

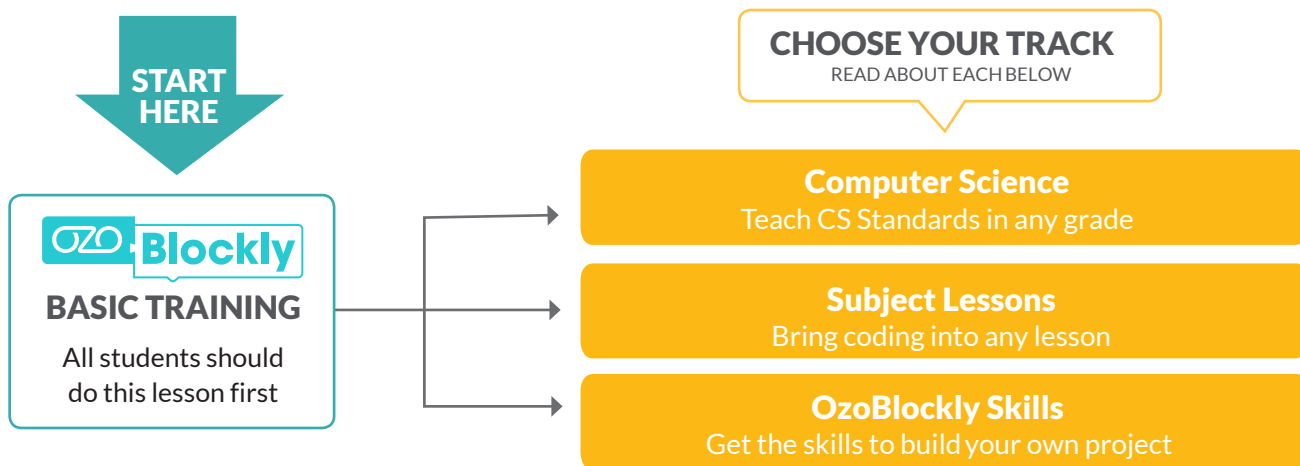


TEACHING OZOBLOCKLY README

Educator's Guide to Starting with Ozoblockly

OzoBlockly is Ozobot's visual programming language. Just as powerful as any other programming language, OzoBlockly gives you full control over Bit and Evo.

Ozobot has created lessons to use OzoBlockly in 3 ways: for teaching Computer Science, integrating it into any subject, and teaching the skills needed to build your own programs and projects. Use this guide to find out which lessons to start with and plan for, how they help you accomplish your goal, and help you discover new ideas you might want to bring to your classroom.



TIPS

1. Ozobot recommends that classes also do OzoBlockly Skills Lesson 3 - Pair Programming to learn how to divide tasks between students sharing an Ozobot. Read more, below.
2. There are also OzoBlockly lessons for pre-readers! Check out Example Tracks, below.

OzoBlockly Basic Training

ozo.bot/ozoblockly-training

All students should do Basic Training to learn how to use the code editor and upload programs to an Ozobot. Choose the lesson that best fits your grade group.

OzoBlockly Training for Grades K-1

OzoBlockly has picture-based blocks for pre-readers code Ozobot! You can make Ozobots move and light up, and for Evo, make sounds with these blocks. In this lesson, students will help Bit or Evo get home by reordering the blocks, then loading the program onto their bot.

OzoBlockly Training for Grades 2-5

Students will discover how to build a program then load it to their bot using an example program called Square Walk. Afterwards, students are challenged to change the program to make a rectangle, followed by an optional activity to create a dance for their bot.

OzoBlockly Training for Grades 6+

Students will discover how to build a program then load it to their bot using an example program called Square Walk. Afterwards, students are challenged to change the program to make a rectangle, followed by an optional activity to drag race their classmates with a new program they create.

Computer Science Lessons

ozo.bot/cs-lessons

No matter which grade you teach, Ozobot has fun CS lessons for your grade! Read about the elementary, middle and high school tracks, below.

Elementary School Computer Science with Game Design

For grades 2-5. Use one or several of these lessons to teach coding concepts like logic, loops, and variables. Each lesson is a single game like Ozobot's take on Minesweeper (where you learn variables, counting and building a timer) and Angry Birds (iterating loops, color detection with logic). Students play the game first to discern each unique action, then discover the types of code that make each action. Read the guide for this course provided on the lessons' page to learn more.

Middle School Computer Science with Game Design (Evo only)

For grades 6-8. Follow one of three courses of 5 lessons each to teach coding concepts through game design. This course uses 'deconstruction', Ozobot's favorite method for teaching coding.

Ozobot's High School Computer Science Principles Course - *coming soon*

For grades 9-12. Follow the 8 lessons in this course to satisfy part of your AP Computer Science Principles course.

Subject Lessons with OzoBlockly ozo.bot/ozoblockly-subject-lessons

There are 100+ Ozobot- and teacher-created lessons available for free in the Ozobot Lesson Library. It's easy to use the search filter to hone in on grades, subjects and other parameters to find exactly the kind of lesson you need. If you've made a lesson, you can [submit it to be put into the Lesson Library here](#).

Here are some examples:

MATH

[Demonstration of the Pythagorean Theorem](#)

[Multiplication Table Practice](#)

[Ozobot Bit - Second Timer](#)

SOCIAL STUDIES

[Dorothy Vaughan and Fortran](#)

[Magellan's Journey](#)

ART

[Evo Bright Art Activity](#)

[Decorating Easter Eggs with Ozobot](#)

LANGUAGE ARTS

[Ozobot's Fairytale, Lesson II](#)

SCIENCE

[Velocity as Slope of Position vs. Time Graphs](#)

[Eclipses and Celestial Mechanics](#)

[Space Exploration Ozobot Bit Game](#)

GAMES & ACTIVITIES

[Ozobot Winter Olympics 2018](#)

[Maze Game](#)

OzoBlockly Skills Lessons

ozo.bot/ozoblockly-skills

When you want to take full control of your Ozobot for mazes, projects and new lessons, you'll want to know how to take full control of Ozobot's motors and learn how to code for line navigation maps.

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|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Lesson 1 - Shape Tracer 1</u> | <p>Students play the web game Shape Tracer to learn how to put movement and light blocks together. Students can also practice loading the programs to an Ozobot.</p> |
| <u>Lesson 2 - Shape Tracer 2</u> | <p>Students play the web game Shape Tracer to learn how to use loops and movements.</p> |
| <p><u>Lesson 3 - Pair Programming</u> Recommended for All Classes</p> | <p>Students discover how to work as a pair or small team to build a single program. They will use the concepts of Drivers, who code, and Navigators, who think ahead and make code suggestions.</p> |
| <u>Lesson 4 - Move Straight</u> | <p>Discover that Bit, and to a lesser extent Evo, needs help to go straight. Use the 'set wheel speeds' block to choose each motor's speed to move straight.</p> |
| <u>Lesson 5 - Turn Accurately</u> | <p>Now that Bit and Evo go straight, learn how the 'rotate by n degrees' block works. Due to their size, Ozobot's are not 100% accurate.</p> |
| <u>Lesson 6 - Functions</u> | <p>Learn how to create your own OzoBlockly blocks using Functions. This way, you can save any specific movements (like moving straight) to use any time instead of recreating the blocks.</p> |

EXAMPLE TRACKS FOR DIFFERENT CLASS TYPES

These are example classes and the lessons they might in order. Each lesson title in quotes can be searched for in our free Lesson Library (portal.ozobot.com).

THE PRE-READER CLASS

OzoBlockly Basic Training (for Pre-Readers) ▶ “Ozobot Dance Party”

THE SUBJECT-BASED 3RD GRADE CLASS

OzoBlockly Basic Training ▶ “Magellan’s Journey” (History) ▶ “Eclipses and Celestial Mechanics” (Science) ▶ “Multiplication Practice” (Math) ▶ “Fairy Tale Lesson 2” (English)

THE TECHNOLOGY CLASS

OzoBlockly Basic Training ▶ OzoBlockly Games ▶ OzoBlockly Skills ▶ (Elementary or Middle School) Computer Science with Game Design

THE MAKERSPACE CLASS

OzoBlockly Basic Training ▶ “The Snow Plow” ▶ “Ozobot Winter Traditions Parade” ▶ “Ozobot Olympics”

THE CODING CLASS

OzoBlockly Basic Training ▶ (Elementary or Middle School) Computer Science with Game Design OR High School Intro to CS with Ozobot