

# Direct Instruction Summary

## Intro to Ozobot: Get to Know Evo



### 1. Introduction

Introduce students to their Ozobot and set behavioral and materials expectations. Explain that students will be learning about the hardware components and the functions of Evo while labeling their activity sheet.

### 2. Two Ways to Code

Evo can be programmed in two ways: Color Codes, and Ozobot Blockly. Evo can follow commands to execute movements, speed, sounds, lights and more!

### 3. Hardware Components: Sensors

Evo has three types of sensors: proximity, line-following, and color sensors.

**Proximity sensors:** infrared sensors that detect objects around the bot. There are four proximity sensors, two in front and two in back.

**Line-following sensors:** on the bottom in a row, they detect the difference between a line and the white paper around it in order to direct the bot. Evo's favorite lines to follow are about  $\frac{1}{4}$  inch wide and fairly consistent in width.

**Color sensor:** located on the bottom between the wheels. The color sensor detects color allowing Evo to respond to color codes and different colored lines.

### 4. Hardware Components: LED Lights

Evo has 6 programmable LED lights, one on top, 5 on the front. All can be programmed, or Evo will display the same color as the line it is following. When following a black line, Evo's top LED is teal.

### 5. Hardware Components: Motor, Battery, Wheels, Speaker

Evo uses wheels, a motor, and a battery to move. The motor and battery are not visible, but are connected to the wheels.

Evo can be programmed to play sounds with Ozobot Blockly. Find the speaker on the front of Evo, between the proximity sensors under the mesh screen.

### 6. Hardware Components: Motherboard and Antenna

Looking at the top of the bot, you'll see the motherboard. Near the front, there is a tiny white rectangular prism. This is Evo's antenna, which allows you to send programs to Evo via Bluetooth.

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### 7. Hardware Components: Charge Port

Evo uses a micro USB port on the back of the bot to charge its battery. The LED lights will turn solid green when it is finished charging, which takes about 1 hour.

### 8. Hardware Components: Power Button

Evo's power button is on the side, and can be used to turn your bot on and off, to calibrate Evo's sensors, and execute Ozobot Blockly programs when using the flash-loading feature.