

ozobot<sup>®</sup>

# Bot Camp

**1 hour of activities** to train you in  
Ozobot's 2 Ways to Code!

# Color Codes

Made with markers and paper, Color Codes let you control your robot!



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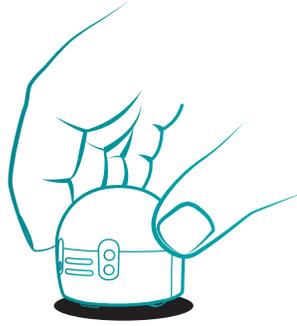
## Gather your materials

- Evo Robot, fully charged
- Black, Red, Green, and Blue Markers
- Extra plain, white paper (optional)

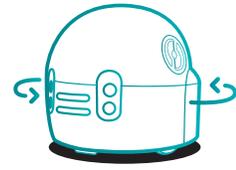
# Calibrate your Ozobot



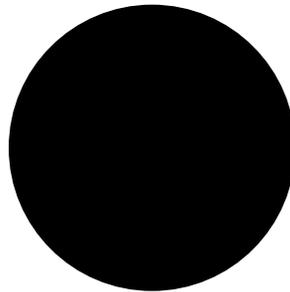
**1** Place Evo on black circle.



**2** Press and hold Evo's power button for 5 sec. Then, release the power button.



**3** Evo spins, moves outside the circle, and blinks green when calibrated.



## Tips

Calibrate Evo any time by drawing a circle slightly bigger than Evo with a black marker.

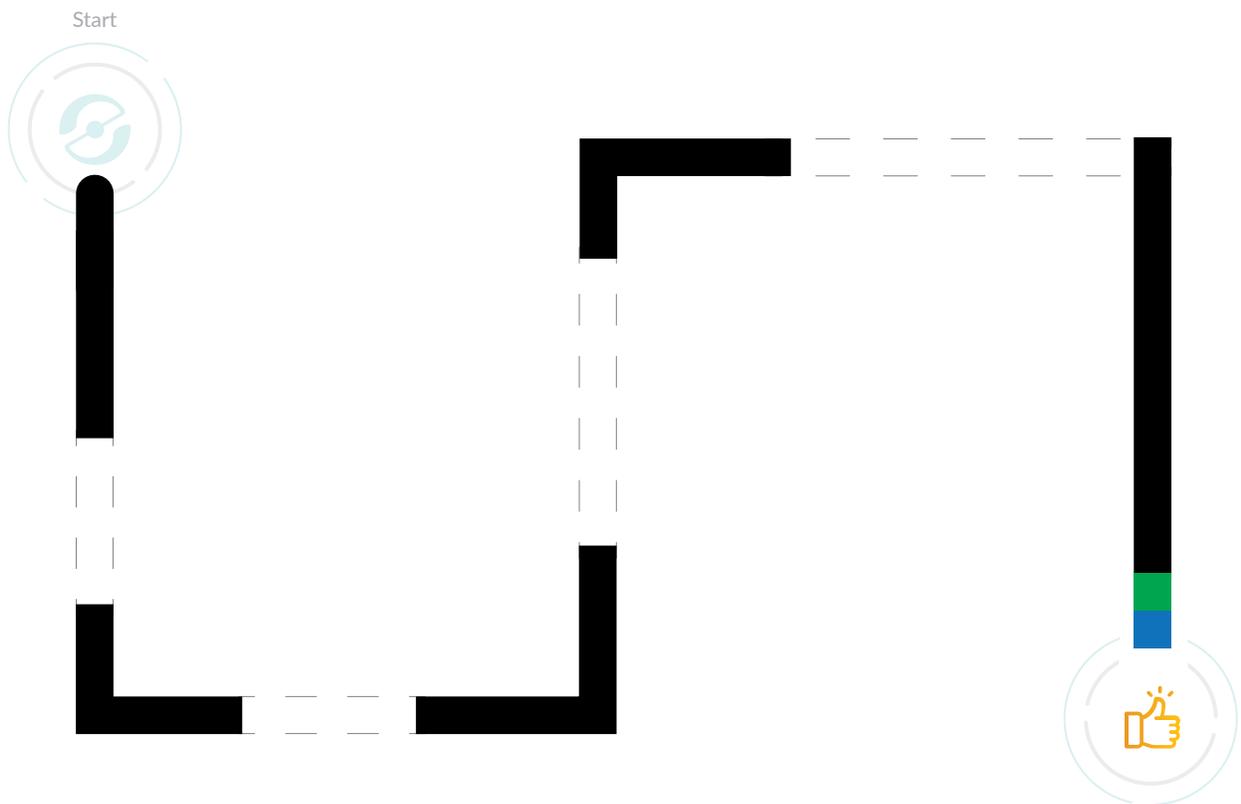


# Drawing Lines

- 1 Connect the lines using the black marker.
- 2 Place Evo on the Start and see if it reaches the finish!

## Tips

If you're using Ozobot markers, the chisel tip makes the perfect line width. Use the flat side of the marker to draw lines for Evo in one stroke.



Too thin



Inconsistent



Too thick



Just right





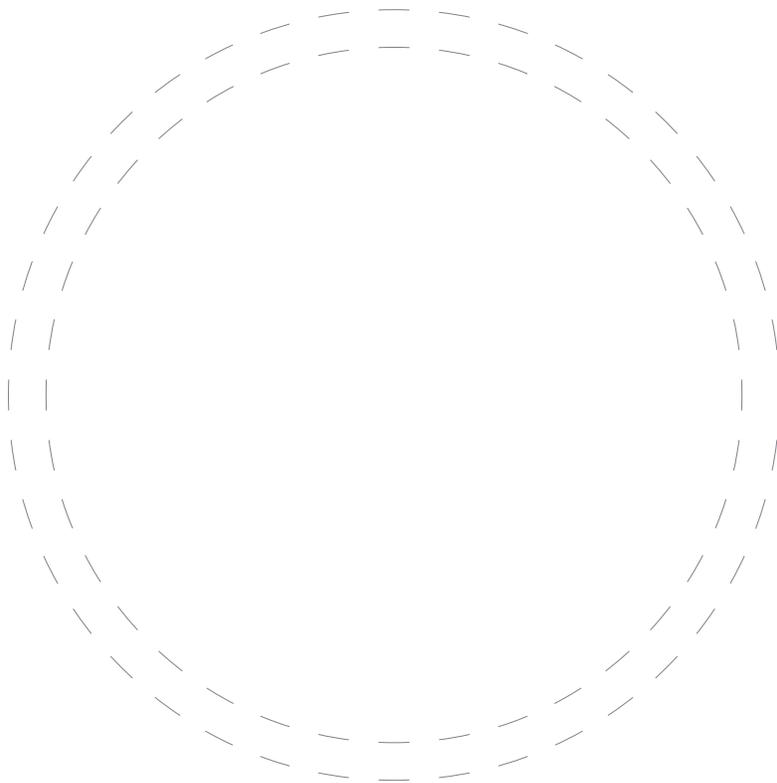
# 1 Draw a Circle

- 1 Use the dotted lines to draw a circle with a black marker.
- 2 Place Evo on the circle and see if it completes your loop!



## Tips

A “loop” is code that is carried out as many times as you tell it to. This circle written as code would say “Repeat ‘walk a circle’ forever!”

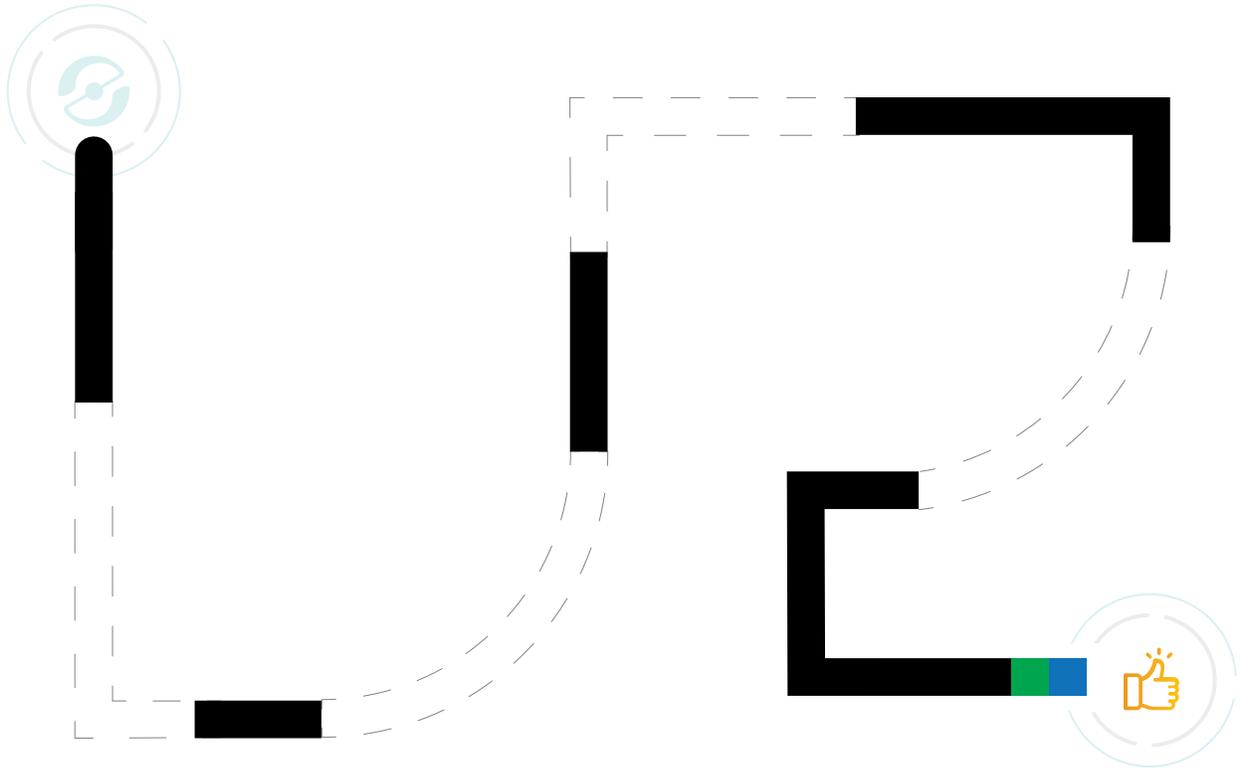




# 1 Drawing Corners and Curves

1 Draw the corners and curves to connect the path.

2 Place Evo on the Start and see if it reaches the finish!



Too sharp



Too close



Just right



Just right



Just right





# Seeing Color

Evo can “see” different colors through its optical sensor.

**1** Draw a path for Evo using green, blue, and red markers.

**2** Place Evo on the Start and watch it travel along the line.





# Color Codes

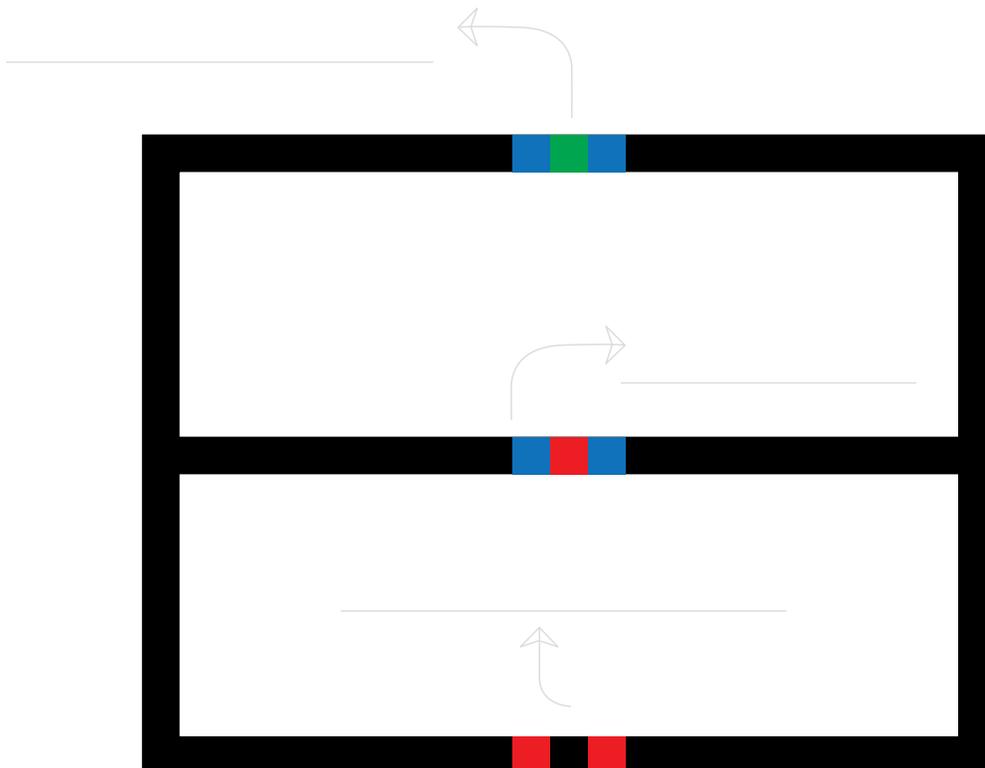
Evo reads and reacts to sequences of colors called Color Codes.

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**1** Place Evo on a black line and watch as it reacts to Color Codes.

**2** Write what you think each Color Code means below.

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# Drawing Color Codes

1 Practice drawing Color Codes by copying both lines you see on the page.

2 Place Evo on Start and see if it can read your Color Codes!

Tornado



Backwalk



No codes on colored lines



No different sizes



No overlapping colors



No white spaces



Not too dark



Just right!

# Symmetric and Asymmetric Color Codes

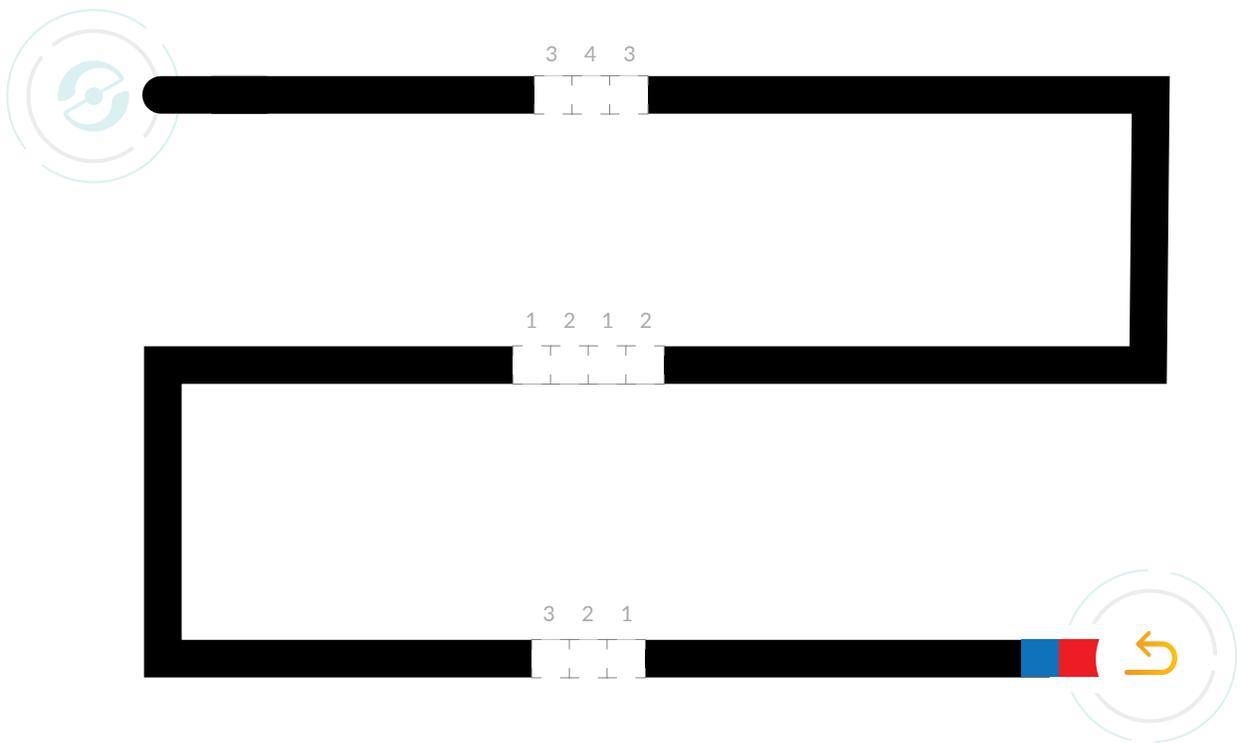
Some of Ozobot's Color Codes are the same either way Evo reads them. However, some of Ozobot's Color Codes are asymmetric—meaning they'll be different commands depending on which way Evo drives over them!

**1** Use the Color Key to color in the codes on the line below.



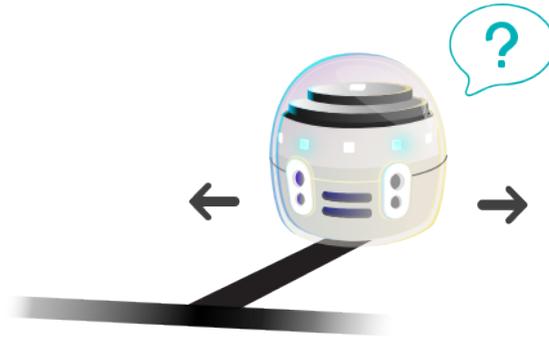
**2** Place Evo on one end of the line and see how it reacts to the Color Codes.

**3** Place Evo on the other end of the line and see how it reacts when it reads the codes the other way.





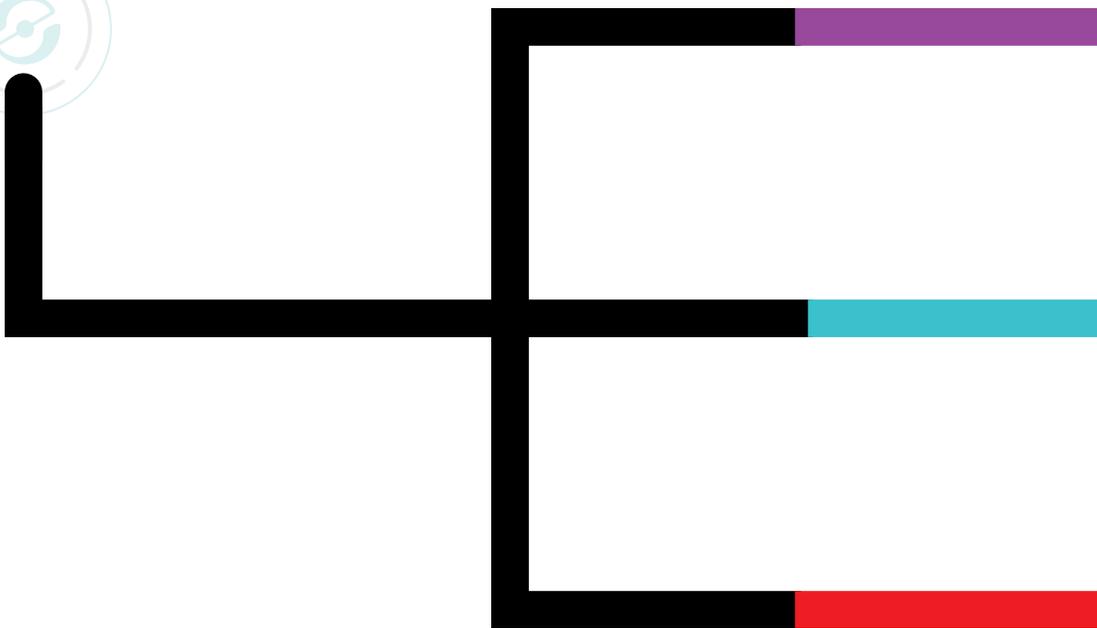
# | How Ozobot Makes Decisions



**1** Place Evo on the Start and see which color it chooses.

**2** Repeat several times.

**3** Was there any way to know which direction Evo would pick at the intersection?



As you observed, there was no way to know which way Evo would choose at the intersection. Evo makes random decisions at intersections.

# | Direction Color Codes

If you want Evo to pick a certain direction at intersections, tell it where to go with Color Codes!

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**1** Use the Color Code Bank below to get Evo to the finish.

**2** Place Evo on the Start and see it reach the end!



Left at Intersection

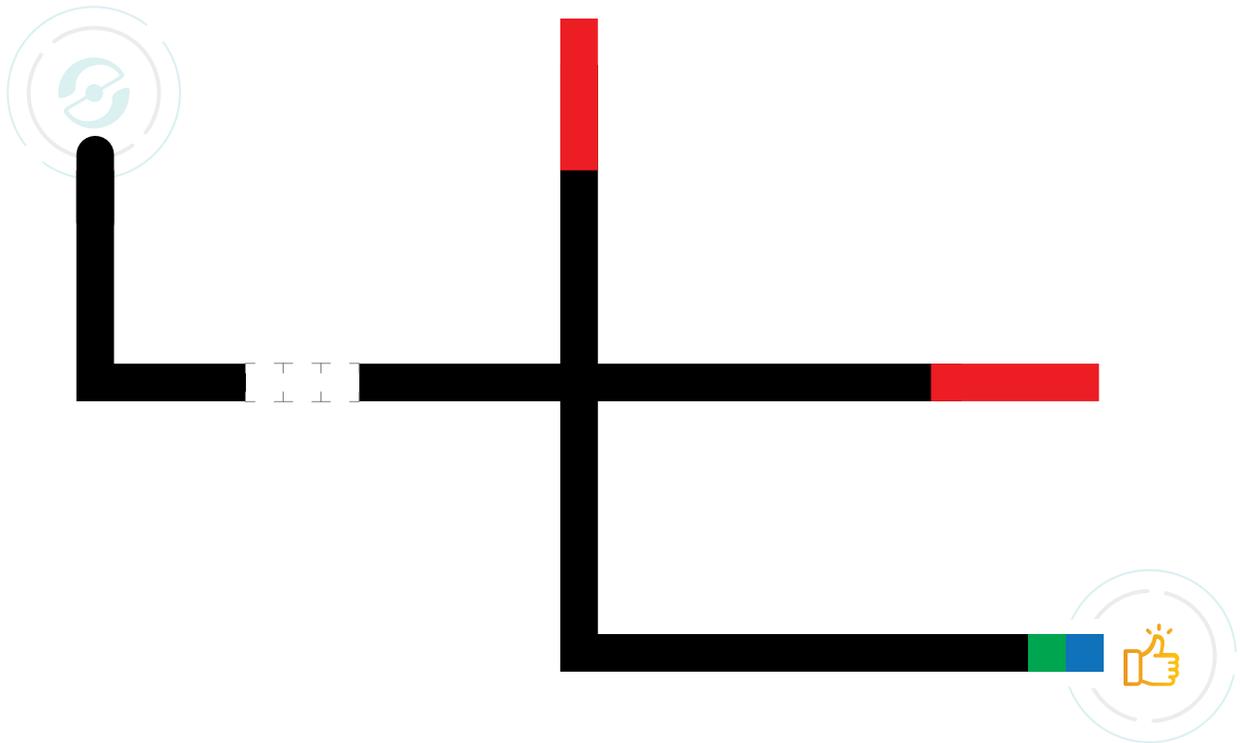


Straight at Intersection



Right at Intersection

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## | Free Draw

- 1 Practice drawing your own paths with Color Codes for Evo below.
  - 2 Place Evo on your line to see if it follows your lines and reads your Color Codes.
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# OzoBlockly

Powered by Google's Blockly, the OzoBlockly Editor has five skill levels from Pre-Reader to Master



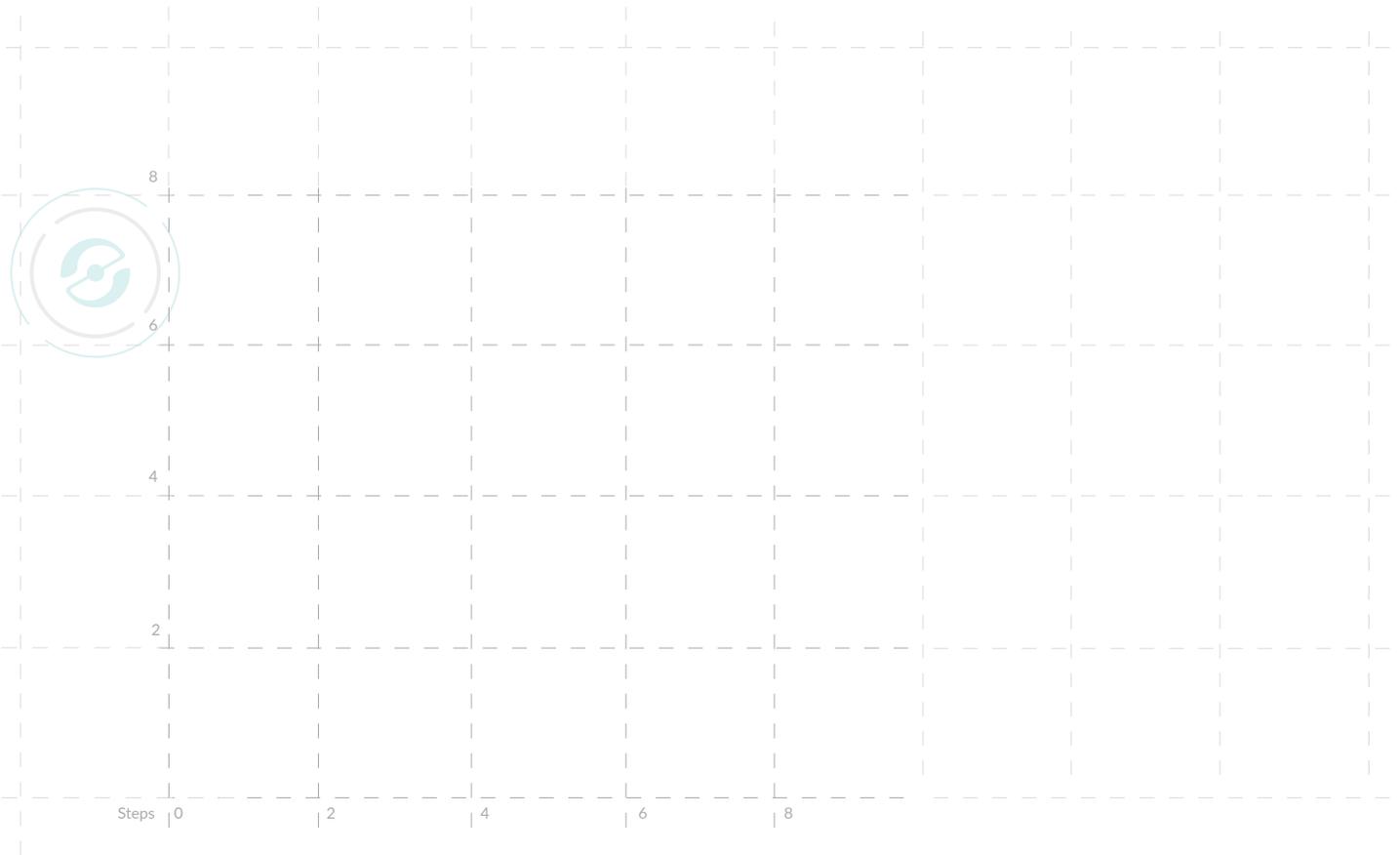


# OzoBlockly

Open OzoBlockly ([ozoblockly.com/editor](https://ozoblockly.com/editor)) and follow the **tutorial instructions** to learn how to navigate OzoBlockly and transfer a program from the OzoBlockly editor to your Evo.

Find the OzoBlockly tutorial on the right sidebar menu. You can use the grid below to help you visualize the program.

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# Congratulations!

You completed Bot Camp