

Tilt Remote Control Car

60 minutes (2 periods)

Advanced Robotics & Engineering

WHAT THIS LESSON DOES

In this step-by-step lesson, you'll learn to control a Move Motor car using a Microbit as a remote controller. You'll program the Microbit to send directional commands to the car based on its tilt. You'll also create code for the car to respond to these commands, resulting in a fully remote-controlled car.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the concept of radio communication between two Microbits.
- Programme a Microbit to send specific messages based on different gestures.
- Develop the ability to programme a Move Motor car to respond to different messages received.
- Test and debug the code to ensure the car responds correctly to the remote control.
- Extend the project by adding additional features such as LED light changes.

BEFORE THE BELL

- In this lesson, students will learn to control a Move Motor car using a Microbit as a remote controller. They will create two code projects: one for the remote control and another for the car. The lesson involves programming the Microbit to detect tilts in different directions and send corresponding messages to the car. The students will also add code to stop the car and to light up the LEDs on the car in different colours. Ensure each remote and car set uses a different radio group to avoid crossed signals.

Tilt Remote Control Car

HOW THE LESSON RUNS

Introduction

Program the remote

Send message 'forward'

Send messages 'left', 'right' & 'reverse'

Send message 'stop'

Download the code

Create a new project

Receive message 'forward'

Receive message 'left'

Receive message 'right'

Receive message 'reverse'

Receive message 'stop'

Download the code

Challenge