

LESSON 33

Line Following Car

60 minutes (2 periods)

Intermediate Robotics & Engineering

WHAT THIS LESSON DOES

In this step-by-step lesson, you'll learn to program a Move Motor Car to follow a line track using a Microbit. You'll create a new project, add an extension, create variables, and set up LEDs. You'll then program the car to turn right, left, and move forward. Finally, you'll test your car on a track and tweak the code for optimal performance.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the concept of programming a Microbit to control a Move Motor Car.
- Create and manipulate variables to store sensor values and control the car's movements.
- Implement conditional logic to guide the car's movements based on sensor readings.
- Use LEDs for visual feedback and enhance the functionality of the car.
- Experiment with code modifications to optimise the car's performance on different tracks.

BEFORE THE BELL

- In this lesson, students will program a Move Motor Car to follow a line track using a Microbit. They will create a new project on the MakeCode website, add the kitronik-move-motor extension, and create variables for the left and right line sensors and their difference. Students will then program the car to turn right, left, and move forward based on these sensor readings. After testing their code on a track, students can tweak the code to improve the car's speed and performance on more complex tracks.

Line Following Car

HOW THE LESSON RUNS

Introduction

Create a new project

Add the extension

Create the variables

Setup the LEDs

Turn right

Turn left

Go forwards

Test it on a track

Tweak the code