



OZOBOT CARBOARD MINI CHALLENGE

Organizer Playbook

Presented by

Ozobot and the Imagination Foundation

WELCOME

We're so excited to be part of this year's Global Cardboard Challenge! Just like you, we have been fans of the Imagination Foundation and the Cardboard Challenge for some time and we are honored to participate. We hope Ozobot will help to inspire you in this Challenge!

The Ozobot Cardboard Mini Challenge is part of the Global Cardboard Challenge and works the same way – the only difference is that our tiny robot Ozobot is a part of your Challenge. Ozobot is a fun little robot that can follow lines you draw and can be programmed in different ways – even just with markers! This Playbook will give you tips and suggestions on how to use Ozobot in your challenge.

Then it's up to you: this is your challenge and we are excited to see what you will come up with. If you have any tips or suggestions that you want to share with us here at Ozobot, please send them to contact@ozobot.com.

Thanks for participating and have fun creating!

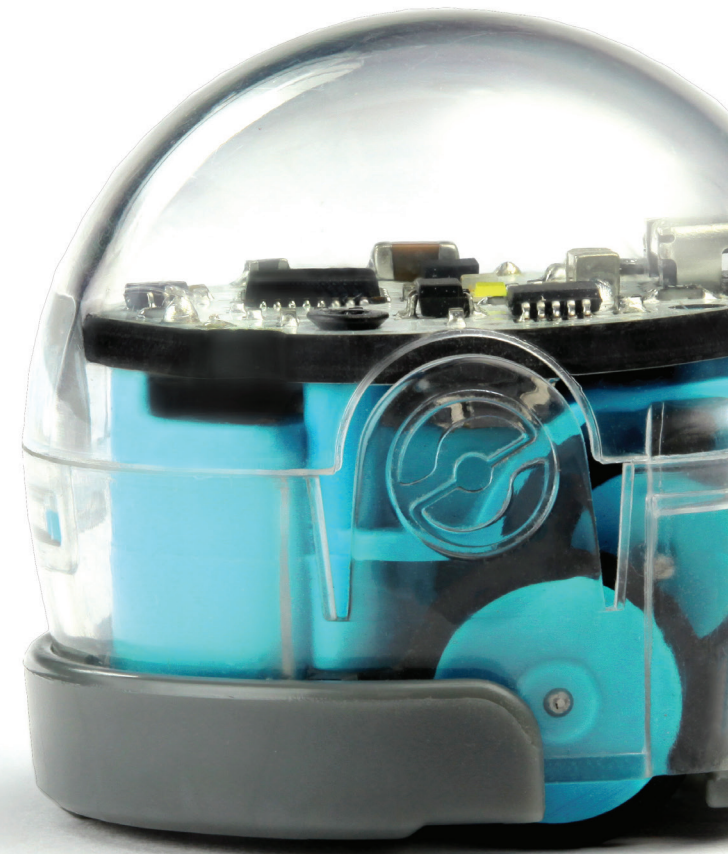
Your Ozobot Team



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PLAYBOOK CONTENTS

The Global Cardboard Challenge in a nutshell	3
What is Ozobot?	4
Why use Ozobot in your Challenge?	5
Getting started with the Ozobot Cardboard Mini Challenge.	6
Suggested materials.	7
How does it work?	8
Ozobot Cardboard Mini Challenge examples	10
Share your creations!	12
Useful links	13
Ozocode Reference	14
Ozobot Tips	15



THE GLOBAL CARDBOARD CHALLENGE IN A NUTSHELL

What is the Global Cardboard Challenge?

This fall, the Imagination Foundation invites the world to participate in our [4th Annual Global Cardboard Challenge](#). Inspired by the short film, *'Caine's Arcade'*, the Global Cardboard Challenge is a worldwide celebration of child creativity and the role communities can play in fostering it. In the month of September, kids are challenged to create and build using cardboard, recycled materials and imagination. Then on **October 10th, 2015** (celebrating the anniversary of the flash mob that came out to make Caine's day in the short film) communities all around the world will come together and play!

The Global Cardboard Challenge is a 'Champion' in **LEGO Foundation's Re-imagine Learning' Challenge** (see LEGO's video on our work [here.](#)) Last year's Challenge boasted over 125,000 participants from 46 countries including Chile, Hungary, Kenya, Indonesia and Pakistan; to date, the Global Cardboard Challenge has impacted over **250,000 participants** from **60 countries**.

This year, with your help, we will once again engage kids around the world in **Creative Play!**



Cardboard Challenge at the Warehouse Project in Colombo, Sri Lanka. Photo by Mel Wijegooneratne.

WHAT IS OZOBOT?

Ozobot is a tiny programmable robot that can follow lines and read color codes – both on paper and on digital screens. With Ozobot's unique ability to read and detect changes in color, you can program it to move, play and dance through intuitive color code patterns. Each color pattern is associated with specific moves that Ozobot understands and performs. You can simply control Ozobot with markers on regular paper so it's ready for your Cardboard Challenge.

How does Ozobot play in the Cardboard Challenge?

Think of Ozobot as a part of your cardboard creation that opens up more possibilities. Building an arcade game? Ozobot can be your avatar, player or ball. Creating a cardboard model of your school or neighborhood? Draw lines and codes to make Ozobot drive through your model and visit places. It's up to your imagination—the possibilities are endless. You can program Ozobot to do different moves and patterns (more on that on the next page), and you can even dress it up and transform Ozobot into a character that is part of your cardboard creation. If you need more inspiration, please take a look at some examples on pages 10 and 11.

Where do I get an Ozobot?

For all Ozobot Mini Challenge participants, there is a 10% discount on any Ozobot sold here: <http://shop.ozobot.com>. Use **OzoCBC10** at checkout!



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WHY USE AN OZOBOT IN YOUR CHALLENGE?

Ozobot is a fun robot that can easily be programmed – even just with markers on paper. We at Ozobot strive to give kids tools that prepare them for the technology demands of the 21st century. We want to give every kid the opportunity to learn how to code and not be intimidated by the process of it. Ozobot’s ability to understand color codes drawn with markers gives even young kids the opportunity to get early access to coding. For even more of a programming experience, kids can use Ozobot Bit to create programs with the visual editor OzoBlockly. This gives them more options to program Ozobot and advances their coding skills while they are playing.



But we believe kids will only learn if they are having fun, and nothing is better than being involved in creative play! We love the Global Cardboard Challenge for that reason. And we can’t wait to see all the Ozobot Cardboard projects! So please see the following pages for info on how to get started, what you need, example projects, and very importantly: how to share your creations with your community and the world!



GETTING STARTED WITH THE OZOBOT CARDBOARD MINI CHALLENGE

Please take a look at the [Global Cardboard Challenge Playbook](#). You will find info on every aspect of the Global Cardboard Challenge. The Ozobot Cardboard Mini Challenge works the same way – the only difference is that you are exploring, playing with, and incorporating Ozobot in your Challenge!

Take a look at page 5 of the Global Cardboard Challenge Playbook in particular – all the steps are listed there, but here is a short summary for your Ozobot Mini Challenge:

- **Decide who's participating**
- **Decide when and where**
- **Register your challenge at www.cardboardchallenge.com. Please make sure to include "Ozobot" in your Challenge title!**
- **Gather cardboard and materials. Don't forget to order your Ozobot! See page 7 for more info.**
- **Show 'Caine's Arcade'!**
- **Build and create**
- **Invite the World to Play**

TIP: Take lots of pictures and video throughout your Challenge and share on Twitter and Facebook using @imagination @ozobot and the #cardboardchallenge and #OzobotCC hashtags.

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SUGGESTED MATERIAL

You can find a whole list of suggestions on the [Global Coardboard Challenge Playbook](#) on page 15, but feel free to use whatever materials you like. Re-used and recycled materials are always a good choice!

Note: don't forget to order your Ozobots ahead of time! And remember, for all Ozobot Subchallenge participants, there is a 10% discount on any Ozobot sold here: <http://shop.ozobot.com>. Use OzoCBC10 at checkout!

Orders are processed and fulfilled by Amazon.com, so please allow time for shipping!



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I'VE GOT MY OZOBOT – HOW DOES IT WORK?

Ozobot is a tiny robot that can follow lines and read color codes – both on paper and on digital screens. Ozobot can do this with the help of optical sensors that are located on the bottom plate.

Calibration!

For everything to function properly, it is very important to calibrate Ozobot on the surface and in the surroundings that you are using the robot. Please see the Ozobot Tips sheet (see page 15) for more information on how to calibrate on paper.

Drawing lines

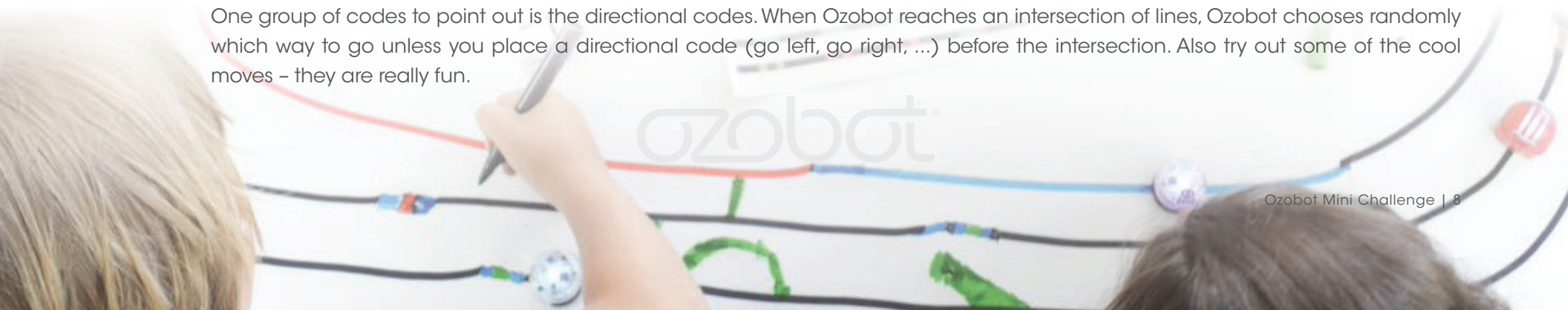
When you are drawing lines for Ozobot, you want to make sure that the contrast between the line and the background is good enough. So we recommend drawing lines on white paper – some cardboard may be too dark. So if you are working with cardboard, please draw your lines on white paper and attach the paper to the cardboard.

Drawing codes

Apart from following lines, Ozobot can also read colors and understand color codes. Different codes mean different commands and please see the OzoCode Reference sheet (see page 14) for all available codes. Also, please see the Ozobot Tips sheet for more details on how to draw codes and where to place them.

When drawing codes, it's important to get the colors just right for Ozobot to read them consistently. We recommend using Crayola classic markers (black, blue, green and red) or Sharpie's Chisel Tips (black, light blue, light green and red).

One group of codes to point out is the directional codes. When Ozobot reaches an intersection of lines, Ozobot chooses randomly which way to go unless you place a directional code (go left, go right, ...) before the intersection. Also try out some of the cool moves – they are really fun.



Decorating Ozobot

You can change Ozobot's appearance by making a lightweight cardboard or paper attachment. Think about cars, boats, or even arms for Ozobot. Or use stickers, paint or even glue materials onto Ozobot's protective skin – as long as you don't get anything onto Ozobot's sensors on the bottom plate!

Using Tablets

Ozobot also works on tablets (iPad and select Android tablets). If you have access to these tablets, you can check out the free apps Ozobot and OzoGroove, both are available on the iTunes App Store and on Google Play. Maybe you can find a creative way to integrate tablets into your challenge?

Before you start Ozobot on the digital screen, make sure that you calibrate it on the tablet. That calibration works a bit differently than on paper. In the app, please go to "Ozobot Tuneup", then choose "Calibrate Sensors" and follow the directions.

Ozobot Bit and OzoBlockly

Ozobot Bit is the newest version of the robot and if you have recently ordered one through Amazon or the Ozobot Shop, then that is the one you are playing with. Ozobot Bit can do everything that Ozobot 1.0 can do, but it can also be programmed using the visual programming language OzoBlockly, which is based on Google's Blockly. This gives you more options to program Ozobot to do just the right things you need for your challenge.

If you're interested in trying this out, just go to www.ozoblockly.com on any desktop or tablet. From there, you can enter the OzoBlockly editor, which has a lot of examples to get you started. You can also try the OzoBlockly games (www.games.ozoblockly.com) - it's a fun way that walks you through all the commands and explains how to program and load your Ozobot Bit.

Also look out for tips on how to use OzoBlockly and Ozobot Bit in the examples on the next pages!

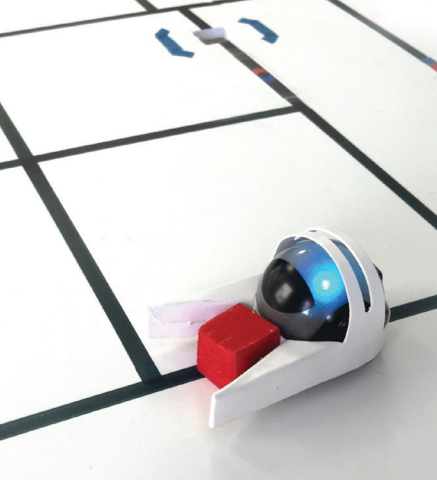
Need help? Please ask us!

There is a lot more info on our website (www.ozobot.com), so please check that out. You will find FAQs there and you can also watch some YouTube videos explaining how things work (www.youtube.com/user/OZOBOT).

And if you have any questions, please email us at contact@ozobot.com, we're always happy to help!



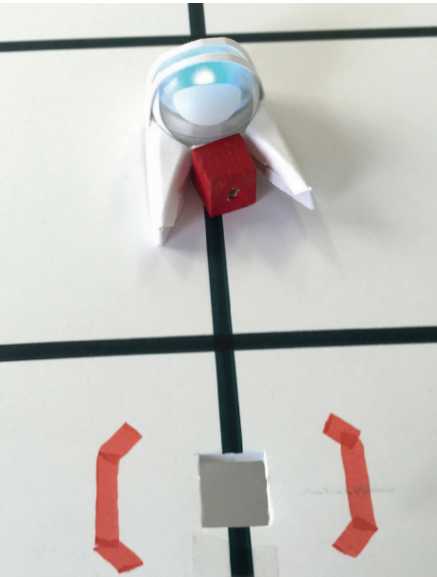
OZOBOT CARDBOARD MINI CHALLENGE EXAMPLES



We have several project ideas for you just to get you started – you take it from here!

Ozobot Arcade

What could be more in the spirit of Caine’s Arcade than an arcade game? You can use Ozobot as your player, avatar or ball. Here we have Ozobot with a fork attachment made from paper. Ozobot is pushing a foam cube and has to get it into the paper cup hole. Use two Ozobots for a competitive arcade game! What other games can you imagine? Can you make any cool attachments for Ozobot?



Your Town

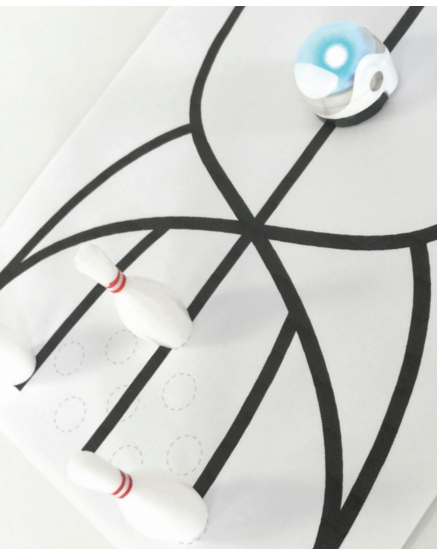
Create a cardboard model of your community – with model houses, parks, local landmarks, etc. The streets are black lines that Ozobot can drive on. Place directional codes or use OzoBlockly to send Ozobot on the right way (from home to school for example).

More ideas: make models of your school, state, country, etc. Then set Ozobot on its journey. Can you make a game with this setup?

Race Track

Create a race track featuring a driving track, spectator stands, concession stand and parking area. One or more Ozobots will challenge time and each other to complete your circuit. Include a start and stop line, garages, and flags to personalize your race track.

Create a lightweight car to place over top of the Ozobot! You may also want to design a path with directional moves, cool moves and turn codes, or use OzoBlockly to program how the Ozobots race.





Dance Off

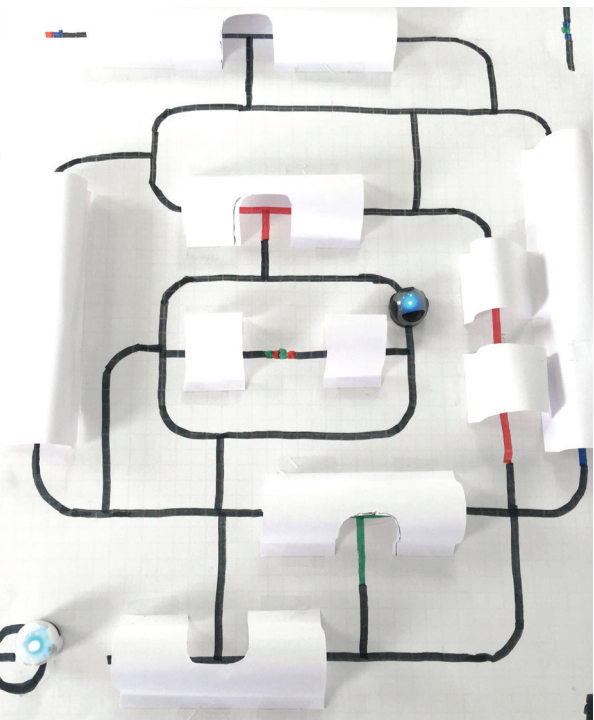
Create a Disco Dance Clubhouse for an Ozobot to dance in. Plan and decorate your space complete with different rooms, ceilings and areas Ozobot can maneuver its cool moves out and display its light shows in areas with cool ceilings. Create a space where people can view Ozobot from various angles, perhaps through windows and doorways and open ceilings.

Don't forget to style your Ozobot as well. You can use stickers, paint or even glue materials onto Ozobot's protective skin - as long as you don't get anything onto Ozobot's sensors on the bottom plate!

Note that you can load Ozobot with preprogrammed dances from the OzoGroove app or create your own in the app. If you're not using the app, you can make your own dance floor with colorful tracks that send Ozobot dancing and lighting up in different colors. Or use OzoBlockly to put together moves for Ozobot and make its LED shine!

Ozobot's Home

Build a cardboard home for your Ozobot to live in. Ozobots are curious robots so make sure there are many rooms to discover and move around in. Create each space with details so the Ozobot can take us on a tour of each room using OzoCodes and paths or program Ozobot's movements with OzoBlockly.



SHARE YOUR CREATIONS!



On Twitter and Facebook

Take lots of pictures and video throughout your Challenge and share on Twitter and Facebook using **@Ozobot @imagination** and the **#OzobotCC** and **#cardboardchallenge** hashtags.



Invite the World to Play

On Oct. 10th, invite friends and family to come out to play. Set up a check-in, prize booth, and snack and craft tables. Get creative! If you sell FunPasses or collect donations, we encourage you to donate proceeds to a local cause or charity. To date, kids have used cardboard arcades to raise funds for local children's hospitals, soup kitchens, food banks, the Imagination Foundation, and more.





Global Cardboard Challenge 2015

(www.cardboardchallenge.com)

[Cardboard Challenge Playbook](#)

Ozobot Website

www.ozobot.com

Resources for Educators

Cardboard Challenge Resources for Educators on Pinterest

(<https://www.pinterest.com/imaginationfdn/global-cardboard-challenge-resources-for-educators/>)

Global Cardboard Challenge Facebook Group for Inspired Educators

(<https://www.facebook.com/groups/618600058261581/>)

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Color code reference chart

OzoCodes

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SPEED



SNAIL DOSE



SLOW



CRUISE



FAST



TURBO



NITRO BOOST

DIRECTION



GO LEFT



GO STRAIGHT



GO RIGHT



LINE JUMP LEFT



LINE JUMP STRAIGHT



LINE JUMP RIGHT



U TURN



U TURN (LINE END)

TIMERS



TIMER ON (30 SEC. TO STOP)



TIMER OFF



PAUSE (3 SEC.)

COOL MOVES



TORNADO



ZIGZAG



SPIN

WIN/EXITS



WIN/EXIT (PLAY AGAIN)



WIN/EXIT (GAME OVER)

COUNTERS

FIVE DOWN TO STOP



ENABLE X-ING COUNTER



ENABLE TURN COUNTER



ENABLE PATH COLOR COUNTER



ENABLE POINT COUNTER



POINT +1



POINT -1

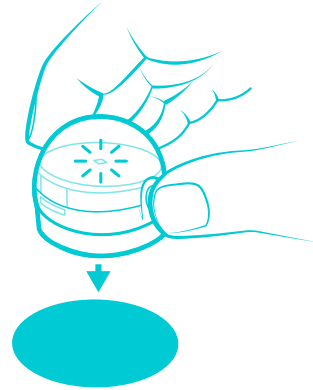
Tips: Calibration

1



Hold down the power button on Ozobot for 2 seconds until the LED light turns white.

2

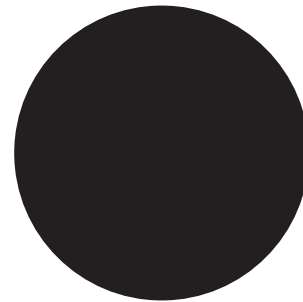


Quickly Place Ozobot in the middle of the black calibration dot.

3



Ozobot will move forward and blink green, which means it has successfully calibrated. Start over if Ozobot blinks red.



Use this black dot to calibrate.

Tips: Drawing Lines



X

Too Thin!



X

Too Thick!



X

Inconsistent!



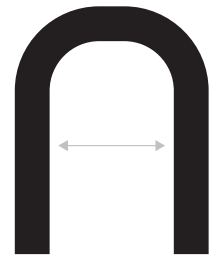
✓

Just Right



X

Too Close!



✓

Just Right



X

Too Sharp!



✓

Just Right



✓

Just Right

Tips: Drawing Codes



X
Codes on colored lines



X
Different sizes



X
White spaces



X
Overlapping colors

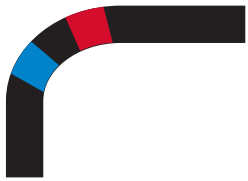


X
Too dark

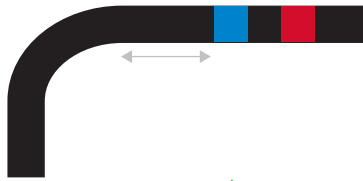


✓
Codes on black lines

Tips: General



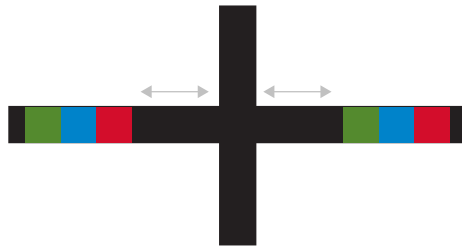
X
No codes on corners!



✓
Keep codes on straight lines away from corners



X
Too close!



✓
Place codes away from intersections



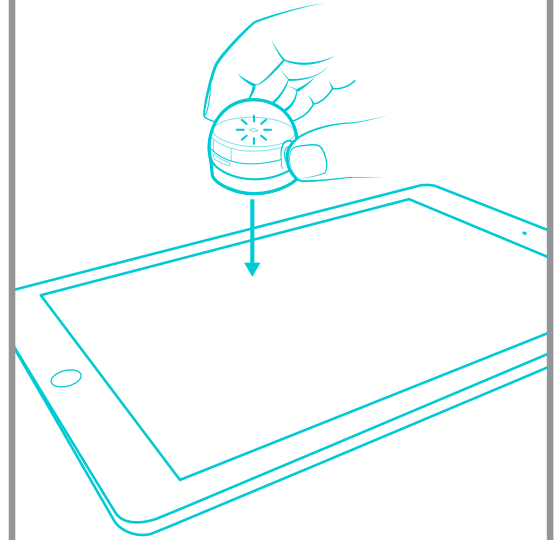
✓
All other codes need black line before and after



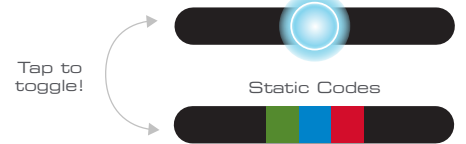
✓
2 color codes need to be at line end

Tips: OzoDraw

Before playing on a tablet or smartphone, you need to calibrate to the digital screen. Follow the calibration instructions in the "Ozobot Tuneup" section of our apps.

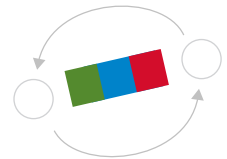


Flash Codes

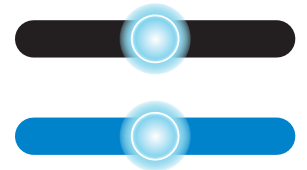


Tap to toggle!

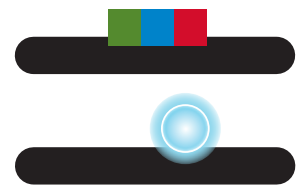
Two-finger touch to rotate



✓
Flash Codes will work on colored lines



X
Not aligned to path



To delete code, tap and drag code off screen

