# Installing the Arduino IDE:

1. Follow instructions from Adafruit about [installing the IDE](https://learn.adafruit.com/adafruit-feather-m0-adalogger/setup) and setting it up to [support their boards](https://learn.adafruit.com/adafruit-feather-m0-adalogger/using-with-arduino-ide).
2. You will also need to install the RTClib and Adafruit MCP9600 libraries for this sketch to load properly from your computer/tablet.
   1. Go to Sketch 🡪 Include Library 🡪 Manage Libraries…
   2. Type “MCP9600” in the search bar and find the library by Adafruit
   3. Clear the search bar and type “rtcLib” and find the library by Adafruit

# Sensor Set-up:

1. Insert the microSD card
2. Insert the thermocouple into the screw terminal on the MCP9600 board
   1. If already inserted, check that the screws are tight and connection is secure
3. Open the Arduino IDE on a computer/tablet
4. Go to Tools 🡪 Board: 🡪 Adafruit SAMD (…) boards 🡪 Adafruit Feather M0
5. Connect the microcontroller to the computer
   1. Check for the established serial connection port
      1. Tools 🡪 Port 🡪 COM?(Adafruit Feather M0)
6. Open the Serial monitor to for diagnostics check
   1. Make sure the program is running
   2. Check that the time stamp from the computer is similar to the sensor
   3. Check the 3 temperatures provided
      1. they should be relatively close but the RTC and cold junction temps are usually a little higher due to the chip on the boards heating up
7. Place the sensor in side of the housing and secure the cap

# Quick check:

1. The red light should flicker a few times and then blink every second to indicate that the data is getting logged to the SD card
2. If the green light is on or flashing, see the trouble shooting section below.

# Trouble shooting:

1. If the temperature seems far off for the hot junction, check that the thermocouple wires are in the right location
   1. If you hold the thermocouple end in your hand and the temp goes down, the wires are backwards
2. If the green light is blinking it means there is no SD card inserted.
3. If the green light is on and not flashing, it means it could not initialize the SD card
   1. If it couldn’t initialize the SD card, clean the contacts of the SD card
      1. If it still doesn’t work, try a different SD card or format the current card
         1. Formatting the card will erase all data on the card so be sure to download it first!!!

# Battery Charging:

1. Remove the SD card
2. Turn on the board
3. Attach USB to 5V (1 Amp) power source
4. The Yellow/Orange light next to the Micro USB port will turn on if the battery is charging