

Temperature Tales

60 minutes (2 periods)

Microbit Basics

WHAT THIS LESSON DOES

In this step-by-step lesson, you'll first set up your Microbit on the coding platform. Then, you'll write code to read the temperature from the Microbit's sensor. You'll create a narrative that changes based on temperature readings, code this story into your Microbit, and finally present your temperature-responsive story to the class.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand and utilise the Microbit coding platform to set up a new project.
- Develop the ability to read and display temperature data using Microbit's temperature sensor and coding blocks.
- Create a narrative that varies based on different temperature ranges.
- Apply logical coding constructs to display different parts of the story depending on the current temperature.
- Present and explain the temperature-responsive story, demonstrating understanding of how the code manipulates the narrative based on temperature changes.

BEFORE THE LESSON

- Microbits charged and ready to connect for upload, one per pupil or pair
- Open and test the Microbit coding platform on class devices so New Project works
- Sound and display ready if you will model the blocks on a shared screen

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HOW THE LESSON RUNS

Step 1: Setting Up Your Microbit

Step 2: Reading Temperature

Step 3: Creating Your Story

Step 3: Coding Your Story

TEACHING MOVES

- 1. Step 1: Setting Up Your Microbit. Walk the class through Projects, New Project, and naming it Temperature Tales so every device starts from the same blank workspace.
- 2. Step 2: Reading Temperature. Model nesting the temperature block inside show number. Pupils upload, then compare readings around the room to confirm the sensor is live.
- 3. Step 3: Creating Your Story. Set three bands: low, medium, high. Insist on very short sentences for the LED. Offer the snowman idea only to pupils who stall on a theme.
- 4. Step 3: Coding Your Story. Build the if, else if, else shell together first. Pupils swap in their own strings and thresholds, upload, and test by warming the board in their hands.

WHAT TO WATCH FOR

- Pupils place the temperature block alone and expect a reading to appear. Show that temperature only reports a value. It must sit inside show number or show string to reach the display.
- Thresholds are written so two bands overlap or a middle range is never reached. Talk through the order of the checks with sample numbers, for example 8, 15 and 22, before they upload.
- Story lines are too long for the Microbit screen and scroll slowly or feel unreadable. Cap each line at a few words. Have them watch one full scroll and cut until it feels quick.

DIFFERENTIATION

- Emerging: Pair them with a partner and let them use the snowman lines while you help snap the first if block. Stay with them for the first upload so they see a reading appear before writing story logic.
- Developing: Prompt them to choose and test their own low and high thresholds rather than copying the sample numbers. Ask them to read their if conditions aloud before upload so gaps in the ranges show up early.
- Proficient: Challenge them to add a tighter middle band or a fourth message without breaking the if order. Have them present how a small temperature change picks a different line, using live readings.