

Microbit Pet

60 minutes (2 periods)

Robotics & Engineering Basics

WHAT THIS LESSON DOES

Follow this guide to transform your Microbit into a virtual pet. You'll program it to show emotions like happiness, sadness, and boredom, respond to touch and movement, and even ask for food or playtime.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Develop skills in creating and using functions in Microbit programming.
- Understand and apply the use of different sensors on the Microbit device.
- Gain knowledge in programming interactive responses using sound and visual cues.
- Learn to use random time intervals in programming for unpredictable outcomes.
- Enhance problem-solving skills by debugging and testing code in a simulator and on a physical device.

BEFORE THE BELL

- Encourage students to tap into their creativity by imagining their Microbit as a virtual pet that responds to their actions, fostering engagement through personal connection. Prepare by ensuring access to the MakeCode platform and familiarising yourself with the code blocks for emotions and interactions. Facilitate by guiding students through each coding step, pausing to troubleshoot errors in real-time. Highlight key concepts like functions and event-driven programming, while addressing challenges such as syntax mistakes with pair debugging. For effective delivery, celebrate small coding successes to maintain motivation and encourage experimentation with custom pet behaviours.

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HOW THE LESSON RUNS
Introduction
Create a new Microbit project
Create the 'happy' function
Make it sad
Make it giggle
Create the 'feedme' function
Feed the pet
Create the 'play' function
Make it sleep
Play with the pet
Send the code