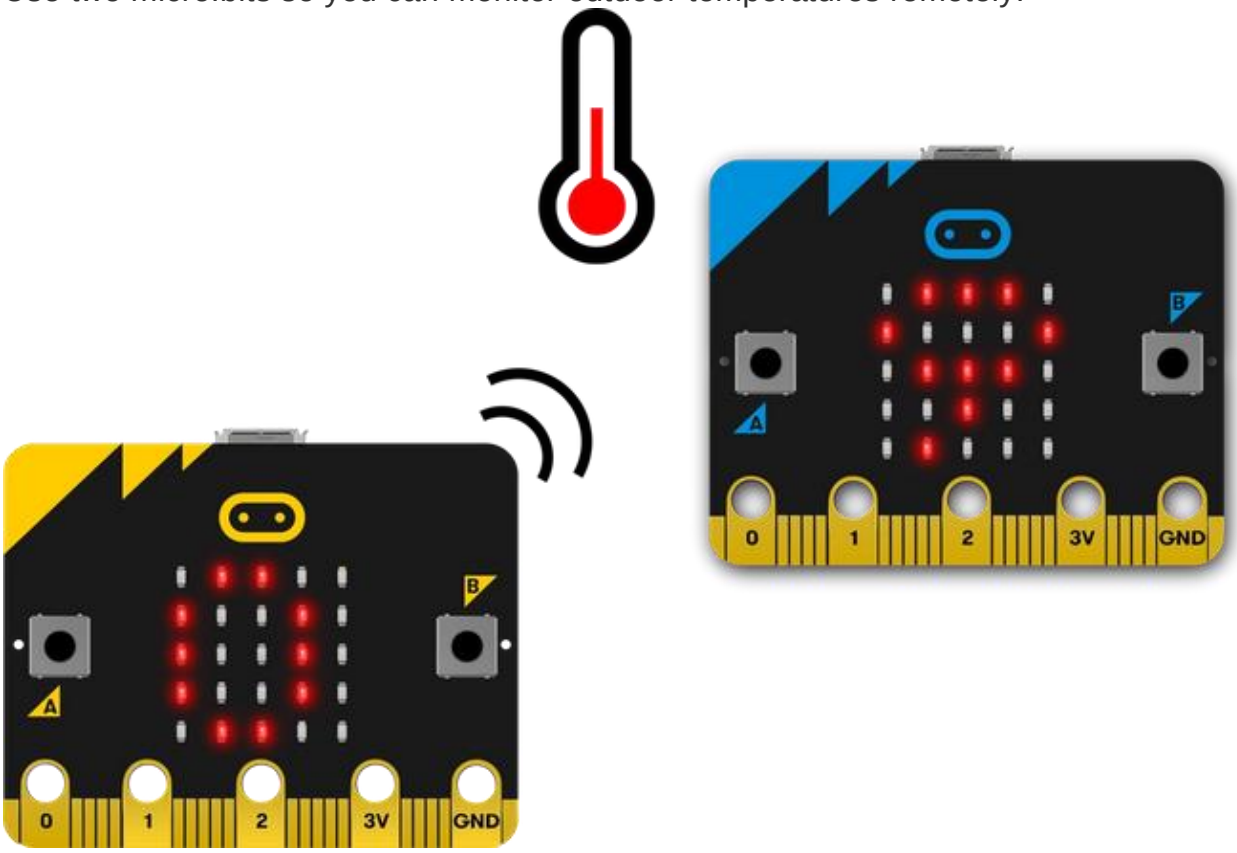
Indoor-outdoor thermometer

Step 1: Make it

What is it?

Use two micro:bits so you can monitor outdoor temperatures remotely.



How it works

- This project uses two different programs, one for the outdoor micro:bit which senses the temperature and transmits it on radio group 23.
- The outdoor micro:bit uses its temperature sensor to measure how hot or cold it is.
- It uses radio to send this temperature reading to the indoor micro:bit.
- When the indoor micro:bit receives a temperature reading from outside, it stores it in a **variable** called **outdoorTemp**.
- When you press input button A on the indoor micro:bit, it shows its own current temperature reading on its LED display output.

- When you press button B, it shows the temperature reading from outside that it has stored in the **outdoorTemp** variable.

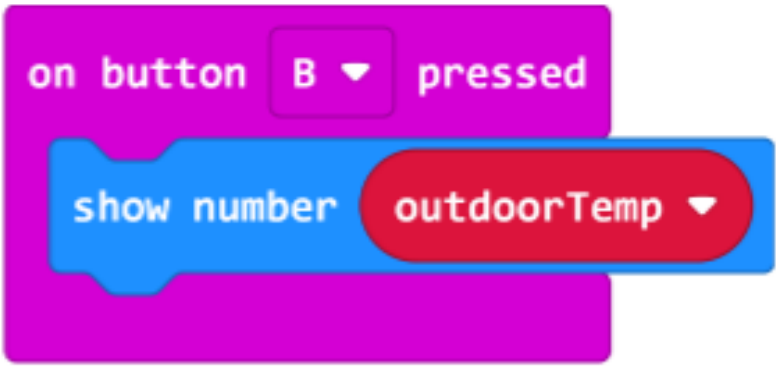
What you need

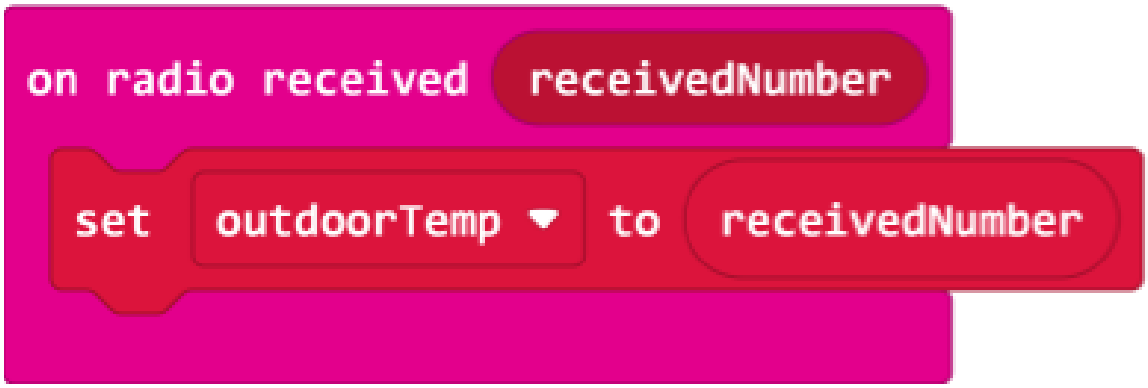
- Two micro:bits
- MakeCode or Python editor
- battery pack
- A waterproof container, such a plastic box

Step 2: Code it

Outdoor sensor and transmitter:

Indoor sensor and receiver:





Step 3: Improve it

- Make the batteries last longer by having the outdoor micro:bit turn its radio off when it's not in use and sending temperature readings less often.
- Use variables to track the highest and lowest temperatures recorded.
- Calibrate the readings against another thermometer to see if you need to adjust the micro:bit's temperature.