

Microbit LED Strip

60 minutes (2 periods)

Robotics & Engineering Basics

WHAT THIS LESSON DOES

In this step-by-step lesson, you'll learn to program a 30-LED strip using Microbits. You'll create a new Microbit project, add the neopixel extension, and set up the LED strip. You'll then program the LEDs to light up in different colours and patterns, including a rotating rainbow effect. Explore the Neopixel toolbox and experiment with your own lighting designs.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the process of programming a strip of LEDs using Microbits.
- Develop skills in creating a new Microbit project and adding the necessary extensions.
- Gain proficiency in setting up and programming the LED strip to display various colours.
- Learn to download and implement the project on Microbits, observing the effects on the LED strip.
- Explore and experiment with different code blocks in the Neopixel toolbox for creative lighting effects.

BEFORE THE BELL

- Prepare to guide students through programming a 30 LED strip using Microbits. Ensure understanding of creating a new Microbit project and adding the neopixel extension. Facilitate the setup of the LED strip and programming it to turn red. Assist with downloading the project onto the Microbit. Encourage creativity when programming the strip to show a rainbow of colours and rotating the rainbow. Finally, encourage exploration of other code blocks in the Neopixel toolbox.

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HOW THE LESSON RUNS

Introduction

Create a new Microbit project

Add the neopixel extension

Setup the LED Strip

Make it red

Download the project and send it to your microbit

Show a rainbow

Connect your LED Strip

Rotate the rainbow!

Explore!