

## Move Motor Measure

60 minutes (2 periods)

Intermediate Robotics &amp; Engineering

### WHAT THIS LESSON DOES

In this step-by-step lesson, you'll learn how to use a sonar sensor on a Move Motor car to measure distances. You'll program two Microbits, one for the car and another for displaying measurements. The lesson covers understanding ultrasonic sensors, programming Microbits, and testing the setup. You'll need two Microbits and a Move Motor car for this project.

### WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the function and operation of an ultrasonic sensor.
- Develop proficiency in programming Microbits for specific tasks.
- Gain skills in using radio groups for communication between Microbits.
- Learn to measure distances using an ultrasonic sensor and a Microbit.
- Acquire the ability to display measurements on a separate Microbit.

### BEFORE THE BELL

- This lesson involves using a sonar sensor on a Move Motor car to measure distances and transmit the data to another Microbit. Students will learn how an ultrasonic sensor works and how to program two Microbits to communicate with each other. They will need to add specific extensions to their project, set units and radio groups, and create code to measure and display distances. The lesson requires hands-on work with Microbits and the Move Motor car, and also includes online coding using the [makecode.microbit.org](https://makecode.microbit.org) website.

# Move Motor Measure

| HOW THE LESSON RUNS               |
|-----------------------------------|
| Introduction                      |
| How the sensor works              |
| Program the car Microbit          |
| Add the extensions                |
| Set the units and the radio group |
| Measure                           |
| Download the code                 |
| Program the display Microbit      |
| Program the A button              |
| Display the measurement           |
| Download the code                 |