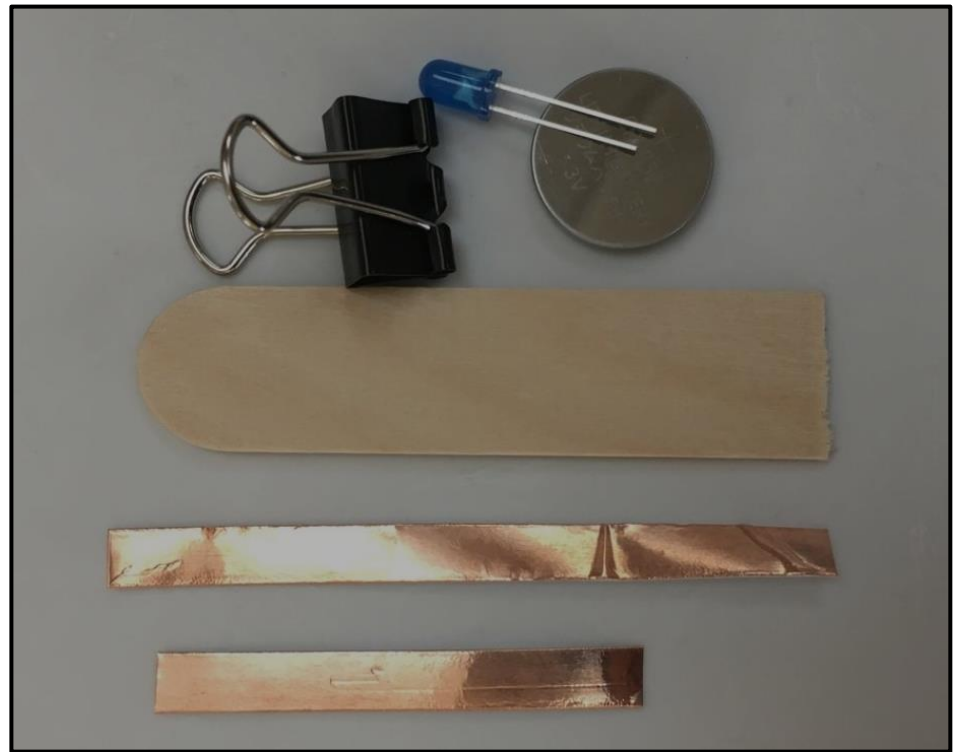


LED Craftstick Light

Materials:

- Half of Jumbo Craft Stick
- Metal Binder Clip
- 3V Coin Battery (CR 2032)
- LED Light
- Copper Tape (2 pieces)

BE SURE TO READ AND FOLLOW INSTRUCTIONS!

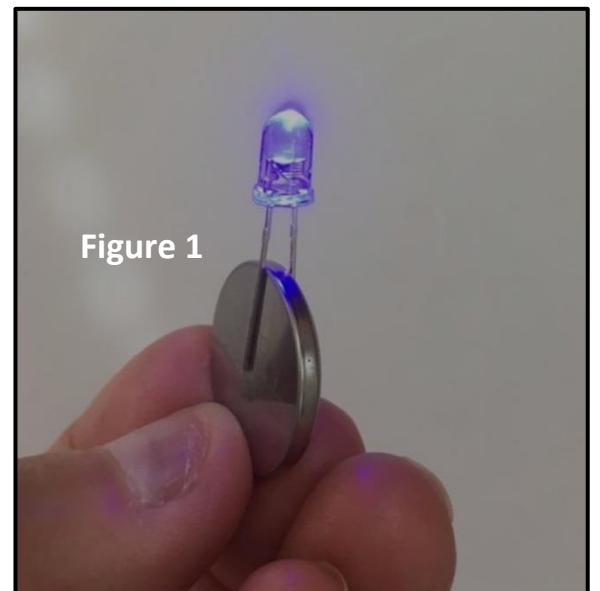


Build:

Step 1: Test Battery & LED

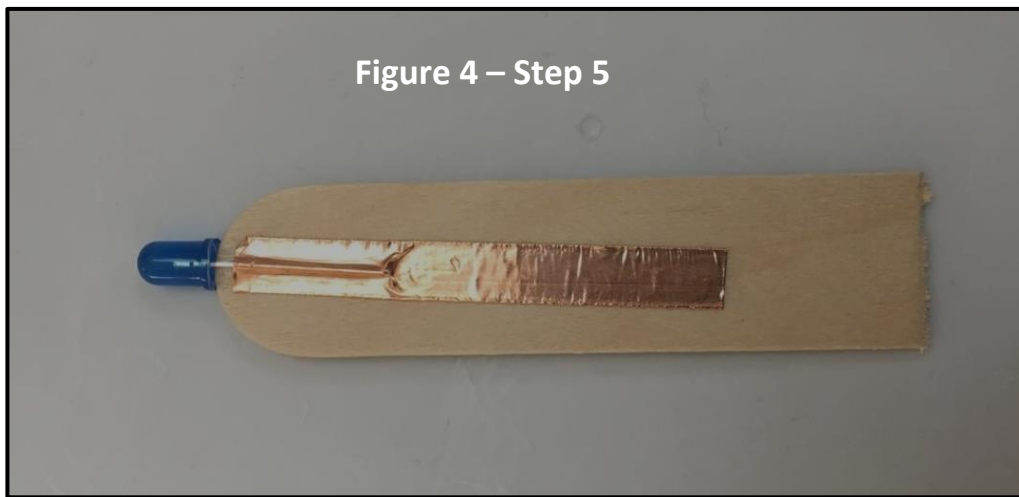
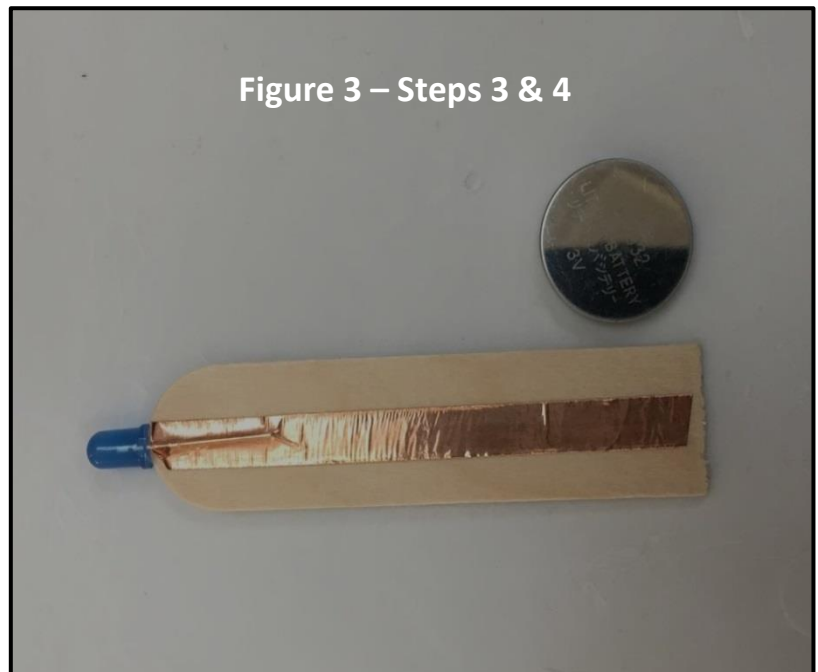
Make sure the battery works:

1. Place the LED on the edge of the battery.
2. Place the long leg of the LED on the positive side of the battery; the short leg is on the negative side (see Figure 1).
If the LED lights, then you are ready to engineer your flashlight!
If the LED fails to light, see a volunteer to trade it for another.
3. Separate the battery from the LED once you know both work.



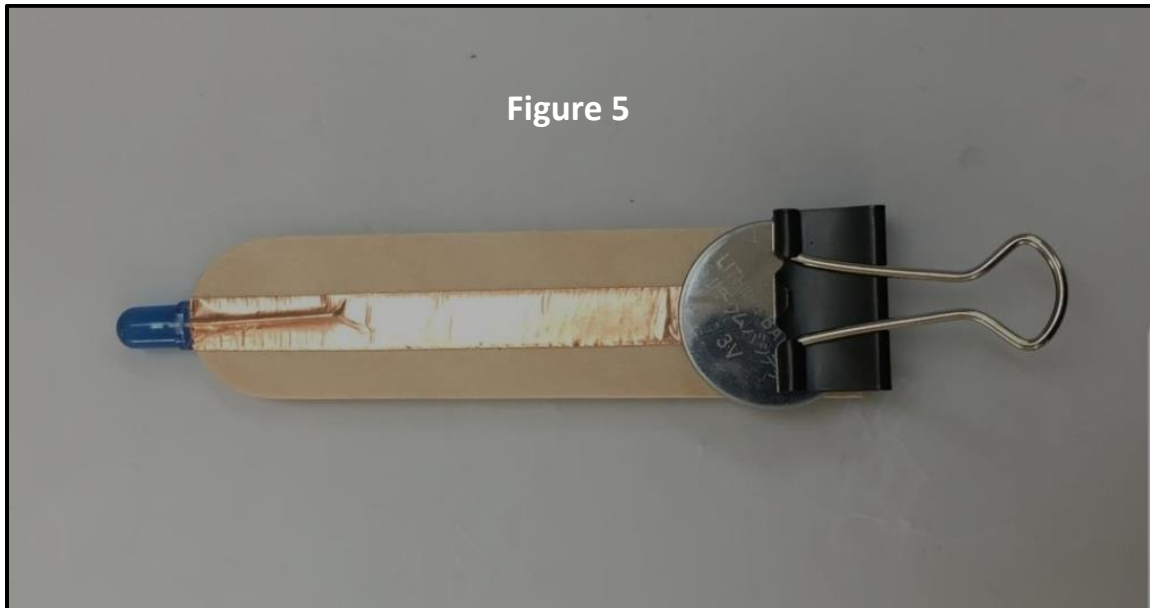
Step 2: Attach the LED

1. Place the LED on the curved end of the craft stick.
2. Lay the stick on a flat surface, placing the shorter end (the LED negative side) facing up (see Figure 2).
3. Find your longer piece off copper tape.
4. Peer off the backing and press it firmly over the short wire end of the LED.
The tape should reach the end of your stick (see Figure 3).
5. Turn the stick over and attach the shorter piece of copper tape to the longer end of the LED (the positive side) (see Figure 4).

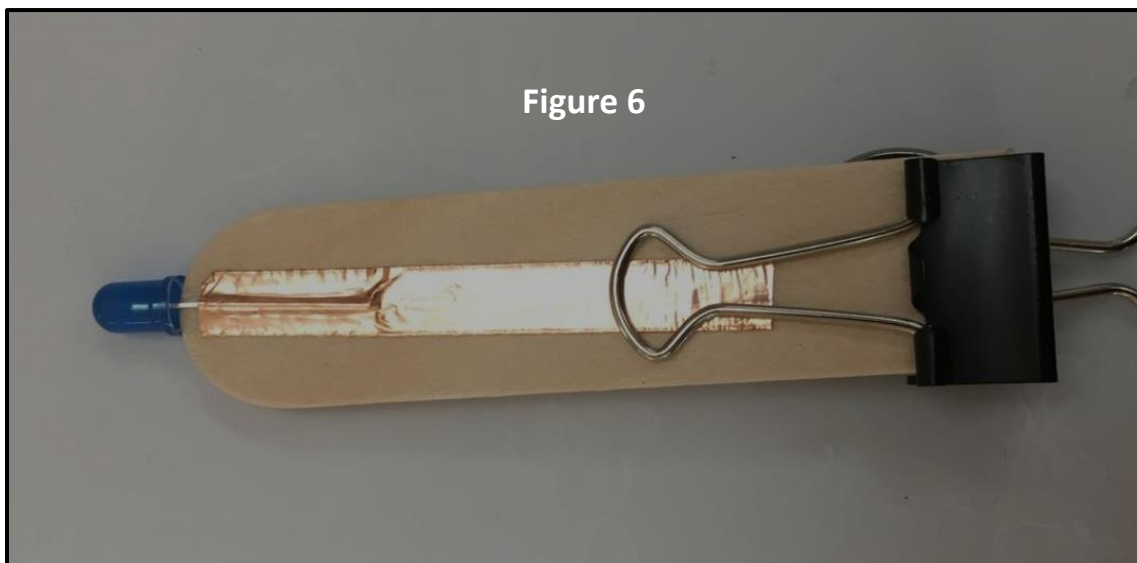


Step 3: Add the Battery & Switch

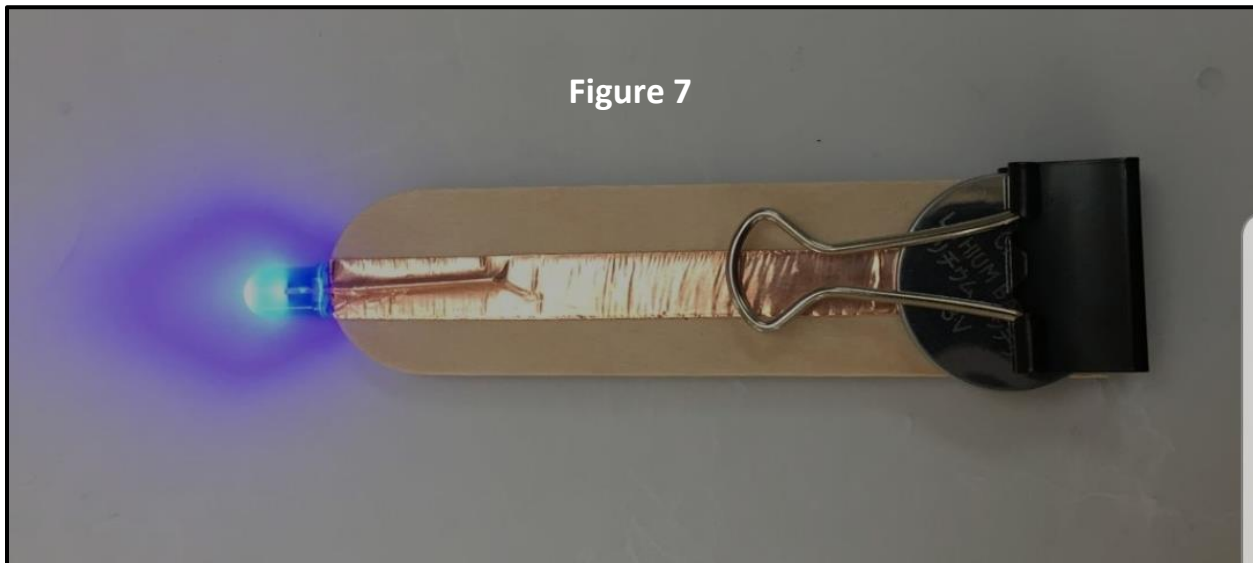
1. Place the battery on the negative (-) side of the battery.
HINT: This is the side with the longer piece of copper tape!
2. Use the binder clip to clamp the battery in place (see Figure 5).



3. Turn your flashlight design over to expose the positive (+) side of the battery.
HINT: This is the side with the shorter piece of copper tape!
4. Close the binder clip so that it connects with the tape (see Figure 6).



5. Complete the electrical circuit by closing the binder clip on the battery side of your flashlight. As the metal clip connects with your battery and copper tape, the flashlight lights! (see Figure 7)



What Do You Do if the Flashlight Does Not Light?

Troubleshooting Tips:

1. If your flashlight doesn't work, then be sure the copper tape is firmly pressed over the LED legs.
2. Then, try wrapping some clear tape firmly over the ends where the LED and copper tape meet. Wrap the tape around the craft stick to create a stronger connection (see Figure 7).
3. Make sure your battery has a strong connection with the tape.
4. Ask for help from a volunteer 😊

