

Ozobot Color Codes: Lesson 1

INTRODUCTION SAFETY GUIDELINES CALIBRATION BASIC MOVES

Introduction & Safety Rules: Set behavioral and materials expectations.

“Welcome! I’m {insert name} and I’m so glad to be here with you today. Before we begin, does anyone know what a robot is? {a machine that is programmed to do stuff to interact with the environment} Who has seen a robot in action? What did it do and what did you think about it?”

In this class, you’ll learn how robots work and you’ll be able to program one to do what you want it to do or where you want it to go. We will be using **Ozobot Evo** {show the robot}. Evo is super cool because it has wheels, lights, a speaker, and many other cool features.

Before we get started using these tiny bots, we have to set some rules first. We can try to remember all of these rules using the acronym R-E-P-O-R-T.”

RESPECT THE BOT	Do not play rough with your bot or any of its parts and accessories. They are fragile which means they can break easily if you play rough with it.
BOT IS FOR EVERYONE	No hogging the bot. Regardless of skill level, all students in your group should have a chance to program the bot during each session.
PROGRAM TOGETHER	Collaborate with your group on activities. Take turns, help, and encourage one another.
ONE BOT PER GROUP	Only one (1) bot can be assigned for each group of students.
YOUR BOT, YOUR RESPONSIBILITY	Once a bot has been assigned to you, you are responsible for that bot until the end of your session. Take care of it and report any malfunction or breakage to the teacher or parent lead right away.
TABLE TOP ONLY	All bots should stay on top of the table or mat. Do not leave them on the floor where people can step on it or on the chair where people can sit on it.

Read black font; gray font optional.

INTRODUCTION: What is Evo?

“Let’s get to know Evo a little bit. Evo is a mini robot that can be programmed using colors. Each set of colors tells Evo what to do.

There are a lot of parts that make Evo work. Besides the LED lights which you will see in action later, two parts that you’ll need to learn are the power button and color sensor. *{show robot}* The power button is here, and you’ll need this to turn on the robot and calibrate it. **Calibrate** is just a fancy name for getting it ready to read colors. So before you start using it, you always have to calibrate it. Let’s calibrate!”

ACTIVITY 1: Calibration

- ☐ Instruct the students to **put Evo on the black circle on their mats**. Press the power button down for 2-3 seconds or until lights start blinking. It’s important to be quiet while doing this the first time so students can hear Evo talk. Once it moves outside the circle, calibration is done.
- ☐ Evo needs to be turned off after each student so the next student can learn to calibrate.
- ☐ After students learn to calibrate, instruct them to **put the school and home community signs on the mat** with the school near the black circle and the home on the opposite corner.
- ☐ Instruct the students to use the Color Code magnets to **create a path** from school to home. When the path is finished, instruct them to put Evo on the first magnet piece and watch it move (note: make sure Evo is turned on).

REFLECTION/DISCUSSION

- What is a robot?
- What are some of the rules that we need to remember when handling Evo?
- Can you name a part of Evo that we learned today?
- What is the word that means ‘getting the bot ready to read colors’?
- What was fun for you today?

CLASSROOM SET-UP: 30-45 minutes

DURATION	TOPIC	SUPPLIES
5-10 minutes	Introduction Expectations	Evo
5 minutes	Hands-on: Calibrate	Evo Mat
15-20 minutes	Build a pathway from school to home (students in the group should take turns) <u>Challenge:</u> Add community buildings on the mat and adjust the path so that Evo will pass by all of the community buildings.	Evo Mat Color Code magnets (base) Community building signs
5 minutes	Reflection/Discussion	
5 minutes	Clean up: put Evo on the charging station, collect all supplies	

ACADEMIC STANDARDS MET

CSTA.1A-CS-02	Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware).
ISTE.1.d	Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.