

LESSON 22

LED Strip Precision Game

80 minutes (2 periods)

Robotics & Engineering Basics

WHAT THIS LESSON DOES

Engage in a fun, interactive game using LED strips and your Microbit. Learn to program the LED strip, create variables, set up levels, and create functions. Develop your skills further by making the LED light move, hit targets, and handle game over scenarios. Finally, download your code, play the game and challenge others!

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the concept of LED strip programming using Microbit.
- Develop skills in creating and manipulating variables in a coding project.
- Learn to create and use functions for specific tasks within a coding project.
- Gain proficiency in using conditional statements to control game outcomes.
- Develop the ability to download and test code on a physical device.

BEFORE THE BELL

- Prepare to guide students through creating an interactive LED strip game using a Microbit project. Familiarise yourself with the neopixel extension and the process of setting up the LED strip. Understand the purpose of the four variables: 'target', 'position', 'delay', and 'increment'. Be ready to explain how to set up the level, create a refresh function, and make the blue light move. Prepare to guide students through the steps of going back to the start, hitting the target, and handling a missed target. Finally, ensure you can assist students in downloading their code and playing the game.

LED Strip Precision Game

HOW THE LESSON RUNS
Introduction
Create a new Microbit project
Add the neopixel extension
Setup the LED Strip
Create some variables
Setup the level
Create a refresh function
Make the blue light move
Go back to the start
Hit the target
Miss the target (game over)
Download your code and play the game