Introduction to Arduino w/ Hydroponics

Welcome to HackManhattan

Wifi: hackmanhattan west 5g

Discord Invite:

https://discord.gg/etzYTD6nr4

Schedule

- Introduction to Arduino
- Reading the soil moisture level
- Powering the water pump
- Final Assembly
- Next Steps

Introduction to Arduino

- Adafruit Metro Mini 5V
- Digital Pins On Off
- Analog Pins 0-1024
- Labs 1,2
 - a. Hello World Application
 - b. Blink Application

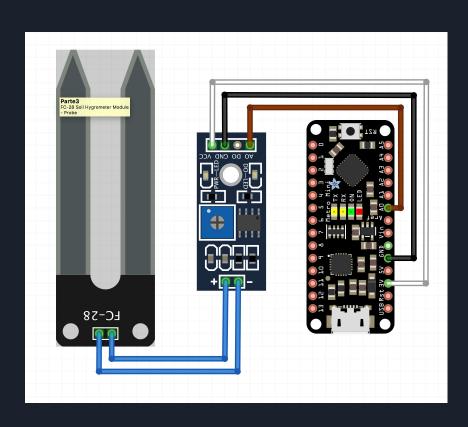
Parts List

- Adafruit Metro Mini 5V
- USB Micro Breakout Board
- USB Type-A Female Port
- Mosfet Relay Board

Moisture Reading

- Connected to 3.3V pin
- Water reading: 320
- Dry Soil: 700
- Wet Soil: 360
- Lab 3: Plot soil moisture
 - Average Readings

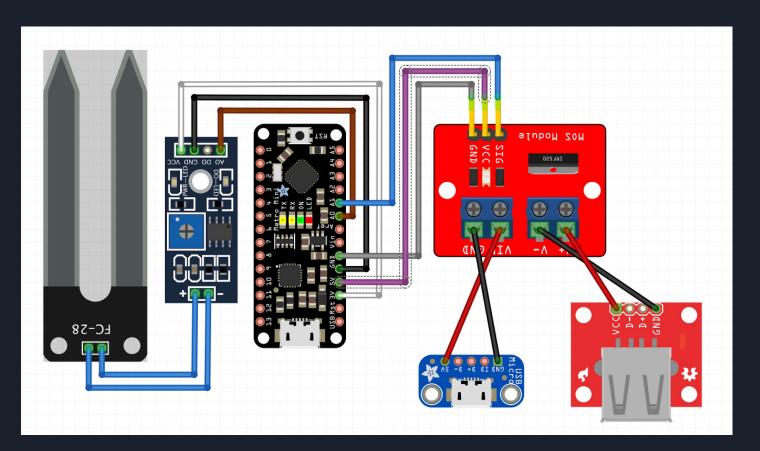
Moisture Sensor Connections



USB Power Supply

- 5 Voltage Output
- 2.1A Current Output
- Components to Power
 - Arduino
 - Water pump
- Lab: Toggle Relay LED

USB Power Connections



Final Assembly

Lab 4: Power water pump when soil is dry