

Shooting Stars

60 minutes (2 periods)

Robotics & Engineering Basics

WHAT THIS LESSON DOES

Embark on a fun coding journey where you'll create a new Microbit project, add the neopixel extension, and set up an LED strip. You'll learn to create a 'star' that lights up with a loud sound, test it on your strip, and make it 'shoot'. Add a splash of colour to your stars and download your code to see different coloured 'stars' shooting along the strip.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Develop skills in creating and managing a new Microbit project.
- Understand and apply the neopixel extension to program the LED strip.
- Gain proficiency in setting up and programming the LED strip using code blocks.
- Learn to utilise the microphone in the microbit to detect sound and trigger LED actions.
- Acquire knowledge on how to test and debug the project on the LED strip.
- Master the concept of pixel shifting to create the illusion of moving light.
- Experiment with random colour generation for the LED strip.
- Learn to download and implement the code onto the microbit for real-world testing.

BEFORE THE BELL

- Prepare to guide students in creating a Microbit project, adding the neopixel extension, and setting up the LED strip. Facilitate the creation of a 'star' that lights up with a loud sound, and ensure students can test this on their LED strip. Assist students in making the 'star' shoot along the strip and adding random colours. Finally, ensure students can download and test their code, encouraging them to create multiple shooting stars.

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HOW THE LESSON RUNS

Create a new Microbit project

Add the neopixel extension

Setup the LED Strip

Create the star

Test it on your strip

Make it shoot

Random colours

Download your code