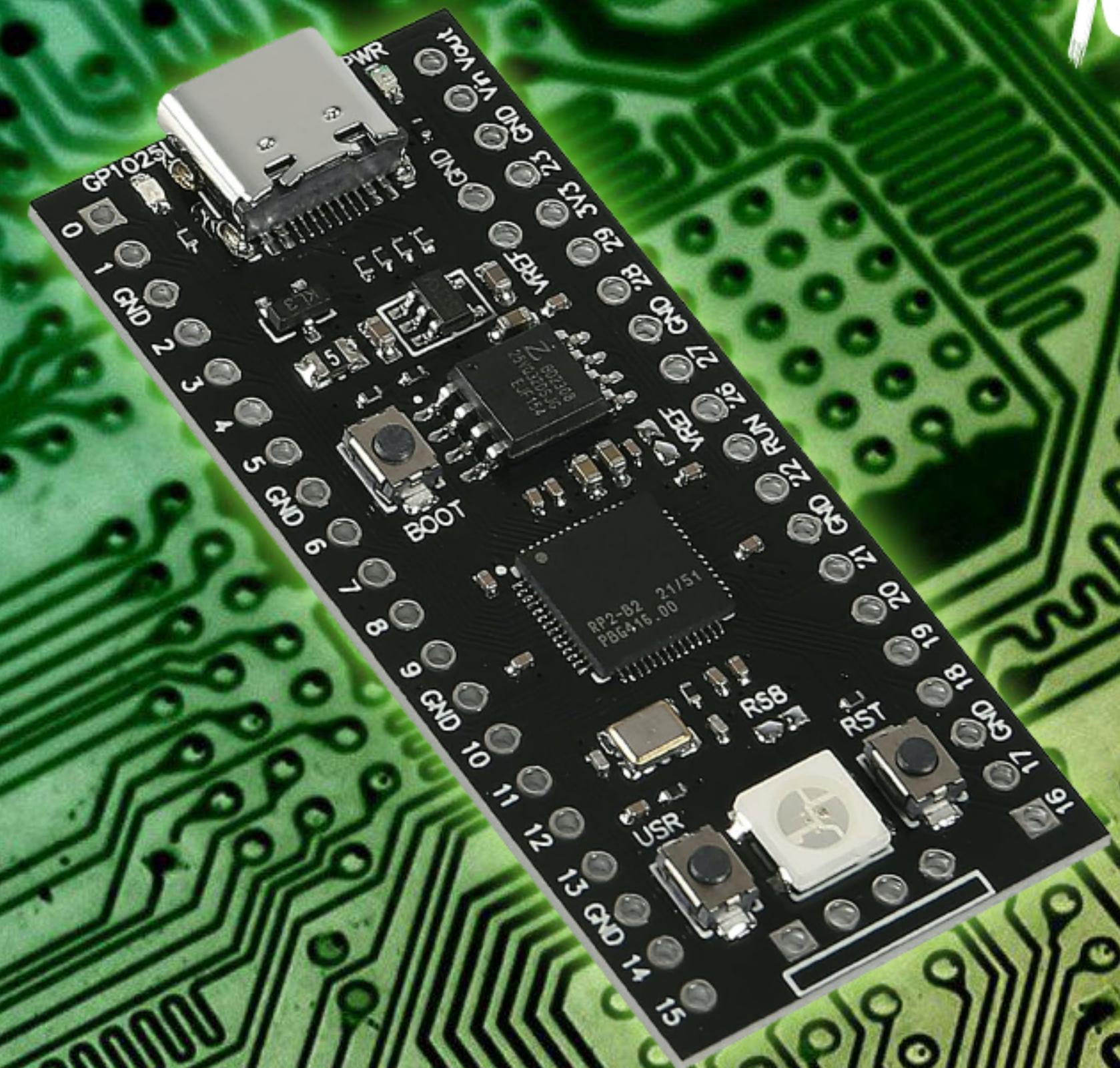


MICROCONTROLLER MASTER



05 MOTOR MANIA!

WHAT IS A MOTOR?



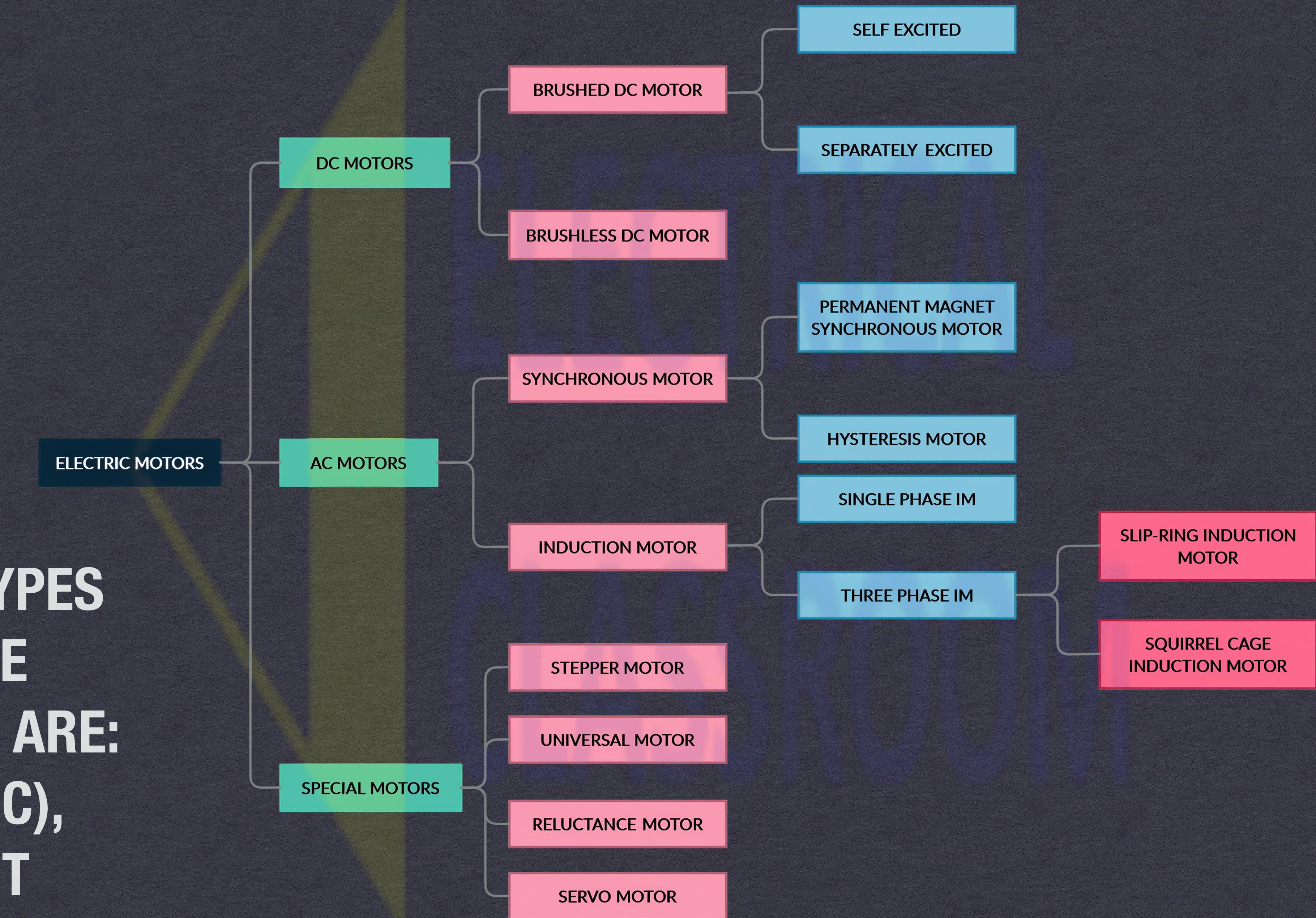
WHAT IS A MOTOR?

A MOTOR IS A MACHINE THAT
COVERS ELECTRICAL ENERGY
INTO MECHANICAL ENERGY.



WHAT IS A MOTOR?

THERE ARE MANY TYPES OF MOTORS, BUT THE THREE BASIC TYPES ARE: DIRECT CURRENT (DC), ALTERNATE CURRENT (AC), AND SPECIAL.



Teacher: "...and that is how a DC motor works."

My brain:



PROJECT

https://www.reddit.com/r/memes/comments/w4ev4e/motor_mans_band/

MOTOSENSORAMA!

LAB

5

MATERIALS

LAB KIT



TASK

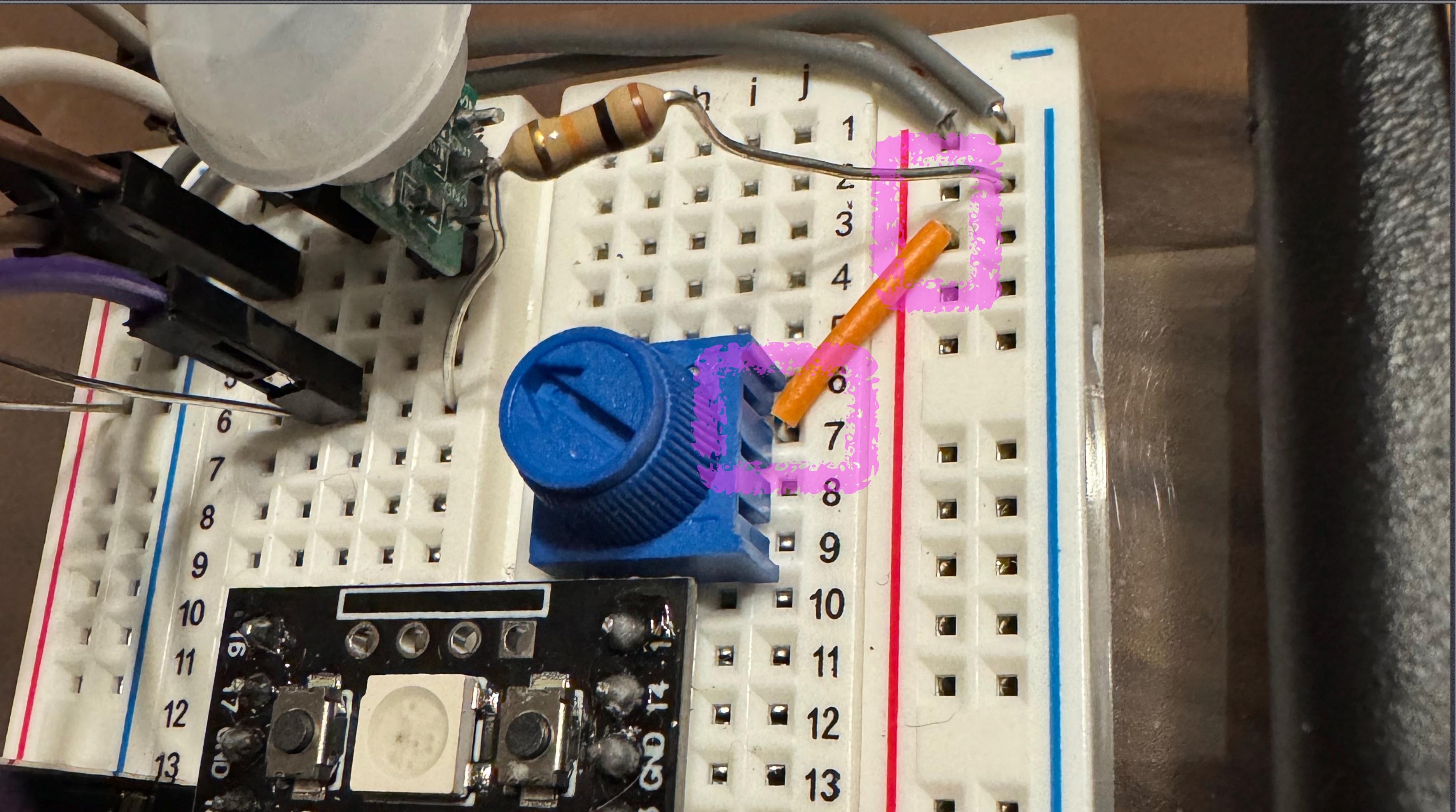
TURN OFF BATTERY PACK UNTIL ALL STEPS ARE COMPLETED

STEP

1

MATERIALS

BATTERY PACK



TASK

CONNECT POTENTIOMETER

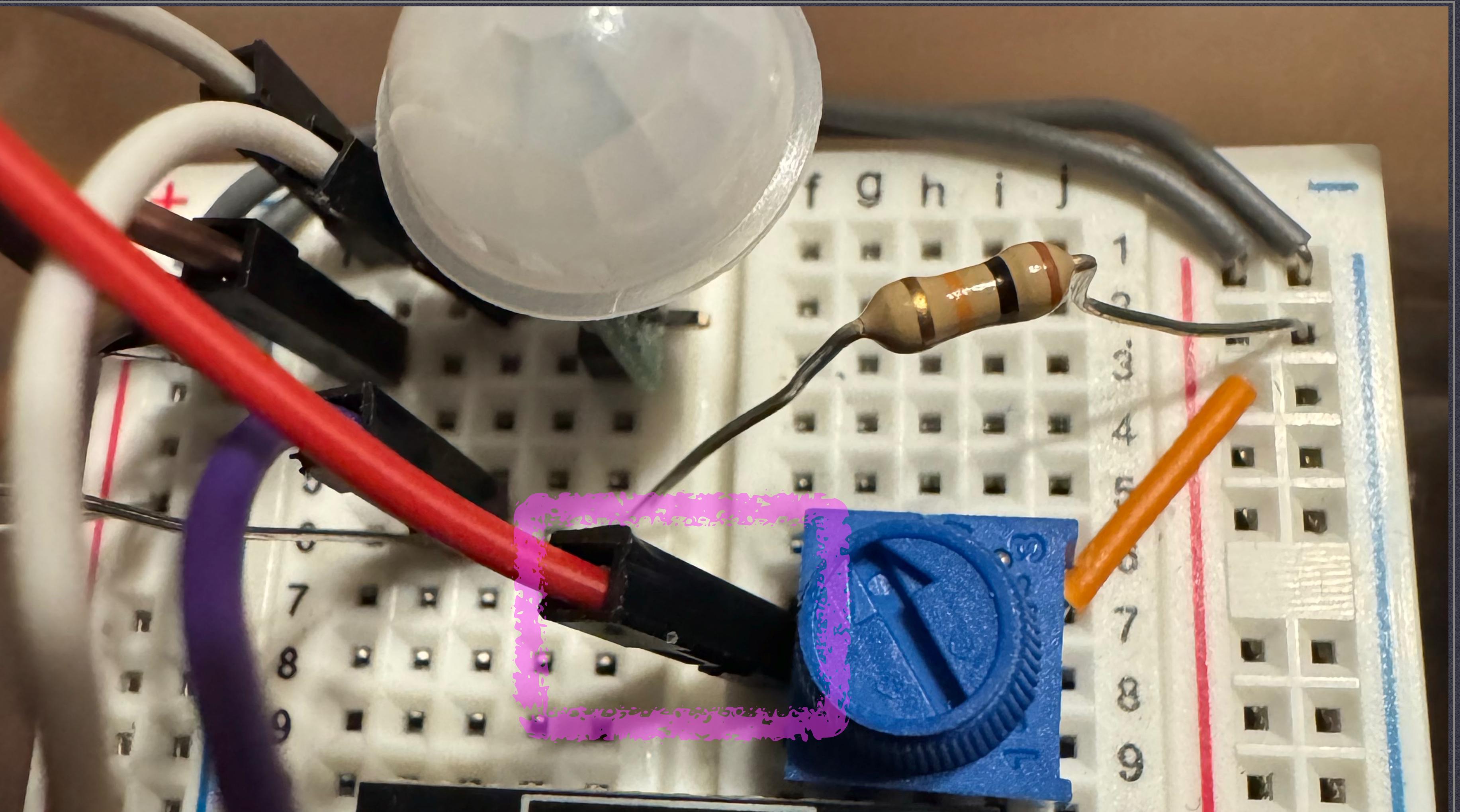
WIRE FROM 7J TO POSITIVE RAIL (+)

STEP

2

MATERIALS

WIRE



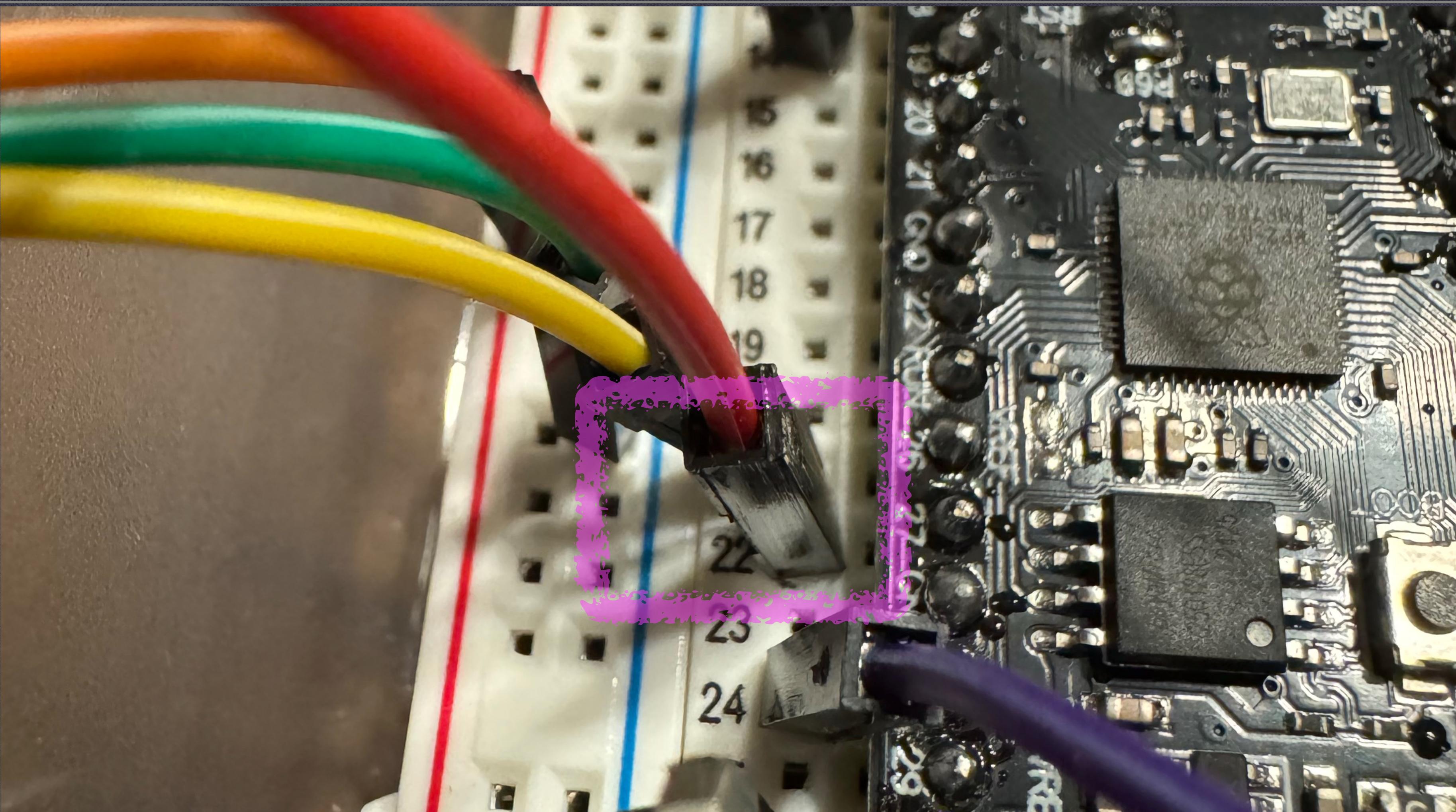
TASK

CONNECT POTENTIOMETER JUMPER WIRE FROM 8F TO 22A

STEP
3

MATERIALS

JUMPER WIRE



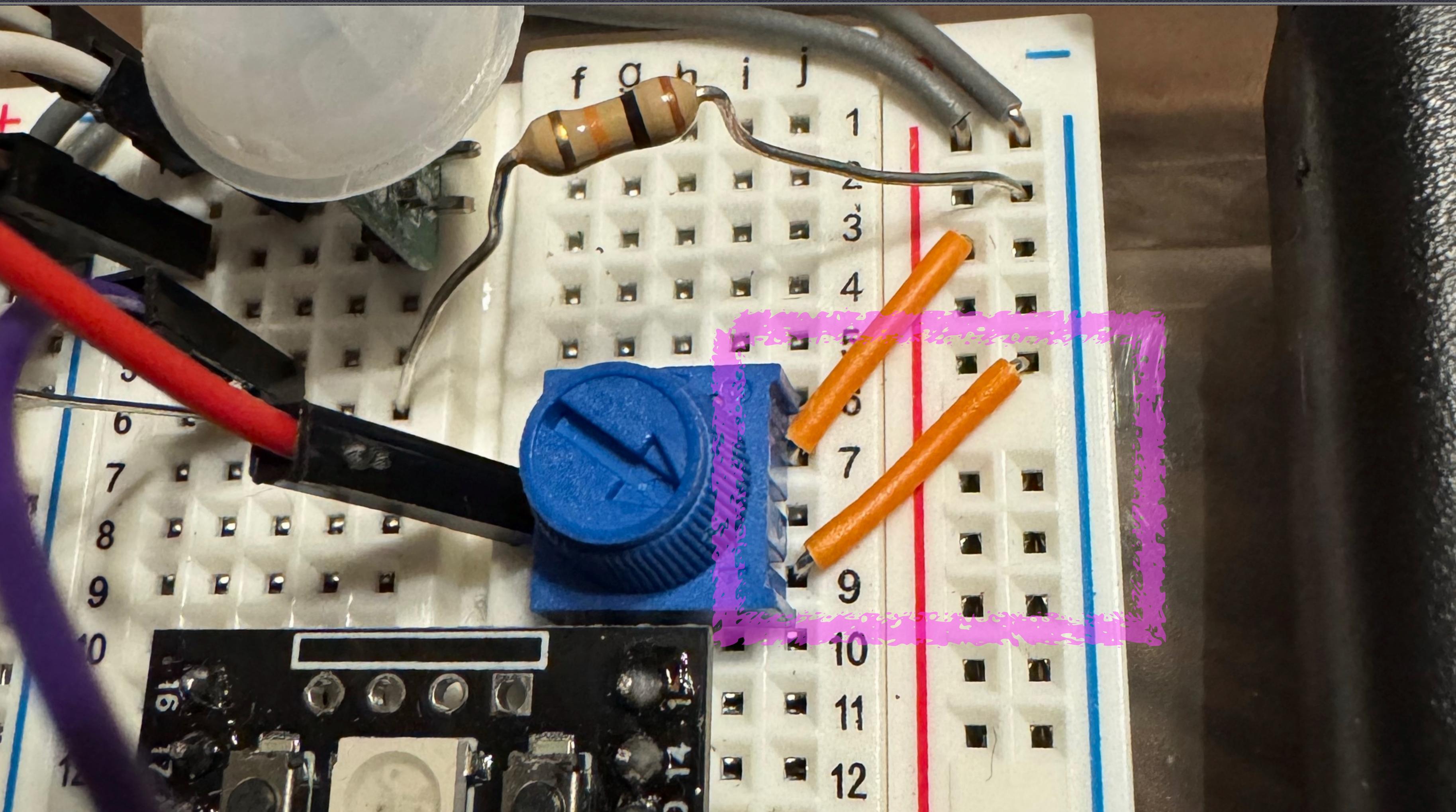
TASK

CONNECT POTENTIOMETER JUMPER WIRE FROM 8F TO 22A

STEP
3

MATERIALS

JUMPER WIRE



TASK

CONNECT POTENTIOMETER

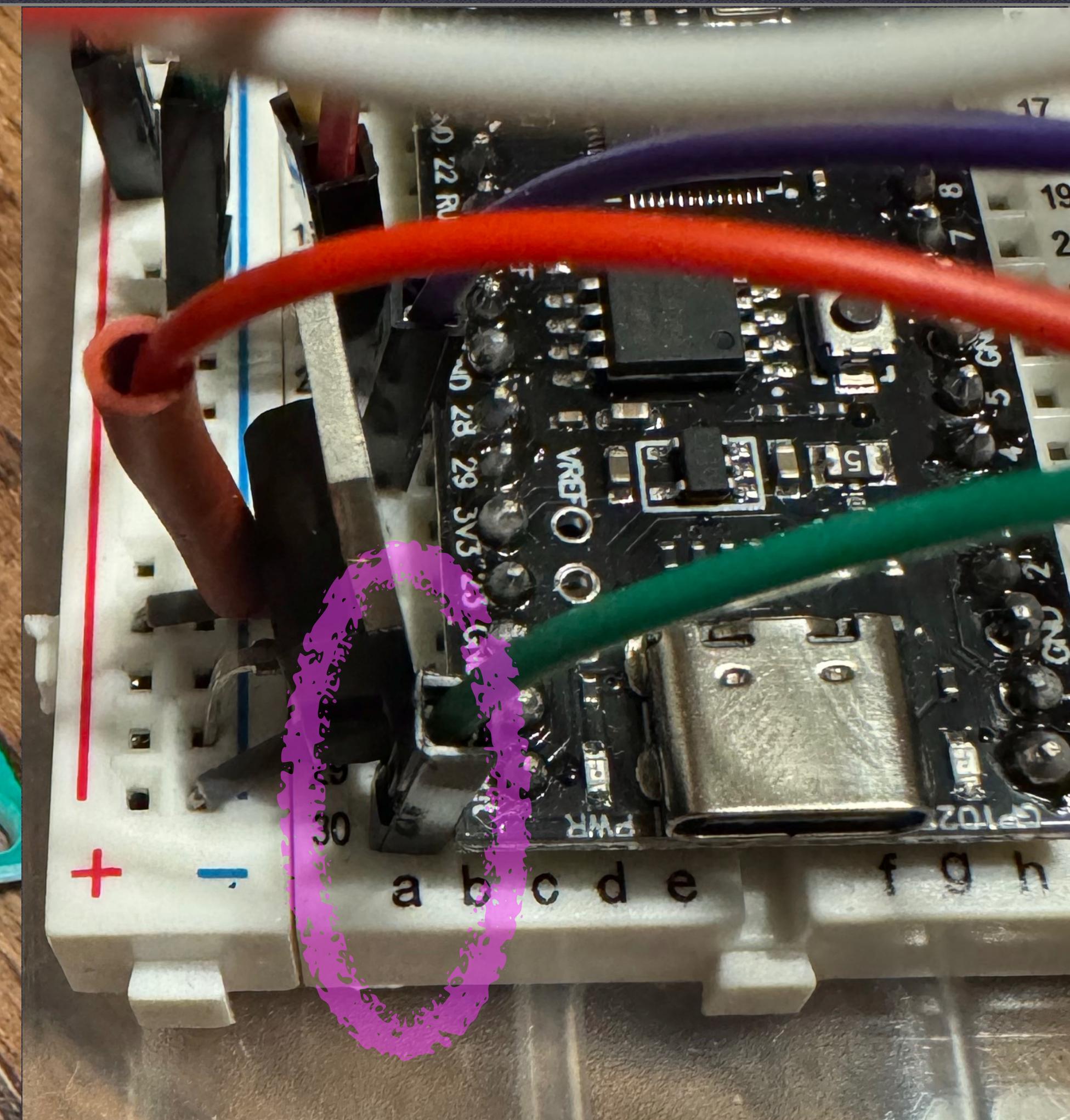
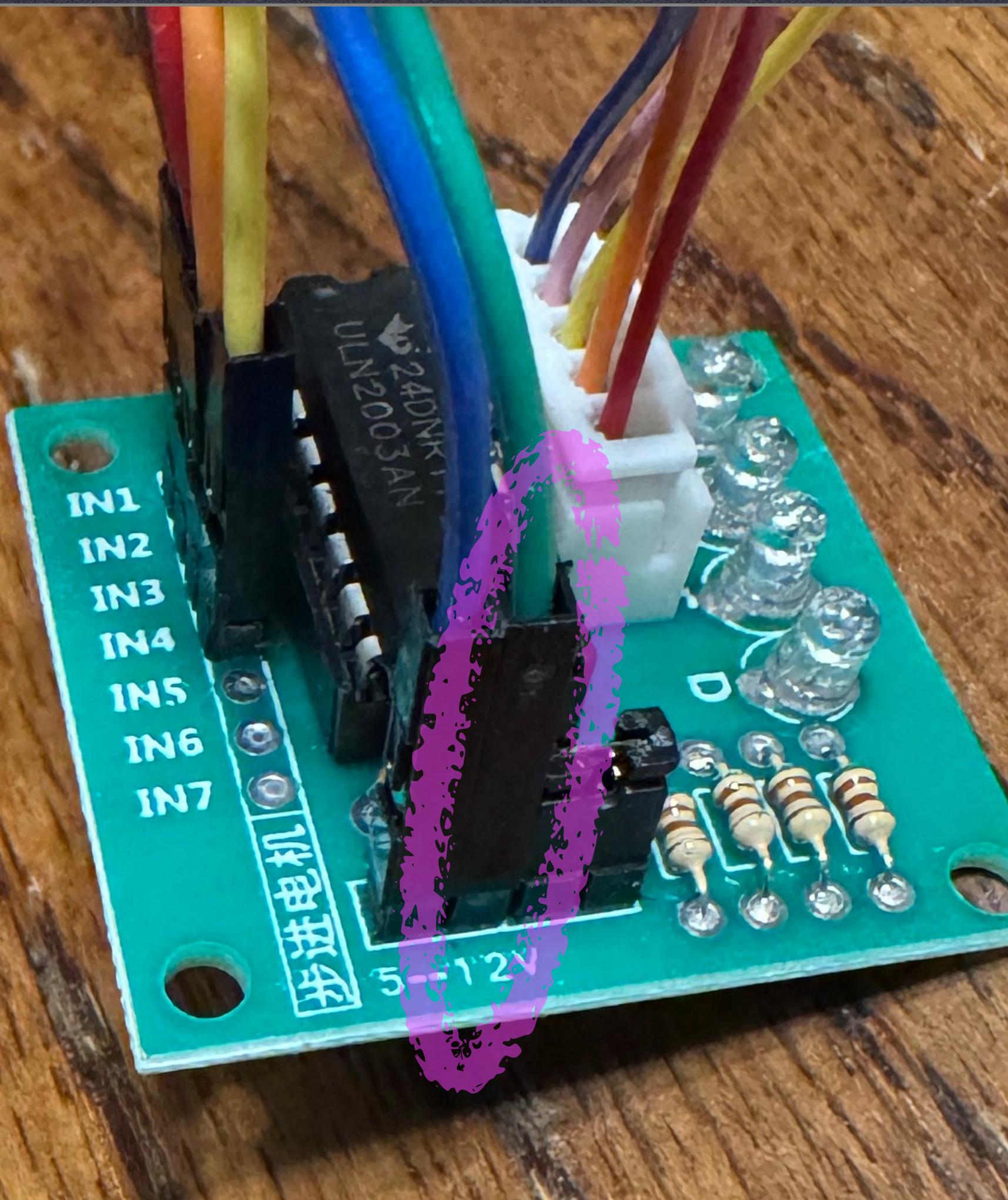
WIRE FROM 9J TO NEGATIVE RAIL (-)

STEP

4

MATERIALS

WIRE



TASK

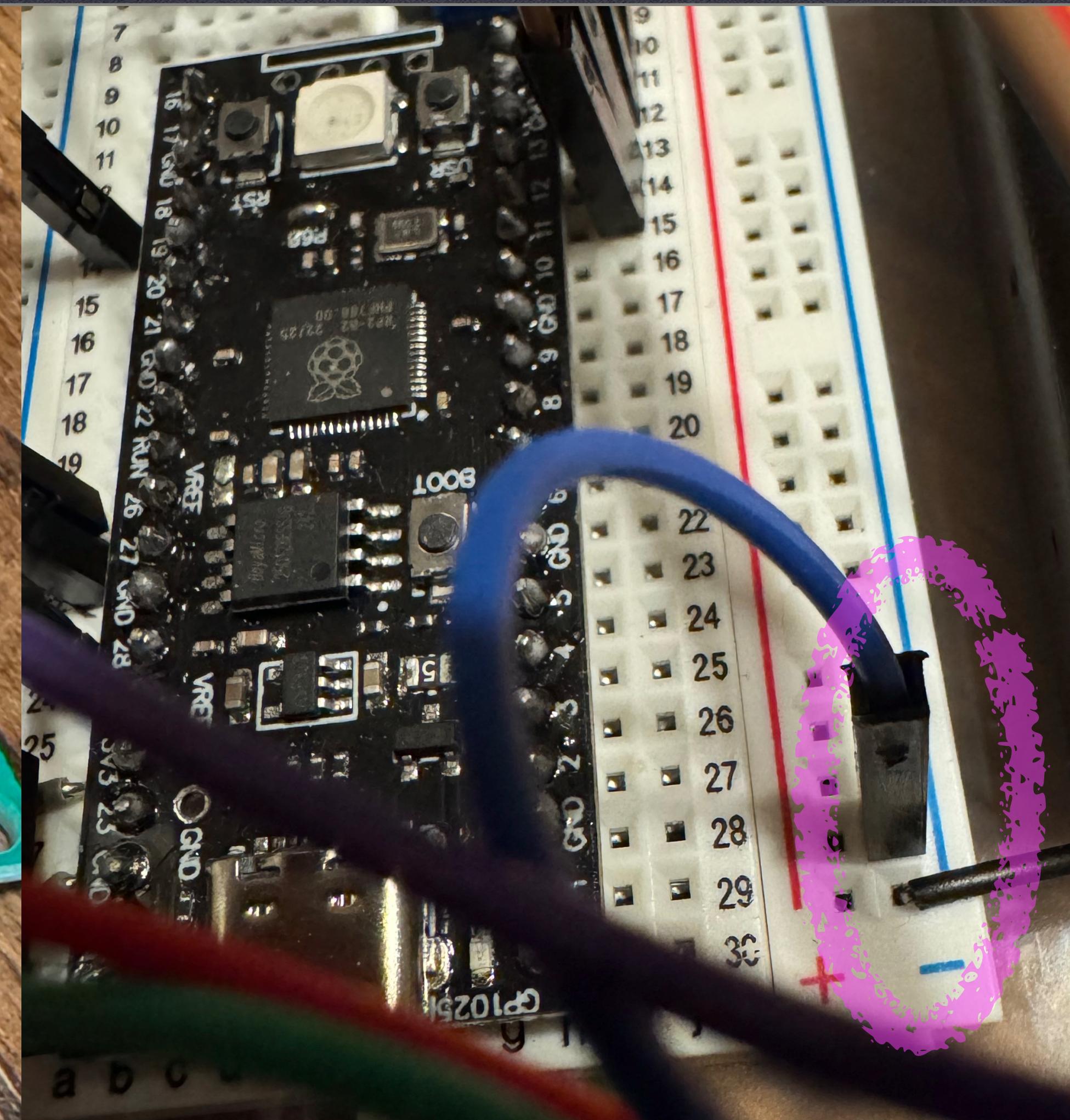
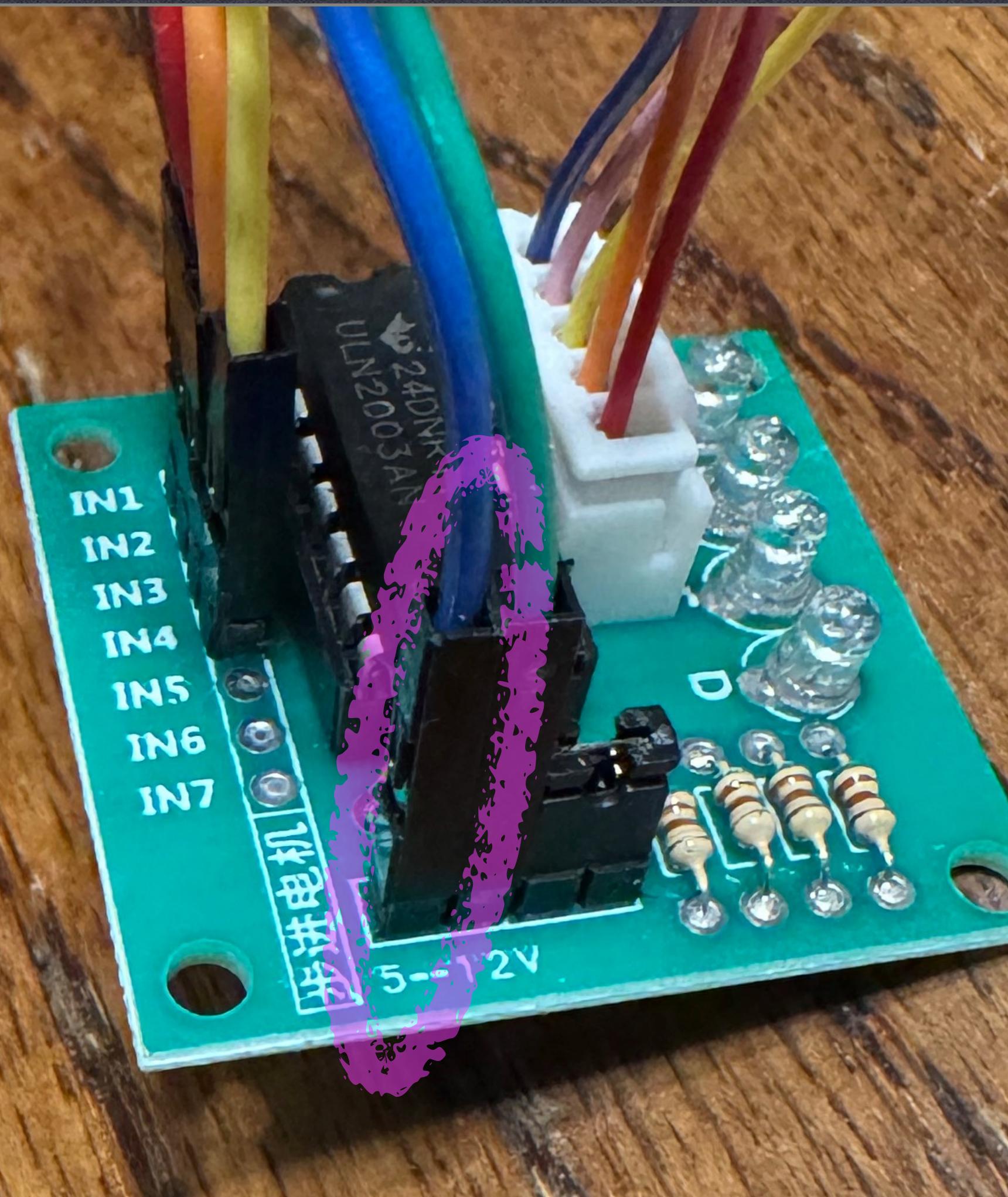
HOOK-UP MOTOR DRIVER WIRES

PLUG + WIRE TO 30A (VOUT)

STEP
5

MATERIALS

MOTOR DRIVER + WIRE



TASK

HOOK-UP MOTOR DRIVER WIRES

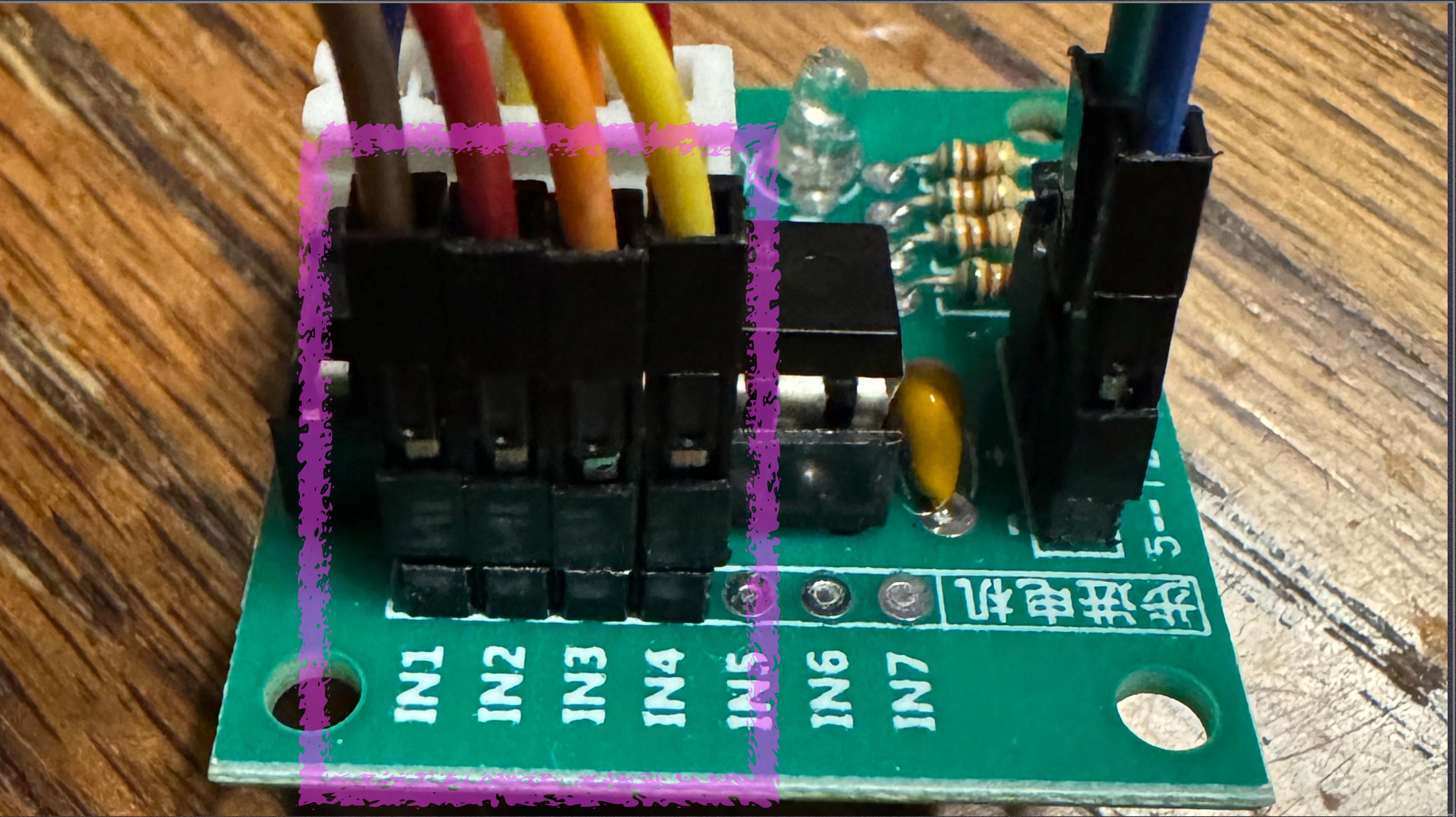
PLUG - WIRE TO NEGATIVE RAIL (-)

STEP

6

MATERIALS

MOTOR DRIVER - WIRE



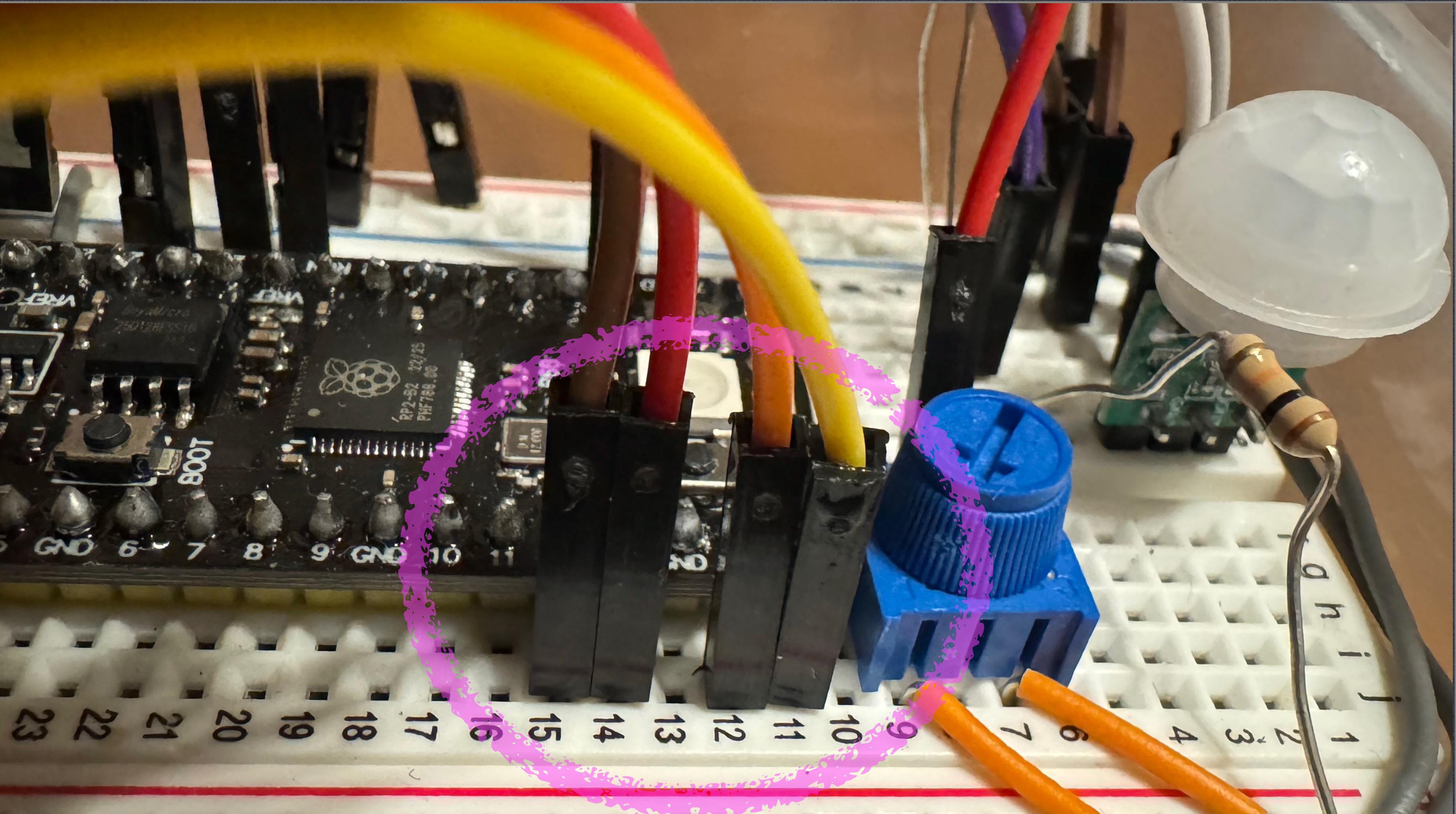
TASK

REVIEW MOTOR DRIVER WIRE COLORS
TAKE NOTE OF WHICH COLORED WIRES PLUG INTO **IN1, IN2, IN3, AND IN4**.

STEP
7

MATERIALS

MOTOR DRIVER



TASK

HOOK-UP MOTOR DRIVER

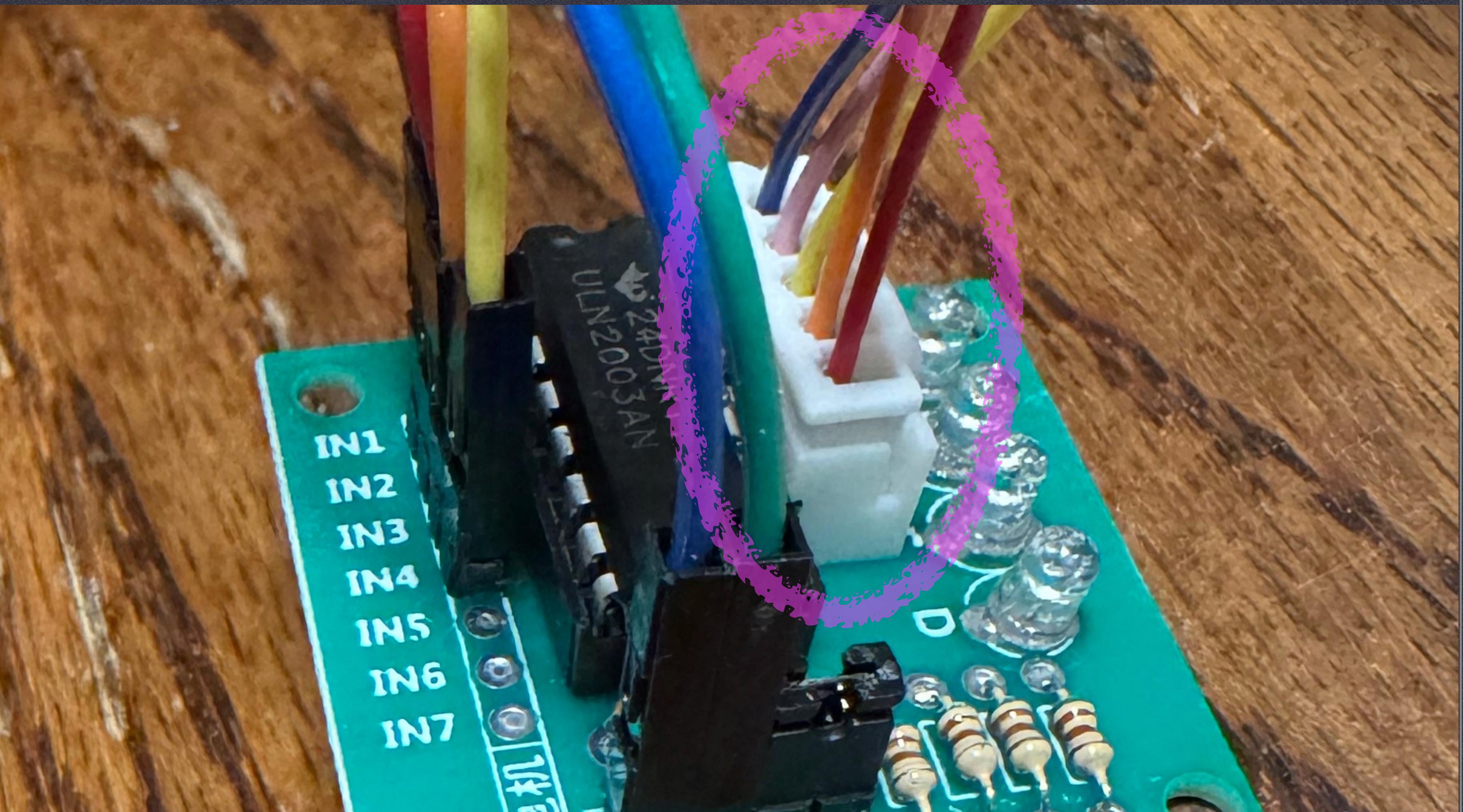
HOOK **IN1** TO **15J**, **IN2** TO **14J**, **IN3** TO **12J**, AND **IN4** TO **11J**.

STEP

8

MATERIALS

JUMPER WIRES



TASK

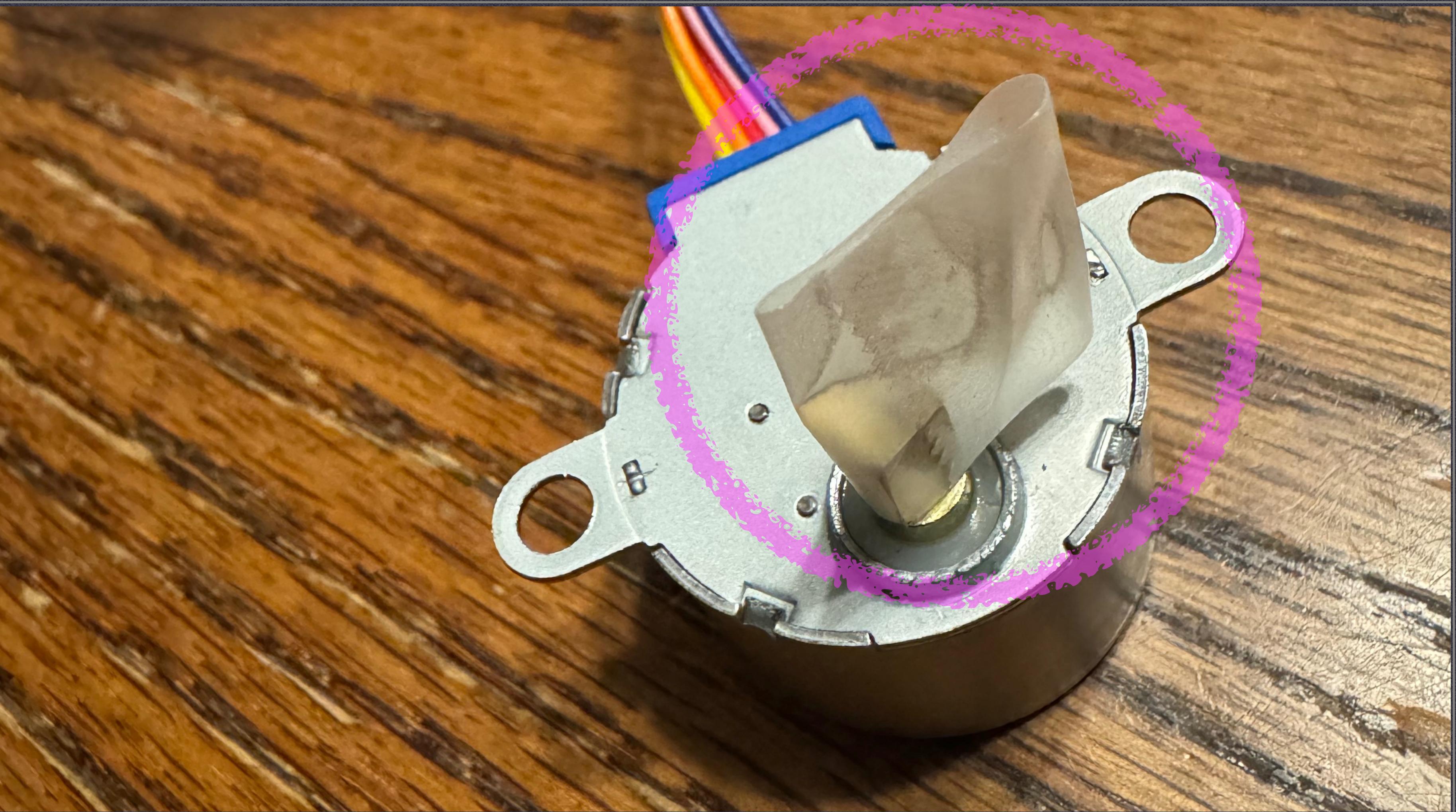
HOOK-UP MOTOR PLUG MOTOR CABLE TO MOTOR DRIVER

STEP

9

MATERIALS

MOTOR CABLE



TASK

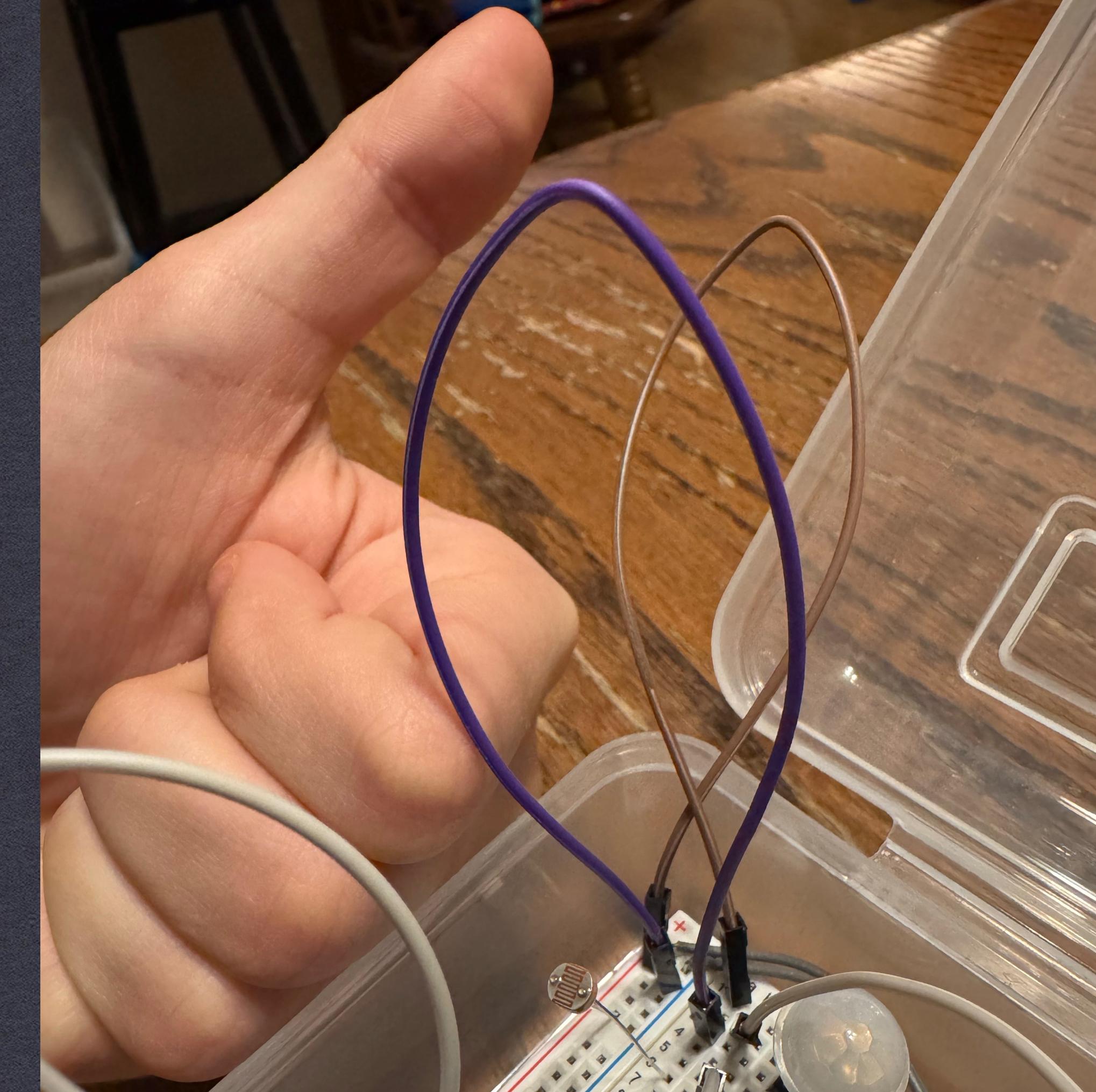
ADD TAPE “FLAG” TO MOTOR TO HELP DETERMINE DIRECTION

STEP

10

MATERIALS

TAPE AND MOTOR



TASK

DOUBLE-CHECK YOUR CONNECTIONS ENSURE EXPOSED CONNECTIONS AREN'T TOUCHING UNEXPECTEDLY

STEP

11

MATERIALS

PATIENT HUMAN WITH EYES



TASK

TURN ON POWER (IF THERE IS NOT A RESPONSE, ASK FOR HELP)

STEP

12

MATERIALS

KIT