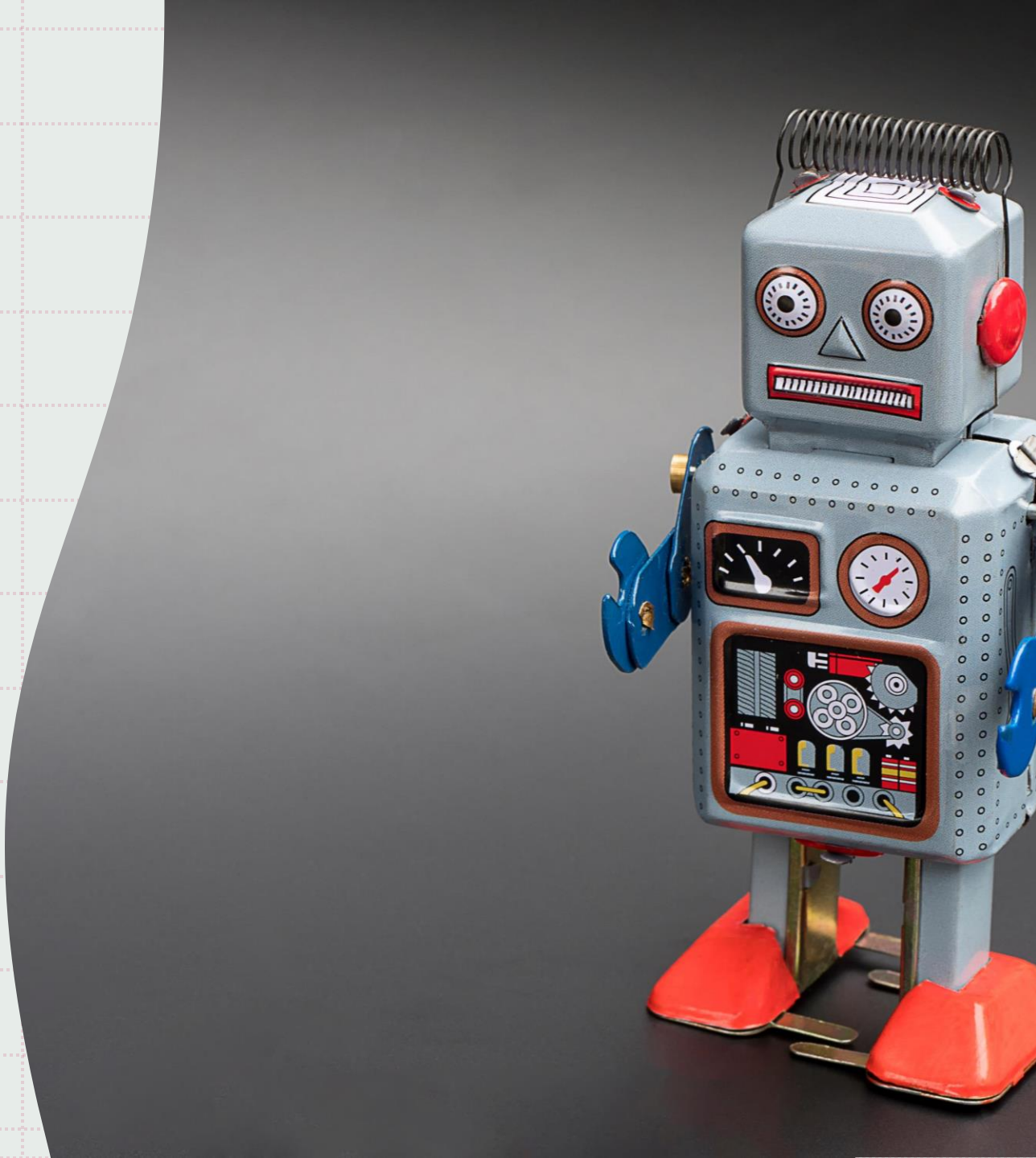
Fish Feeder Robot

Arduino Project



Gathering Your Supplies

Your required items include these from your kit

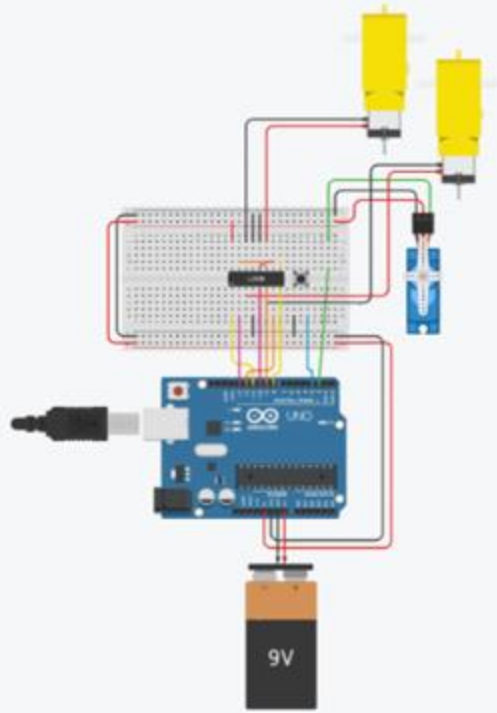
Start Assembling!

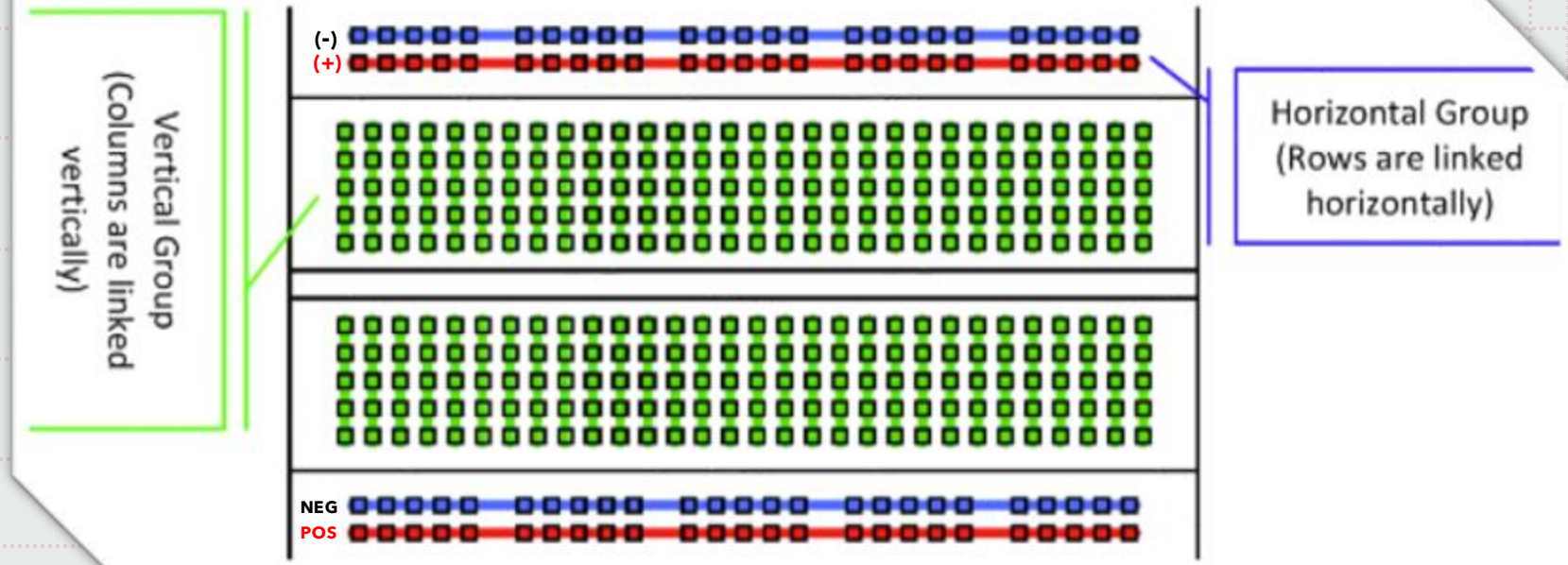
Pro-Tips:

Refer to the provided TinkerCAD File for help with wiring!

Vertical Terminals a-e are connected, and f-j are connected, however they **are** separate from one another.

Additionally, all positive (+) terminals are connected, and all ground (-) terminals are connected.





Step 1:

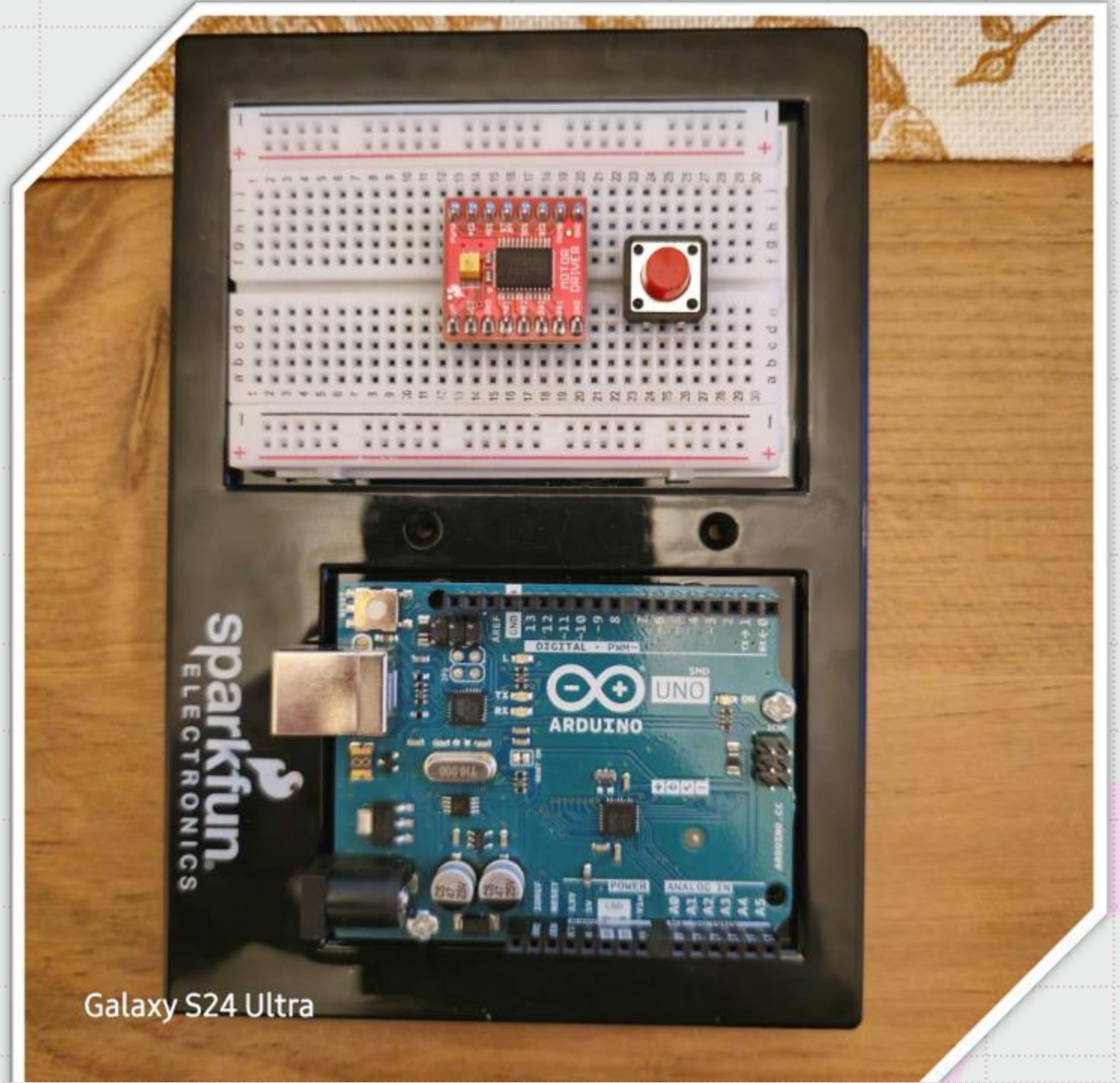
Attach all components with pins to breadboard.

1.) Motor Driver: Pins 11c – 18c (the other side will fall into place!)

2.) Button: Pins 25d – 27d

For ease of wiring, refer to the TinkerCAD file for locations on the Arduino.

Pay close attention to the terminals these pins fit into on your physical breadboard. They may be different than whats shown on then TinkerCAD.

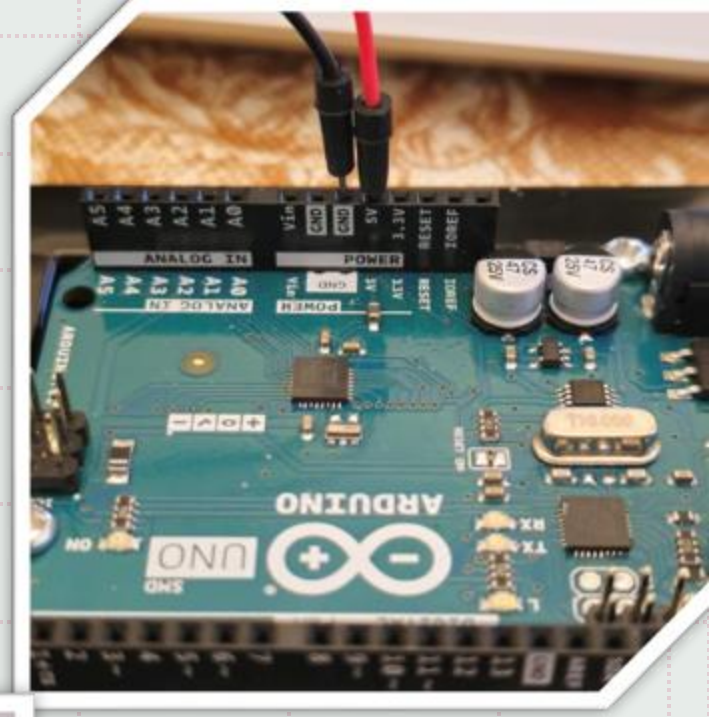


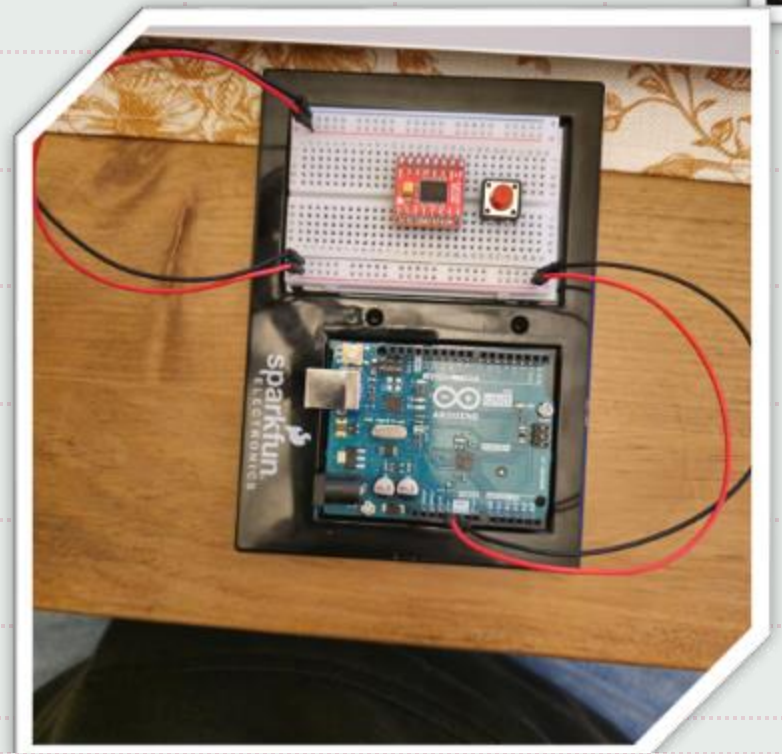
Step 2:

1.) Start by wiring power to your breadboard.

Positive (+) to “5V”, and Ground (-) to “GND” on your Arduino.

Next, you can route power to the other side of the breadboard as well by running a power wire from the positive bus (+) and the ground (-) to the other side labeled in red and black with (+/-). (See pictures)





Step 3:

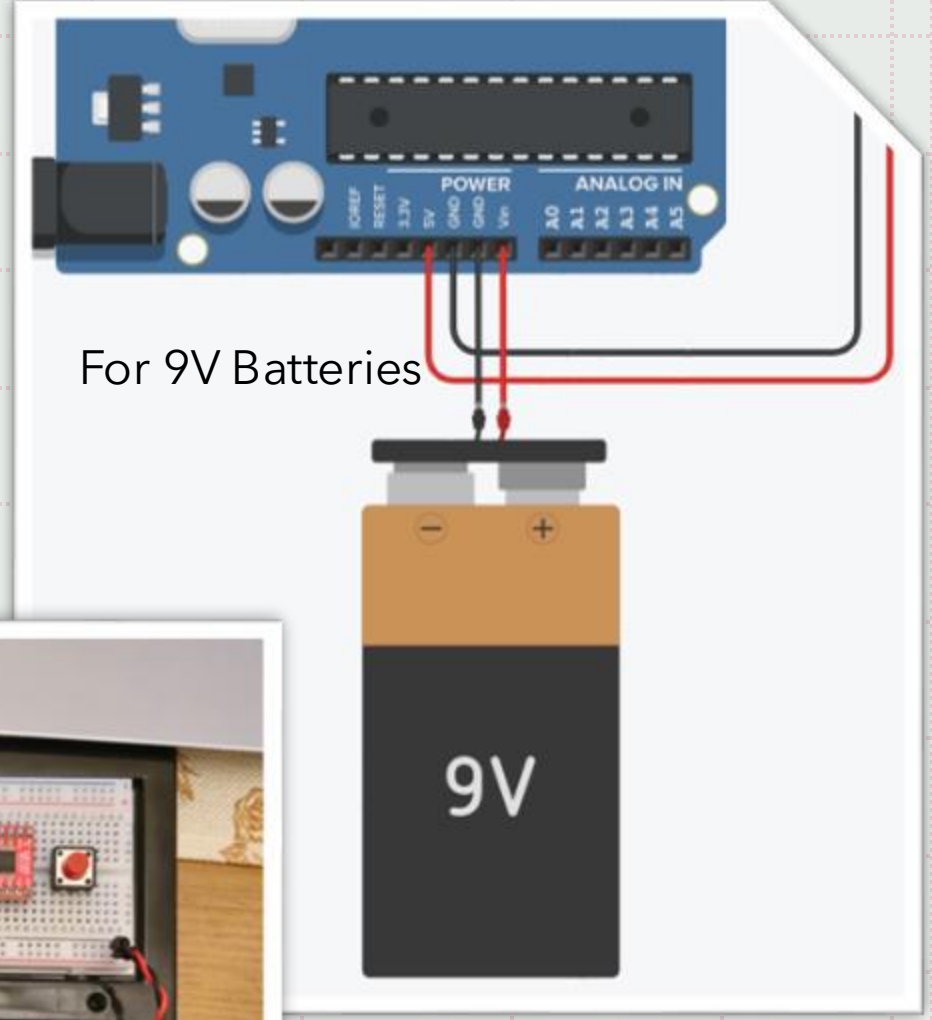
Wiring your power to a power supply.

ATTENTION:
Keep the battery disconnected while you wire all the components.

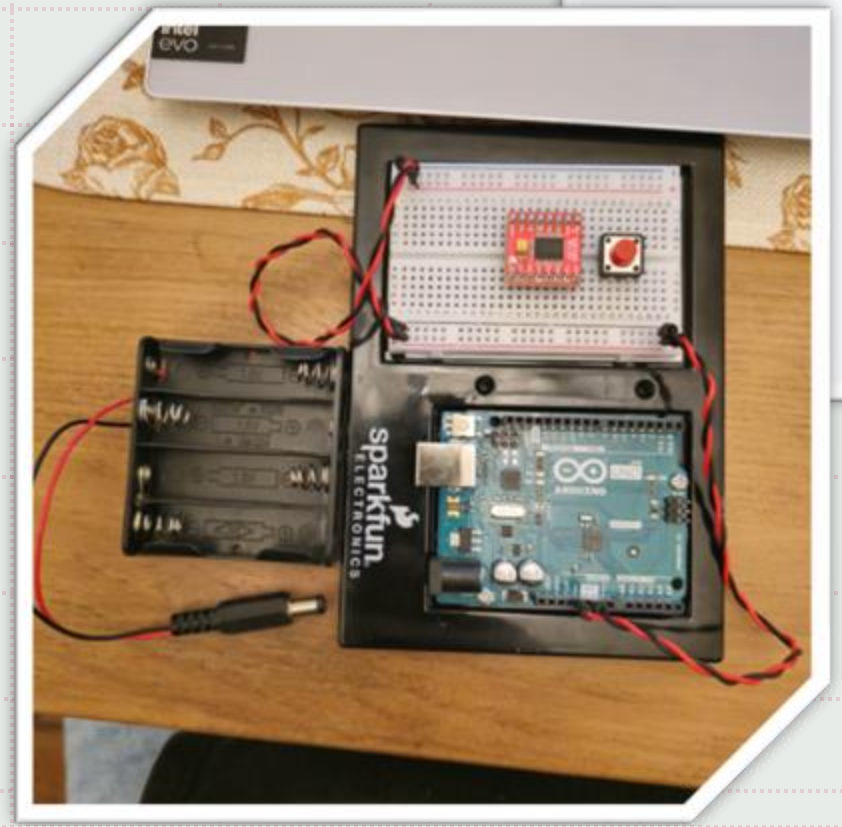
1.) ARDUINO TO POWER SUPPLY HARNESS FOR 9V BATTERY

VIN → Positive (+) Terminal of battery.
GND → Ground (-) Terminal of battery.

NOTE:
Your kit may have a supplied battery pack for AA (double A) batteries and will only need to be plugged in to the provided port on your Arduino Uno R3.



For 9V Batteries

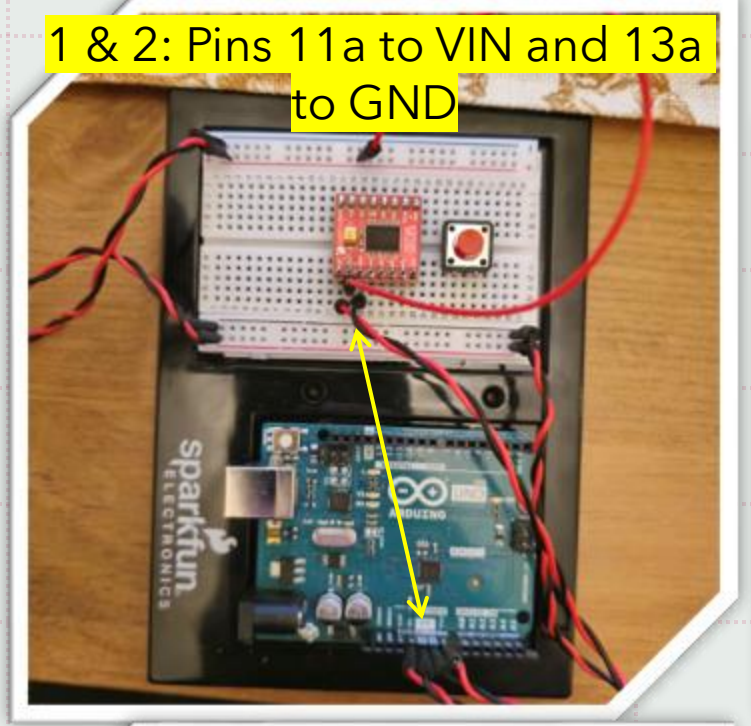


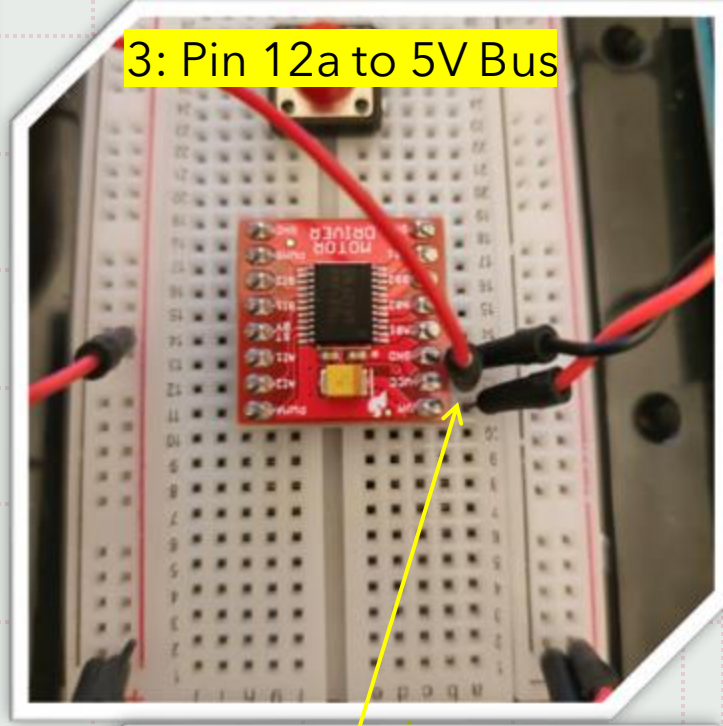
For Battery Pack

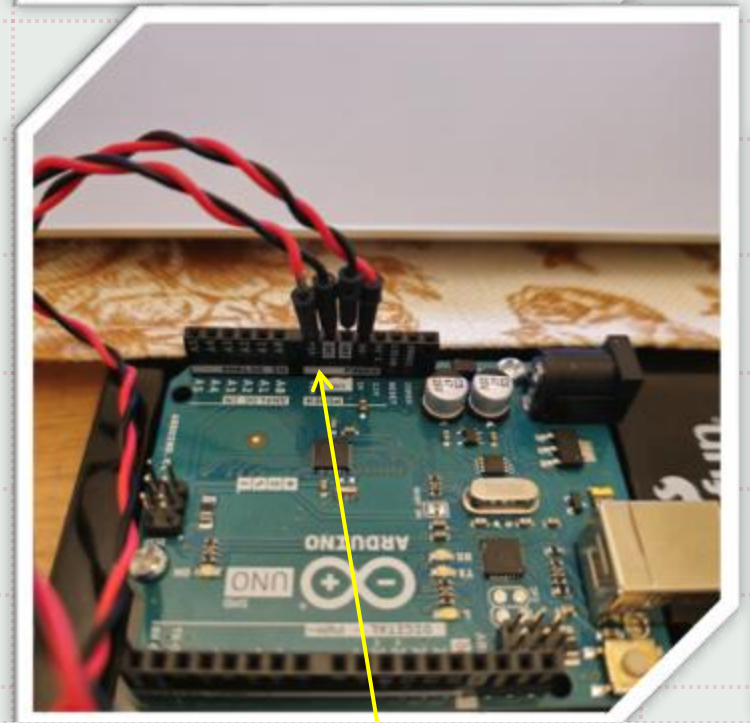
Step 4a: Motor Driver

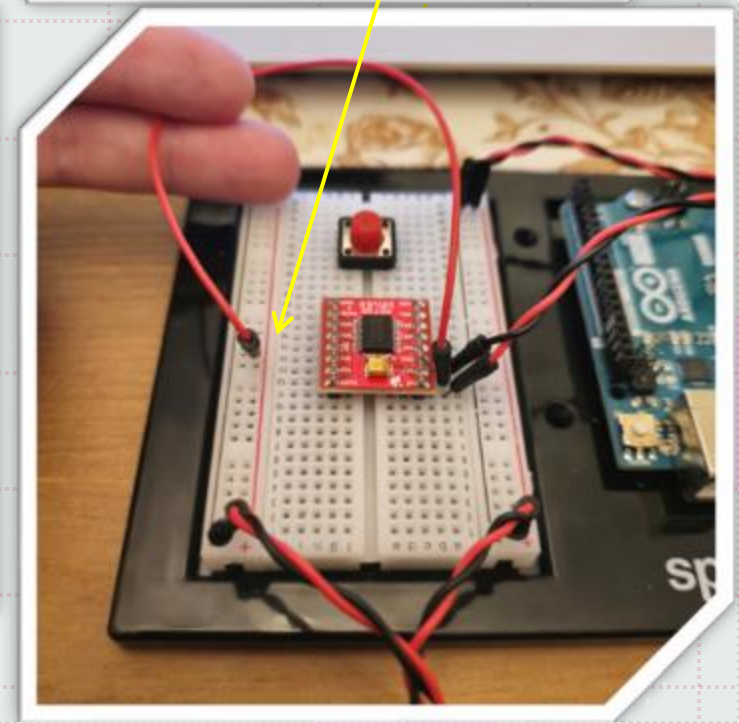
Color Guide:
Arduino/Breadboard → Motor Driver
See Pictures for additional details about pins.

1.) VIN → VM - Power for motors.
2.) GND → GND Ground for motor driver.
3.) 5V Bus → VCC – Power for driver









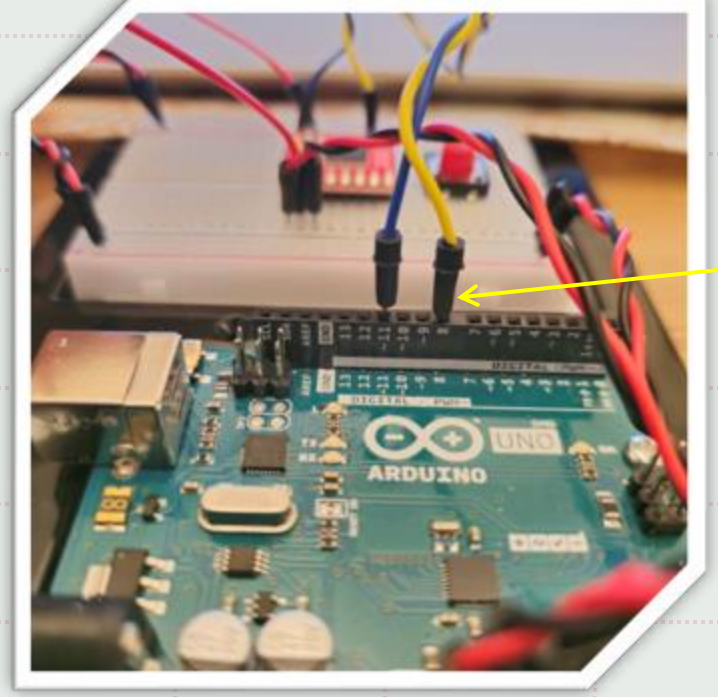
Step 4b:
Gear Motor 1

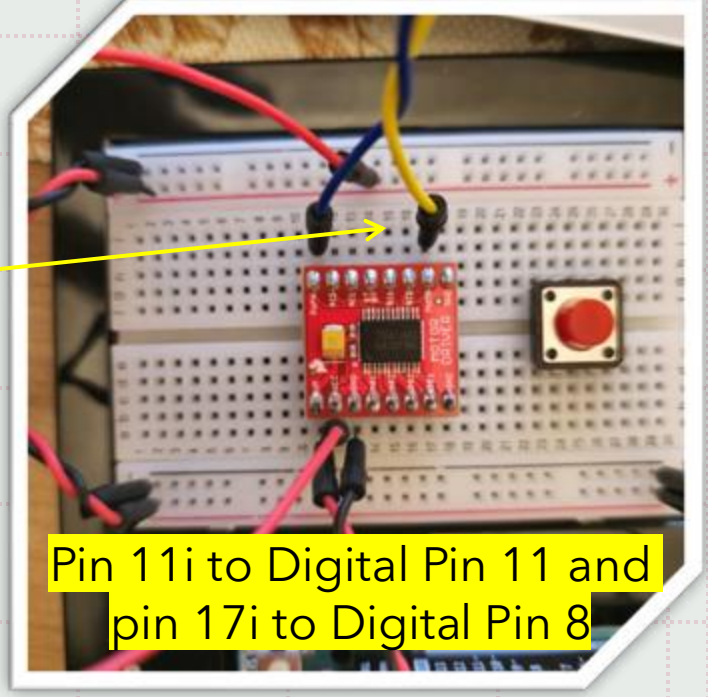
Color Guide:
Arduino/Gear Motor → Motor Driver

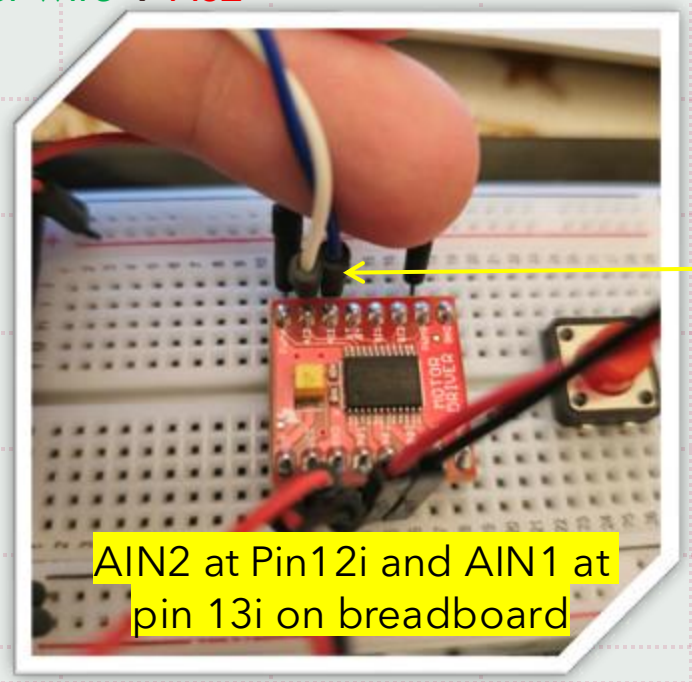
1.) Digital Pin 11 (~11) → PWMA
2.) Digital Pin 8 (8) → PWMB
3.) Digital Pin 12 → AIN2 (AI2)
4.) Digital Pin 13 → AIN 1 (AI1)

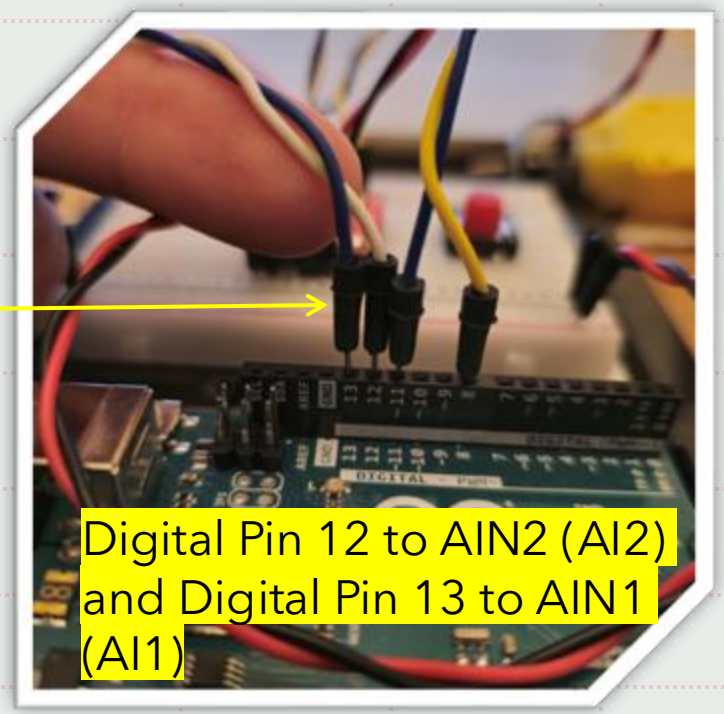
Color Guide
Gear Motor 1 → Motor Driver

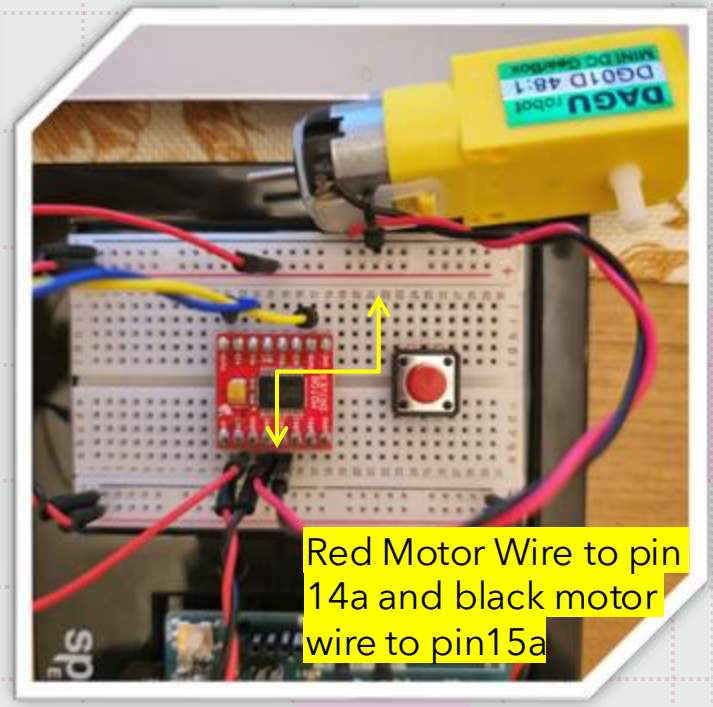
3.) Red (+) Gear Motor Wire → A01
4.) Black (-) Gear Motor Wire → A02











Step 4c:
Gear Motor 2

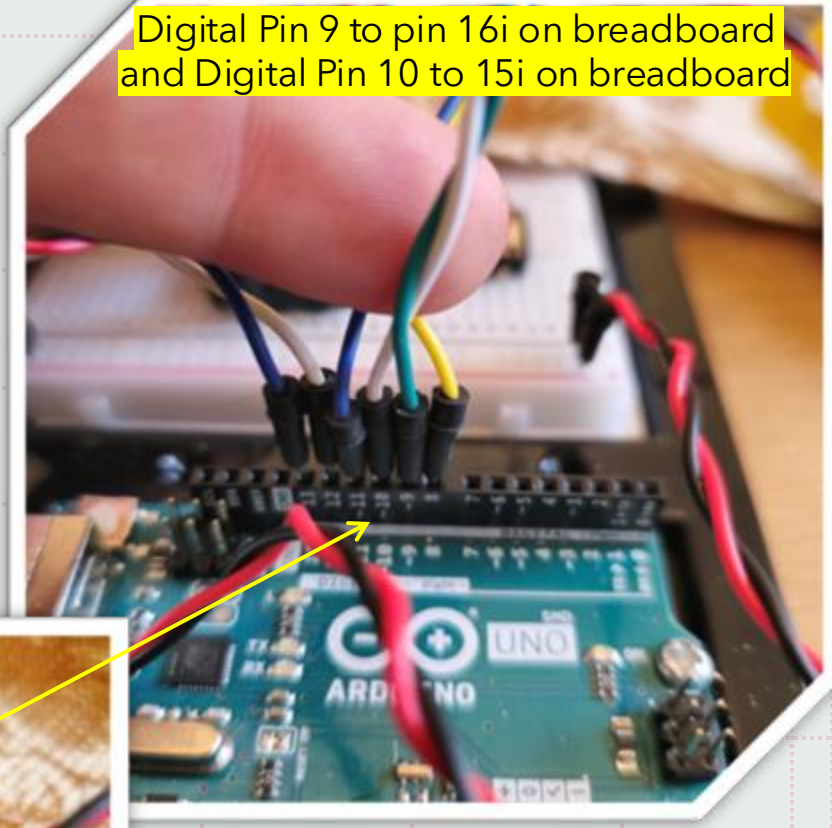
Color Guide
Gear Motor 2 → Motor Driver

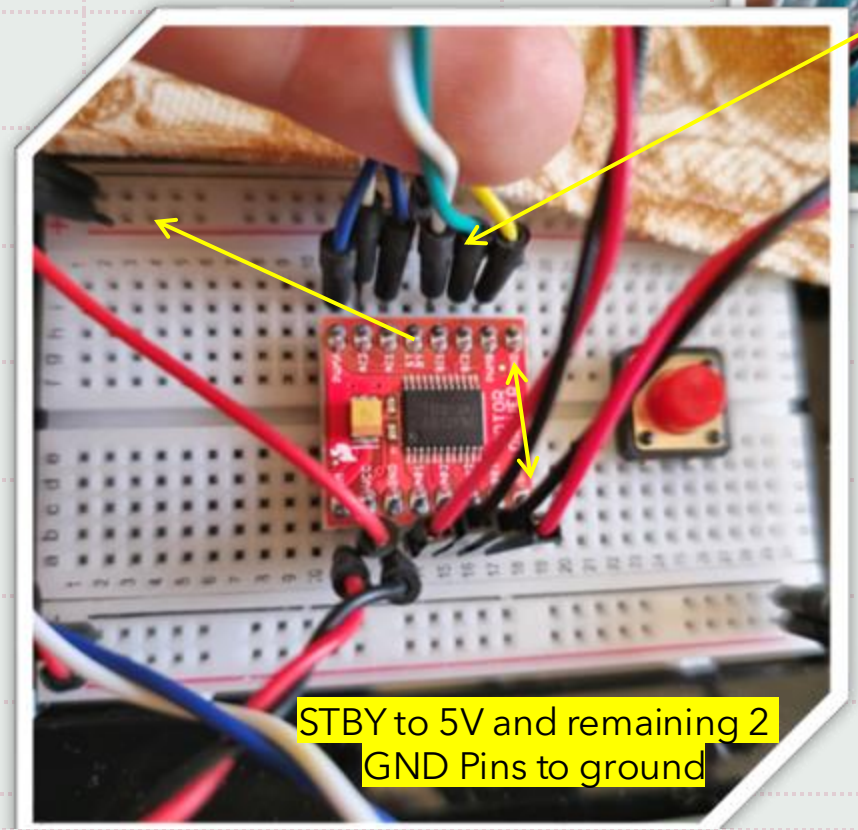
1.) Red (+) Gear Motor Wire → B01
2.) Black (-) Gear Motor Wire → B02

Color Guide:
Arduino/Gear Motor → Motor Driver

3.) Digital Pin 9 → BI2
4.) Digital Pin 10 → BI1

5.) From the Motor Driver to the breadboard:
attach the STBY label to (+) 5V bus, then attach any remaining GND labels to (-) ground.





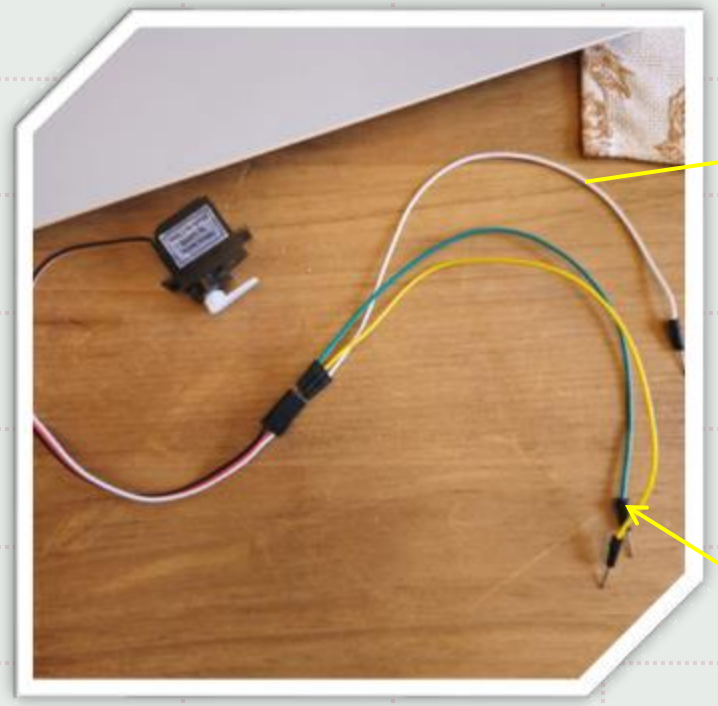
Step 5: Servo Motor

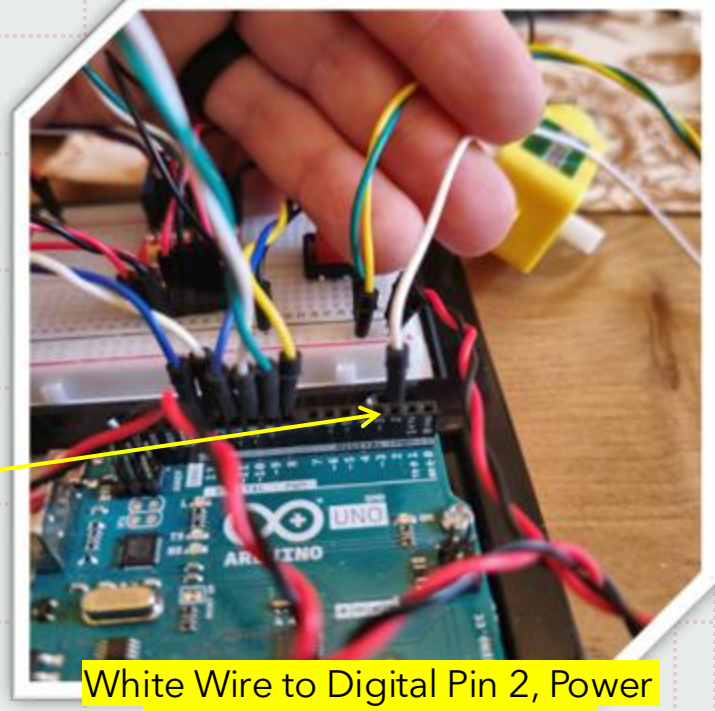
Your almost done wiring!

The Servo Motor has three (3) wires, 1 black, 1, red, and 1 white wire and a pin connector. You will need to use three wires from your kit, insert them into the connector, then connect the wires attached to power, ground, and control, (of the servo motor) as follows below:

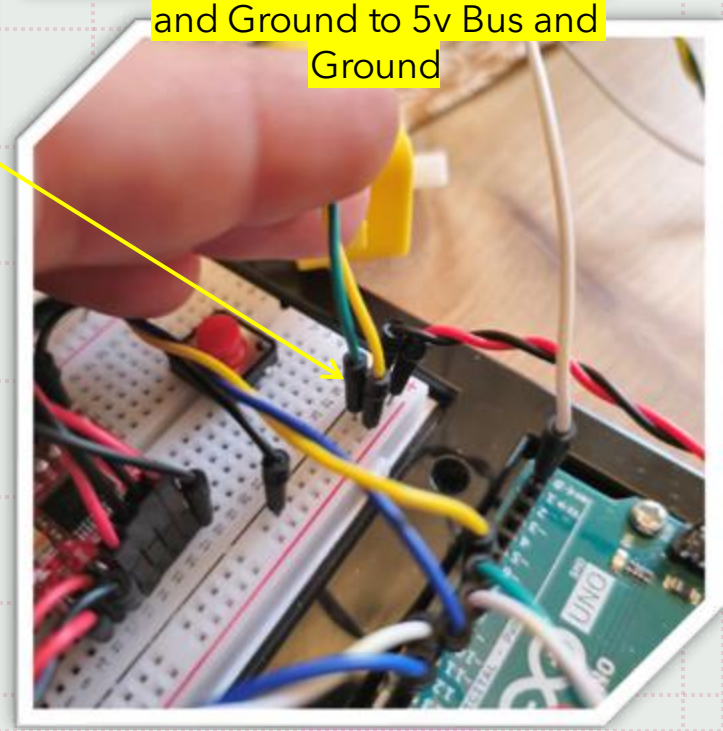
Color Guide
Servo Motor → Arduino / Breadboard

1.) White Wire of Servo Motor → Digital Pin 2 (Arduino)
2.) Red Wire of Servo Motor → 5V Bus (+) (Breadboard)
3.) Black Wire of Servo Motor → Ground (-) (Breadboard)





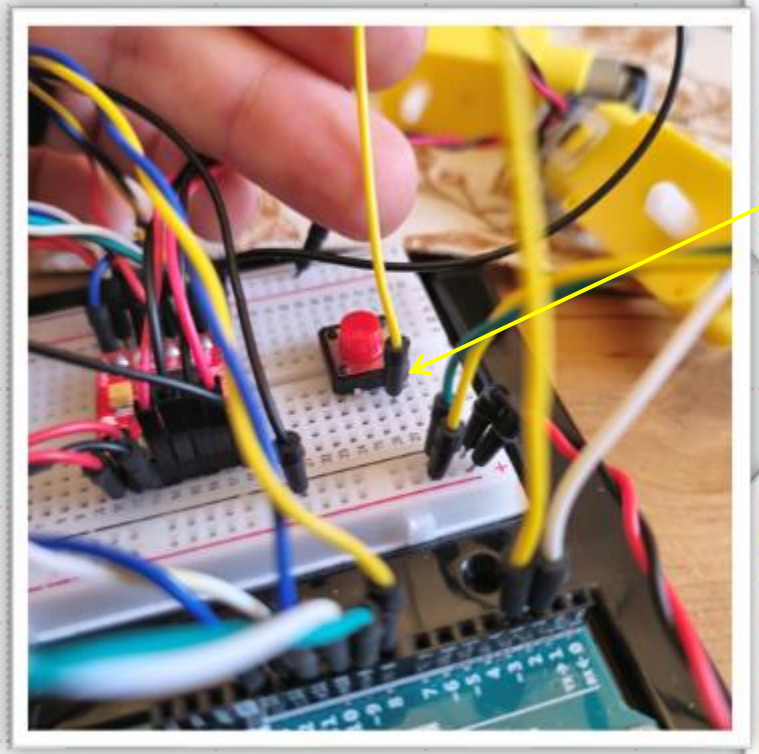
White Wire to Digital Pin 2, Power and Ground to 5v Bus and Ground



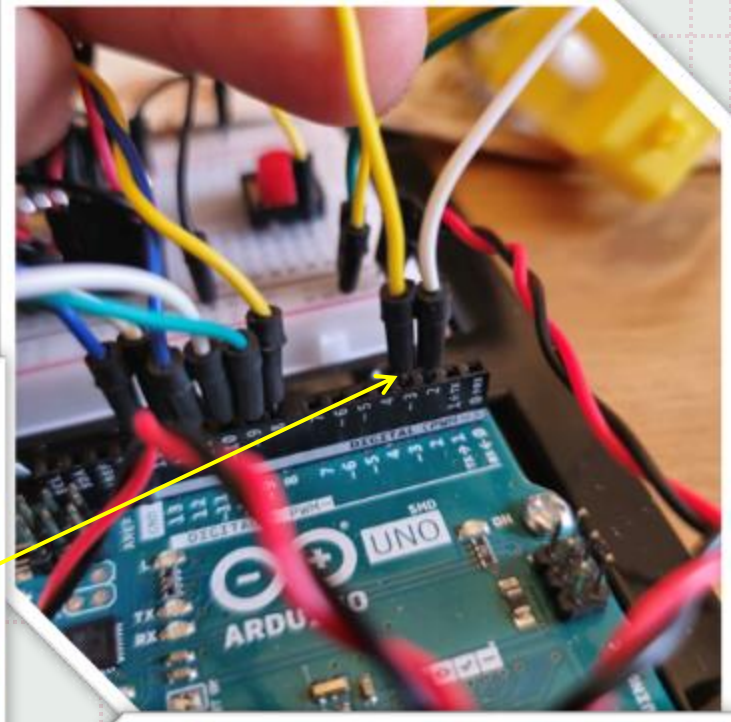
Step 6: On/Off Button

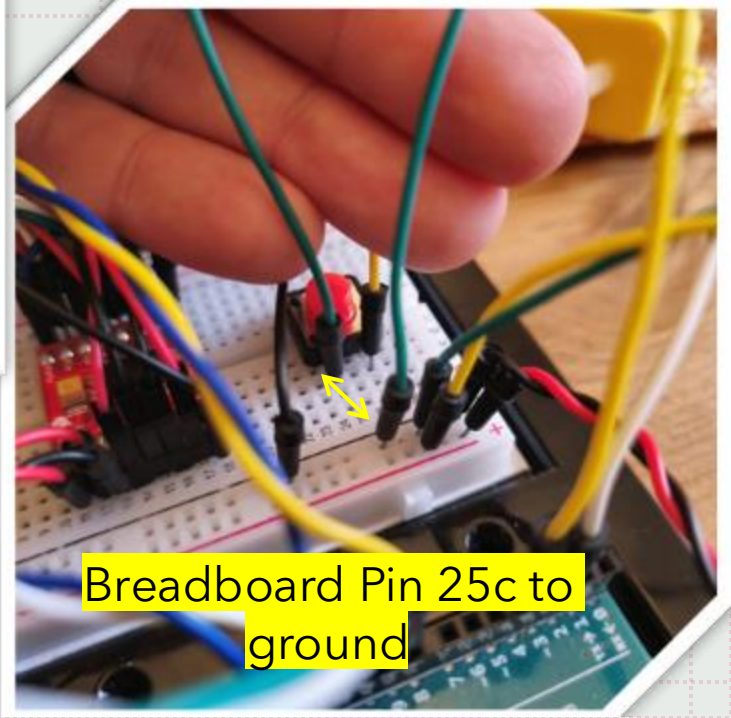
1.) Attach the right pin of the BUTTON to Digital Pin 3 of the ARDUINO.

2.) Attach the left pin of the BUTTON to Ground (-) on the breadboard.



Digital Pin 3 to pin 27b on breadboard





Breadboard Pin 25c to ground

If your set-up looks like a crazy bird's nest, you're doing great!