

LED Stacking

60 minutes (2 periods)

Robotics & Engineering Basics

WHAT THIS LESSON DOES

In this step-by-step lesson, you'll create an interactive LED stack using a Microbit project. You'll add the neopixel extension, set up the LED strip, create variables, and develop functions to control the LED stack. By programming buttons, you'll be able to increase or decrease the stack. Finally, you'll download your code and test your LED stack.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Develop skills in creating and managing a new Microbit project.
- Understand and apply the neopixel extension for LED programming.
- Learn to set up and interact with the LED strip using variables.
- Develop competency in creating and using functions to control LED display.
- Gain experience in programming button controls to manipulate LED stack size.

BEFORE THE BELL

- Prepare for this lesson by familiarising yourself with the Microbit project platform and the neopixel extension. Understand how to set up an LED strip and create variables to store the strip and the amount of LEDs. Be ready to guide students in creating a function to show the LED stack, and programming buttons to increase and decrease the stack. Ensure students know how to download their code and connect their LED strip to their microbit.

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HOW THE LESSON RUNS

Create a new Microbit project

Add the neopixel extension

Setup the LED Strip

Create an amount variable

Create a function to show the stack

Create a range and light it up

Increase the stack

Decrease the stack

Download your code