

## Unit 6

# Color Sense

Unit 6 introduces the **When Color Block**. When edited, this block tells Root how to respond when it detects different colors as it drives. Learners will practice editing the **When Color Block** with Root's five color sensing zones.

Practice coding skill development by steering Root around a race track and programming Root to follow a line. The main coding concepts explored include events and sensors.



*This unit uses color sensors and is compatible with the Root rt1 model.*

### Objectives:

- Use Root's color sensor to detect and respond to different colors as Root drives over them
- Code Root to respond uniquely when it detects colors under each of the five zones of its color sensor

### Code Blocks Introduced:

When Color Block

### Coding Concepts:

Event  
Sensor

# Line Follower

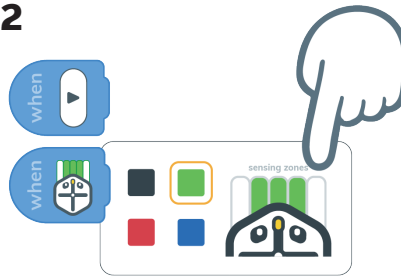
## LESSON 6.1

1



Let's start with a blank coding screen this time.

2



Add a Color Sensor Block and select green. Edit it so that the three middle detection zones are selected.

3



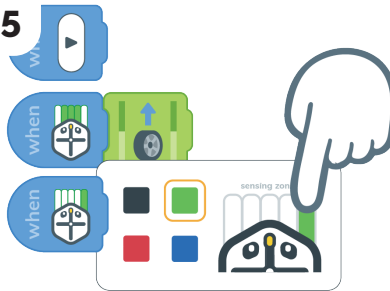
Root's color sensors are divided in five zones. Root can respond differently when sensing colors under each zone. Turn Root over to see its color sensors.

4



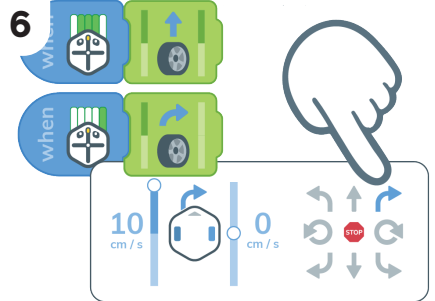
Add a Wheel Speeds Block, and make sure it is set to drive straight forward.

5



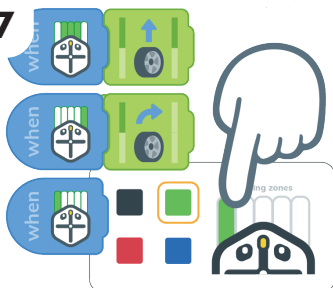
Add another Color Sensor Block and select green. Edit it so that only the right zone is active.

6



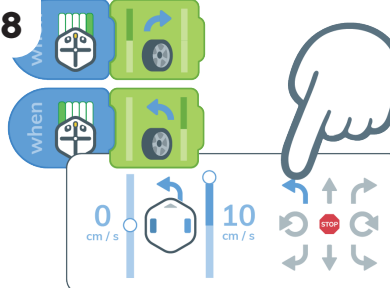
Add a Wheel Speeds Block and edit it to make Root turn to the right.

7



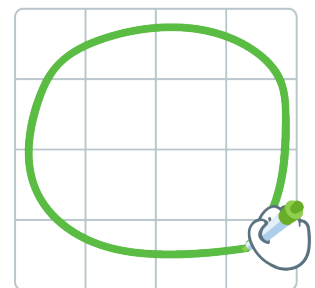
Add a third Color Sensor Block and select green. Edit it so that the left zone is active.

8

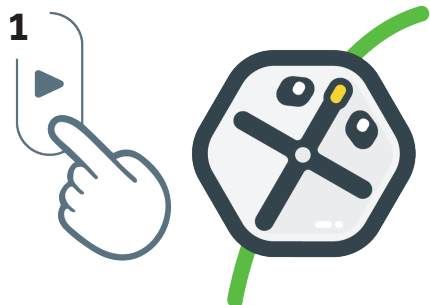


Add a Wheel Speeds Block and edit it to make Root turn to the left.

9



Draw a green racetrack on your whiteboard for Root to follow.



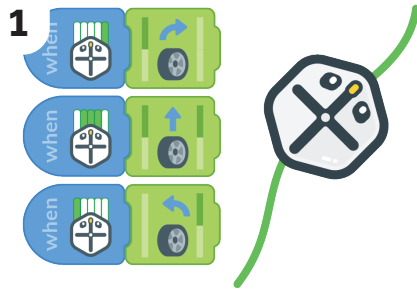
Place Root on the green track and Press Play. Does Root follow the line?



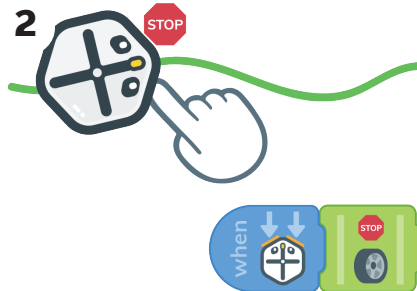
You can code Root to follow a specific color!

# Line Dancer

## PROJECT 6.1



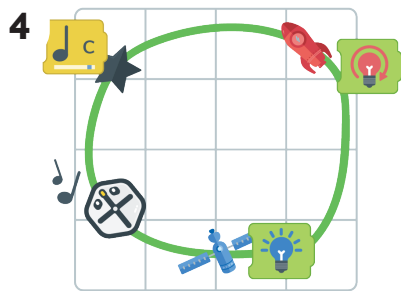
Use Color Sensor and Wheel Speeds Blocks to code Root to drive along a line that you draw.



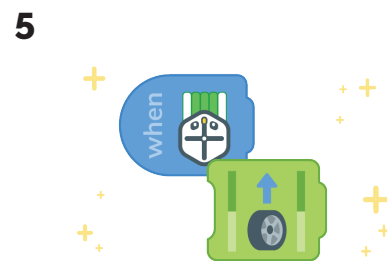
Code Root to follow the line and stop when you tap Root's bumpers.



Try adding music for Root to play when it moves straight or turns.



Add stickers around your racetrack and make Root play music and light up when it detects them.



You used Color Sensor, Music, and Wheel Speeds Blocks to code Root to closely follow a given path.