

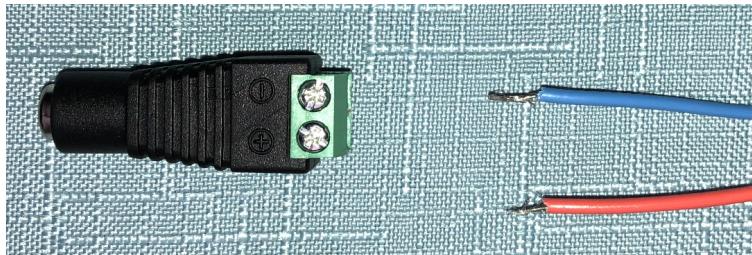
Holiday Lights Assembly

First, we need to connect the lights to the power supply. To do this, we will attach the two loose wires on one end of a light strand to a terminal box, and then plug the power supply into the terminal box.

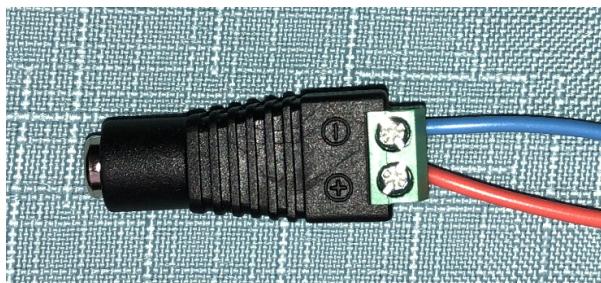
This is the terminal box:



Using a small screwdriver, loosen the screws on the terminal box. Push the metal part of the red wire into the opening labeled with a “+” sign and tighten the screw. Push the metal part of the blue wire into the opening labeled with a “-” sign and tighten the screw.



IMPORTANT: Verify that the red wire is connected to the “+” and the blue wire is connected to the “-”.

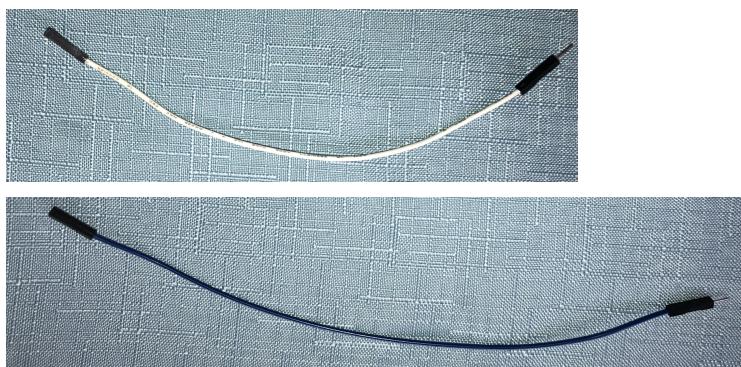


Plug in the end of the power supply to the terminal box:

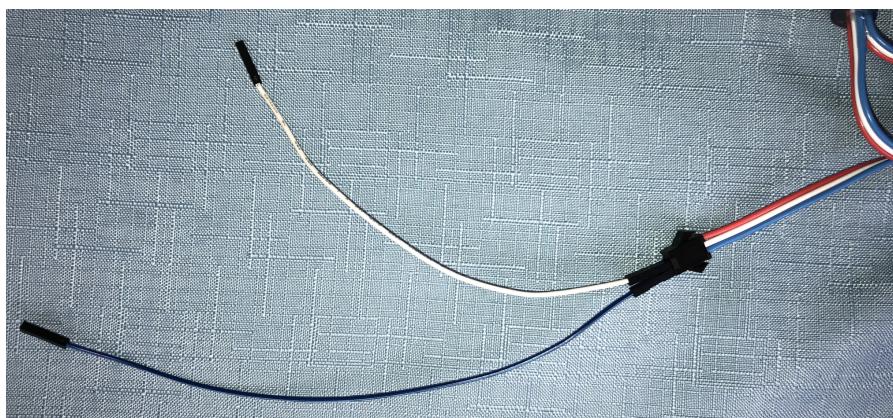


Take two male-to-female wires: a white one and a blue one. One of the wires on the picture below looks black, but it's really blue.

Note to Grace, Emily, and Colleen: you don't have the correct color wires, but the workshop attendees will. The color really doesn't matter but using white and blue makes it easier to explain. I labelled your wires with "blue" and "white" so just pretend they are the correct colors.

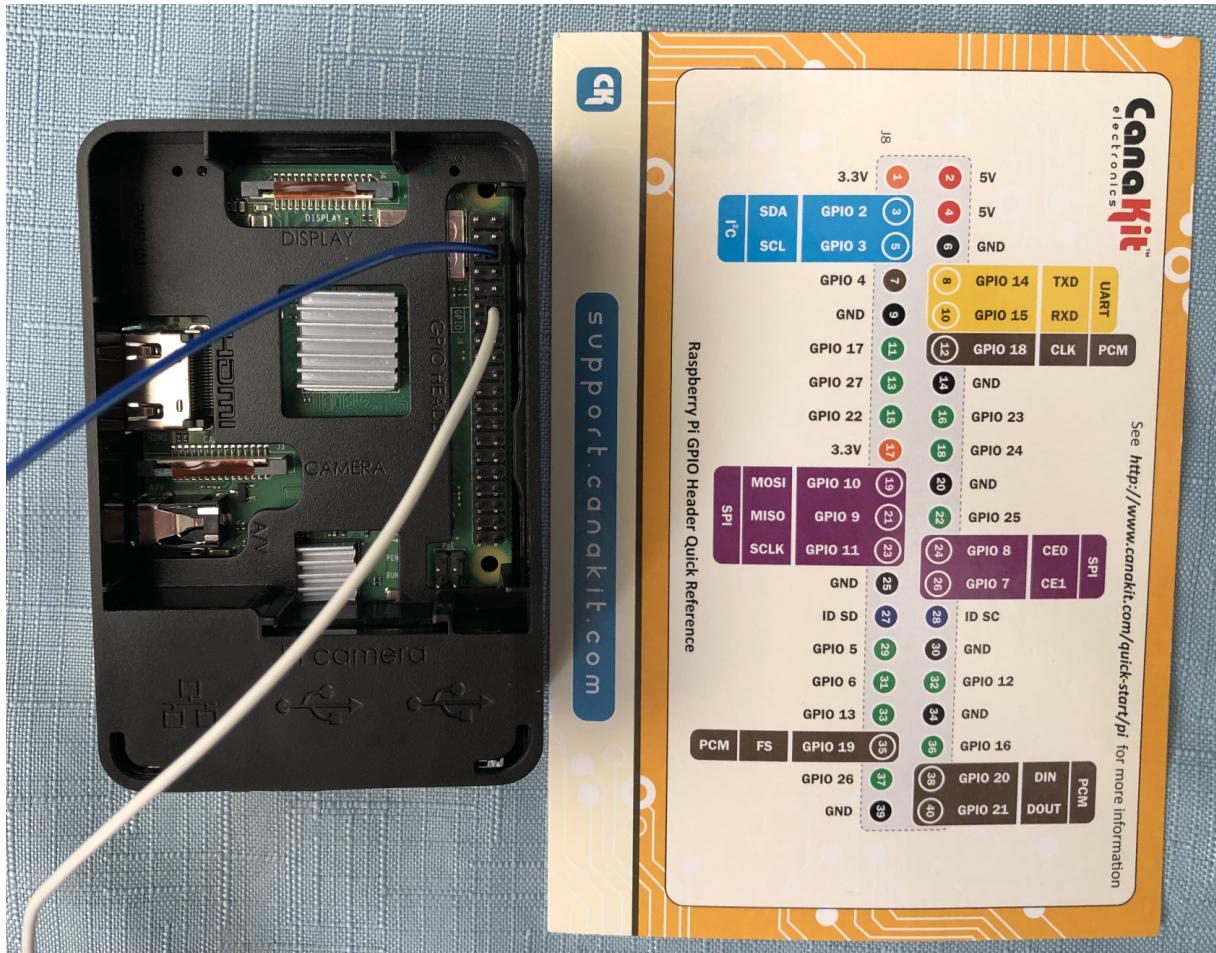


Attach the white wire to the middle part of the light socket (the middle hole lines up with the white wire on the lights). Attach the blue wire to the side of the light socket that lines up with the blue wire on the lights.



IMPORTANT: verify that the white and the blue wires you plugged in are in the correct position: lined up with the white and blue wires of your light strand.

Now it's time to connect the loose ends of your white and blue wires to your Raspberry Pi. Connect the blue wire to a ground pin (pin 6) and the white wire to GPIO 18 (pin 12).



The white wire is the data wire: this is what we will use to control the lights. The blue wire is the ground wire: it is needed to complete the circuit.

When you get to this point, call one of the workshop instructors to check that everything was done correctly.