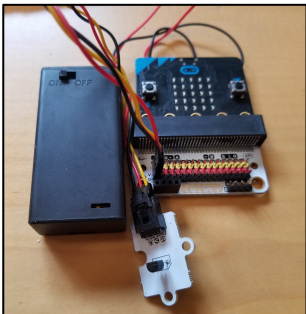
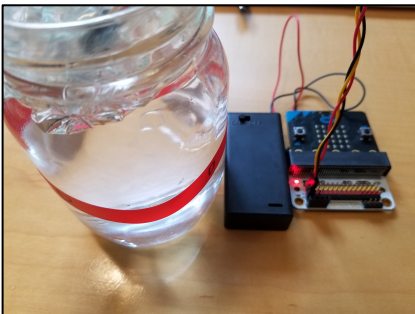


Microbit Water Quality Testing	Grade 9 Biology
Handout	

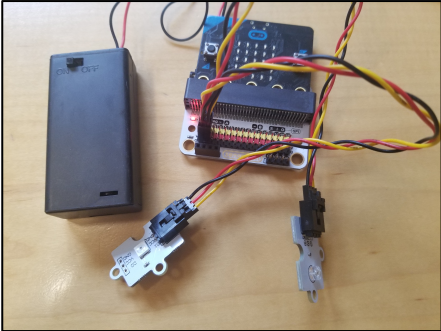

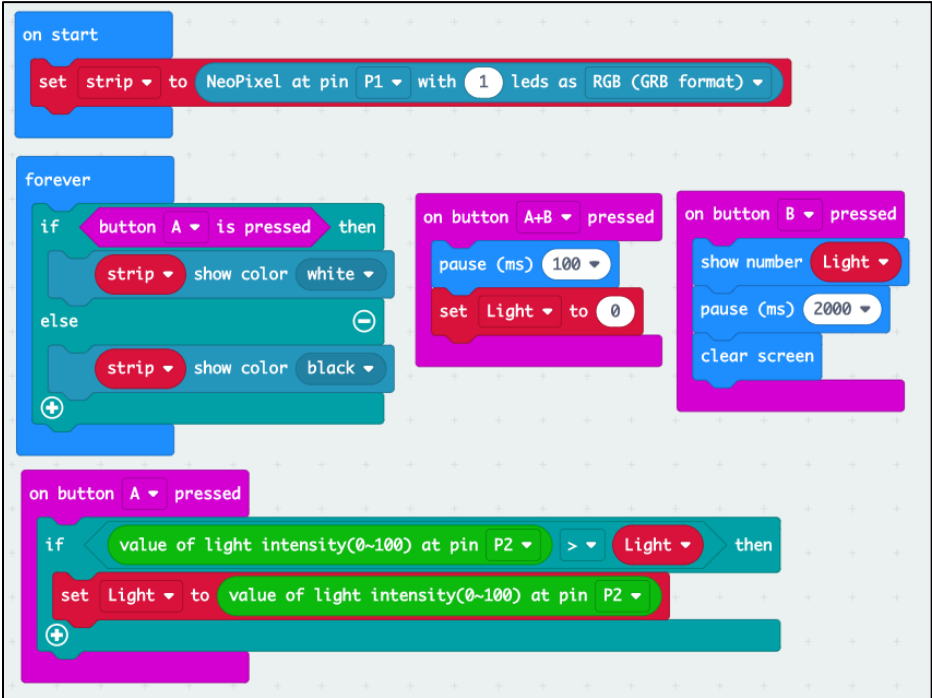
## Water Temperature

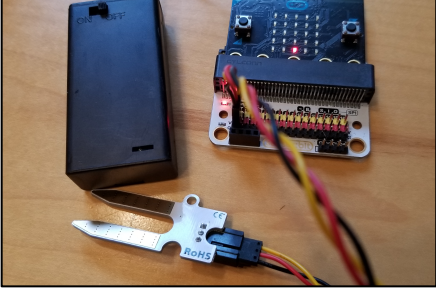
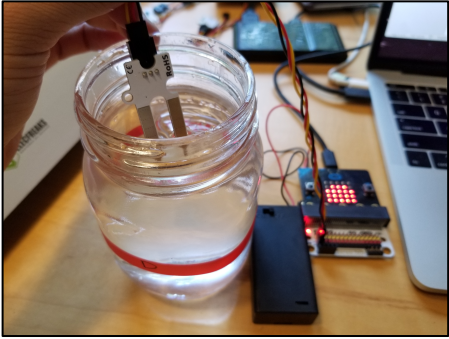
Set-Up	How-To
  	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Microbit</li> <li>• Sensorbit</li> <li>• Temperature Sensor</li> </ul> <p><b>Procedure</b></p> <ul style="list-style-type: none"> <li>• <b>*Cover the sensor in a plastic bag before putting it in water*</b></li> <li>• Connect the Temperature Sensor to pin 1</li> <li>• Two different buttons were used to give time place the sensor in the water. This could also be done with a single button.</li> <li>• A variable called “Temperature” was created to store the temperature value</li> <li>• Button A waits two seconds and records the temperature of the water. A check-mark indicates that it is ready.</li> <li>• Button B displays the water temperature once it has been recorded.</li> </ul>
<b>Code</b>	

```

on button A pressed
  pause (ms) 2000
  set Temperature to value of temperature (°C) at pin P1
  show icon [checkmark icon]

on button B pressed
  show number Temperature
  
```

Turbidity	
Set-Up	How-To
 	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Microbit</li> <li>• Sensorbit</li> <li>• Rainbow LED</li> <li>• Light sensor</li> </ul> <p><b>Procedure</b></p> <ul style="list-style-type: none"> <li>• Connect the Rainbow LED to pin 1</li> <li>• Connect the Light Sensor to pin 2</li> <li>• Set-up the NeoPixel strip to read one LED</li> <li>• The forever loop sets the LED to off unless the A button is pressed</li> <li>• Not only does the A button turn on the LED, but it also records the highest light level recorded by the sensor</li> <li>• Once the light level is recorded, pressing the B button displays the light level recorded</li> <li>• Pressing A and B simultaneously will restart the recording</li> </ul>
Code	
	

Total Dissolved Solids	
Set-Up	How-To
  	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Microbit</li> <li>• Sensorbit</li> <li>• Soil moisture sensor</li> </ul> <p><b>Procedure</b></p> <ul style="list-style-type: none"> <li>• <b>*Only place the gold part of the sensor in the water. Do not fully submerge the sensor*</b></li> <li>• Connect the Soil Moisture Sensor to pin 1</li> <li>• Using the plot feature lets you see the conductivity over time. To see the values, click 'Show Console Device' once the program has been downloaded.</li> <li>• Alternatively, you could code the Microbit in the same fashion as the temperature sensor</li> <li>• You can't run both programs at the same time.</li> </ul>
Code	
