MONTAGE_LM35_ARDUINO

There are three pins on the LM35 Ground (GND), Signal and a VCC

Place the LM35 with the flat surface facing you:

The VCC pin will be on the left, connect it to the Red + rail on the breadboard

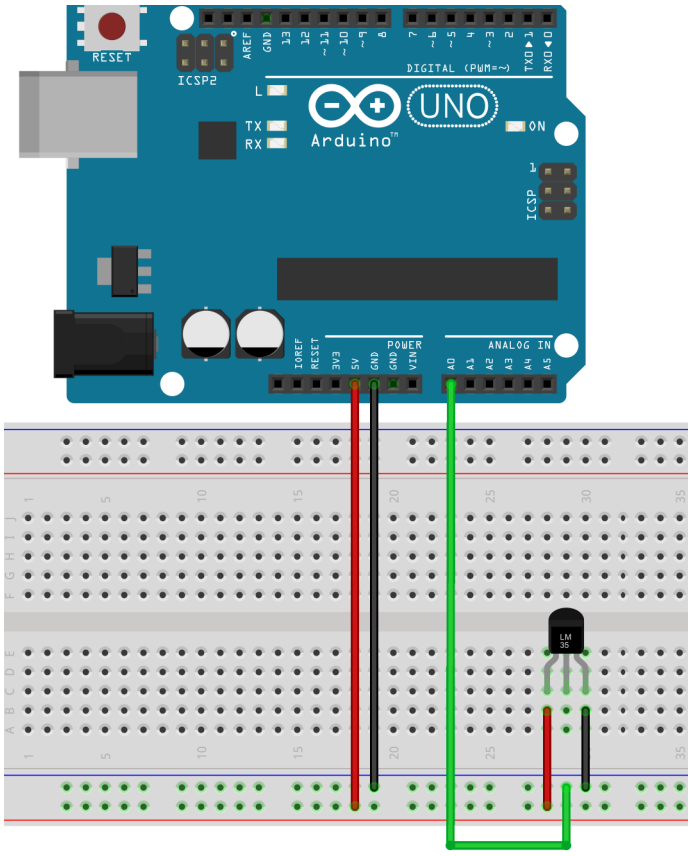
The signal pin is in the middle, connect it to the Analog 0 (A0) on the Arduino

The Ground pin will be on the right, connect it to the - Blue rail on the breadboard.

See picture for more details

Connect the 5V from the Arduino to the + red rail on the breadboard

Connect the GND from the Arduino to the - blue rail on the breadboard



SKETCH

This is a simple sketch:

Start by defining variables:

temp is a variable that will hold the data from the LM35 sensor and we will manipulate this data to convert it to Celsius later in the sketch

```
// LM35 TEMPERATURE SENSOR
```

```
float temp;          //Define the temp float variable
```

```
int sensor = 0;      // sensor middle pin on analog pin 0
```

In the void setup, just start the serial monitor which we will use the read the temperature from.

```
void setup()
{Serial.begin(9600); //start the serial monitor}
```

Here We will read the data from the LM35 using analogread(sensor) and store this information in the variable temp. The we will multiply this value with 0.48828125 to convert from volts to degrees Celsius.

```
void loop(){
```

```
temp = analogRead(sensor);          //assigning the analog output to temp
```

```
temp = temp * 0.48828125;           //converting volts to degrees celsius --
--- 0.48828125 = [(5V*1000)/1024]10
```

The next series of lines will display the information on the serial monitor in this format:

The temperature is : VALUE deg. Celsius

and it will repeat this line every second.

```
Serial.print("The temperature is :");
```

```
Serial.print(temp);
```

```
Serial.println("deg. Celsius");
```

```
delay(1000);}
```

PROGRAM

```
/ LM35 TEMPERATURE SENSOR
float temp;        //Define the temp float variable
int sensor = 0;     // sensor middle pin on analog pin 0

void setup()
{
Serial.begin(9600);  //start the serial monitor
}

void loop()
{
temp = analogRead(sensor);        //assigning the analog output to temp
temp = temp * 0.48828125;         //converting volts to degrees celsius ----- 0.48828125 = [(5V*1000)/
1024]10
//print information on the serial monitor
Serial.print("The temperature is :");
Serial.print(temp);
Serial.println("deg. Celsius");
//wait 1 second
delay(1000);
}
```