

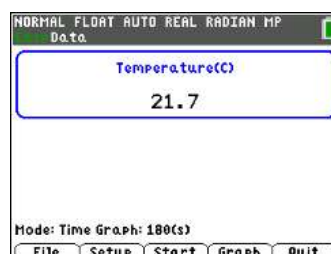
QUICK START GUIDE

Temperature Change With the Vernier Temperature Probe and TI-84 Plus CE Graphing Calculator



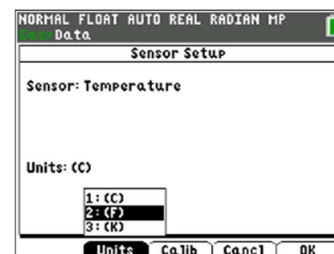
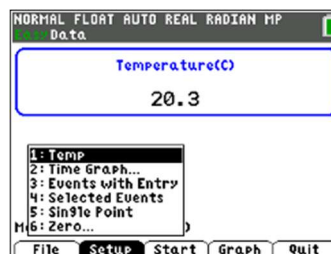
Connect the graphing calculator and the Vernier Temperature Probe:

- » Plug the temperature probe into the USB port on the calculator.
- » The Vernier EasyData® App will automatically display (Note: If the EasyData App does not launch, select **apps > EasyData**).
- » The number displayed is the ambient room temperature in degrees Celsius.



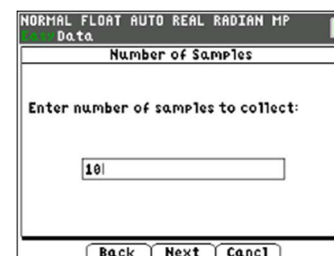
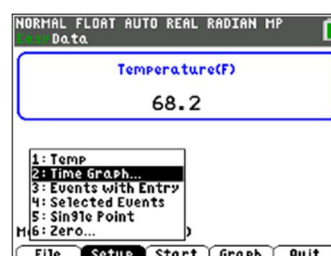
Change the temperature to Fahrenheit, if desired:

- » Press **[window]** to access the **Setup** softkey.
- » Select **1: Temp**
- » Press **[window]** to access the **Units** softkey.
- » Select **2: (F)**
- » Press **[graph]** to select the **OK** softkey.



Change the sample duration:

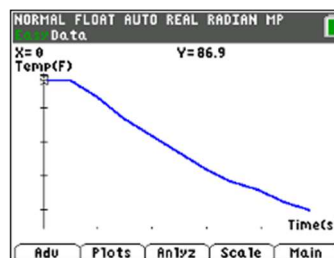
- » The default sample duration is 180 seconds.
- » Press **[window]** to access the Setup softkey.
- » Select **2: Time Graph**
- » Press **[zoom]** to access the **Edit** softkey.
- » Change the Sample Interval, if desired.
- » Press **[zoom]** to access the **Next** softkey.
- » Change the number of samples, e.g., 10.
- » Press **[zoom]** to access the **Next** softkey.
- » Press **[graph]** to select the **OK** softkey.



Start an experiment:

In this experiment, we are collecting data to show a decrease in temperature.

- » Place the metal tip into your heat source and wait for the display to stop at a constant temperature.
- » Remove the sensor from the heat source and press **[window]** to access the **Start** softkey.
- » You may be prompted to overwrite the latest run. To continue, press **[graph]** to select the **OK** softkey.
- » Data collection will run for 10 seconds, after which a graph of temperature versus time will be displayed.
- » To retry the experiment, press **[graph]** to select the **Main** softkey to start again.



Other examples of experiments:

You can run variations of this experiment by collecting data for 10 seconds to show:

- » A constant increase in temperature
- » A constant decrease in temperature
- » A constant exponential growth

Sample questions:

- » If the experiment continued for 100 seconds, what would be the expected temperature?
 - » What is an appropriate domain and range for this experiment?
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