

LESSON 23

Microbit Light Clapper

40 minutes

Intermediate Robotics & Engineering

WHAT THIS LESSON DOES

Follow this guide to build a project with your Microbit that turns LED lights on and off with a clap. Start by creating a new project, setting up variables, detecting sound, and testing the code on your device.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and apply the concept of variables in coding.
- Set and utilise sound thresholds for input detection.
- Implement conditional statements (if-then-else) to control LED light responses.
- Test and debug code in a simulator environment.
- Transfer and apply code to a physical Microbit device.

BEFORE THE BELL

- To spark student curiosity, begin by demonstrating a quick clap-activated light switch using the Microbit, linking it to real-world applications like smart home devices. Prepare by ensuring access to the MakeCode platform and familiarising yourself with the coding blocks for sound detection and LED control. Guide students through each coding step patiently, encouraging them to test and tweak sound thresholds in the simulator. Watch for challenges like inconsistent clap detection, and suggest adjusting sensitivity values as needed. Keep engagement high by inviting students to personalise LED patterns, fostering creativity and ownership in their projects. If you do not have microbit devices, you can still do the lesson using the virtual microbit in the project editor.

Microbit Light Clapper

HOW THE LESSON RUNS	
	Create a new project
	Create a variable
	Sound threshold
	Detect a clap
	Add the if then else
	Turn it on
	Turn it off
	Test it in the simulator
	Send the code