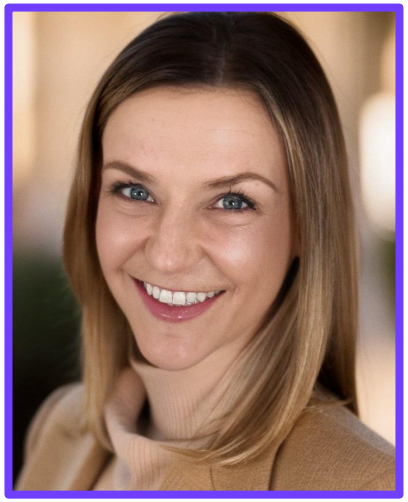
Introduction to Ozobot Blockly

February 26th, 2024

Introductions



Michaela Baruch

Jordan Hanna

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What we'll cover today

Ozobot Blockly: The What and Why

Demo of Ozobot Blockly

Getting Started

Troubleshooting

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The Big Picture

What is Ozobot Blockly and how does it serve my students?

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Ozobot Blockly

A block-based editor that allows you to create visual programs for your Ozobot.

Programs in Blockly are created using blocks that can be selected, dragged, dropped, and connected together like puzzle pieces.

Programs are sent to your Ozobot via Bluetooth.

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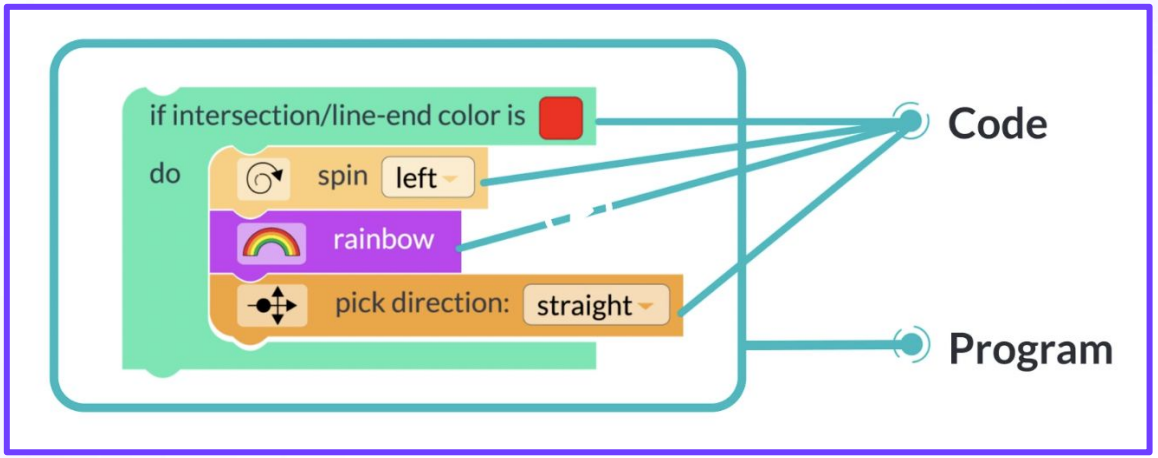
Code VS Program

Code: Instructions written in a programming language.

Program: A complete set of instructions written in code that the computer executes to achieve a particular objective.



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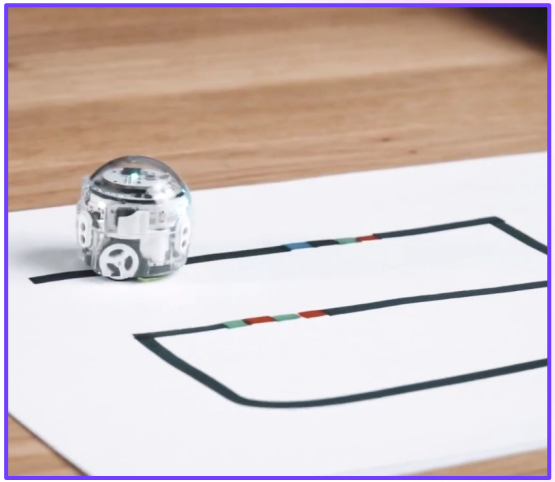
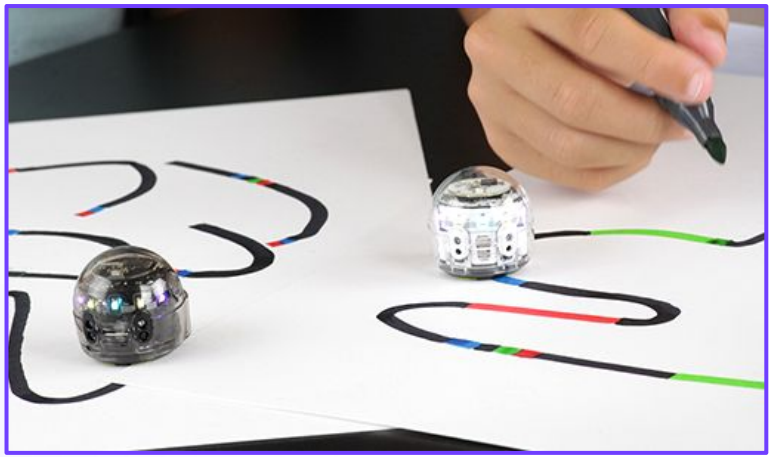
Ozobot Color Codes

- Screen-free, hands-on, easy to learn.
- Activity sheets instruct which colors to use, providing guidance for beginners.
- Introduces coding concepts.





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How is Blockly different from Color Codes?

- ★ Computer-based.
- ★ Moves from individual codes to groups of code - ie Programs.
- ★ Blockly levels make it accessible for ALL ages and ability levels.
- ★ The capabilities are more expansive and students can move at their own pace.

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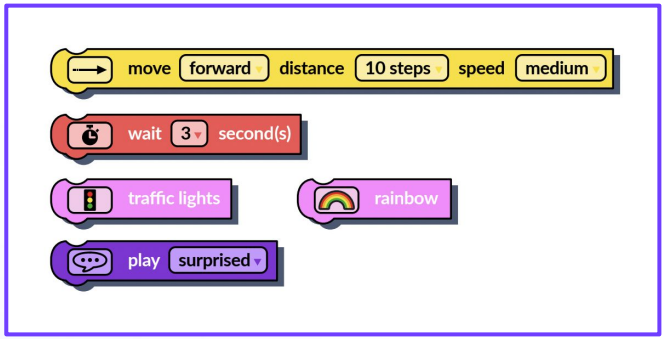
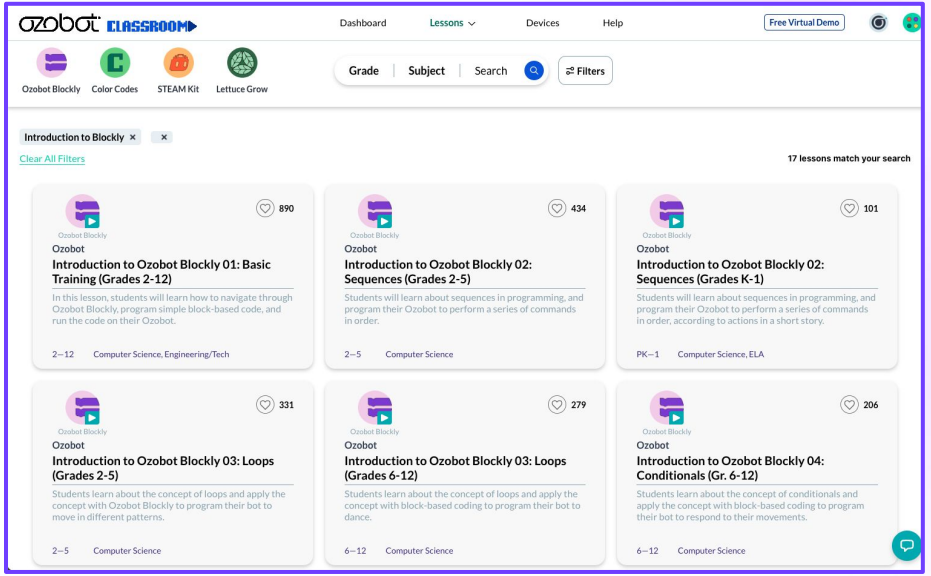
Ozobot Blockly and Academic Rigor





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Blockly Standards Crosswalk

Developing and using models to simulate real-world phenomena	• **NGSS:** Science and Engineering Practices - Developing and Using Models • **ISTE Standard 4:** Innovative Designer
Use digital tools to plan and design a program	• **NGSS:** Science and Engineering Practices - Planning and Carrying Out Investigations • **CSTA:** Concept- Algorithms and Programming • **ISTE Standard 4:** Innovative Designer • **TEKS Computer Science:** Standard 1
Utilize problem-solving skills and demonstrate a “tolerance for ambiguity”	• **ISTE Standard 4:** Innovative Designer • **TEKS Computer Science:** Standard 1
Computational Thinking Skills (decomposition, pattern recognition, abstraction, algorithmic thinking)	• **NGSS:** Science and Engineering Practices - Planning and Carrying Out Investigations • **CSTA:** Concept - Data Analysis • **TEKS Computer Science:** Standard 1

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Demo of Ozobot Blockly

How to navigate your workspace in Ozobot Blockly.

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Ozobot Blockly Tips

1. **Glossary** - If you are unsure about the function of a block, use the glossary. Drag the block to your workspace, left click the block, and select “help” to pull up the glossary.
2. **Save Your Work** - We recommend saving your programs by selecting “Programs > Save As” or pasting the Share Code into a document.
3. **Use Share Codes** - Get a unique link to return to your program by selecting “Programs > Share” and copying the link.

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Getting Started

Find hundreds of standards-aligned Blockly lessons at Ozobot Classroom.

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Troubleshooting

Our best tips for solving the most common Blockly-related roadblocks.

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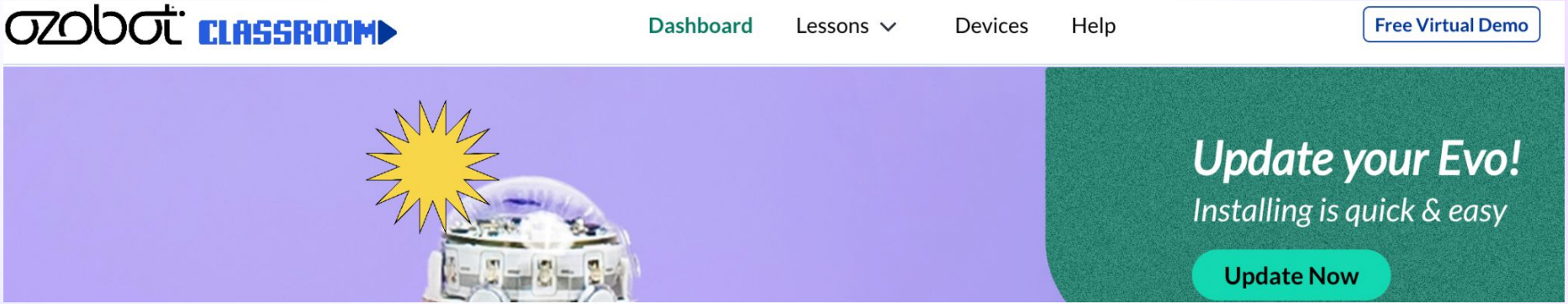
General Tips

Make sure your bots have been updated!



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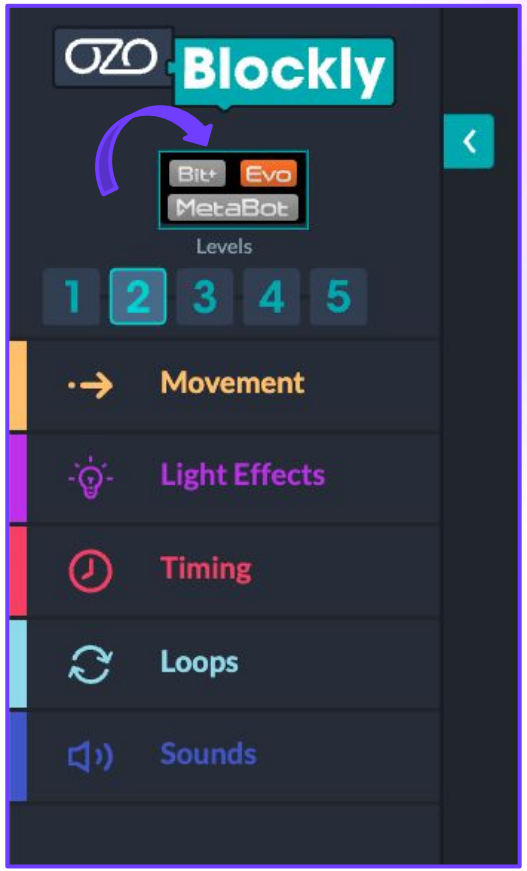
General Tips

If using a laptop, make sure your students have selected the correct bot in the Blockly Editor (top left).



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But Wait! How do I know which bots we have?!?

Easy ways to check:

- Evo has proximity sensors on the front which look like “eyes” and Bit/Bit+ do not.
- Evo and Bit+ have LED lights on the front and Bit has no LED lights on the front.

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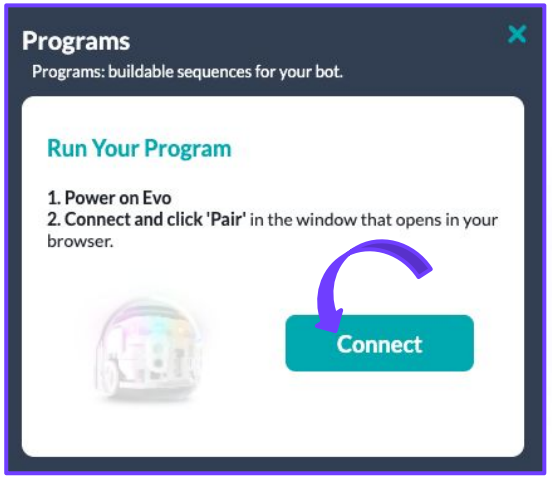
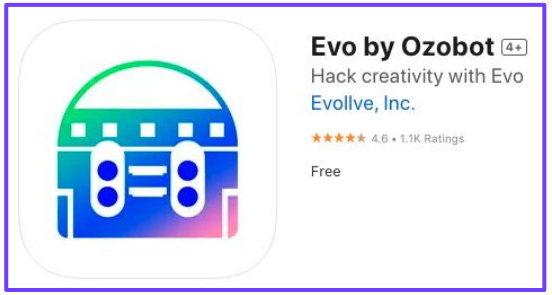
It's All About CONNECTION

On a Laptop… Connect your bot through Blockly. Bring Ozobot close to device to start the pairing process.

On a Tablet … Open the Ozobot Evo App *first*, then connect the bot via the app. Open Blockly from the app.





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Name Your Bots

- A device will bring up any and all bots within range, so it is very helpful to **name your bots** in advance.

- From a classroom procedure perspective, try having students connect in clusters.

  “Students with Bots 1-5, please turn on your Bluetooth and connect.”

- Once a student has paired a bot, it is no longer discoverable by other devices.

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Update and Name

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Ozobot Challenges

- We have additional programs to develop your programming skills with Ozobot Blockly.
- Teaches students block-based programming with or without a bot - so they can use it at home!
- Provides goals and step-by-step instructions for creating programs.

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Helpful Links

Ozobot Blockly - Create block-based programs for Ozobot!

Ozobot Classroom - Find hundreds of Ozobot Blockly lessons here.

Blockly Challenges - Practice coding with Robot Simulator, Shape Tracer, and OzoTown.

Update & Renaming with Evo App - Read this blog for the step-by-step process.

Update & Renaming with Ozobot Blockly - Read this blog for the step-by-step process.

Ozobot YouTube - Find helpful how to videos to support your learning.

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We’re here to help!

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Survey

Thank you so much for your time!

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