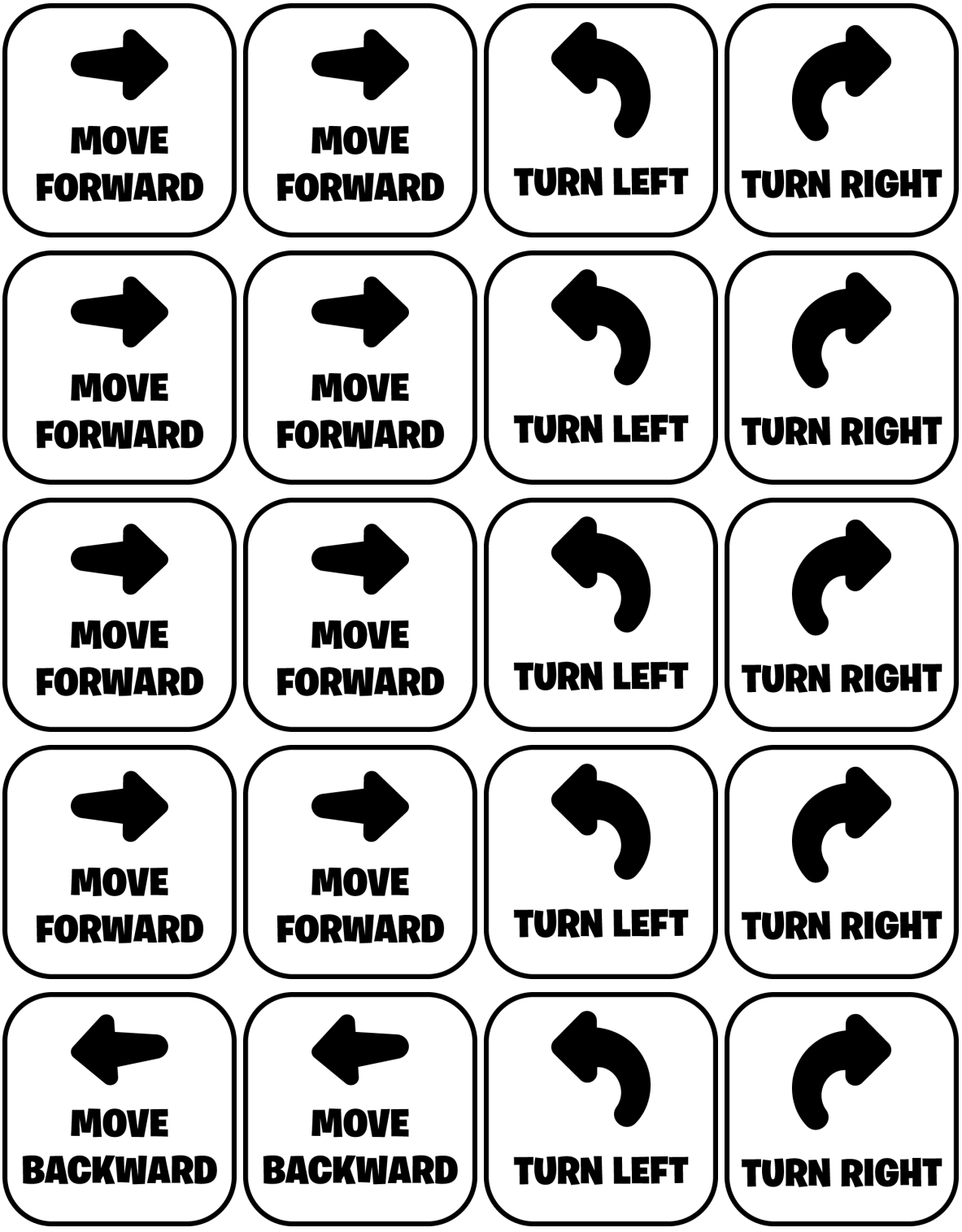
Determine a uniform system of measure such as:

two brick studs = one move forward or backward

What is your first instruction? You can write the instruction multiple times on index cards, or print out the following sheet so you can lay out each step in your program (your algorithm) on a table or floor. Or write each step down on a sheet of paper.

Step 3: Once you've completed your algorithm, pass it to someone else and see if they can follow your algorithm to successfully guide the character through your maze. Were there any problems? Find the errors in your code (debug), by checking the order of the steps (the sequence) and make corrections where necessary.

Now, try using Motion blocks like "move," "turn," or "point in direction" in a Scratch project. You could even create a virtual maze (like this one) by coding impassable walls using color sensing, and navigate your sprite through with arrow keys.



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