CONNECTING DC MOTOR AND PHOTORESISTOR TO ARDUINO

Step-by-Step Hardware Guide
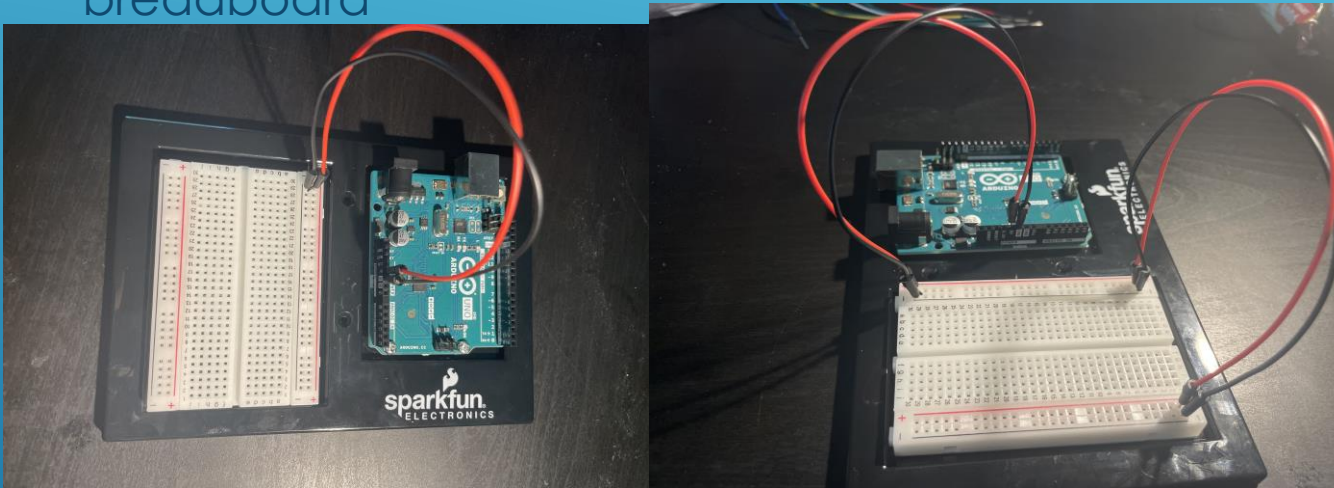
- - Arduino Uno

- - L298N Motor Driver

- - Photoresistor (LDR)

- - 10k ohm resistor

- - DC motor

- - Jumper wires

- - Breadboard

- - Battery or adapter

COMPONENTS REQUIRED

- ▸ - Use two jumper wires: one **red** and one **black**

- ▸ - Connect **red wire** from Arduino **5V** to breadboard **+ rail**

- ▸ - Connect **black wire** from Arduino **GND** to breadboard **– rail**

- ▸ - This provides consistent 5V and GND across the breadboard

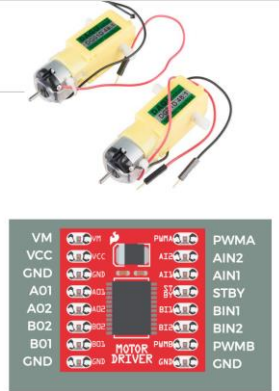# POWER SETUP: BREADBOARD AND ARDUINO

STEP 2 – CONNECT L298N MOTOR DRIVER

▸ - IN1 → Pin 12

▸ - IN2 → Pin 13

▸ - PWMA → Pin 11

▸ - GND → Arduino GND

▸ - VCC → External Power

▸ *Note that the motor driver that comes with sparkfun kit is completely different than the motordriver that we see in Tinkercad. So please go through the picture below to perfectly wire the motordriver.(in the picture below don't worry about motor 2 just leave it blank)*
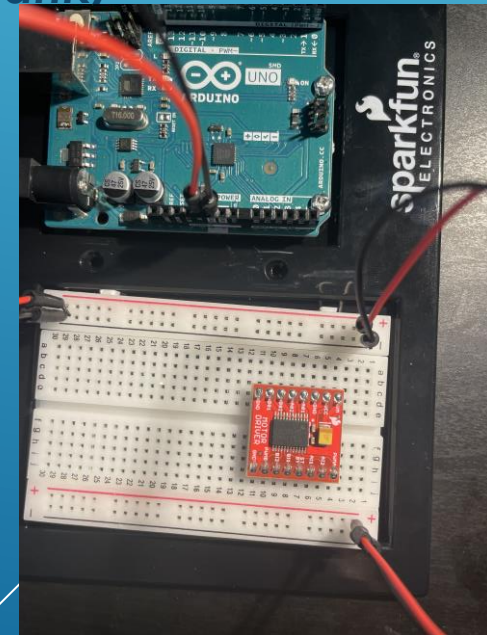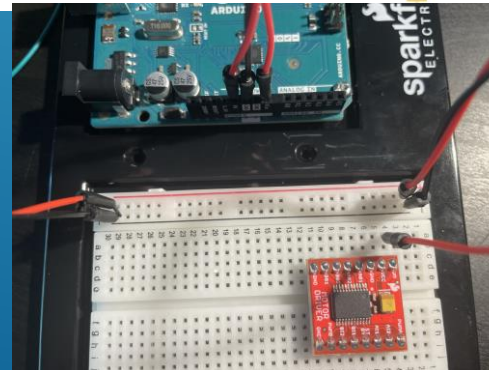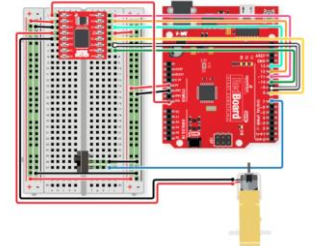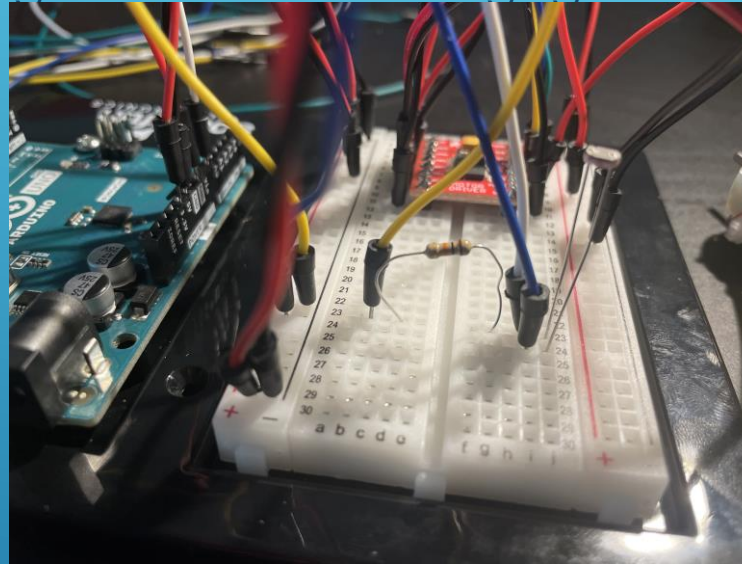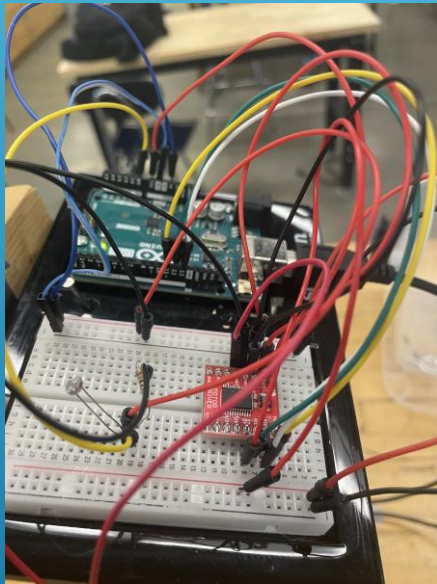
- ▸ - Connect motor wires to AO1(RED) and AO2(BLACK)

- ▸ - Enables bidirectional control

STEP 3 – CONNECT DC MOTOR

- ▶ - Place the LDR across two breadboard rows

- ▶ - Connect one leg to **5V rail**

- ▶ - Connect other leg to **A0 pin** and to **GND rail** through a **10kΩ resistor**

- ▶ - This forms a voltage divider for reading light levels

STEP 4 – ADD THE LDR (PHOTORESISTOR)

- - Battery + → VCC

- - Battery – → GND

- - Ensure all GNDs are connected

- ***OR YOU CAN JUST USE THE DATA CABLE TO POWER ARDUINO***

STEP 4 – POWER THE L298N

- - Double-check wiring

- - LDR and motor properly connected

- - Power ready

- - Arduino USB or battery powered

- *Now you are ready to move forward to develop physical structure of curtain.*

FINAL SETUP