

Microbit Seismic and Meteorological Station

60 minutes (2 periods)

Intermediate Robotics & Engineering

WHAT THIS LESSON DOES

In this lesson, you'll program four Microbits to create a unique Seismic and Meteorological Station. Each Microbit will handle specific data like temperature, light levels, and seismic activity, communicating wirelessly to display and alert accordingly.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the role of each Microbit in the Seismic and Meteorological Station and how they communicate with each other.
- Develop skills in coding and programming Microbits to monitor and display temperature, light levels, and seismic activity.
- Test and troubleshoot the coded Microbits to ensure they function as intended in the Seismic and Meteorological Station.
- Apply critical thinking to improve the functionality of the Seismic and Meteorological Station.
- Develop an understanding of how meteorological and seismic data can be collected, displayed, and used in real-world applications.

BEFORE THE BELL

- To inspire students, begin by connecting the project to real-world applications like weather monitoring or disaster alerts, sparking curiosity about sensor technology. Facilitate by guiding students through coding and testing phases, encouraging teamwork in assigning roles for each Microbit. Focus on key concepts like radio communication and sensor data interpretation. Watch for challenges like connectivity issues, troubleshooting with clear instructions. Engage learners by prompting creative improvements, fostering ownership and deeper exploration of environmental data collection.

Microbit Seismic and Meteorological Station

HOW THE LESSON RUNS

Introduction

Coding the Seismic Station Microbit

Coding the Temperature Display Microbit

Coding the Day/Night Indicator Microbit

Coding the Seismic Alert Microbit

Testing the Project

Improve the project