

Weather Station Assembly

Parts:

Green container

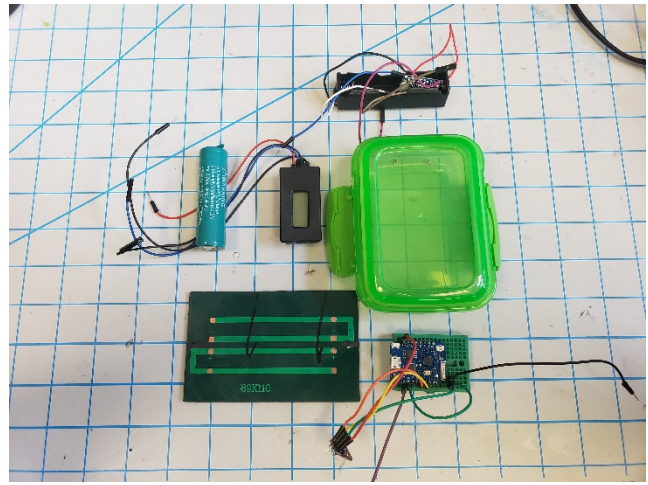
Charging board soldered to battery pack

Rechargeable battery

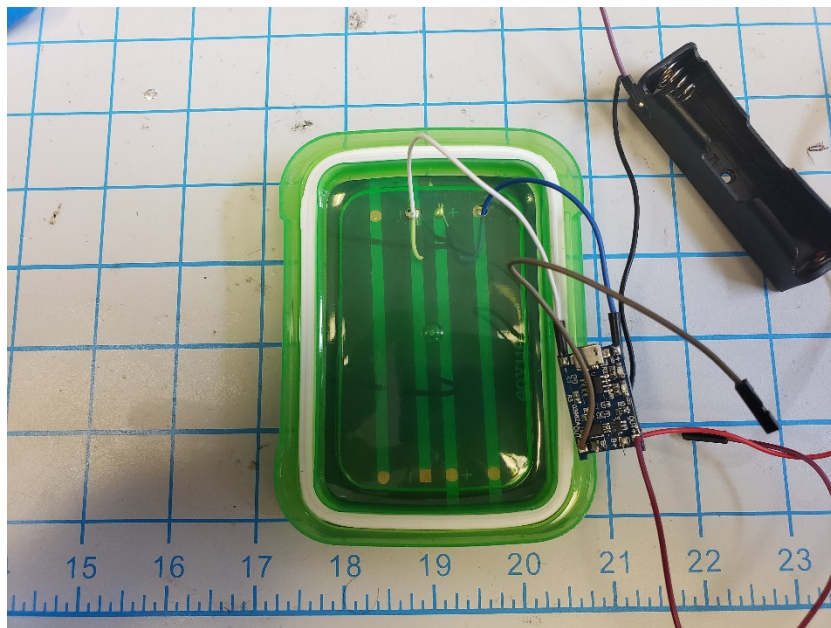
Solar Panel

Assembled D1 mini w BME280 Temp Sensor

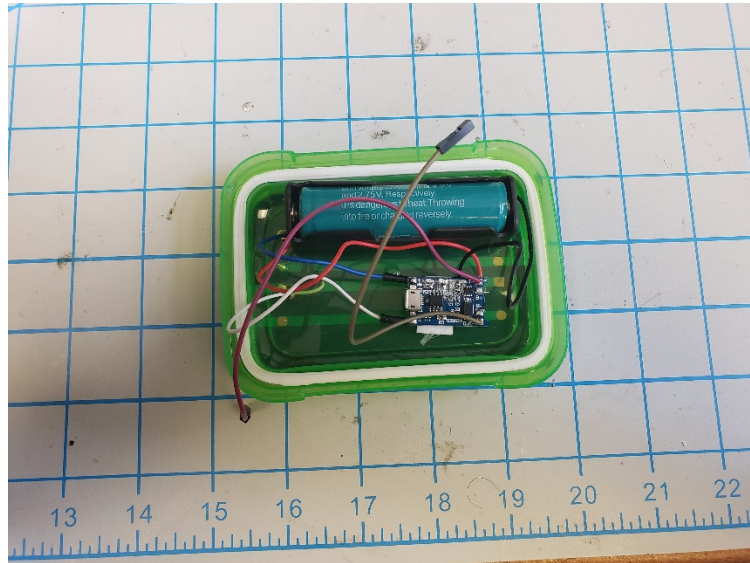
Battery indicator



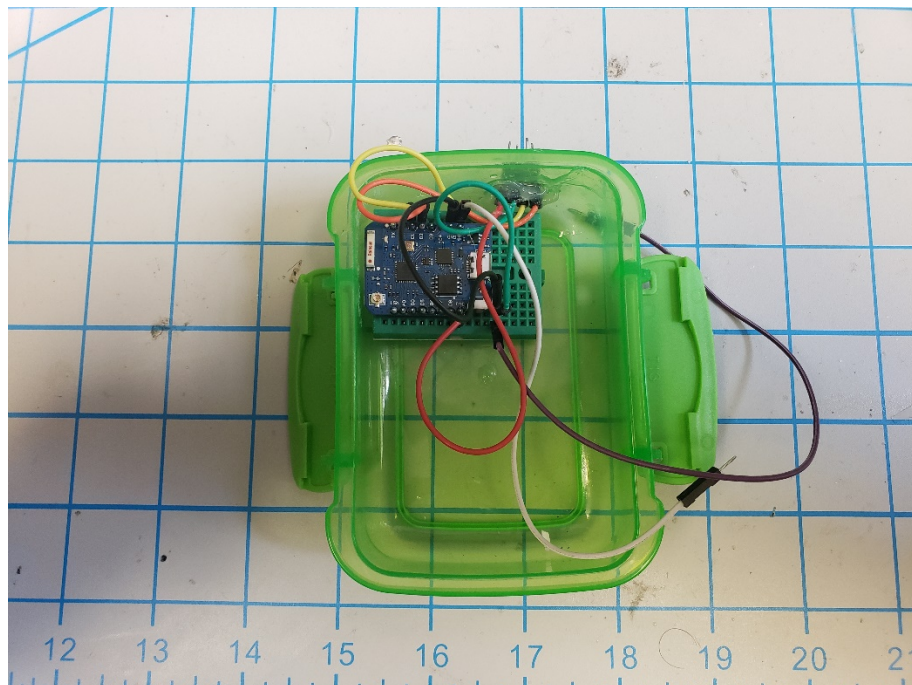
Step 1: Run positive and negative leads of charging board through container lid holes and solder to panel. The panel will be on the outside portion of the lid. Make sure polarities match.



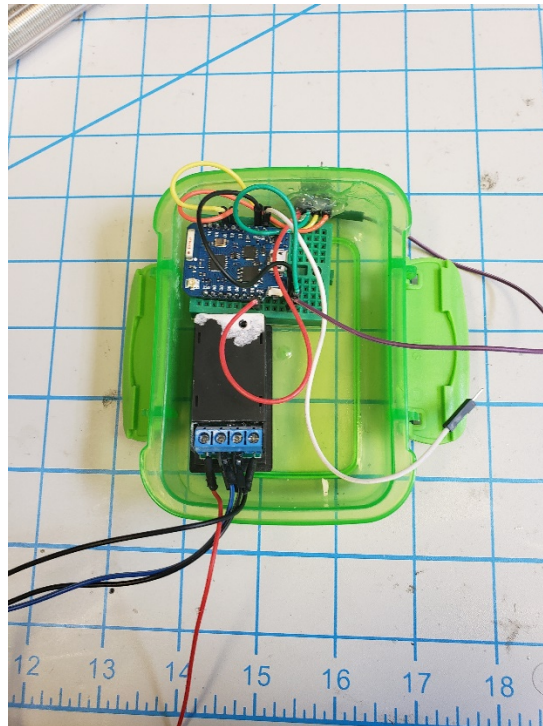
Then attach battery pack and charging board to the inside of the lid.



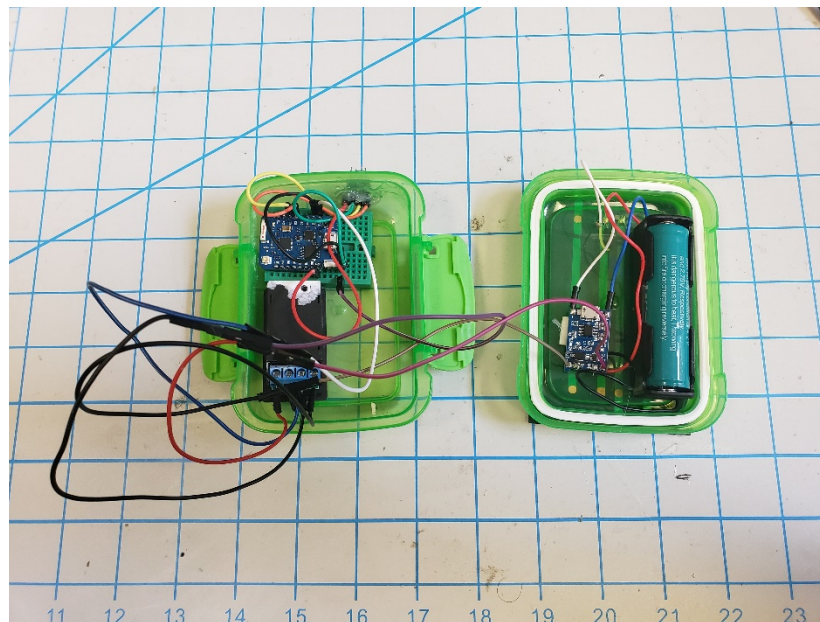
Step 2: Put D1 Mini inside the container as shown. Run the wires of the BME280 sensor through the hole in the side of the container and attach to breadboard. Glue the sensor to the outside of the container.



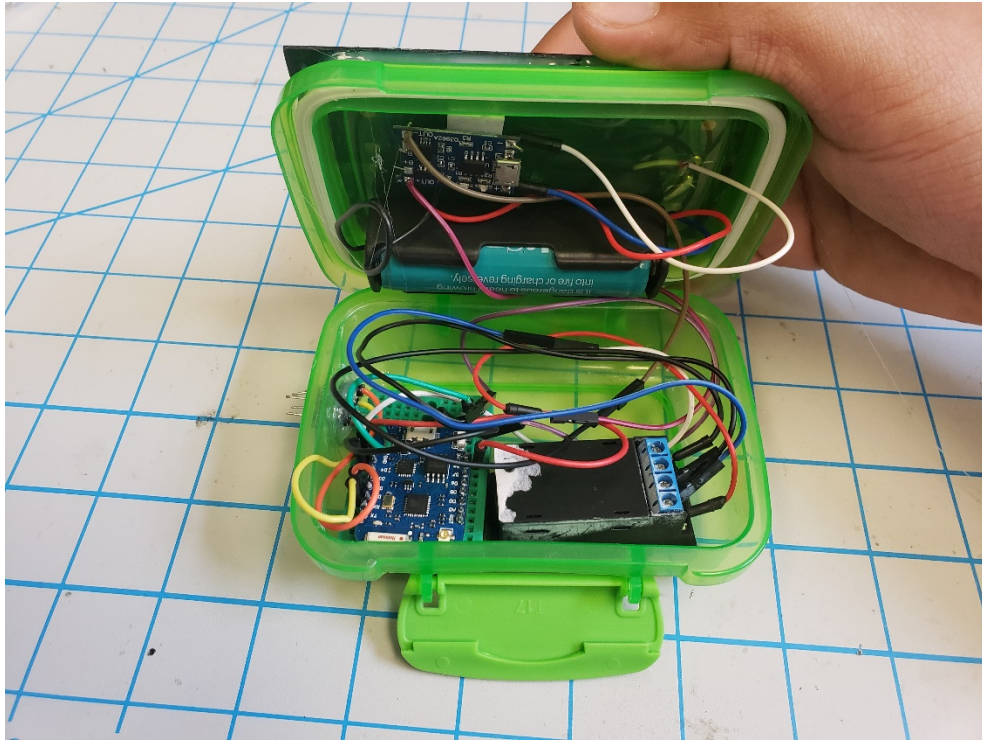
Place battery indicator on same side as breadboard. Place the screen facing down so that the screen is visible from the outside of the container



Step 3: Connect the battery indicator to the charging board and D1 mini. Be sure to follow schematic or directions provide in documentation when making connections.



Step 4: pack connections inside container and put the lid on. Be sure no connections come loose and that the battery will be on the side opposite of the battery indicator and D1 mini.



Receiver assembly:

The receiver only needs power after the appropriate code is uploaded to it. It can be powered via USB and can be powered by an outlet. Below is a suggestion of how to assemble it and is not mandatory for the operation of the device.

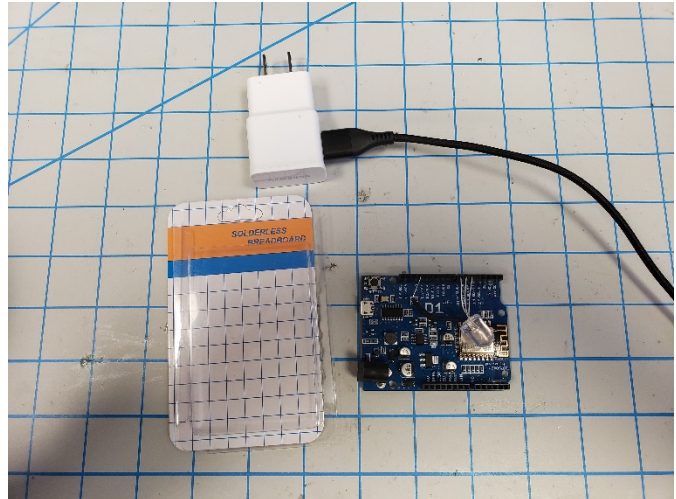
Parts:

USB cable

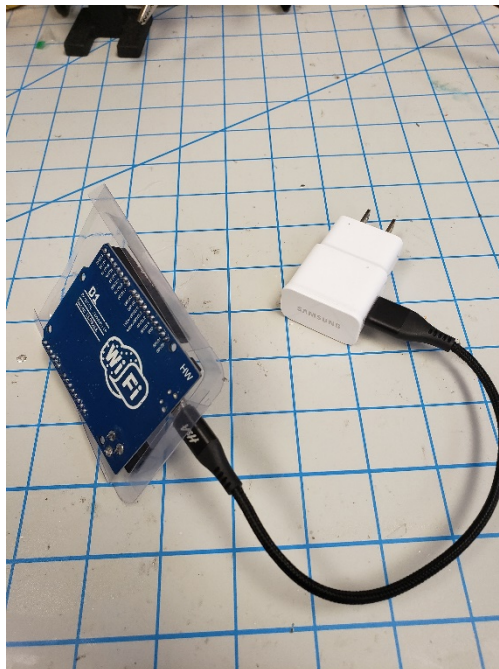
AC to DC outlet converter

D1 Board

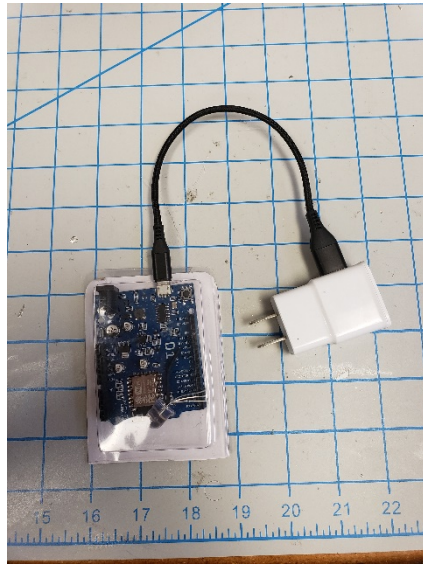
Breadboard packaging



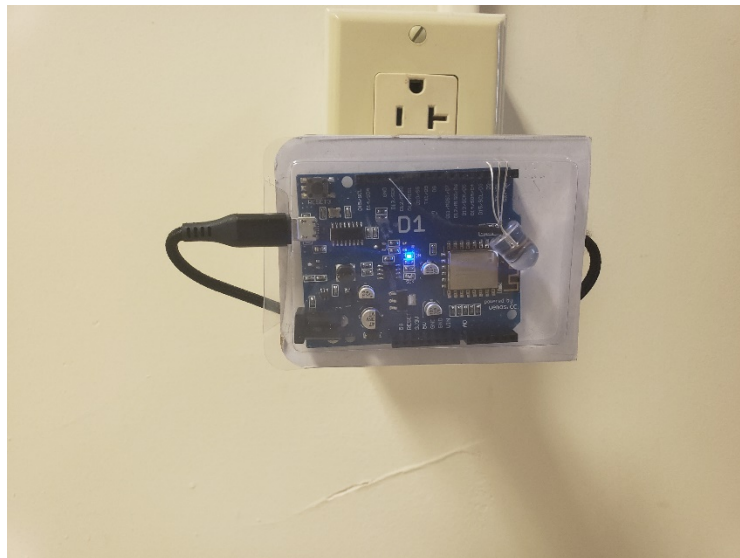
Step 1: Place D1 inside clear plastic. Cut small opening to connect USB to the board.



Step 2: Insert cardboard backing



Final Product:

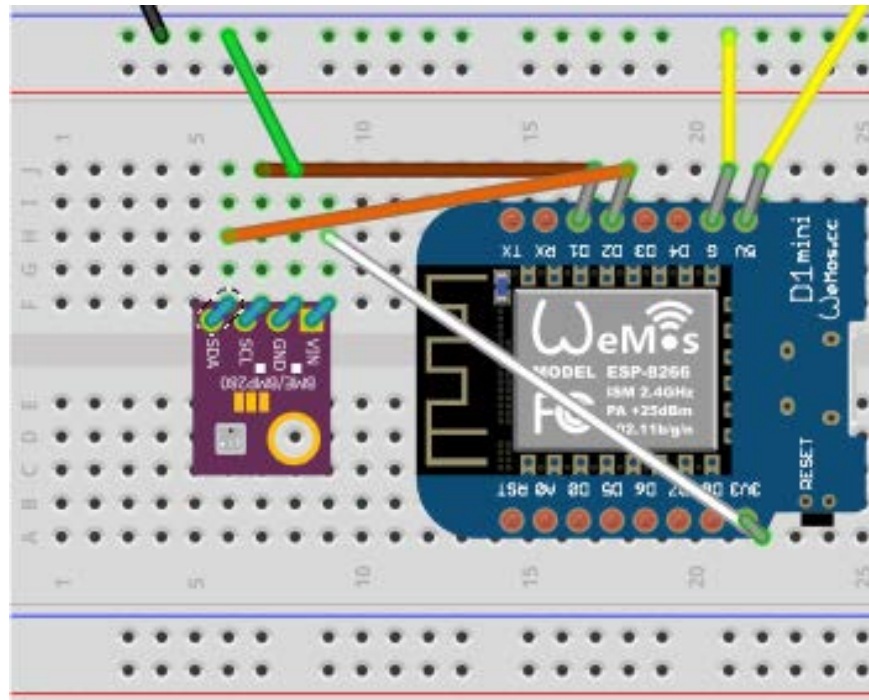


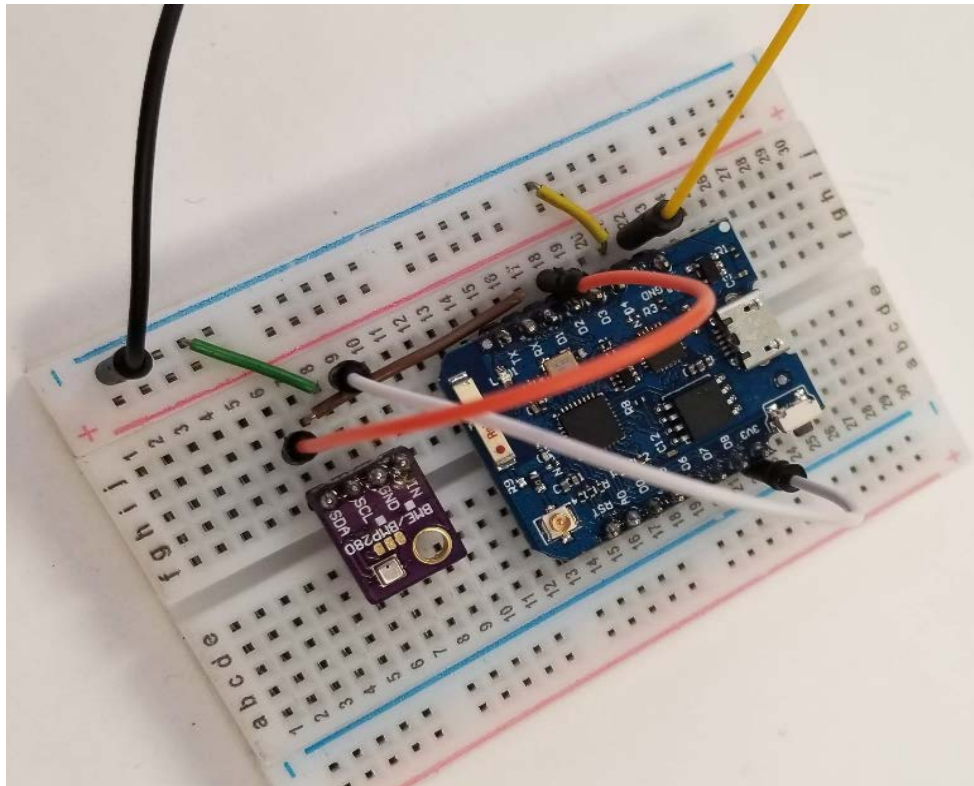
Note: **This is just a suggestion/example for students.** It is **encouraged** for students to create their own housing for the unit. The unit's only requirement after correct code is uploaded is power which can be achieved via the converter and USB provided for outlet power or the USB plugged into a computer port.

Wiring Reference:

Wire:	Connection:
Blue Male - Male	5V Pin on D1 Mini
White Male - Male	Ground node of D1 Mini Breadboard
Red Male -Male	Battery Indicator Battery +
Black Male - Male	Battery Indicator Battery -
Red Male - Female	Battery Indicator load +
Black and White with black stripe Male - Female	Battery Indicator Load -
Black Male - Male	GND pin on D1 mini to GND node of Breadboard

Weather Station:





Pin Diagram of BME280 on Breadboard	
VIN on BME280	3V3 on WeMos
GND on BME280	Any – spot on breadboard
SCL on BME280	D1 on WeMos
SDA on BME280	D2 on WeMos

Receiver:

Pin Diagram of RGB LED on Mini Breadboard(From Left to Right on Picture)	
Pin 1 (Blue)	Connected directly to Pin on D1 board
Pin 2 (Green, second longest)	Connected directly to Pin on D1 board
Pin 3 (Ground , longest)	Connected through resister to GND
Pin 4 (red)	Connected directly to Pin on D1 board

