

## Experiment PSE1

### Thermosense Mk1 Familiarization & Tracking.

This experiment requires you to have the following:-

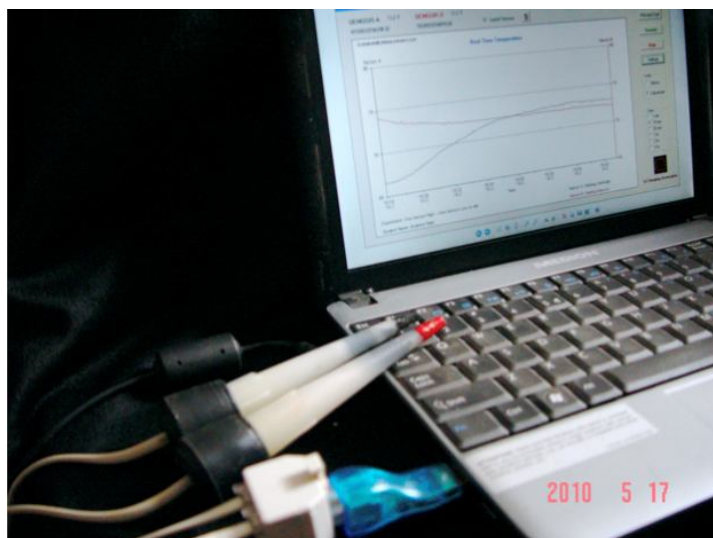
(i) The ThermoSense Mk1 hardware connected to your Windows USB port.

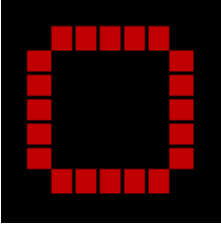
Hardware look like this:-



(ii) The Free ThermoSoft Mk1 Running on your Windows PC.

Software Display should look similar to this :-





Experiment Objectives:-

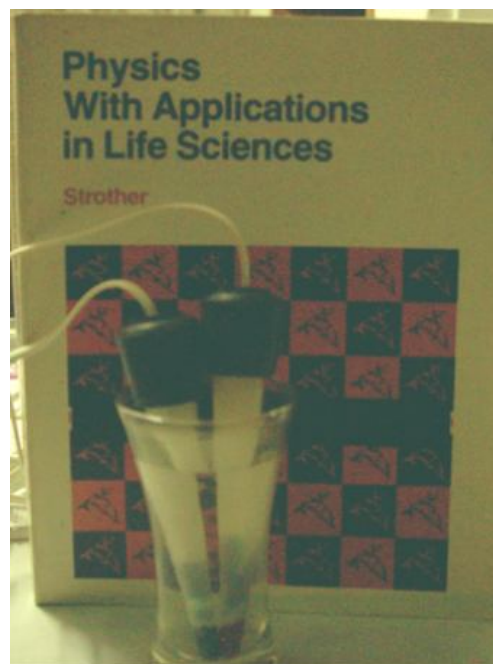
- (i) To show how the two Cone Sensors measure the same temperature very closely. They track very well -- useful for Temperature Difference Experiments to follow.
- (ii) To become familiar with ThermoSoft Mk1 with a straight forward Test.

Method:-

Note: Cone Sensors are very Robust but of course sensitive to temperature. Try to handle them by the Black Rubber Insulating Handles.

Action:-

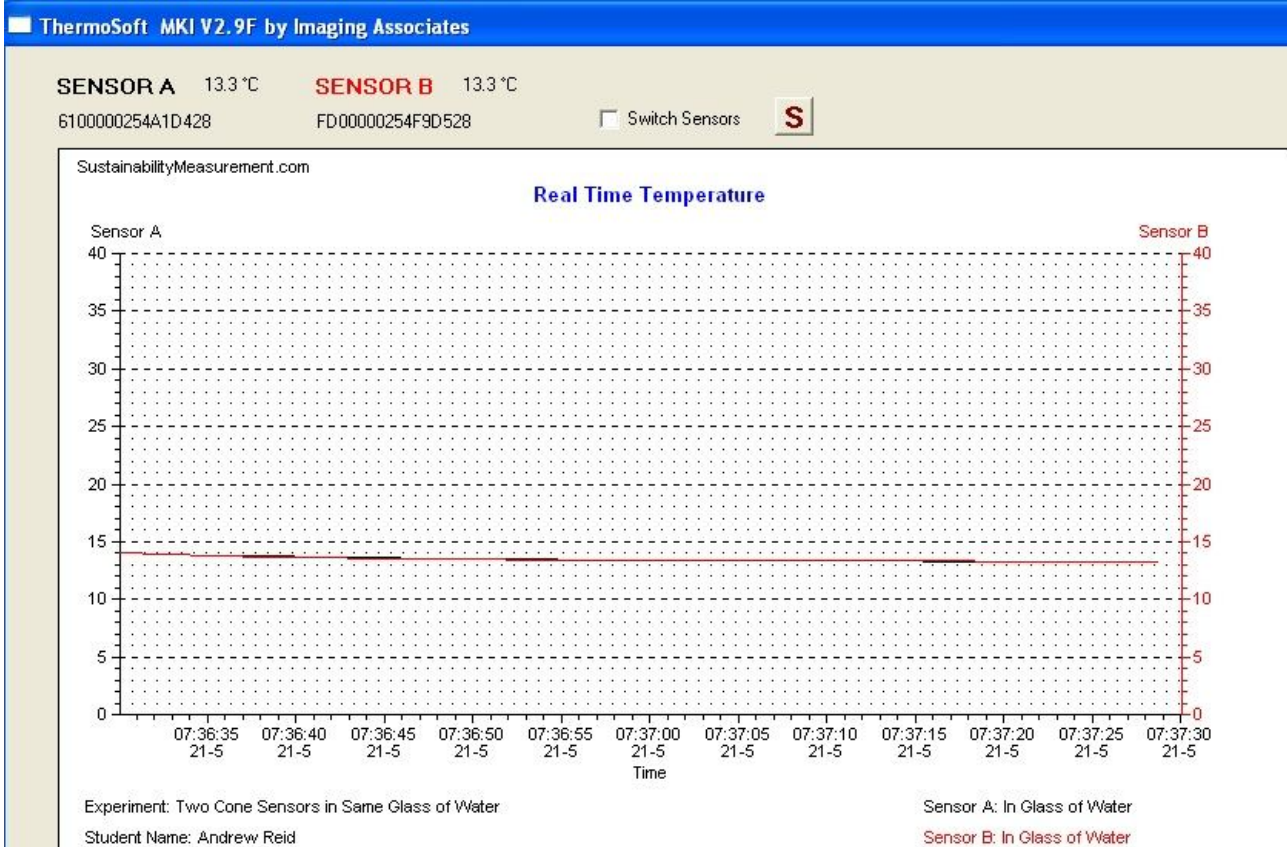
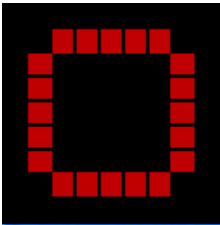
Put the two Cone Sensors in to a Glass of Tap Water :



The two Cone  
reach the same temperature quickly.

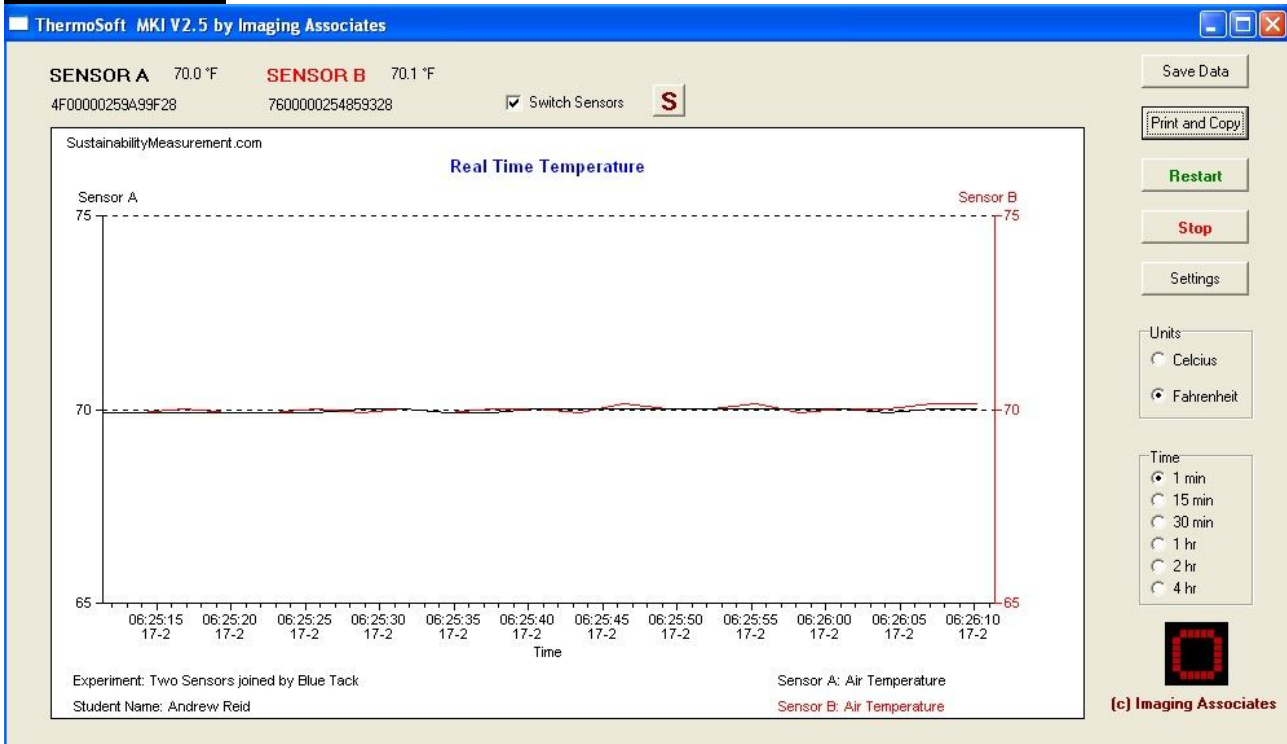
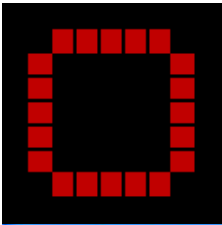
Temperature Sensors will

A ThermoSoft Mk1 graphical display should look similar to this.



Note: Temperatures are in Degrees Centigrade for Australian Students.  
Also they both show a value of 13.3 Degrees Centigrade in this case.

In this case Temperatures are in Fahrenheit for USA Students.

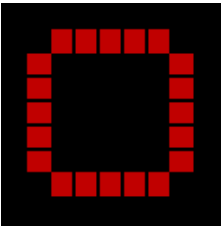


Graphical, Numerical Print Out, and Save to File :-

The Free ThermoSoft Mk1 gives you a number of ways in saving your Experimental Data.

They are:-

(i) To Hard Copy



(ii) To Save to File.

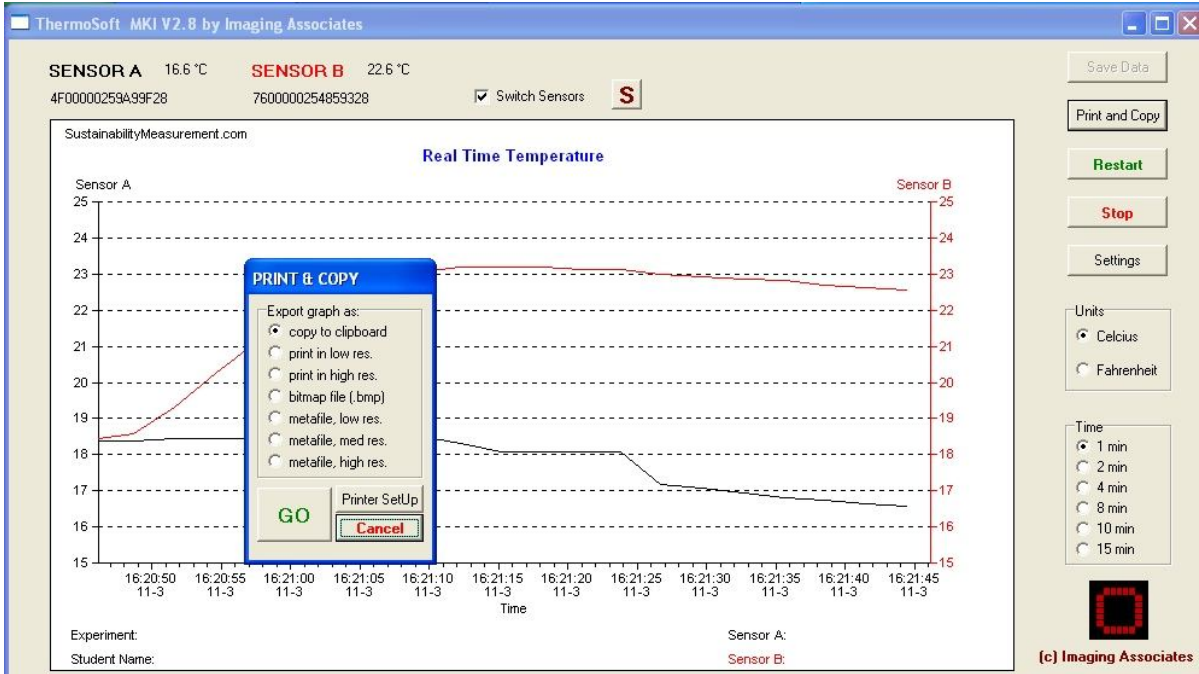
In Hard Copy ThermoSoft Mk1 allows you to record your data in two forms.

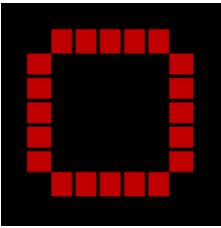
(a) Graphically.

(b) Numerically.

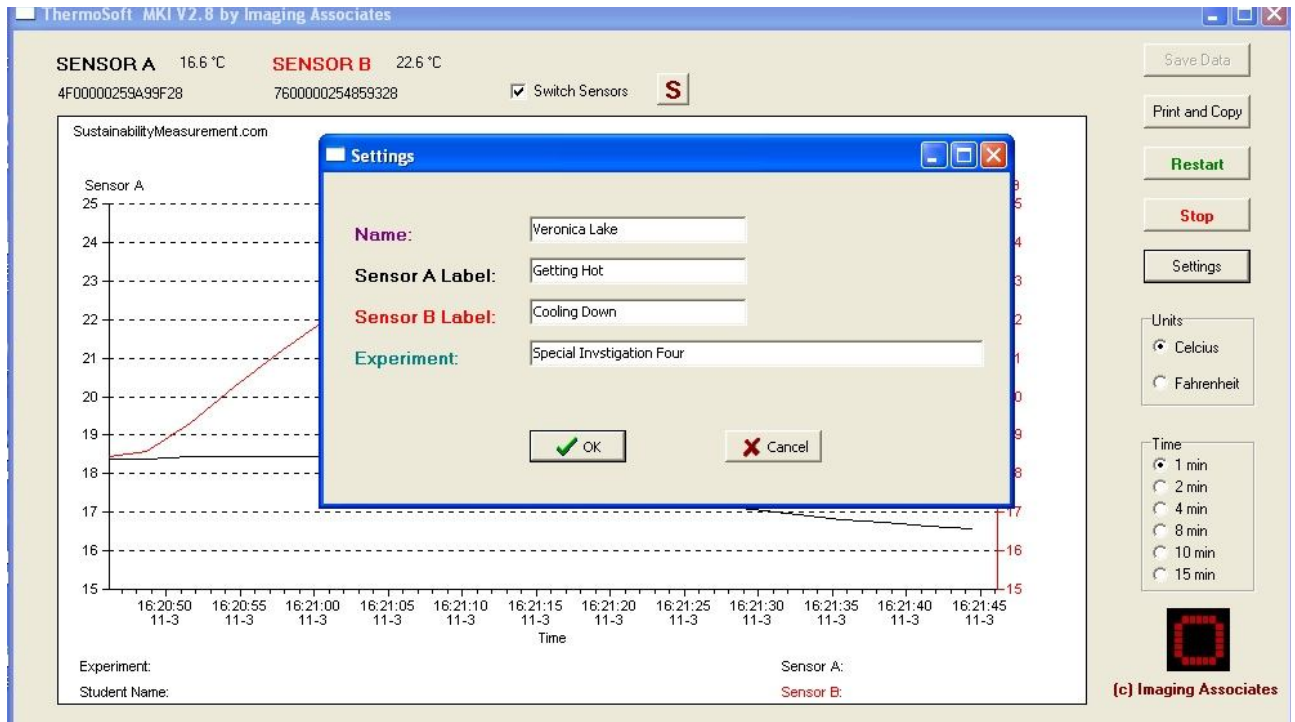
The Image below shows an easy to use Drop Down Menu for “Print & Copy”.

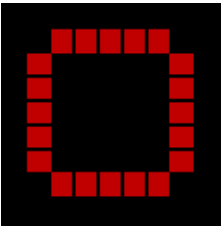
This menu prints your experimental graph.



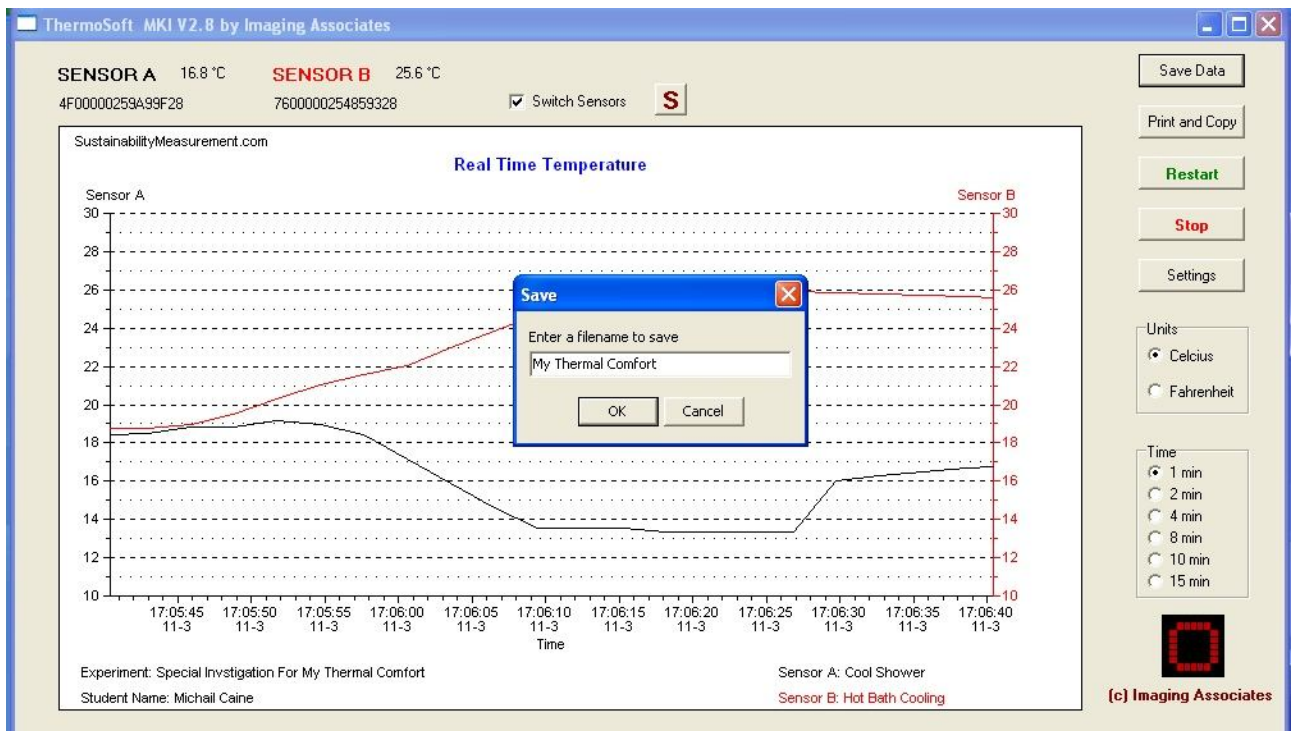


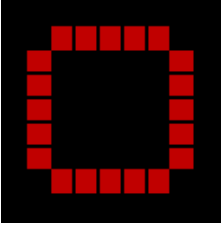
The next image from the program shows you the Drop Down Menu where you put your Settings for your Experiment.





The next image shows a Drop Down Menu for saving the Data in Numerical or Digital form.





Once saved on your Windows machine ----- Computer Hard Disk or your Flash Drive if you are using ThermoSoft Mk1 as a Portable Application the Digital Temperature Measurement data is available in this format via Window "Notepad" application program

```
My Thermal Comfort.csv - Notepad
File Edit Format View Help
Time, "Sensor A Temperature C", "Sensor B Temperature C"
5:05:41 PM,18.75,18.50
5:05:44 PM,18.94,18.81
5:05:47 PM,19.50,18.81
5:05:50 PM,20.31,19.19
5:05:53 PM,21.06,18.94
5:05:56 PM,21.56,18.44
5:05:59 PM,22.06,17.19
5:06:02 PM,23.00,15.88
5:06:05 PM,23.88,14.63
5:06:08 PM,24.69,13.56
5:06:11 PM,25.31,13.56
5:06:14 PM,25.69,13.56
5:06:17 PM,26.06,13.31
5:06:19 PM,26.06,13.31
5:06:22 PM,26.00,13.31
5:06:25 PM,25.94,13.31
5:06:28 PM,25.88,16.00
5:06:31 PM,25.81,16.31
5:06:34 PM,25.75,16.50
5:06:37 PM,25.63,16.69
5:06:40 PM,25.56,16.75
```

So Enjoy Analyzing an interpreting your experimental data.