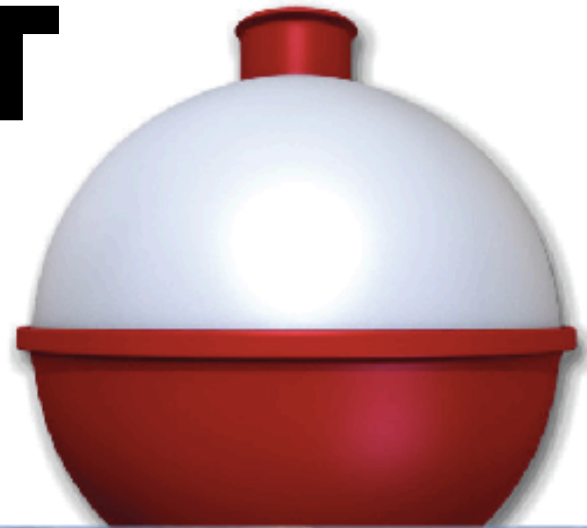


BOBINO 1.5 ENVIRONMENTAL LOGGER KIT

TAYLOR BROCKMAN

2015-AUG-06



NERD ALERT!



NERD ALERT!



New! Three Temperature Sensors!

Open Source Code and Hardware

Battery Powered, Durable, Cheap

POP THAT TUPPERWARE OPEN!

STICKERS! (w/ QR Code)

Arduino UNO plus “Shield”

SD Memory Card

2 Temperature Sensor Wires

Order Doesn't Matter

USB Battery and 2 Cables

Power it up! Recharge anytime!



WE ARE LOGGIN THE DATA!

Default interval is 15 seconds

Try covering up the Photo Sensor

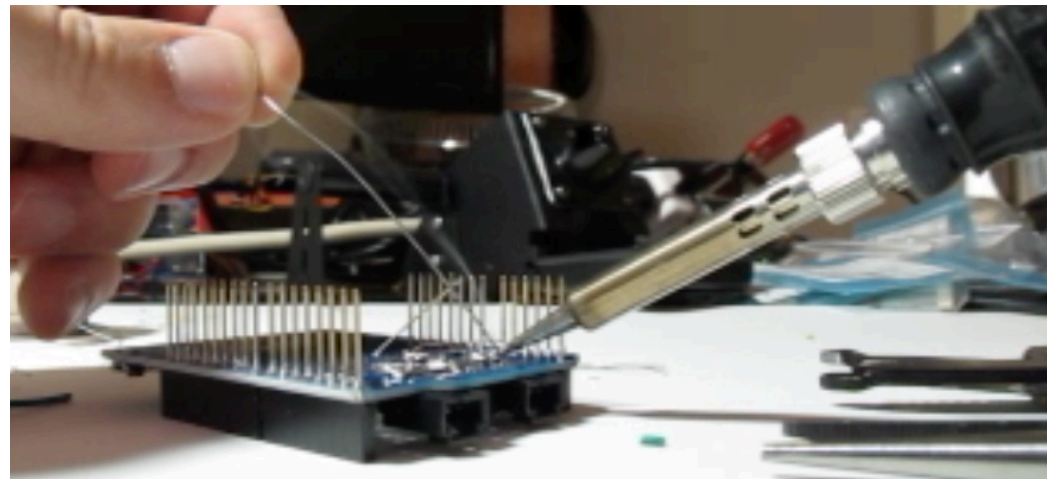
Try warming up a Temp Sensor

Temp Sensors are submersible

(Bubble Bubble Bubble)



STORY TIME & FUN PICTURES



WHY BOBINO?



Students need exposure to electronic data logging and statistical analysis and visualization.

Commercial alternative is \$1500

Cha Ching!

LET'S TAKE A LOOK ON OUR LAPTOPS



SD Card can be plugged into any laptop or PC.

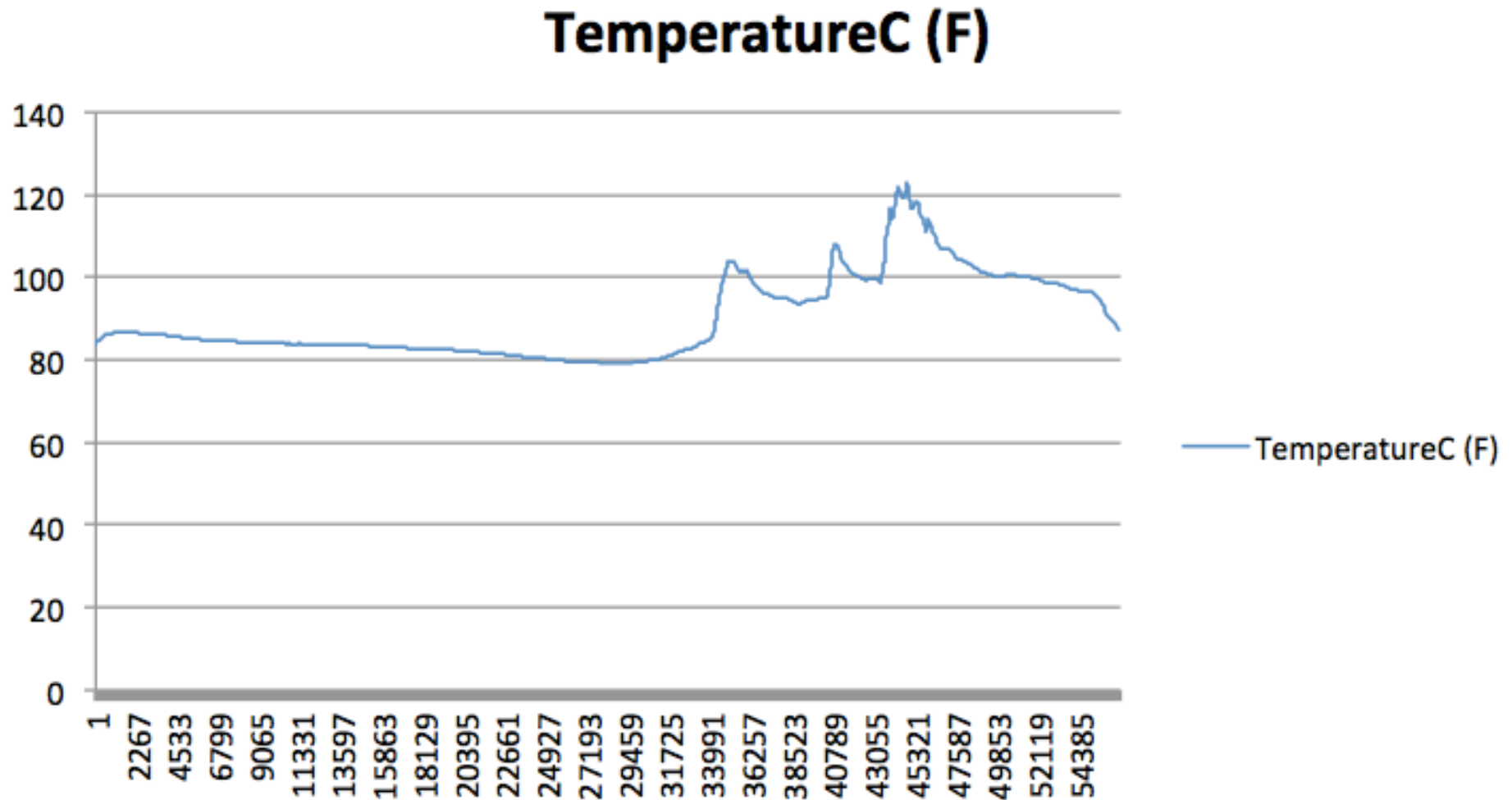
DATA.CSV is “Comma Separated Values” that opens well in Excel.

Change the Log Rate in CONFIG

LET'S TAKE A LOOK ON OUR LAPTOPS

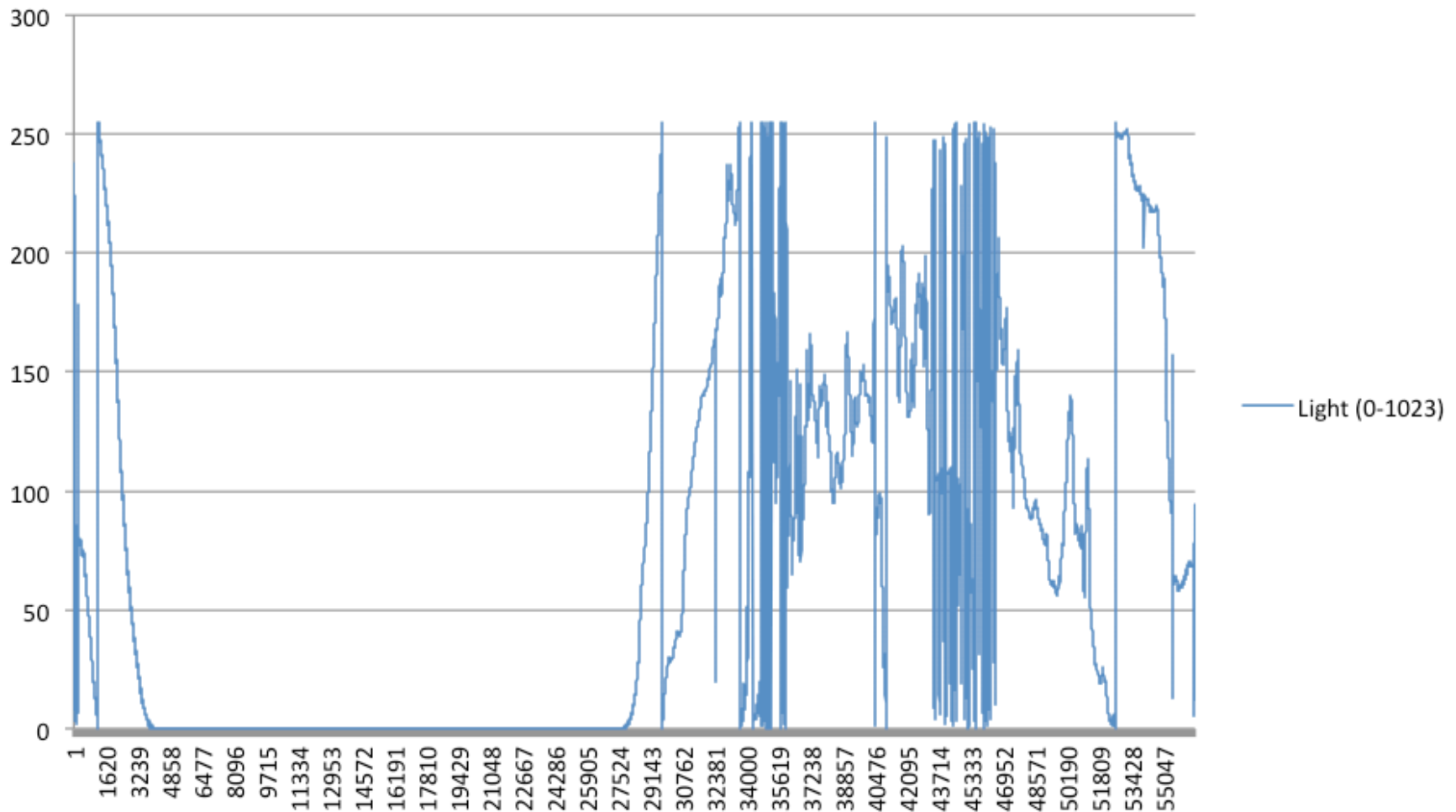
A	B	C	D	E
Time	LastReadMs	LoopCount	RebootCount	TemperatureA (F)
6/30/15 8:03	1148	1	122	78.35
6/30/15 8:07	301199	2	122	78.8
6/30/15 8:12	601250	3	122	79.25
6/30/15 8:17	901302	4	122	79.25
6/30/15 8:22	1201354	5	122	79.25
6/30/15 8:27	1501405	6	122	79.25
6/30/15 8:32	1801457	7	122	79.25
6/30/15 8:37	2101508	8	122	79.25
6/30/15 8:42	2401559	9	122	79.25
6/30/15 8:47	2701610	10	122	79.25
6/30/15 8:52	3001662	11	122	79.25
6/30/15 8:57	3301714	12	122	79.25
6/30/15 9:02	3601765	13	122	79.25
6/30/15 9:07	3901815	14	122	79.25

LET'S TAKE A LOOK ON OUR LAPTOPS



LET'S TAKE A LOOK ON OUR LAPTOPS

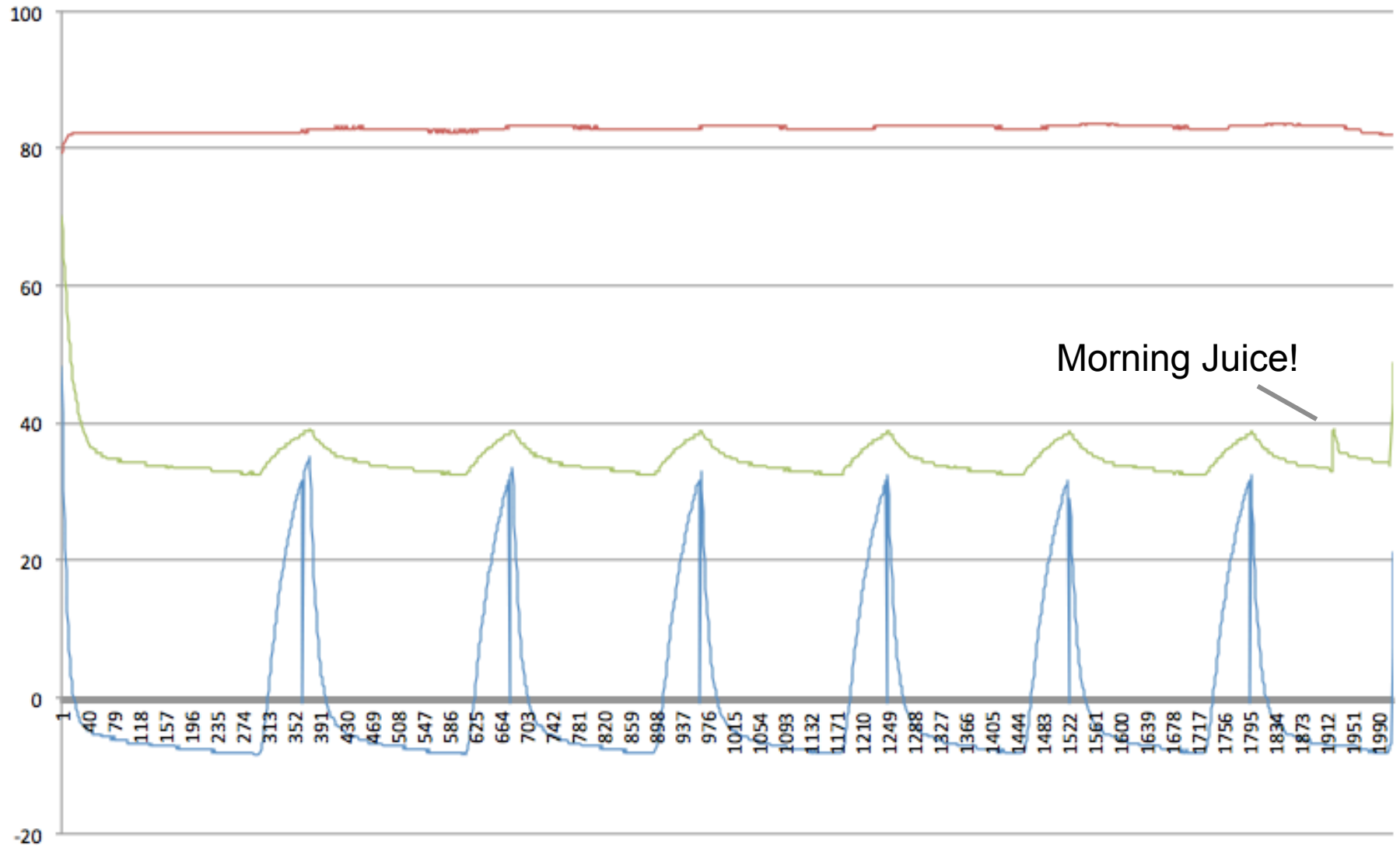
Light (0-1023)



MAYBE IT'S TIME TO GET A NEW FRIDGE?



MAYBE IT'S TIME TO GET A NEW FRIDGE?



EXPERIMENT IDEAS

Refrigerator Performance

Water Heating via Solar Radiance

Air –vs– Water Temperature Diff

Solar Day Length

Cloud Cover –vs– Temperature

Air Conditioner Thermostat Accuracy

FOR THE EXPERTS



All Source Code is available!

**Use the Arduino Programmer,
Free Download!**

**Add More Hardware, Change
Shields, Increase the Battery Size**

Ocean or Sky is the limit!

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