

# A-Maze-ing Mazes

## Off to Algorithmopoly!

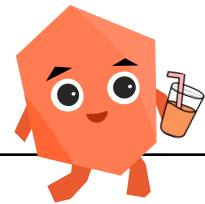
Welcome to Algorithmopoly: the sunniest, summer-like planet in our galaxy. Ansel is excited to teach you all about algorithms and how we can use them to perform tasks!

## What is an Algorithm?

An **algorithm** is a **set of instructions that we use to perform a task**.

We use algorithms in computer science to give computers instructions on completing certain tasks like searching up a definition or playing a video. Similarly, we use algorithms to perform everyday tasks like making a PB&J sandwich or baking cookies.

Let's take a look at how Ansel uses an algorithm in the morning to make his delicious fruit smoothie for breakfast!



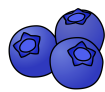
### Ansel's Favorite Fruit Smoothie Algorithm

**START**

1. Add 2 frozen bananas



2. Add 1 cup of blueberries



3. Add 1 cup of water



4. Blend for 30 seconds



**END**

5. Pour into a cup and enjoy!

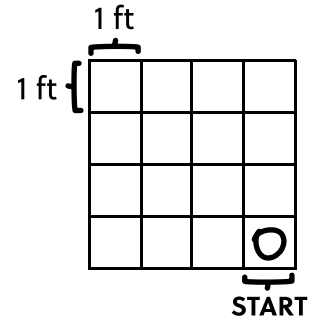


The **order** of an algorithm is important to keep in mind!  
(Would you use the blender before adding the fruit?)

## Maze Craze!

### Setup

- Using masking tape, make a 4 by 4 grid on the floor, with each square being 1 foot long.
- With another piece of tape, mark the bottom right square with an "O". This will be the starting point for your maze!
- Using a pencil, mark one square as the finish point with an "X" on your 'My Maze Map' grid on the next page. (Don't show your friend which square you picked!)




### Directions

- Using the actions "move up", "move down", "move right", and "move left", write a step-by-step algorithm (up to ten steps) on your 'My Maze Algorithm' on the next page to travel from the starting mark "O" to your finish mark "X"
- Read your algorithm to your friend while they perform the steps. If they end up at the correct square, you both win!

### Example

Ansel invited his best friend Lex to walk the maze!



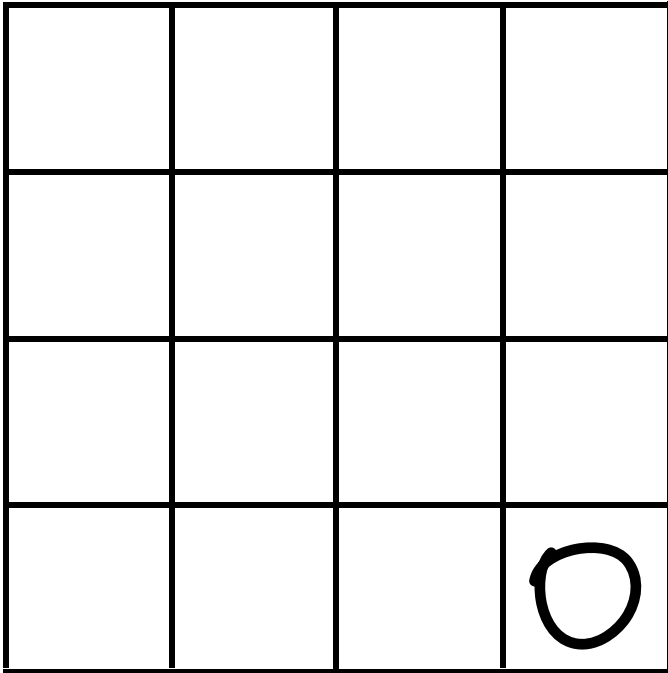
Now, move left!

		X	
	↑ STEP 5	← STEP 4	
		↑ STEP 3	
		↑ STEP 2	← STEP 1

**Ansel's Maze Algorithm**

1. Move left
2. Move up
3. Move up
4. Move left
5. Move up

## My Maze Map



### Actions

- ↑ Move up
- ↓ Move down
- ← Move left
- Move right

## My Maze Algorithm

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_