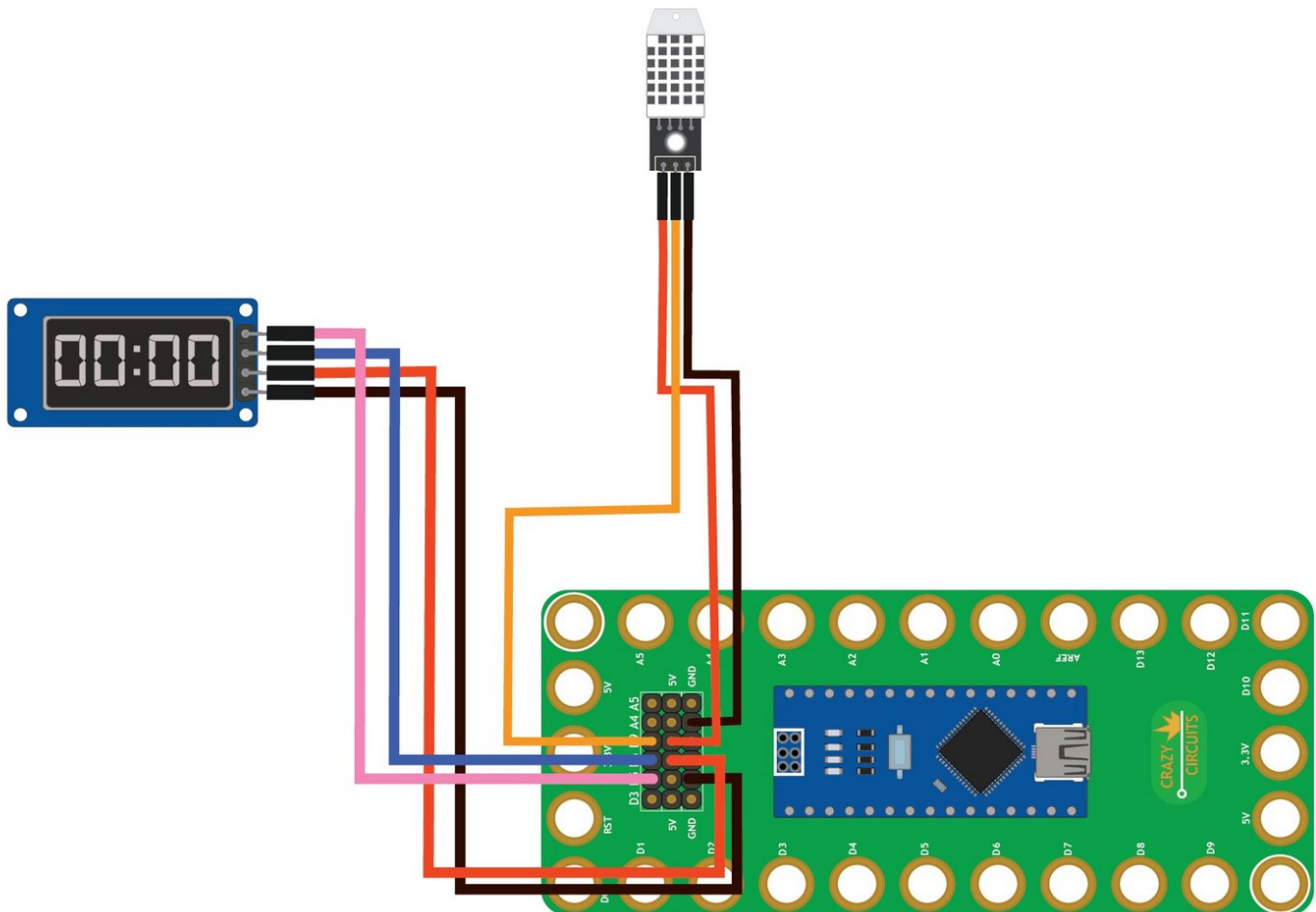




15 - Temperature and Humidity Sensor with 7 Segment Display

Use our Programming 101 kit to display the temperature and humidity on a 7 segment display.

Written By: Pete Prodoehl



INTRODUCTION

Use our Robotics Board to display the temperature and humidity on a 7 segment display.



TOOLS:

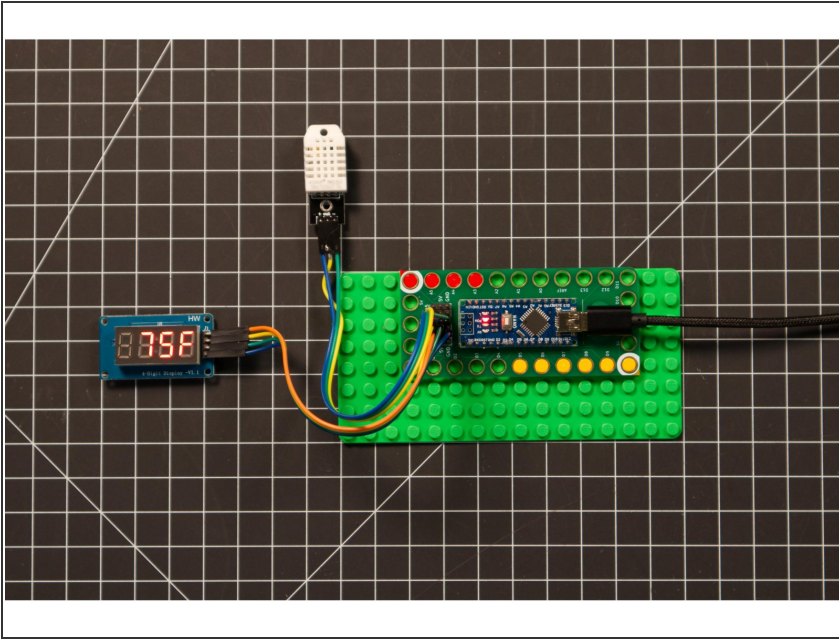
- [Scissors](#) (1)
- [Computer](#) (1)



PARTS:

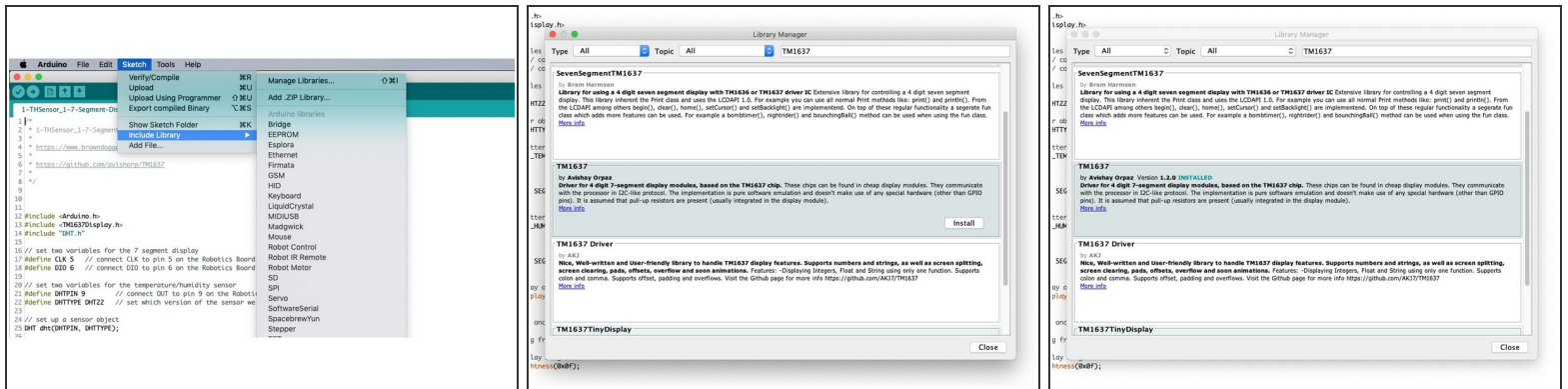
- [Crazy Circuits Robotics Board](#) (1)
- [7 Segment Display](#) (1)
- [Temperature and Humidity Sensor](#) (1)
- [Jumper Wires](#) (7)

Step 1 — Build the Circuit



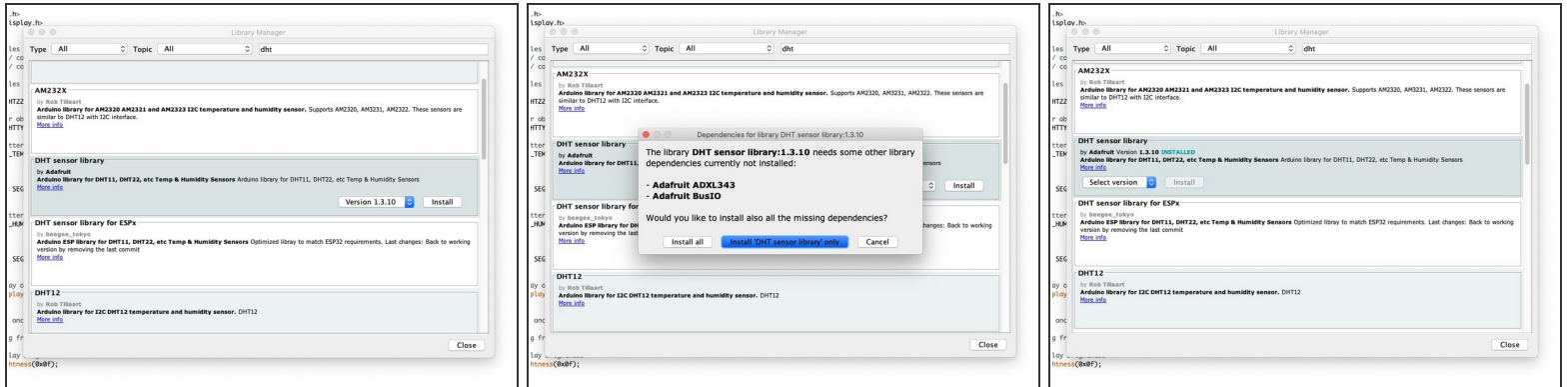
- Build the circuit as shown in the diagram using the components specified.
- ① You can use any color jumper wires for the 7 segment display, just make sure they are plugged into the right place.
- ① You can use any color jumper wires for the temperature and humidity sensor, just make sure they are plugged into the right place.

Step 2 — Install TM1637 library



- Install and launch the Arduino software.
- Click on the **Sketch** menu, select **Include Library**, and then **Manage Libraries...**
- On the top right side type **TM1637** and it will show the results in the bottom of the window. We want the **TM1637** by **Avishay Orpaz**. Click the **Install** button.
- The library will be downloaded and **installed**, and then show the word Installed along with the version number.
- If you are done installing libraries click the **Close** button in the lower right corner.
- (These instructions can also be found in the PDF file **Installing-TM1637-Library.pdf**)

Step 3 — Install DHT library



- On the top right side type **DHT** and it will show the results in the bottom of the window. We want the **DHT sensor library** by **Adafruit**. Click the **Install** button.
- You can choose **Install 'DHT sensor library' only** as we will not need the other library files.
- The library will be downloaded and **installed**, and then show the word **Installed** along with the version number.
- If you are done installing libraries click the **Close** button in the lower right corner.
- (These instructions can also be found in the PDF file **Installing-DHT-Arduino-Library.pdf**)

Step 4 — Upload the Code

```
Temperature_and_Humidity_Sensor_with_7_Segment_Display / Arduino 1.8.13
1 //
2 * Temperature_and_Humidity_Sensor_with_7_Segment_Display.ino
3 *
4 * https://www.browndoggadgets.com/
5 *
6 * Note: You will need to install the TM6370 library by Arishay Orpat
7 * as well as the DHT sensor library by Adafruit
8 *
9 */
10
11
12
13 #include <Arduino.h>
14 #include <TM6370display.h>
15 #include "DHT.h"
16
17 // set two variables for the 7 segment display
18 #define CLK 5 // connect CLK to pin 5 on the Robotics Board
19 #define DIO 6 // connect DIO to pin 6 on the Robotics Board
20
21 // set two variables for the temperature/humidity sensor
22 #define DHTPIN 9 // connect DHT to pin 9 on the Robotics Board
23 #define DHTTYPE DHT22 // set which version of the sensor we are using
24
25 // set up a sensor object
26 DHT dht(DHTPIN, DHTTYPE);
27
28 // create an F letter to display for the temperature
29 const uint8_t SEG_TMP[] = {
30   0, // blank
31   0, // blank
32   0, // blank
33   SEG_A | SEG_E | SEG_F | SEG_G // F
34 };
35
36 // create an H letter to display for the humidity
37 const uint8_t SEG_HUMID[] = {
38   0, // blank
39   0, // blank
40   0, // blank
41   SEG_B | SEG_C | SEG_E | SEG_F | SEG_G // H
42 };
43
44 // set up a display object
45 TM6370display display(CLK, DIO);
46
47
```

- Upload the Arduino sketch to the Robotics Board.
- You can find the code here:
<https://github.com/BrownDogGadgets/Progr...>