



Zoon Setup Guide

By: Team Planters



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Introductory

General Information

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Equipments:

1x Laptop/PC

1x Windows/MacOS/Linux

1x Arduino UNO rev 3

1x USB A-B cable

3x 1N4001 Diode

1x Generic breadboard

2x Soil Moisture Sensor

1x Peristaltic water pump

3x PNP Transistor (S8550)

1x 9v 1.5A DC power supply

1x SD card logging shield

10x Dupont wire (Male - Female)

10x Jumper wire (Male to Male)

Parts Shopping List:

SD card logging shield

<https://www.microcenter.com/product/476328/velleman-sd-card-logging-shield---2-pack>

Arduino and accessories parts

https://www.amazon.com/gp/product/B00D9NQDAG/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

9v 1.5A DC power supply

<https://www.amazon.com/Adapter-Switching-5-5x2-1mm-Connecter-LotFancy/dp/B07227SRSJ>

Soil moisture sensor

https://www.amazon.com/HUABAN-Hygrometer-Humidity-Detection-Moisture/dp/B077PW1VW5/ref=sr_1_2_sspa?crid=1SEIRM5RSFYVV&keywords=arduino+soil+moisture+sensor&qid=1557621302&s=electronics&srefix=arduino+soil+moi%2Celectronics%2C151&sr=1-2-spons&psc=1

Peristaltic water pump

https://www.amazon.com/Gikfun-Peristaltic-Connector-Aquarium-Analytic/dp/B01IUVHB8E/ref=sr_1_2?keywords=arduino+peristaltic+water+pump&qid=1557621364&s=electronics&sr=8-2

Safety Summary (General guidelines)

Turning the power off and taking proper static precautions also applies to Arduinos. Anorton's tip about not resting it on a conductive surface is also useful.

Some other things to keep in mind:

- Double check the polarities of any connections you make.
- Keep a consistent wiring color code. Use red for power and black for ground.
- Calculate the expected current through all components before you apply power.
- Connect and test one small part at a time, instead of in one big bang.
- Make sure the parts you buy expect the same voltage, or perform the appropriate conversion.

For keeping people safe:

- Know where the fire extinguisher is just in case.
- Don't put cords where people can trip on them.
- If your project has a propeller or something physically dangerous, build fail safes and kill switches into the system.
- Be careful what you touch while troubleshooting. Arduinos usually don't deal with very high voltages, but inductors and capacitors can build up higher charges than you expect, and hold it after power is removed.

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