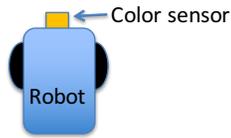# LINE TRACK3R

PROGRAMMING CHALLENGE:

In this lesson, you program your TRACK3R robot to follow a line on the Play Mat.
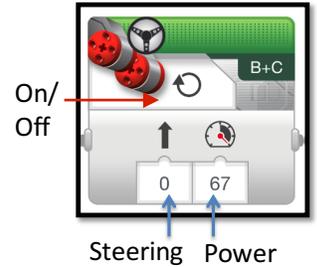
Color sensor

Robot

Human vs. Robot Line Following:

- A human can follow the middle of a line because we see both edges and further ahead
- A human knows which slide of the line he/she veered off.
- But a robot can only follow the edge of a line
- A robot uses a color sensor to follow lines
- The robot makes a decision based on what color it sees.

2 Color sensor sees white, turn right

1 Color sensor sees red, turn left
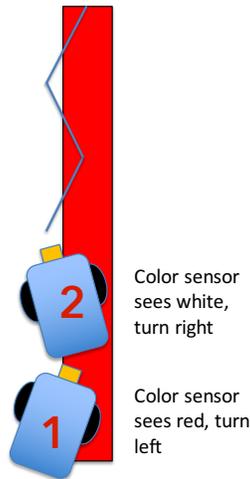
BLOCKS YOU NEED:

Move Steering block in "On" Mode found in the Green Programming Pallet tab

On/ Off

0   67

Steering   Power

Switch block that uses the Color Sensor in "Compare Color" Mode found in the Orange Programming Pallet tab

Set to Color → Compare → Color
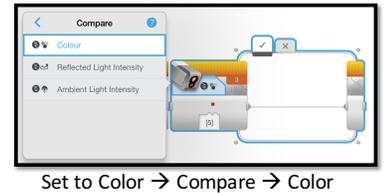
Loop block that repeats forever found in the Orange Programming Pallet tab
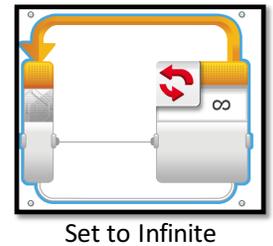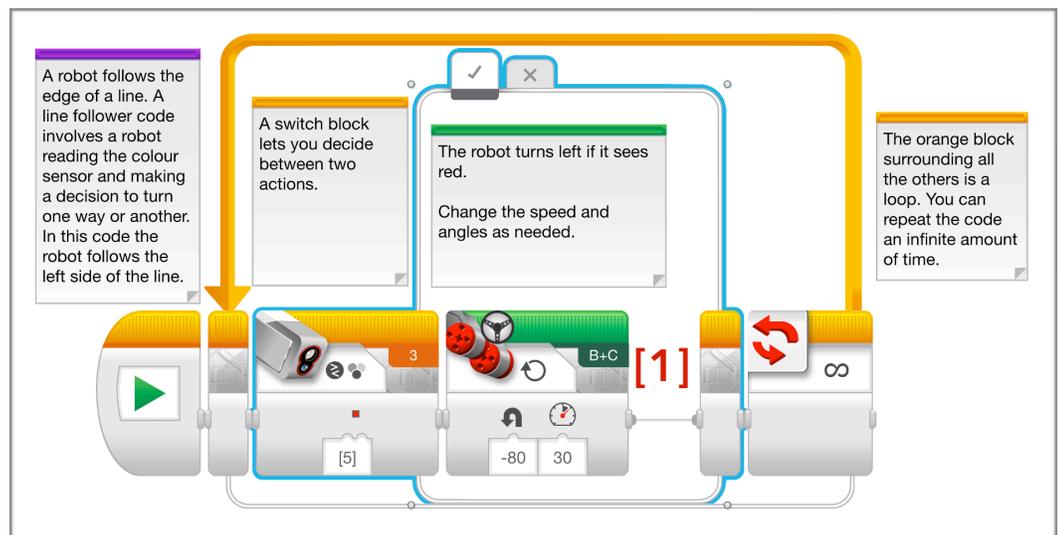
∞

Set to Infinite

LINE TRACK3R in Four Easy Steps:

STEP 1: Start with a Switch Block

STEP 2: Inside the Switch, use a Move Steering Block in "Motor On" mode. Change the Steering value to make the robot turn left if it sees red and right if it sees any other color. Labeled [1] and [2] on the image

STEP 3: Place all of the above in a Loop Block

STEP 4: Download your program to TRACK3R. Place your robot's color sensor on the left side of the red line of your Play Mat. Play the program.

A robot follows the edge of a line. A line follower code involves a robot reading the colour sensor and making a decision to turn one way or another. In this code the robot follows the left side of the line.

A switch block lets you decide between two actions.

The robot turns left if it sees red.

Change the speed and angles as needed.

The orange block surrounding all the others is a loop. You can repeat the code an infinite amount of time.

[5]   -80   30   [1]   ∞

[2] In the False (X) tab, you change the Steering Value in the Steering Block to +80 to make the robot turn right.