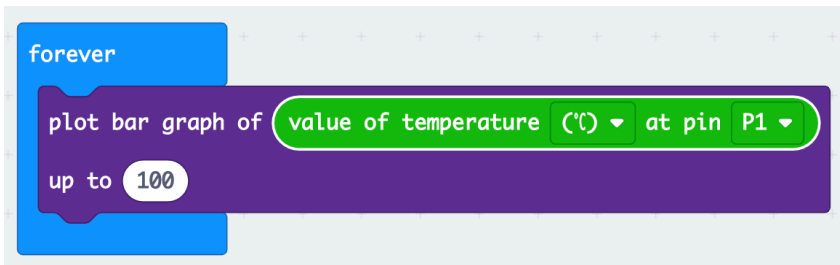


Handout

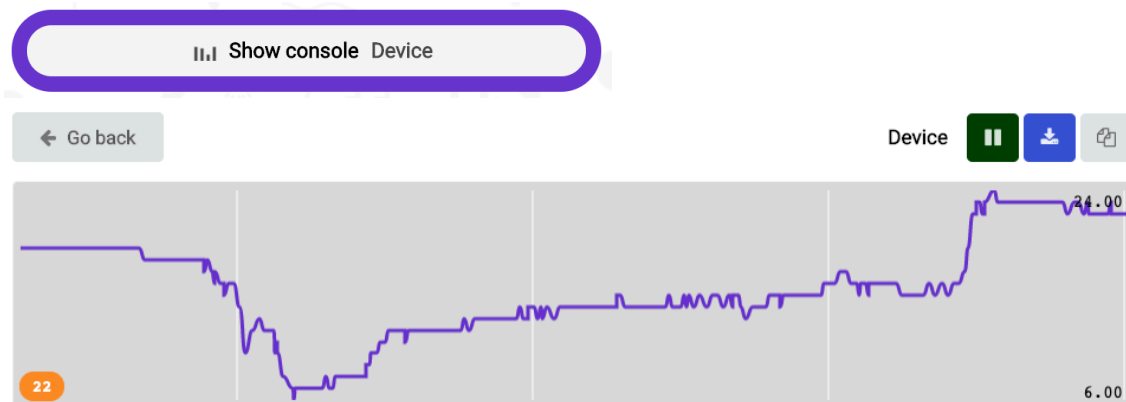
Temperature Tracking

To continuously track the temperature, it is possible to use the graphing function using the Microbit. When plugged into the computer, this allows for constant data readouts which can be downloaded and analysed at a different time. As it requires the Microbit to be plugged in, it is recommended that this method be done using heat lamps.

To record the temperature, simply inset the plot bar graph block using the temperature sensor at Pin1.



To see the temperature readings on the computer, click the 'show console device' which will provide real time data from the Microbit. The blue download button at the top right of the screen will download the readings in the form of an excel document.



Alternatively, it is possible to use the Microbit to only record the maximum temperature achieved. To do this, create a variable called 'max temperature' and code it so the variable gets set to any temperature that is higher than its previous value. This will not show the temperature over time but should still demonstrate that the temperature is higher in one beaker as compared to the other.

```
forever
  if <value of temperature (°C) at pin P1 > Max Temperature then
    set Max Temperature to value of temperature (°C) at pin P1
  +

on button A pressed
  show number Max Temperature
```

Finally, it is possible to have both the plot and the maximum temperature by combining the code to have a conditional statement using the A button. This allows the plot to record data unless the A button is pressed at which point the maximum temperature is displayed.

```
forever
  if button A is pressed then
    show number Max Temperature
  else
    plot bar graph of value of temperature (°C) at pin P1
    up to 100
  +

forever
  if <value of temperature (°C) at pin P1 > Max Temperature then
    set Max Temperature to value of temperature (°C) at pin P1
  +
```