



CANCODE WORKSHOP



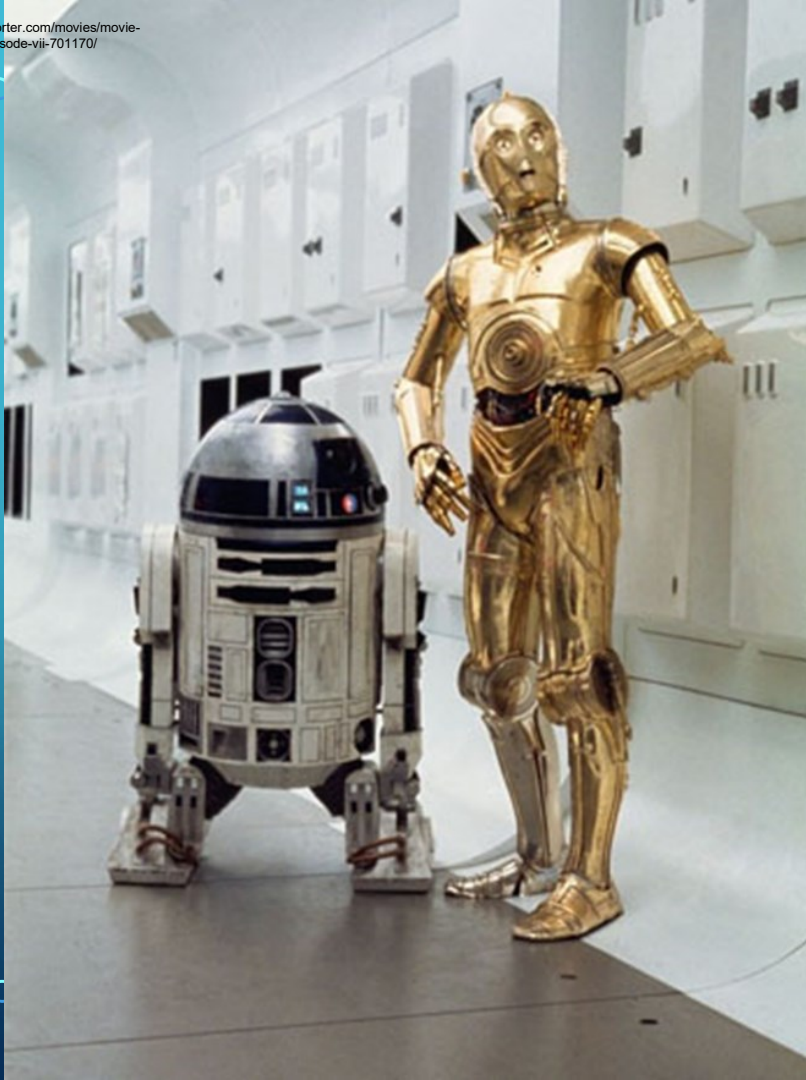
Acknowledging the First Peoples Principles of Learning



Learning requires recognizing the
consequences of one's actions



Learning involves patience and time



OZOBOT



The background is a dark teal gradient. In the corners, there are decorative white line-art patterns resembling circuit traces or neural network connections, with small circles at the end of the lines.

What is computer programming?

**Giving
instructions to
the computers is
called computer
programming.**





Sequence :

order of instructions (color codes)

Repetition :

Repeat one code over and over

Selection:

Selecting a code from multiple options





Introduction To Ozobot

<https://www.youtube.com/watch?v=OXnQFxBHvZQ&t=5s>

<https://www.youtube.com/watch?v=VBdBG1TSgR8>

Ozobot Hardware





Ozobot Hardware

Proximity Sensors: programmable in Ozoblockly to detect objects

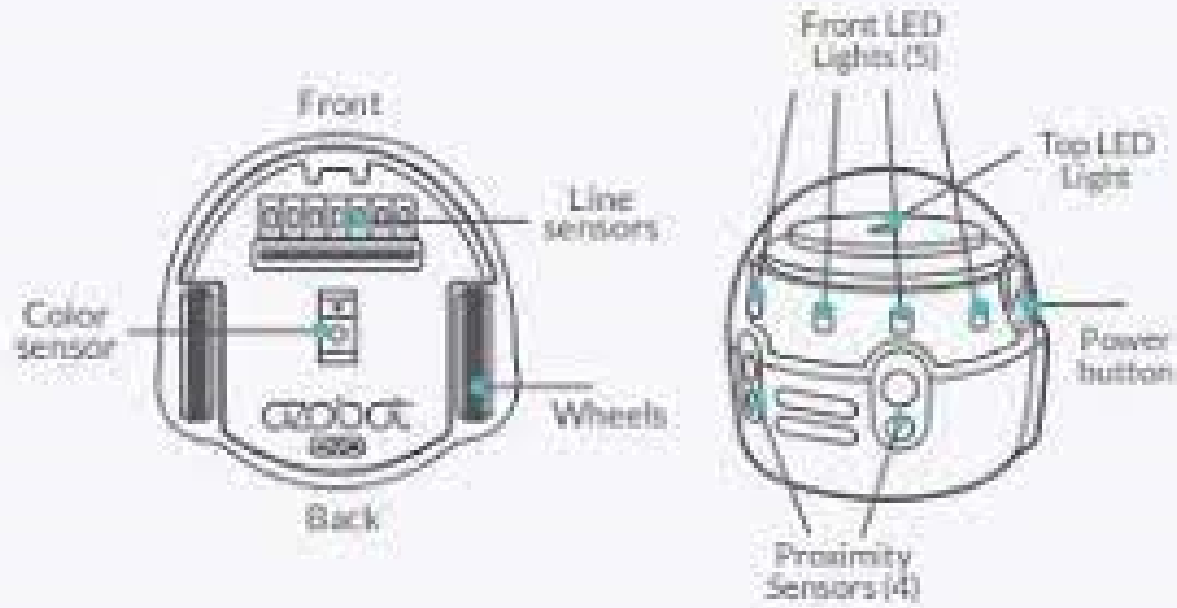
Line following Sensors: See and follow a drawn line

Color Sensors: Detect and responds to colors

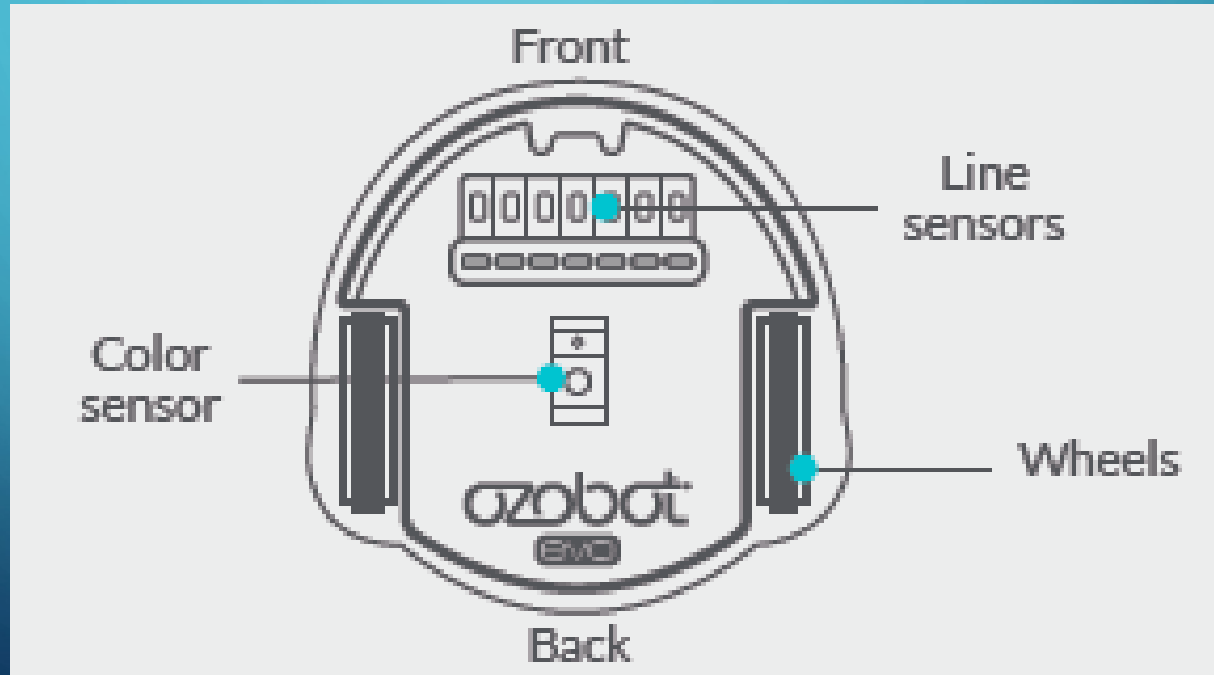
LED Lights: 1 top- 5 front: Display the color following and programmable in Ozoblockly

Wheels, Motor, Battery, Speaker, Bluetooth Antenna, Micro USB port, Power button

Ozobot Hardware



Ozobot Hardware



Ozobot Hardware



Ozobot Hardware





Ozobot Hardware

On you table you will have the following:

Ozobots and **Worksheets**

Instruction:

One each or in a small group try to fill in the worksheets and label your OZOBOT's hardware.

Ozobot Hardware



Introduction to Ozobot

Name: _____

Date: _____

Get to Know Evo

Key Terms

- Bluetooth Antenna
- LED Light
- Color Sensor
- Proximity Sensors
- Line Following Sensors
- Power Button
- Speaker
- Charging Port
- Wheels/Motor

Front

Back

Top

Bottom

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Coding OZOBOT

<https://www.youtube.com/watch?v=m5d4iXGbIGs>



OZOBOT Calibration

Learn how to calibrate your OZOBOT

<https://www.youtube.com/watch?v=ublkRBjsJ3I>



Coding Ozobot

On your table you will have the following:

Ozobots and **Worksheets**

Instruction:

Try to calibrate your OZOBOT first and then practice drawing color codes



OZOBOT Calibration

Introduction to Color Codes 01: Name: _____ 1
 Basic Training Date: _____

Calibrate your Ozobot

press power button 5 sec

press power button 5 sec

press power button 5 sec

BK
G
B
R

B G

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Introduction to Color Codes 01: Name: _____ 1
 Basic Training Date: _____

Calibrate your Ozobot

press power button 5 sec

press power button 5 sec

press power button 5 sec

BK
G
B
R

B G

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SAMPLE SOLUTION



OZOBOT Color Codes

Introduction to Color Codes 01: Name: _____ 2
Date: _____

Basic Training

Symmetric Codes

The Color Code programs my bot to:

go fast →

turn around →

go slow →

Asymmetric Codes

Nitro Boost →

Start →

Tornado →

Spin →

Zigzag →

Backwalk →

Color Key

BK = B = R = G =

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SAMPLE SOLUTION

Introduction to Color Codes 01: Name: _____ 2
Date: _____

Basic Training

Symmetric Codes

The Color Code programs my bot to:

→

→

→

Asymmetric Codes

Nitro Boost →

Start →

→

←

Color Key

BK = B = R = G =

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OZOBOT Color Codes

Color Codes | Chart

Speed

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

 Left at Intersection G BK R	 Straight at Intersection B BK R	 Right at Intersection B R G	 Line Switch Left G R G	 Line Switch Straight G B G	 Line Switch Right R G R
 U-Turn B R B	 U-Turn (line end) B R	 Tornado R G R G	 Zigzag B BK G R	 Spin G R G R	 Backwalk R G BK B

Timers

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

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

 Enable X-ing Counter G R B G	 Enable Turn Counter R B G B	 Enable Path Color Counter R G B R	 Enable Point Counter R B R G	 Point +1 R B G	 Point -1 G B R
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ozobot.com Key: BK = Black B = Blue G = Green R = Red

ozobot



OZOBOT Color Codes

**Make your own story using at
least 3 color codes
share your story with the class**



Color Code Correctly

OZOBOT bit:ev0 DRAWING TIPS

PAPER CALIBRATION

- Use a black dot slightly bigger than Ozobot to calibrate. If you are using markers, create a similar sized calibration dot using a black marker.
- Hold down the power button on Ozobot for 2 seconds until the top LED light flashes white.
- Quickly place Ozobot in the middle of the black calibration dot and let go.
- If calibration is successful, Ozobot will move and then blink green. Start over if Ozobot blinks red.

DRAWING LINES

Too Thin (X) Too Thick (X) Irregular (X) Just Right (checkmark)

Too Cheeky (X) Just Right (checkmark) Too Sharp (X) Just Right (checkmark) Just Right (checkmark)

DRAWING CODES

- Codes on colored lines (X)
- Different sizes (X)
- White spaces (X)
- Overlapping colors (X)
- Too dark (X)
- Single color squares larger than 1/4" (X)
- Single color squares approx. 1/4" (checkmark)
- Codes on black lines (checkmark)

MARKERS

To draw any code, you will need a combination of black, red, green and blue markers.

- Dry Erase (X)
- Chalk (X)
- Ozobot Markers: Crayola Classic Crayola Pastels Sharpie Chisel Tip (use light green and light blue) (checkmark)
- Colored pencil (X)
- Highlighter (X)

CODE PLACEMENT

- Codes at corners (X)
- Keep codes on straight lines away from corners (checkmark)
- Too close to intersection (X)
- Place codes away from intersections (checkmark)
- Codes too close (X)
- Codes at least 1" apart (checkmark)
- Thin and wide codes need to be at the end (checkmark)
- All other codes need black line before and after (checkmark)

STICKERS

- Codes on colored lines (X)
- Codes at corners (X)
- Not lined up (X)
- Too close (X)
- Align walls straight, black lines (checkmark)
- At least 1/4-inch from corners, intersections, and other codes (checkmark)