



1 - Sensors

Libraries:



Basic Sensors

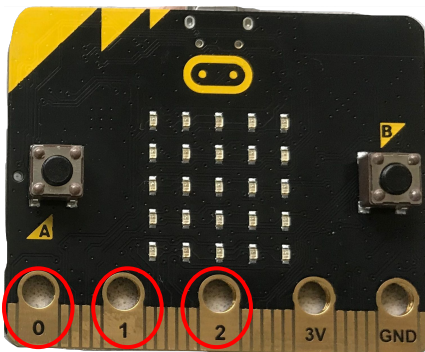
LED Display

The micro:bit has many sensors built right in! They include pushbuttons, 3-axis tilt, light level, and temperature.

Try clicking the "button A" block while holding down the A button. Then release the button and click the block again. Do you see how MicroBlocks shows whether or not the button is pressed?

| Input | Pins | Basic Sensors |
|-------|------|---------------|
| | | |

Use the "say" block in a forever loop to monitor various sensors. (Only run one forever loop at a time, or add all sensors into one "say" block.)




Challenge: The micro:bit exposes pins 0, 1, and 2 on the bottom edge connector. "Say" the **analog** value of each pin while you touch it. Do the values change as you brush your finger over each pin?

read analog pin 0



2 - Graphing

Seeing data on a graph is very helpful. Try putting various sensors, like tilt, in the graph block. Then click .

```
forever
  graph tilt x tilt y
  wait 10 milliseconds
```



You can use tilt x to create left and right turn signals as shown here.

```
when tilt x < -40
  display
  wait 100 milliseconds
  clear display
  wait 100 milliseconds
```

```
when tilt x > 40
  display
  wait 100 milliseconds
  clear display
  wait 100 milliseconds
```

Challenge: Can you create a “night light” that turns on automatically if it’s dark? How about graphing the temperature and light level each minute overnight? Do you have external sensors you can attach to the micro:bit?