

Pedestrian Crossing

60 minutes (2 periods)

Intermediate Robotics & Engineering

WHAT THIS LESSON DOES

In this step-by-step lesson, you'll create a pedestrian crossing simulation using the MakeCode editor and micro:bit. You'll attach STOP:bit traffic lights, add the stopbit extension, create a 'seconds' variable, and program the traffic lights sequence. You'll also learn to detect button presses and download your code to the micro:bit for testing.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the use of MakeCode editor for micro:bit in creating a new project.
- Learn to add and utilise the "stopbit" extension for programming the STOP:bit traffic lights kit.
- Develop skills in creating and manipulating variables, specifically the 'seconds' variable in this context.
- Gain proficiency in coding for specific outcomes such as displaying the red light and detecting button press on the micro:bit.
- Master the sequence of traffic lights and their corresponding symbols on the micro:bit, and successfully download and test the code.

BEFORE THE BELL

- Prepare for this interactive lesson by familiarising yourself with the MakeCode editor for micro:bit and the STOP:bit traffic lights. Understand how to add the 'stopbit' extension and create a 'seconds' variable. Be ready to guide students through coding a traffic light sequence, including red light display, button press detection, and the full traffic light sequence. Ensure you know how to download the code to a micro:bit for testing.

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HOW THE LESSON RUNS

New project and attach traffic lights

Add the Stopbit extension

Create the seconds variable

Show the red light

Button press detection

Traffic light sequence

Download code to micro:bit