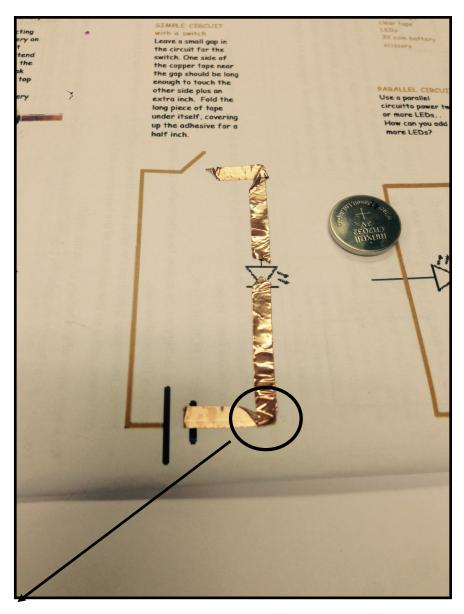


## Hints



**Hint 1:** Use the copper tape continuously when possible while taping circuits. The more continuity in the copper tape the less likely you are to have poor connections in your circuit. The best way to do this is to tape the circuit inn a straight line, then turn a corner by folding the tape over itself to make a 90 degree turn. The sticky side should always be down.



Fold tape over itself to make a continuous 90 degree turn.

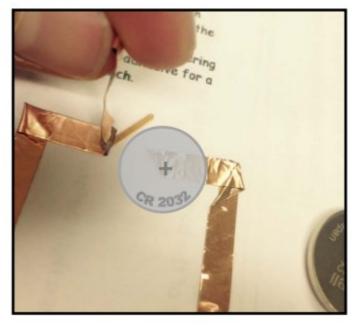


**Hint 2:** Copper tape is more conductive on the shiny side rather than the sticky side. To get a better connection in your switch, fold tape over itself so there is no sticky side to make a switch with a better connection. It will also allow you to connect and disconnect the switch easily.



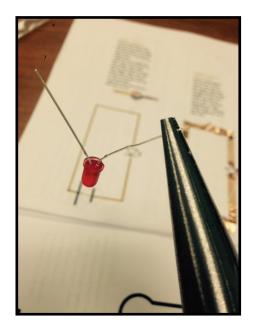
Hint 3: Use this same technique to create a switch that includes a battery. Place the battery (positive side up) over the copper tape that is stuck down and the two-sided flap of copper tape over the positive side of the coin cell battery.

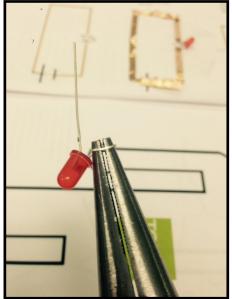


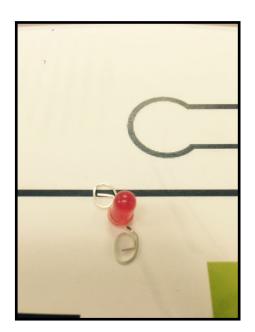




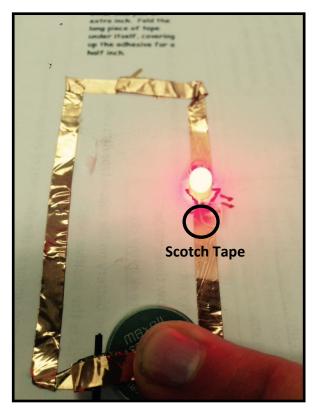
**Hint 3:** For a better LED connection, use needle-nose pliers to twirl LED ends into a circle. This adds more connection points for the LED. Also, when laying the LED down on the copper tape, tape each end down with non-conductive tape to put pressure on the LED end to create a better connection to the copper tape.







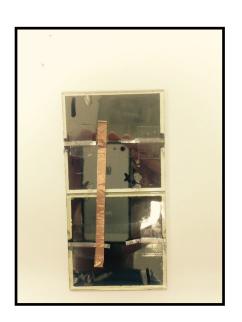






**Hint 4:** When connecting the solar panels to the breakout board, make sure to try both solar panels in series and in parallel. Check which arrangement increases voltage, and which arrangement increases current. Try both setups to get the relay to switch to using solar power! To get the most voltage and amperage out of your solar panels, use them in direct sunlight.

## Series





## **Parallel**





