

Microbit Moisture Sensor

Materials: 2 nails, 2 alligator clip wires, 1 microbit, container of soil, water

- Connect 1 nail with your alligator clip to the 3 volt (3V) connector.
- Connect the other nail to the 0 pin connector.

Use the MakeCode editor, (<https://makecode.microbit.org/#editor>) to create a program that gets a reading from a low voltage current that is

- Use the Input command **On Button "A"** to activate your program.
- From the **Basic** command list select **Show Number** and place it inside the input command.
- Click on the **Advanced** button in the commands column.
- From the **Pin** commands select **analog read pin** and set pin to **P0**
- Place this block inside the show number where the 0 is showing

It will look like this:



- Give your program a name in the box to the right of the download button.
- Click on **Download**.... the file will be downloaded to your computer.
- Find it.
- Connect your Microbit to your computer with the USB cable. The Microbit should appear on your desktop.
- Drag the .hex program file you created onto the Microbit icon. The yellow LED on the back of the Microbit should flash as the program gets uploaded.

- Place the two nails into some soil about 1 inch apart.
- **Press A**
- A number should scroll across the LED display. Press A again to see it again...
- Add some water to the soil and press A

Is the number higher or lower?

Does the distance between the nails make a difference?

What is the range between no moisture and total saturation?

Record your findings.

