

Harry Potter Circuit Wand

What to gather:

- 3 craft sticks
- ¼" copper tape
- LED light bulb
- CR2032 battery
- Electrical or craft tape
- Scissors

What to do:

1. Start by wrapping a strip of copper tape all the way around one of the craft sticks approximately where you want your on/off switch. Then leave 1cm of space and wrap another strip of copper tape all the way around the craft stick. This should create two rings of copper tape around the craft stick with 1cm space in between.
2. Run a strip of copper tape from the bottom ring to the end of the stick. Repeat from the top ring to the other end of the stick. Make sure you leave the 1cm space between the rings with no copper tape. This is your circuit breaker.
3. Using another craft stick, run a strip of copper tape along the entire length. Do not leave any space on this craft stick.
4. Before you place your LED light bulb, make sure to test it by sliding it in between the battery. Make sure both your battery and light bulb work before continuing.
5. Using copper tape, attach the LED light bulb to the end of the craft stick that has copper tape running the entire length. Tape the leg of the led light bulb to the copper tape.
6. Repeat this process on the other craft stick with the circuit breaker. Make sure to tape the other LED light bulb leg to the copper tape on the craft stick.
7. Ensure both legs of the light bulb are well secured with copper tape to ensure the circuits will work.
8. Using scissors, cut a 1" piece off of your remaining craft stick. You want to cut off just enough so that your battery will fit it.
9. Slide the long part of the craft stick between the two outer sticks.
10. To make your switch and complete the circuit, add a piece of copper tape to one side of your small piece of craft stick. Using your electrical tape, create a hinge and attach the piece so it will cover the gap between the rings on the outside of your craft stick.
11. Slide your battery in. Test to make sure it is the correct way and your wand works.
12. Tape your wand together by adding a piece of tape to the top to secure the three craft sticks. Then add more tape at the bottom starting at your on/off switch. Continue to tape all the way to the end to secure the battery in place.
13. To turn on your wand simply close the flap securely with your thumb. LUMOS!

