Updates for Back 2 School 2021

Ozobot Classroom

Agenda

1

Housekeeping +
Recording

2

Ozobot Classroom
Updates

3

Pacing Guides

4

New Introduction
Lesson Series

5

Feedback Survey

6

Q & A

Your Hosts

Jen Maher

Customer Experience & Curriculum Developer

Former MS Math and Science Teacher,
K-8 Dance Teacher
MEd Curriculum and Instruction

Melissa Toohey

Director of Education

Former Founding Coding, Engineering, and Design Thinking Teacher at KIPP Ignite, Computer Science Coach, & K-1 Teacher UCLA Educational Leadership Program, Ed.D

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Former Professional Development Specialist, Computer Science Immersion Coach & Elementary Education Teacher
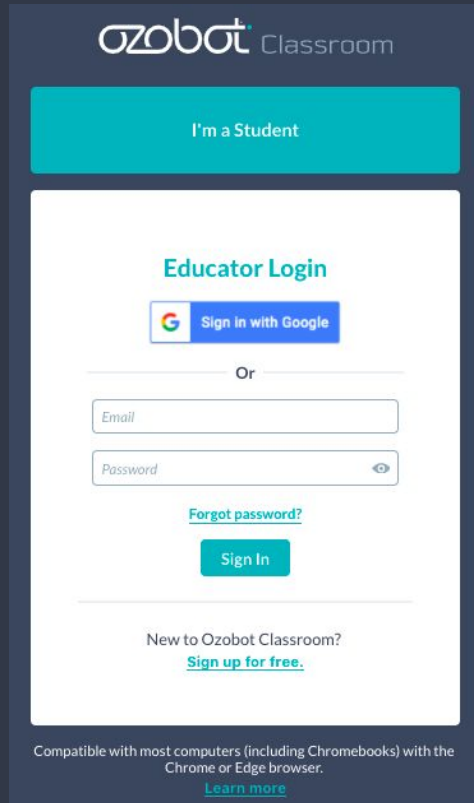
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Your Hosts

Melissa Toohey

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Teacher at KIPP Ignite, Computer Science Coach, & K-1 Teacher
UCLA Educational Leadership Program, Ed.D

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Create your free Ozobot Classroom account

1. Go to classroom.ozobot.com

2. Click "Sign in with Google"

classroom.ozobot.com

Ozobot Classroom: Dashboard

Find the Lesson Library, Pacing Guides, Webinars, Links to Ozobot Challenges, and Create a Lesson

1. **Lesson Library to find lessons.**

2. **Pacing Guides to assist in planning.**

3. **Webinar Schedule - teaching help and other topics**

4. **Create a lesson with the Lesson Creator Tool.**

5. **Links to Ozobot Blockly, Python Beta, and Challenges.**
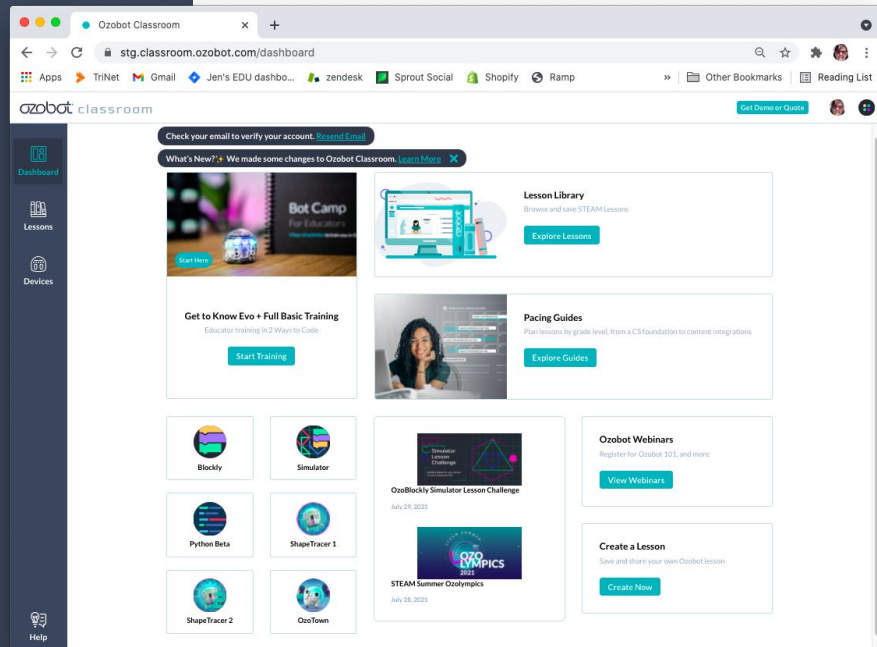
Ozobot Classroom: Lesson Library

**Find content or grade specific material.
Assign lessons to your students.**

1. **Click on "Lessons".**

2. **Filter search by Subject, Grade, or Video Lessons.**

3. **Click "Open" to check out the lesson.**

4. **Click "Save" to add to Saved Lessons.**

5. **Open the lesson, click "Share with Students" and send students the link to the lesson.**
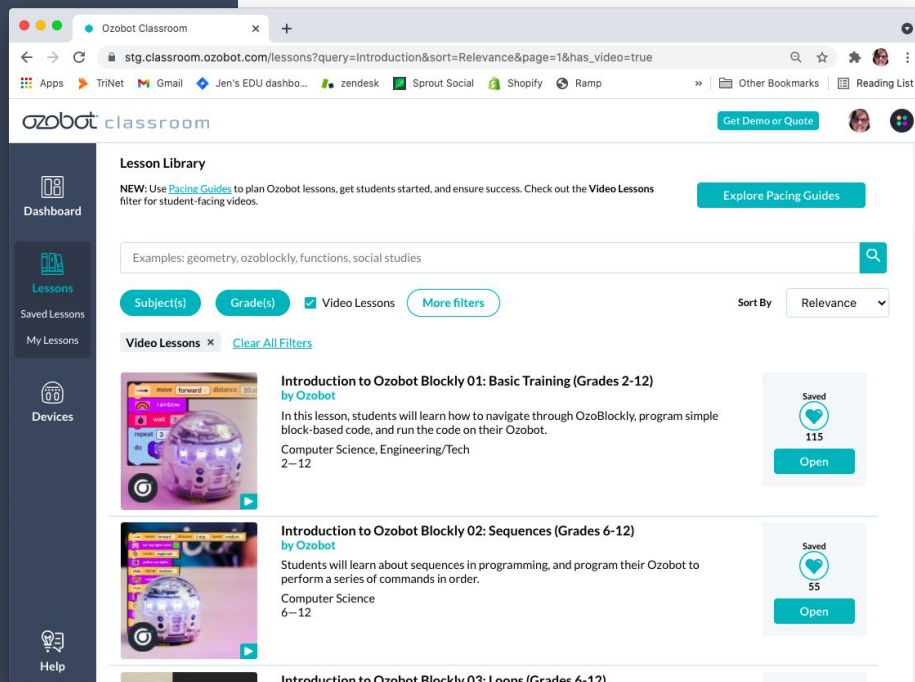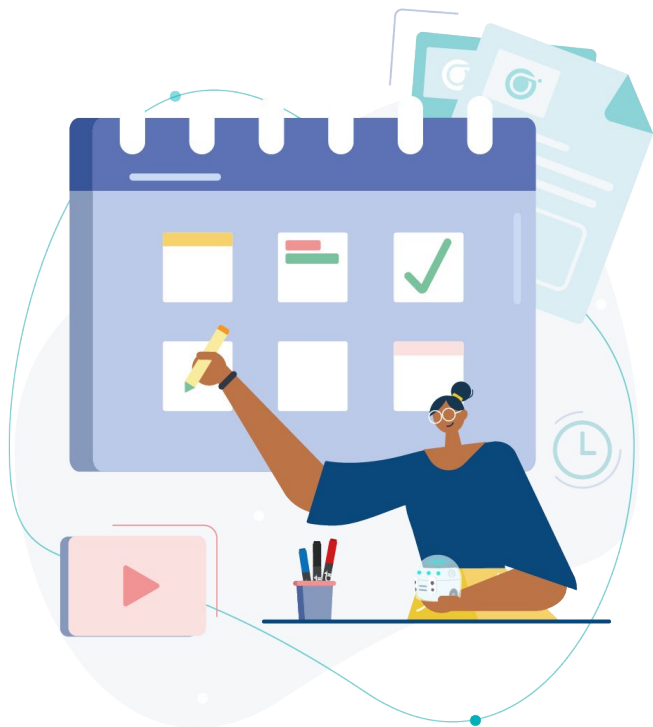
Pacing Guide | Grade 4

This guide makes it easy to plan and pace your Ozobot lessons.

We recommend all students begin with the Introduction to Color Codes and Introduction to Blockly series for a foundation in CS, before moving into optional content-integrated lessons for math, ELA, or STEAM. This pacing guide allows for flexibility.

Lesson pacing can include a regular cadence of:

- one lesson per week for a year
- 2-3 lessons per week for a semester or unit

Length of each Lesson: 45-60 min.
Standards: CSTA, NGSS, CCSS Math/ELA

Pacing Guide | Grade 4

		Lesson Title & Link	Description	Primary Academic Standard
☐	1	Introduction to Ozobot: Get to Know Evo	Students identify and name the hardware components of Ozobot Evo.	**CSTA.1A-CS-02** Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware).
☐	2	Introduction to Color Codes 01: Basic Training	Students learn the basics of Ozobot's line-following capabilities.	**CSTA.1B-CS-02** Model how computer hardware and software work together as a system to accomplish tasks.
☐	3	Introduction to Color Codes 02: Speed	Students learn the various speed Color Codes to program their bot to move at different speeds.	**CSTA.1A-AP-12** Develop plans that describe a program's sequence of events, goals, and expected outcomes.
☐	4	Introduction to Color Codes 03: Special Moves & Win/Exit	Students learn how to program their bot to perform special moves with Color Codes.	**CSTA.1A-AP-12** Develop plans that describe a program's sequence of events, goals, and expected outcomes.
☐	5	Introduction to Color Codes 04: Direction	Students learn the directional Color Codes to program their bot to move in a specific direction.	**CSTA.1B-CS-02** Model how computer hardware and software work together as a system to accomplish tasks.
☐	6	Introduction to Color Codes 05: Skills Check 1 (Grades 3-5)	Students apply the concepts and skills they learned in previous lessons to program their bot to complete a challenge.	**CSTA.1A-AP-12** Develop plans that describe a program's sequence of events, goals, and expected outcomes.
☐	7	Introduction to Color Codes 06: Timers	Students learn about the timer Color Codes to complete a challenge.	**CSTA.1B-CS-02** Model how computer hardware and software work together as a system to accomplish tasks.
☐	8	Introduction to Color Codes 07: Line Switch	Students learn about the line switch Color Codes to complete a challenge.	**CSTA.1B-CS-02** Model how computer hardware and software work together as a system to accomplish tasks.

Pacing Guide | Grade 4

		Lesson Title & Link	Description	Primary Academic Standard
☐	9	**Introduction to Color Codes 08: Counters**	Students learn about the counters Color Codes to complete a challenge.	**CSTA.1B-AP-11** Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process.
☐	10	**Introduction to Color Codes 09: Skills Check 2**	Students apply the concepts and skills they learned in all lessons to program their bot to complete a challenge.	**CSTA.1B-CS-02** Model how computer hardware and software work together as a system to accomplish tasks.
☐	11	**Energy Road Trip**	In this STEAM-integrated lesson, students use Color Codes to model changes in energy.	**NGSS.4-PS3-1** Energy-Use evidence to construct an explanation relating the speed of an object to the energy of that object.
☐	12	**Ozobot's Trip with Prepositions**	In this ELA-integrated lesson, students use Color Codes to illustrate prepositions in a written story.	**CCSS.ELA-LITERACY.L.4.1.E** Form and use prepositional phrases.
☐	13	**ID the Structure**	In this ELA-integrated lesson, students use Color Codes to identify structures in writing samples.	**CCSS.ELA-LITERACY.RI.4.5** Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
☐	14	**Division Maze**	In this math-integrated lesson, students use Color Codes to complete a maze by solving division problems.	**CCSS.MATH.CONTENT.4.NBT.B.6** Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.
☐	15	**All About Symmetry**	In this math-integrated lesson, students use Color Codes to determine if shapes are symmetric or asymmetric.	**CCSS.MATH.CONTENT.4.G.A.3** Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
☐	16	**Introduction to Ozobot Blockly 01: Basic Training**	Students learn the basics of how to navigate Ozobot Blockly, program a simple code, and run it on their bot.	**CSTA.1B-AP-10** Create programs that include sequences, events, loops, and conditionals.

Pacing Guide | Grade 4

|		Lesson Title & Link	Description	Primary Academic Standard
☐	17	**Introduction to Ozobot Blockly 02: Sequences**	Students learn to program a simple sequence in Ozobot Blockly.	**CSTA.1B-AP-10** Create programs that include sequences, events, loops, and conditionals.
☐	18	**Introduction to Ozobot Blockly 03: Loops**	Students learn to program with loops to create a dance sequence.	**CSTA.1B-AP-10** Create programs that include sequences, events, loops, and conditionals.
☐	19	**Introduction to Ozobot Blockly 04: Debugging**	Students learn to use debugging skills by building a program and fixing errors.	**CSTA.1B-AP-15** Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.
☐	20	**Introduction to Ozobot Blockly 05: Skills Check 1**	Students apply the concepts and skills they learned in previous lessons to program their bot to complete a challenge.	**CSTA.1B-AP-15** CSTA 1B-AP-15 Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.
☐	21	**Introduction to Ozobot Blockly 06: Conditionals**	Students learn to program with conditionals to play a game of tag.	**CSTA.1B-AP-10** Create programs that include sequences, events, loops, and conditionals.
☐	22	**Introduction to Ozobot Blockly 07: Variables**	Students learn to program with variables using the color sensor.	**CSTA.1B-AP-09** Create programs that use variables to store and modify data.
☐	23	**Introduction to Ozobot Blockly 08: Skills Check 2**	Students apply the concepts and skills they learned in previous lessons to program their bot to complete a challenge.	**CSTA.1B-AP-09** Create programs that use variables to store and modify data.
☐	24	**Introduction to Ozobot Blockly 09: Line Navigation**	Students learn about the line navigation blocks to program their bot to move from location to location.	**CSTA.1B-CS-02** Model how computer hardware and software work together as a system to accomplish tasks.

Pacing Guide | Grade 4

		Lesson Title & Link	Description	Primary Academic Standard
☐	25	**Fact Families** Coming Soon!	In this math-integrated lesson, students use Ozobot Blockly to program their bot to choose two random numbers and an operator and create four math facts for each group of numbers.	**CCSS.MATH.CONTENT.4.OA.B.4** Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number.
☐	26	**Multiples** Coming Soon!	In this math-integrated lesson, students use Ozobot Blockly to program their bot to randomly choose numbers 2-12. Students write the multiples of those numbers, then, program their bot to say multiples to help them check their work.	**CCSS.MATH.CONTENT.4.OA.B.4** Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.
☐	27	**Prime and Composite Numbers** Coming Soon!	In this math-integrated lesson, students use their knowledge of multiples and their Ozobot's program to say multiples to apply the Sieve of Eratosthenes to discover prime numbers between 1 and 100.	**CCSS.MATH.CONTENT.4.OA.B.4** Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.
☐	28	**Factor Magic** Coming Soon!	In this math-integrated lesson, students use Ozobot Blockly to program their bot to help them discover the factors of a number.	**CCSS.MATH.CONTENT.4.OA.B.4** Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.
☐	29	**OzoBlockly ELA/STEAM Integration** Coming Soon!		**Standard** Coming Soon!
☐	30	**OzoBlockly ELA/STEAM Integration** Coming Soon!	More content-integrated lessons are currently being developed. Visit the Ozobot Classroom Lesson Library to find the latest lessons.	**Standard** Coming Soon!
☐	31	**OzoBlockly ELA/STEAM Integration** Coming Soon!		**Standard** Coming Soon!

Ozobot Pacing Guide

Highly-Recommended Introductory Lessons   **Optional Content-Integrated Lessons**

Content Integration Options | Grade 4

STEAM	ELA	Math	Holiday
Energy Road Trip	Ozobot's Trip with Prepositions	Division Maze	Ozobot for President! (Beginner)
Patterns and Waves Part 1	ID the Structure	Division Race	Ozobot for President! (Advanced)
Patterns and Waves Part 2	What's the Word Relay	Division Race with Remainders	Ozobot Trick or Treat
Patterns and Waves Part 3	Ozobot's Day of Similes	All About Symmetry	Holiday Series: Thanksgiving/Gratitude Party
		Fact Families	Holiday Series: Reinbot Landing Practice
		Multiples	Holiday Series: Hanukkah
		Factor Magic	Holiday Series: Kwanzaa
		Prime and Composite Numbers	Holiday Series: Lunar New Year
			Black History: 2-5 Grade

Find these lessons, plus content from the Ozobot community, in Ozobot Classroom: classroom.ozobot.com
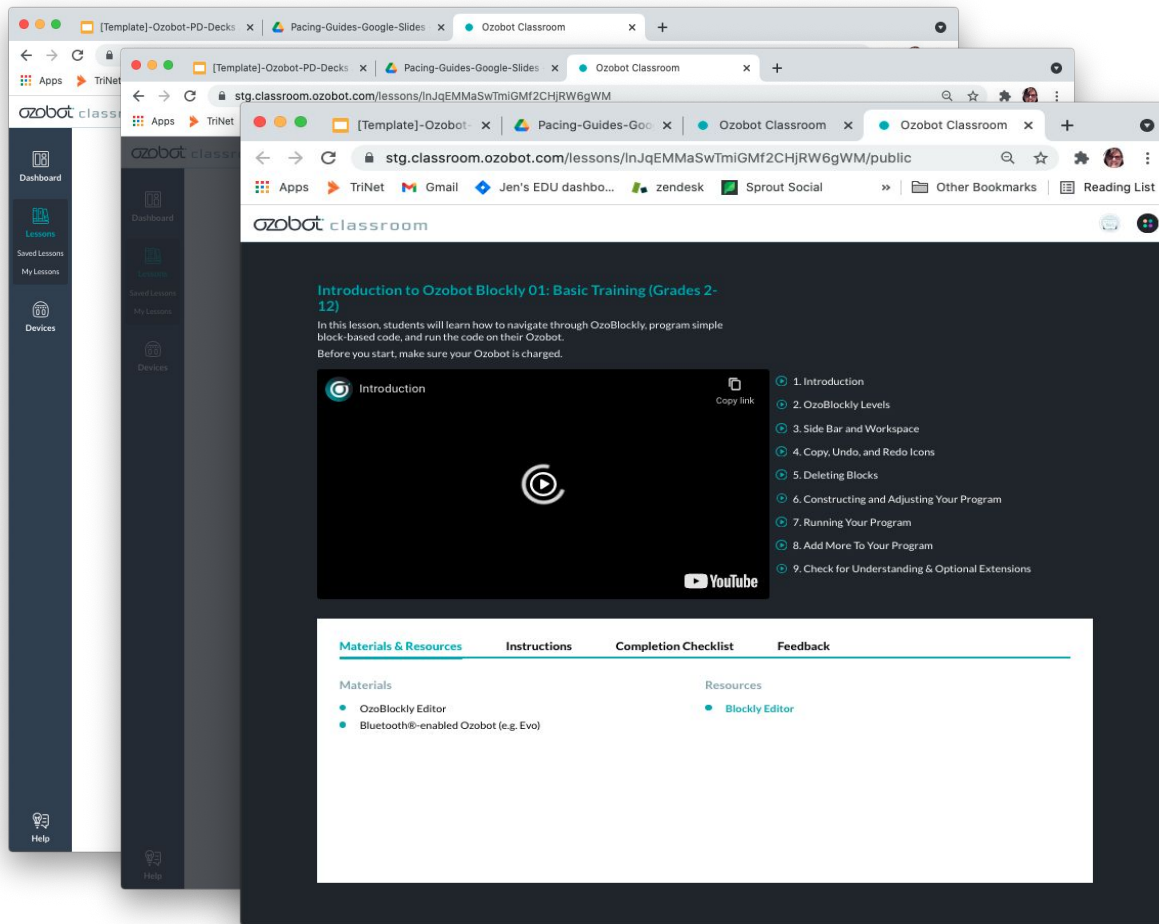
Assigning a Lesson

1. Open the lesson.

2. Click "Share with Students"

3. Send students the link to the lesson using your LMS or email.

To view what your students see, click on "Open Lesson As Student"

Ozobot Classroom: Devices

Update and rename your bots

1. **When using Classroom Communicator for multiple bots, connect the Communicator first, then bots will populate.**

2. **Bot will flash when renamed or selected.**

3. **Update your bots when first received.**
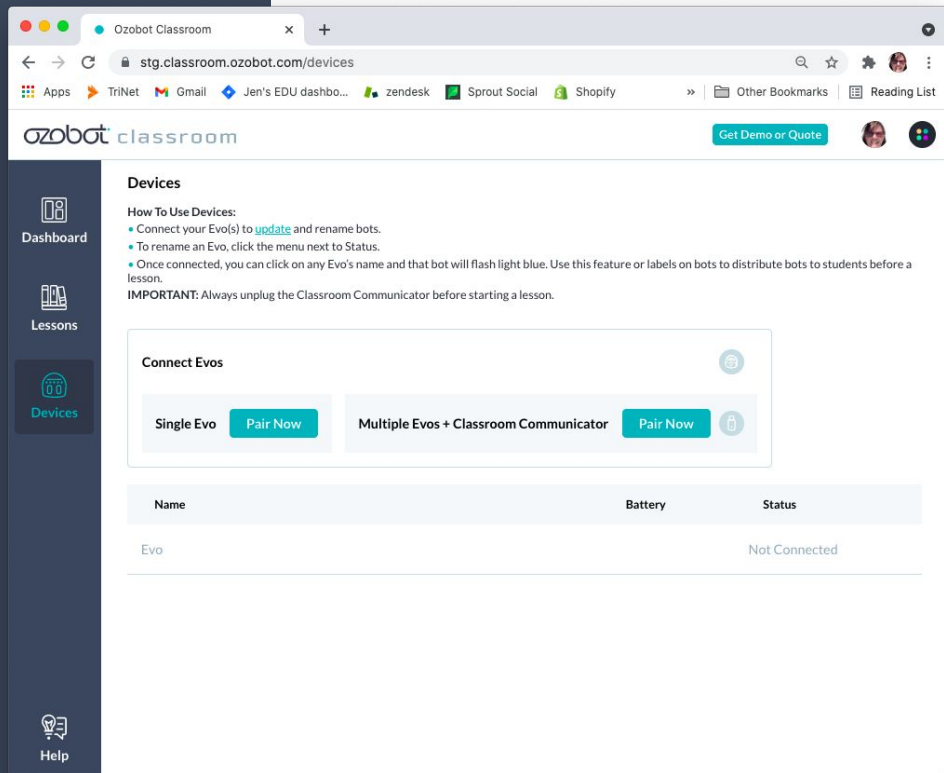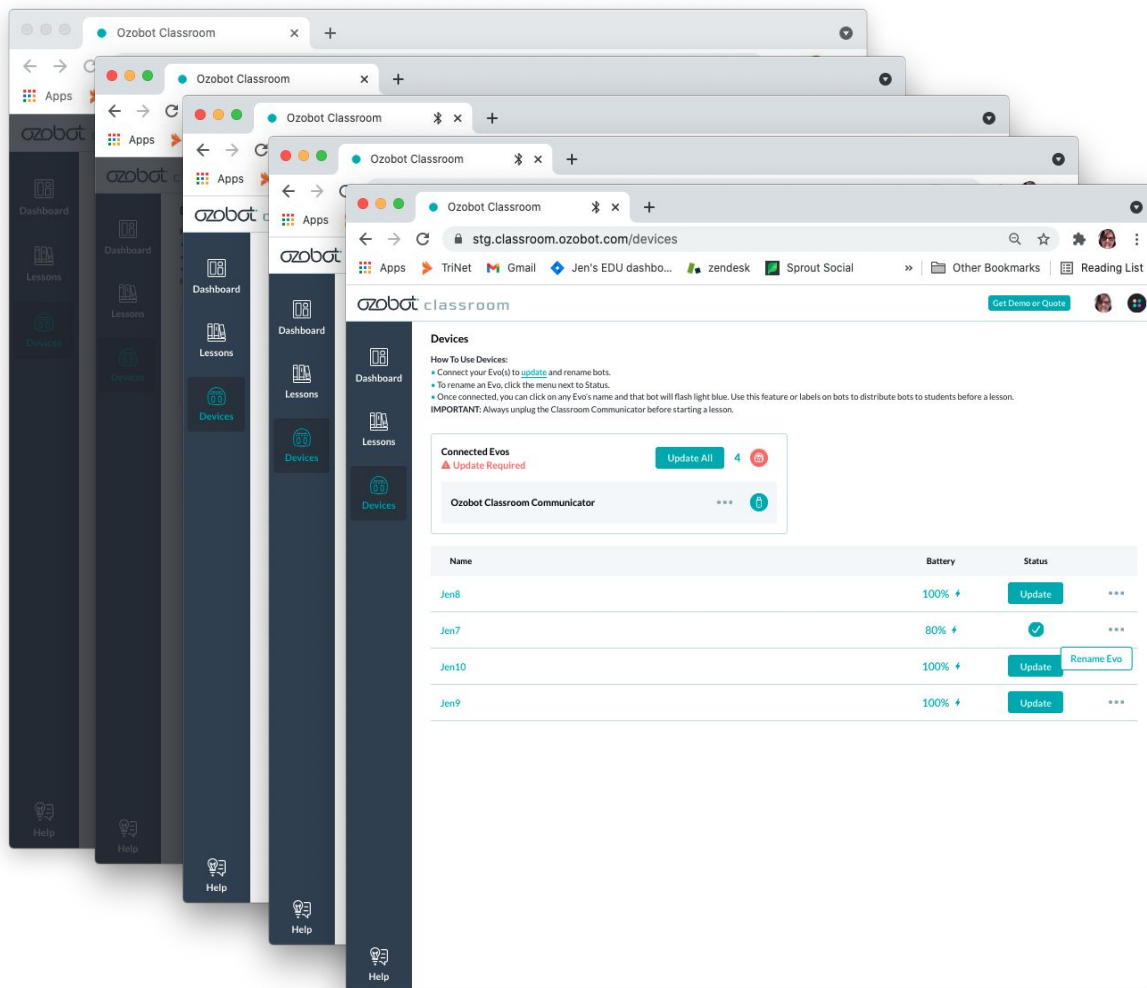
Update and Rename Evo

- Pair OCC first
- Bots that are powered on or plugged in will populate.
- When updating top LED will be blue
- When finished updating, top LED will turn green.
- Select a bot, front LEDs will flash blue.

Hint: While updating, stay on the update page. If you navigate away from it or your computer goes to sleep, the update will terminate.
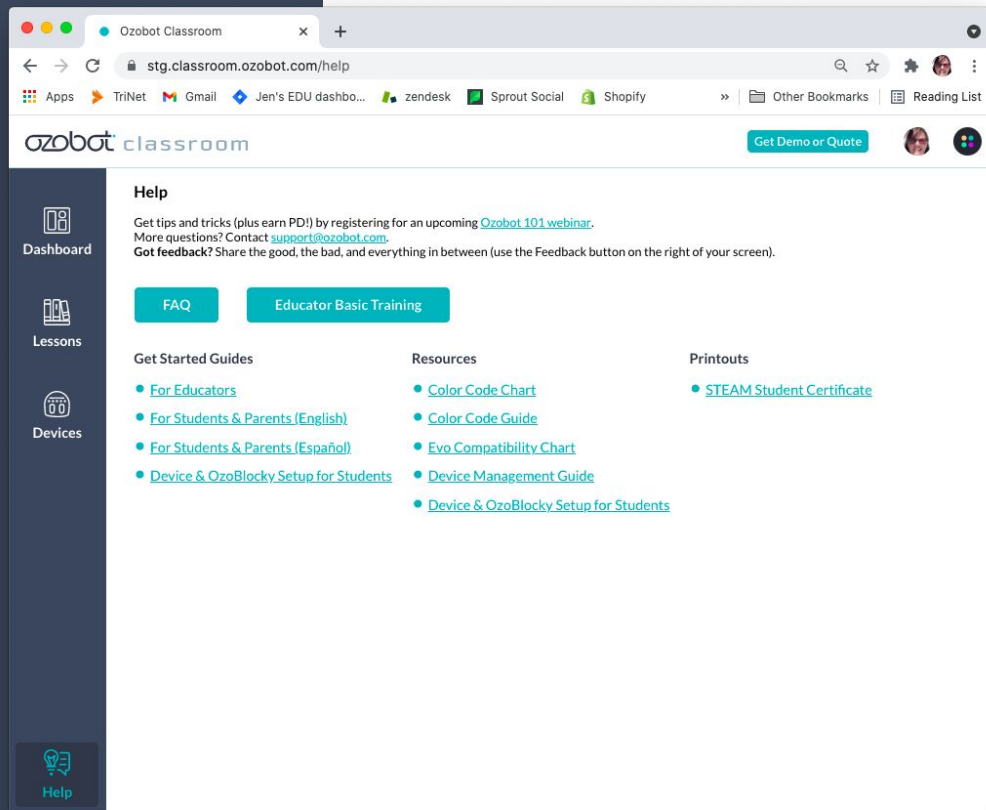
Device Management Videos

Ozobot Classroom: Support Resources

Find additional support in the Help section of Classroom.

- **FAQ**

- **Get Started Guides**

- **Resources**

- **Certificate for printing**

<u>Device Management Videos</u>

Video Lessons

Overview

STEAM in Hybrid, Remote, or In-Person Settings

All Lessons include:

- Lesson Plan
- Instructional Video
- 45 minutes
- Student Activity Guide
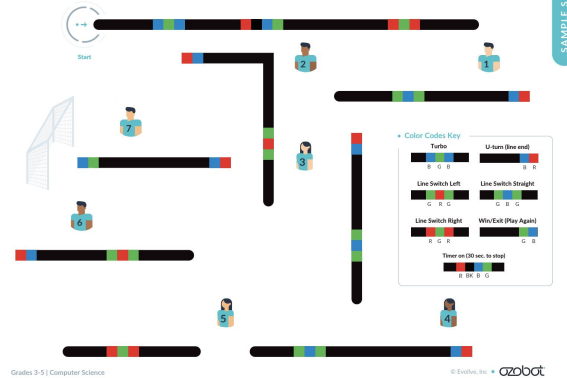- Student Activity Sheets
- Teacher Answer Key/Potential Solution

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Video Lessons

Overview

- **2-8th Grade lessons**

  ELA, Science, and CSTA/ISTE standards aligned

  - **Each lesson will be aligned with at least**
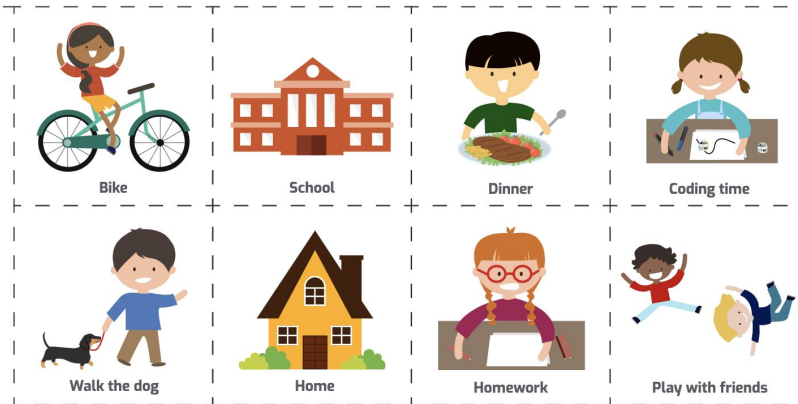   - 1 ISTE Standard
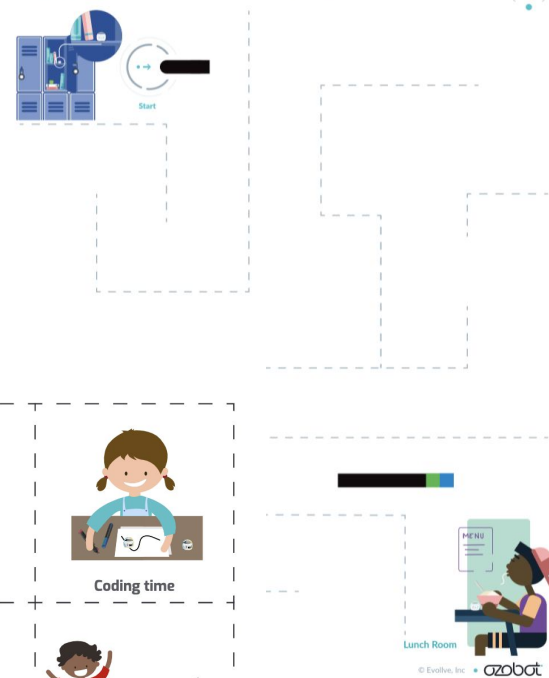   - 1 CSTA Standard
    - 1 Content Standard

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Representation Matters!

Diversity and Inclusion in all content

Teacher and Student Instructions

Introduction to Ozobot Blockly 01: Basic Training (Grades 2-12)

Author: Ozobot

Grades:	Subject(s):	Pre-Reader/ESL-Friendly?
2—12	Computer Science, Engineering/Tech	No
Compatible Bot(s):	**Coding Method:**	
Evo	OzoBlockly	

Quick Summary:

In this lesson, students will learn how to navigate through OzoBlockly, program simple block-based code, and run the code on their Ozobot.

Duration: 45 min

Objectives & Outcomes

1. Student will be able to build programs in OzoBlockly using blocks from the categories: Loops, Sounds, Timing, Movement, and Light Effects.
2. Student will be able to run their block-based code on any Bluetooth®-enabled Ozobot (e.g. Evo).
3. Student will be able to navigate through and select a level in OzoBlockly.
4. Student will be able to use the delete, duplicate, undo, and redo icons in OzoBlockly.

Preparation

Teacher Materials & Digital Resources
- ozobot-6-12-Introduction-to-OzoBlockly-Basic-Trai...
- solution-ozobot-6-12-Introduction-to-OzoBlockly-B...

Video
- 6-12GR-CS: Introduction to OzoBlockly 01: Basic T...
- Introduction to OzoBlockly 01: Basic Training [Full]

Student Materials
- 1 OzoBlockly Editor per student
- 1 Bluetooth®-enabled Ozobot (e.g. Evo) per student
- Blockly Editor

Background Knowledge

Completed lesson
- Introduction to Ozobot: Get to Know Evo https://classroom.ozobot.com/lessons/lnHsHKD0kXTgueqAiT7Pg7jQT3

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Introduction to Ozobot Blockly 01: Basic Training (Grades 2-12)

What We'll Cover:

1. We'll be able to build programs in OzoBlockly using blocks from the categories: Loops, Sounds, Timing, Movement, and Light Effects.
2. We'll be able to run their block-based code on any Bluetooth®-enabled Ozobot (e.g. Evo).
3. We'll be able to navigate through and select a level in OzoBlockly.
4. We'll be able to use the delete, duplicate, undo, and redo icons in OzoBlockly.

Materials:

- 1 OzoBlockly Editor per student
- 1 Bluetooth®-enabled Ozobot (e.g. Evo) per student
- Blockly Editor

Activity Instructions:

1. Today, we will learn how to use OzoBlockly! Before we dive in, let's talk about some vocabulary: Code and Program Let's define the terms: 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 What's the difference? Think of it this way, pieces of code are combined to create programs. Today, you will use OzoBlockly to build block-based programs. OzoBlockly is a block-based editor. This editor allows you to create programs for Ozobot using blocks that can be selected, dragged, dropped, and connected together like puzzle pieces. Programs written with OzoBlockly can be sent to Ozobot Evo via Bluetooth. This means OzoBlockly sends the program wirelessly to Ozobot, and Ozobot can run the program.
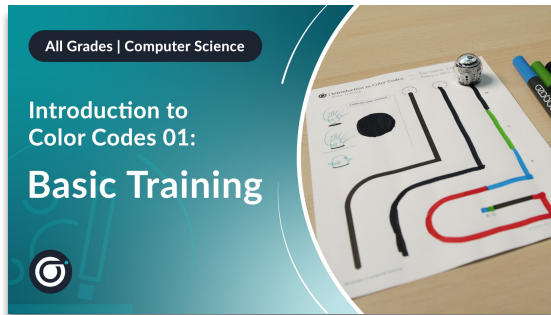
   Introduction: youtu.be/KPpFY0oabUk

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The Basics
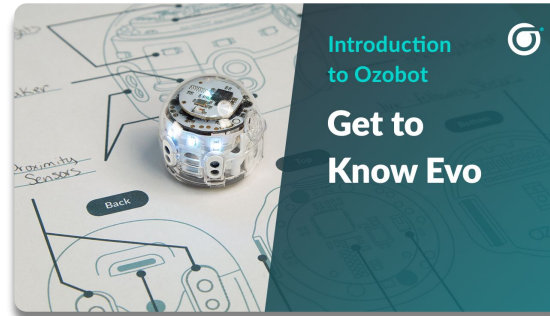
Introduction to Ozobot: Get to Know Evo

Evo Diagram

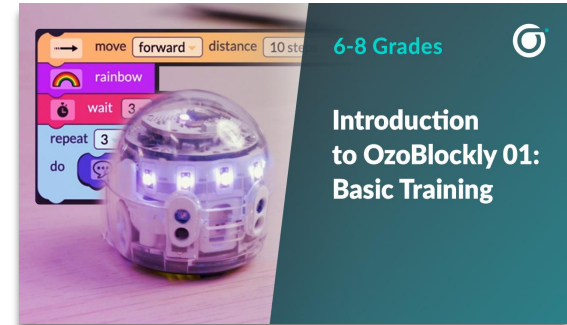**Intro to Color Codes 01: Basic Training**

Activity Sheets

Intro to Ozobot Blockly 01: Basic Training

Activity Sheets

Video Lessons

Grades K-12

classroom.ozobot.com

Color Codes

1. Introduction to Color Codes 01: Basic Training

2. Introduction to Color Codes 02: Speed

3. Introduction to Color Codes 03: Special Moves and Win

4. Introduction to Color Codes 04: Direction

5. Introduction to Color Codes 05: Skills Check 1 (by grade)

6. Introduction to Color Codes 06: Timers

7. Introduction to Color Codes 07: Line Switch

8. Introduction to Color Codes 08: Counters

9. Introduction to Color Codes 09: Skills Check 2 (by grade)

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Video Lessons

Grades 2-5

OzoBlockly (Grades 2-5)

1. Introduction to Ozobot Blockly 01: Basic Training

2. Introduction to Ozobot Blockly 02: Sequences

3. Introduction to Ozobot Blockly 03: Loops

4. Introduction to Ozobot Blockly 04: Debugging

5. Introduction to Ozobot Blockly 05: Skills Check 1

6. Introduction to Ozobot Blockly 06: Conditionals

7. Introduction to Ozobot Blockly 07: Variables

8. Introduction to Ozobot Blockly 08: Skills Check 2

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Video Lessons

Grades 6-8

OzoBlockly (Grades 6-8)

1. Introduction to Ozobot Blockly 01: Basic Training
2. Introduction to Ozobot Blockly 02: Sequences
3. Introduction to Ozobot Blockly 03: Loops
4. Introduction to Ozobot Blockly 04: Conditionals
5. Introduction to Ozobot Blockly 05: Skills Check 1
6. Introduction to Ozobot Blockly 06: Variables
7. Introduction to Ozobot Blockly 07: Line Following
8. Introduction to Ozobot Blockly 08: Debugging
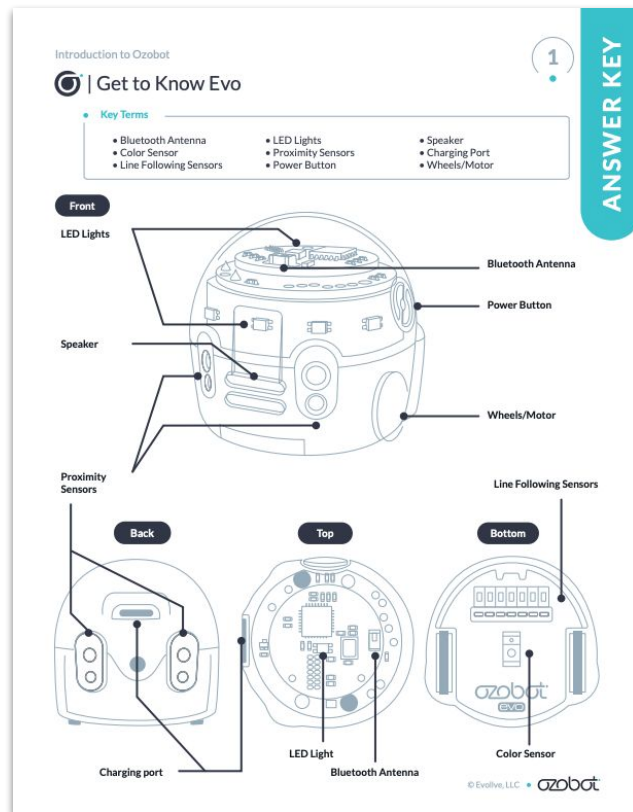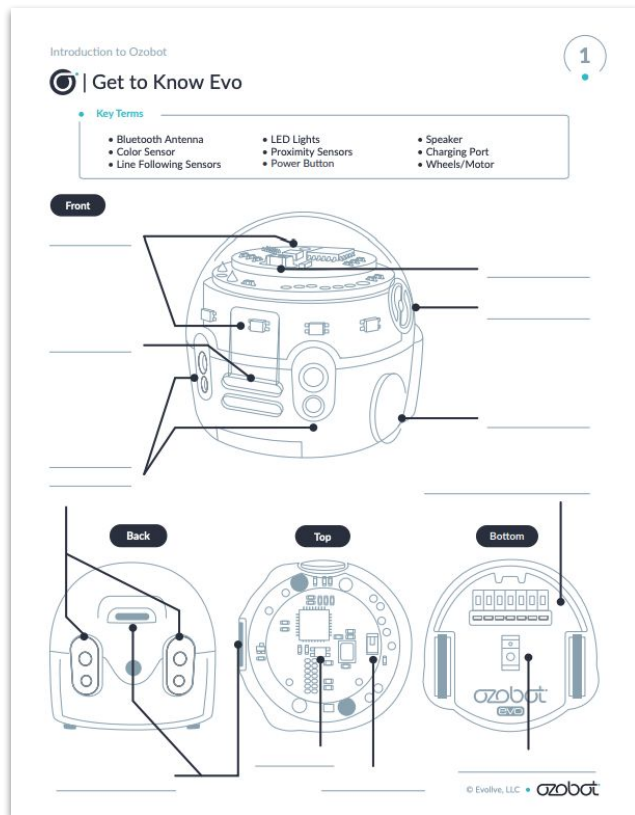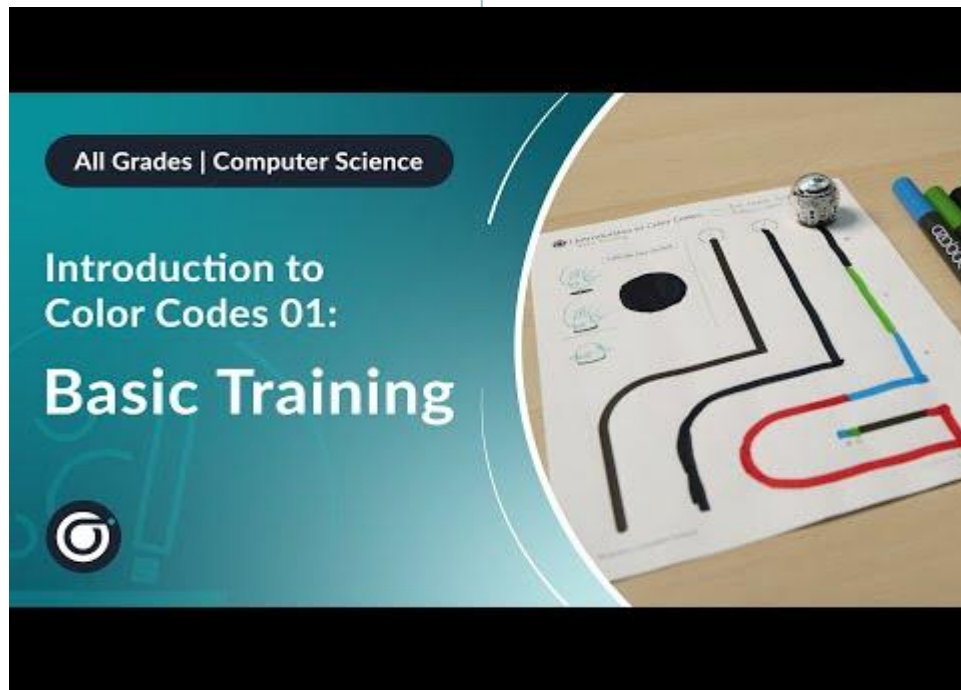9. Introduction to Ozobot Blockly 09: Skills Check 2
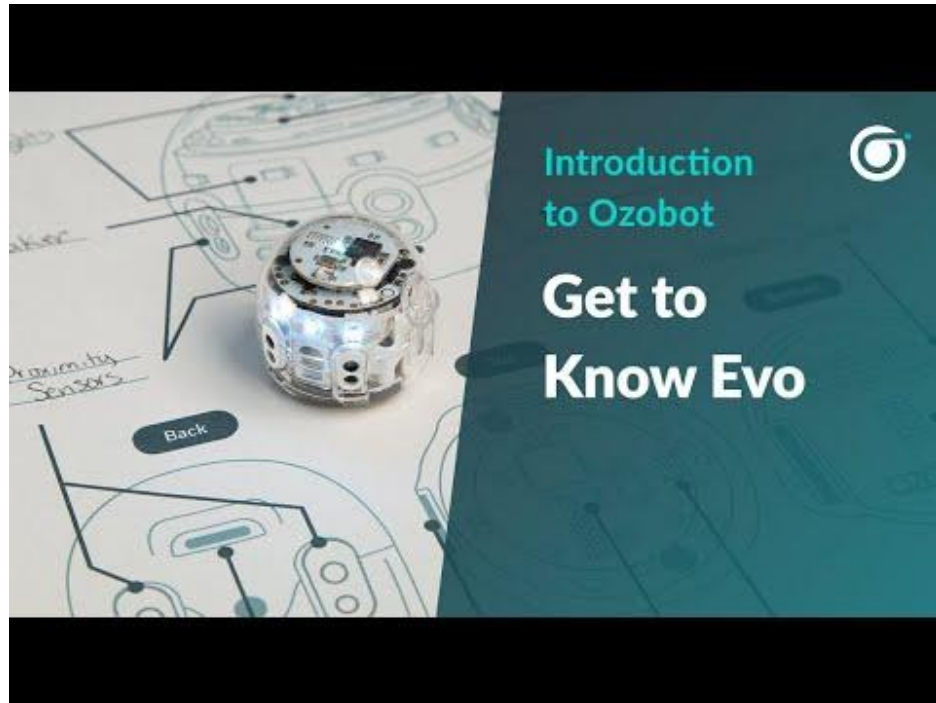
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Introduction to Ozobot: Get to Know Evo

Objective:
Students will identify and label
Evo's hardware components.

Introduction to Ozobot: Get to Know Evo
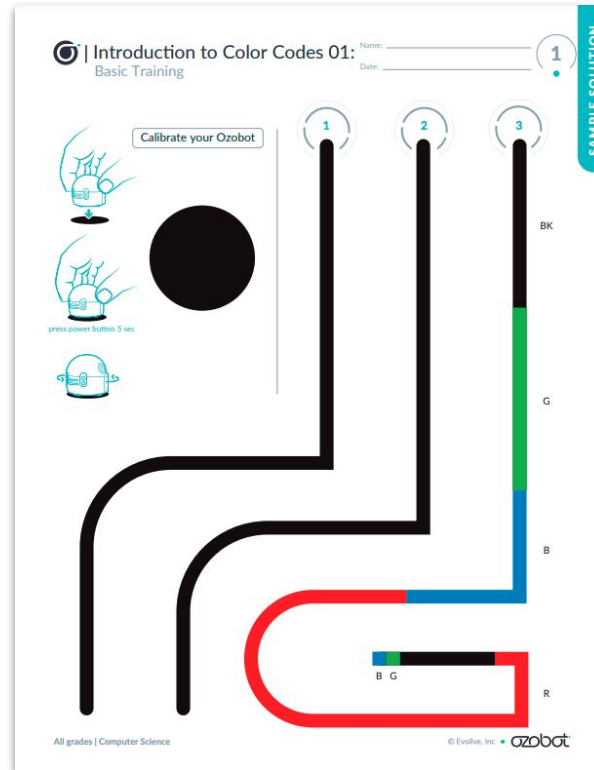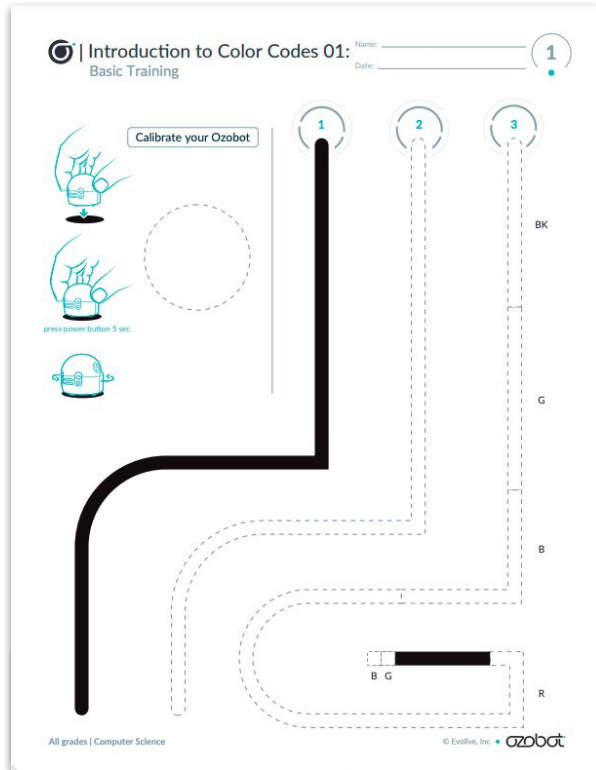
Introduction to Color Codes 01: Basic Training

Objective:
Students will be able to calibrate their bot and draw lines for their bot to follow.

Lesson Link

Introduction to Color Codes 01: Basic Training

Calibrate your Ozobot, draw black lines and lines with color.

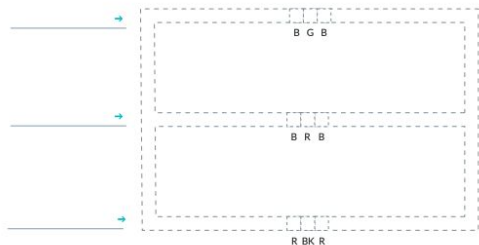**Activity Sheets**

Introduction to Color Codes 01: Basic Training

Symmetric and Asymmetric Color Codes
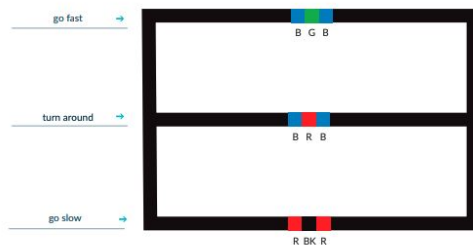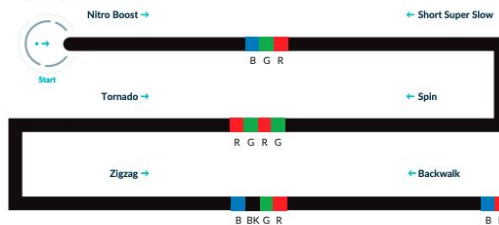
Activity Sheets

Introduction to Color Codes 01: Basic Training

Color Codes | Chart

Speed

Short Super Slow	Slow	Cruise	Fast	Turbo	Nitro Boost
R G B	R BK R	G BK G	B BK B	B G B	B G R
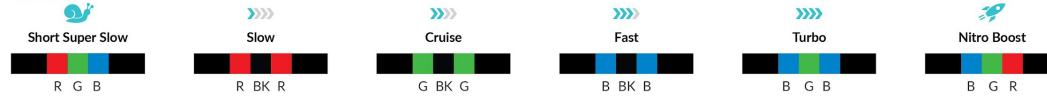
Direction & Special Moves

Left at Intersection	Straight at Intersection	Right at Intersection	Line Switch Left	Line Switch Straight	Line Switch Right
G BK R	B BK R	B R G	G R G	G B G	R G R

U-Turn	U-Turn (line end)	Tornado	Zigzag	Spin	Backwalk
B R B	B R	R G R G	B BK G R	G R G R	R G BK B

Timers

Pause (3 sec.)	Timer on (30 sec. to stop)	Timer off
R B R	R BK B G	G B BK R

Wins/Exits

Win/Exit (Play Again)	Win/Exit (Game Over)
G B	G R
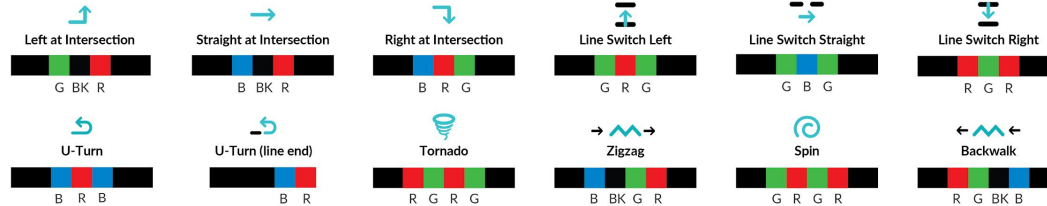
Counters See reverse for definitions

Enable X-ing Counter	Enable Turn Counter	Enable Path Color Counter	Enable Point Counter	Point +1	Point -1
G R B G	R B G B	R G B R	R B R G	R B G	G B R

ozobot.com   **Key:** **BK** = Black   **B** = Blue   **G** = Green   **R** = Red

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6-12 Grades

Introduction to OzoBlockly 01: Basic Training

Introduction to Ozobot Blockly 01: Basic Training Grades (2-12)

Objective:
Students will learn how to navigate through OzoBlockly, program simple block-based code, and run the code on their Ozobot.

Lesson LInk

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We value your feedback!

[Ozobot Implementation Survey](#)

Q & A

15 min

Wrap-Up

If you have any questions or comments, email:
support@ozobot.com or your Account Executive

_____

To receive updates, Opt-in on Ozobot.com

Access today's Video Lessons in Ozobot Classroom:
Introduction to Ozobot: Get to Know Evo
Introduction to Color Codes 01: Basic Training
Introduction to Ozobot Blockly 01: Basic Training

Recap on how to use the lessons on the Ozobot Blog:

ozobot.com/blog

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