ozobot

EDUCATOR'S GUIDE

Thank you for bringing Ozobot into your classroom! This guide outlines everything you need to know to get started; no programming or robotics experience required.

HOW CAN OZOBOT HELP YOUR STUDENTS?

Ozobot is a small smart robot that is programmable through drawn lines and color codes, and through our easy-to-use OzoBlockly editor in which you can create autonomous behavior and complex programs. Your students will learn robotics and programming with a hands-on approach. Ozobot makes STEM/STEAM engaging and seamlessly supports lessons ranging from math and science to art and literature.

Ozobot supports all skill and grade levels from K–12. Elementary students can start programming Ozobot with OzoCode color codes on a tablet with a free app, or with markers and paper. After that, students advance by coding programs for Ozobot on a computer or tablet with OzoBlockly, our block-based coding editor.

Ozobot.com hosts a large library of STEAM and standards-based lessons created by the Ozobot team and other educators. Since some classrooms are not equipped with

computers or tablets, most lessons can be adapted for use with OzoBlockly or just markers and paper. Visit portal.ozobot.com/lessons for more info.

Ozobots are a desk-friendly size and do not require students to move around the classroom in order to program, interact with the robots, and collaborate. Entire lessons can be done at their regular desk. Elementary school kids should be perfectly capable of using Ozobot with minimal adult supervision.

Across K–12 subjects and regardless of classroom computer resources, Ozobot is an engaging and powerful tool for you and your students.

WHAT DO OZOBOT BIT AND OZOBOT EVO DO?

With Ozobot Bit, students start by controlling Bit with color codes called OzoCodes. Then, they take full control of Bit's behavior with OzoBlockly, Ozobot's block-based programming editor. OzoBlockly lessons guide students through introductory to advanced programming, including such concepts as loops, variables, and functions. Bit is ideal for students in K–8.

Ozobot Evo does everything Bit can do, and more. Evo reads lines and OzoCodes, can be programmed with OzoBlockly, and responds to remote control commands via a companion app. Evo has optical sensors, like Bit, but also has proximity sensors for detecting obstacles such as a child's hand. Other Evo features include additional LED lights and expressive sounds. These features are programmable within OzoBlockly, making Evo a more advanced learning tool ideal for students in grades 6-12. Learn more about Evo at files.ozobot.com/stem-education/evo-guide.pdf.

WHAT LESSONS ARE AVAILABLE?

Students and educators can become familiar with Ozobot through introductory Ozobot training lessons (portal.ozobot.com/lessons) and games (games.ozoblockly.com). Ozobot Basic Training lessons cover basic Ozobot operation, line drawing, and OzoCodes. OzoBlockly Basic Training lessons take students through OzoBlockly games (games.ozoblockly.com) and the OzoBlockly editor (ozoblockly.com/editor) to teach basic to advanced computer programming concepts. Evo Basic Training explains Evo-specific programmable features. Students will learn to write creative and complex OzoBlockly programs and will build a foundation on which to explore JavaScript, Python, and other coding languages.

Our lesson library (portal.ozobot.com/lessons) has a wide variety of lessons and activities to keep your students learning and engaged all year. You will find curricula for grades K–12 on a range of topics from computer science, programming, and math to art and history. New lessons are added monthly.

Many lessons have been contributed by Ozobot-loving educators like you. If you create your own Ozobot lessons, please share them with us on the Ozobot STEM Education page (ozobot.com/stem-education/stem-lessons).

WHAT DO I NEED TO GET STARTED?

Your Classroom Kit has everything you need to teach your first Ozobot lesson. Our website has PDFs, games, and other resources to keep your class busy for a full year. For more information, visit
ozobot.com/stem-education/stem-classroom-kit.

OZOBOT BIT OR EVO

Make sure your Ozobots are fully charged before each lesson. The Classroom Kits come with convenient multi-port chargers and protective containers for when not in use. For long periods of disuse, keep Ozobots at medium charge in cool, dark places.

TABLETS OR COMPUTERS

Certain lessons use tablets or computers. For these lessons, we recommend that you have as many tablets or computers as Ozobots available. Students can work in groups of up to 4 students per Ozobot and screen.

APPLICATIONS

To program with OzoBlockly, students will use the web-based OzoBlockly editor (ozoblockly.com/editor) on any computer or tablet. While other browsers also work, we recommend using Chrome. There is a great introductory video available to show your students, found on the main OzoBlockly site ozoblockly.com. Students can practice programming with the OzoBlockly Games (games.ozoblockly.com). There are also Ozobot, Ozobot Evo, and OzoGroove apps available for many iOS and Android devices.

LESSON PLAN
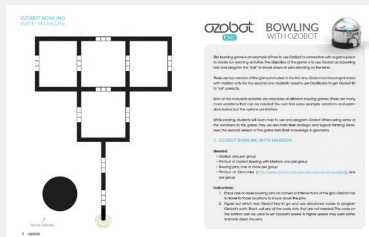
Lesson plans come in PDF format and can be downloaded for free (portal.ozobot.com/lessons). Some lessons come with an OzoBlockly program that is either an example of a solution or is needed during the lesson in the classroom. The program can be found under "Attachments" on the lesson's page.

MARKERS

Many lessons require black, red, light blue, and light green markers. We recommend using Ozobot markers to ensure that your bot reads the colors reliably. Crayons and white board markers should not be used with Ozobot. Ozobot markers come in the Classroom Kit, or can be ordered by emailing ozoedu@ozobot.com. You can also use Sharpie wide chisel tips (in pastel colors for blue and green) or Crayola classic markers. One set of markers per group of students is sufficient. If you are using permanent markers, place an extra sheet of paper underneath to avoid marks on the table surface. Please note that Ozobot markers should only be used when drawing lines and OzoCodes. If the markers are used to color in pictures and images then the ink will not last as long.

CODE REFERENCE CHART

Have an "OzoCodes Reference" chart available for students to use whenever they are working with color codes. The chart is included in your Kit and can be downloaded at files.ozobot.com/stem-education/ozobot-ozocodes-reference.pdf.

SKINS

Your Classroom Kit comes with two types of skins, including customized skins (already placed on the Ozobots inside the carrying case) and clear DIY skins (packaged separately within the Kit). Do not try to place DIY skins over customized skins. DIY skins allow students to customize the Ozobot and are used in some lessons to create characters for a specific setting. Extra DIY skins can be ordered by contacting ozoedu@ozobot.com.

WHAT IF I NEED HELP OR ADVICE

If you have questions about how Ozobot Bit or Evo work, watch our "How To" videos on YouTube: youtube.com/OzobotEducation and youtube.com/OZOBOT.
You can also visit the FAQ section of our website at ozobot.com/faq/.

For product support, email us at support@ozobot.com. For general questions or outreach, we're available on Facebook and Twitter, and we have a dedicated Facebook group for educators to share, ask questions, and support one another (facebook.com/groups/OzoAcademy).

Please contact us with questions, feedback, or lesson plan suggestions at ozoedu@ozobot.com. Our team is always happy to help.

We've hosted many webinars that go over such topics as Ozobot basics, using OzoBlockly, and teaching tips, with more on the way. Our recordings are available at ozobot.com/stem-education/webinars-and-professional-development. You can also sign up for future webinars and earn PD credits.

HOW CAN I TAKE CARE OF OZOBOT?

For reference, here are care and troubleshooting tips for your Ozobots.

POWER BUTTON

Turn Ozobot on and off by pressing the large button on its side.

PROTECTING YOUR OZOBOT

Ozobot's skins provide added protection during use. While not in use, Ozobots should be placed in their carrying case or container. This container should be stored out of sunlight in a cool, dark place.

CALIBRATION

Calibration is extremely important! Why? Because Ozobot's infrared sensors (also known as its "eyes") are highly sensitive to surrounding light. As a result, changing paper or moving closer to a window affects Ozobot's ability to follow lines and read color codes. Calibration orients Ozobot to the surrounding light and surface. You and/or your students should calibrate Ozobot every time you begin playing, when light conditions change and whenever you change your playing surface. There are two calibration methods— one for paper and one for digital screens. Refer to the "Ozobot Calibration Tips" sheet at files.ozobot.com/stem-education/ozobot-calibration-tips.pdf for detailed instructions.

SCREEN BRIGHTNESS

When using a tablet or computer, set the screen brightness to 100% (maximum brightness) to ensure Ozobot's optimal functionality. Make sure tablets are not set to auto-dim. Remember to calibrate whenever screen brightness or external light conditions change.

CLEANING OZOBOT

Dust or grease can get into Ozobot Bit's drivetrain and affect its movement. To clean Bit's drive train and wheels, take a clean white sheet of paper and drag Ozobot gently back and forth on the paper. Ozobot Evo is built differently and does not need to be cleaned.

CHARGING THE BATTERY

Ozobot motor is fueled by a tiny battery. If Ozobot blinks red, then the battery needs to be charged as soon as possible. Plug the mini USB charging cable into a computer or multi-port charger and plug Ozobot into the other end. Ozobot blinks green when it is partially charged, and shows a solid green light when fully charged. When Ozobot is stored for long periods of time, leave the battery at medium charge, since high or low charge can hurt the battery.

You are now ready to start playing, teaching and learning. Enjoy!

bit evo

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