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**HOME EDITION**

**COLAB**

**PAPER CIRCUIT**

# COLAB PAPER CIRCUITS

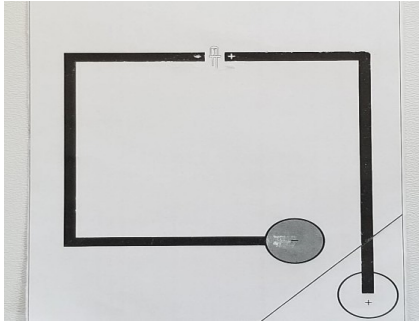
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## Materials

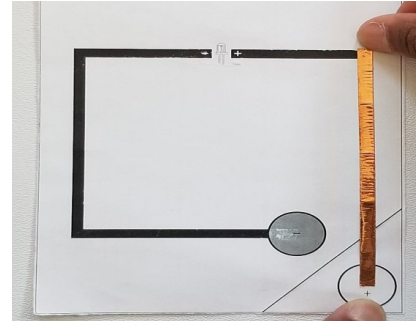
- 2032 cell batteries
- Paper circuit diagram
- Copper tape
- LEDs
- Paper clips

## Step 1: Simple circuit.

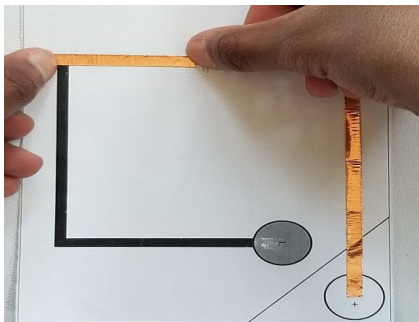
A circuit is the path that an electric current travels, simple circuit contains three components necessary to have a functioning electric circuit: a source of voltage, a conductive path, and a resistor.



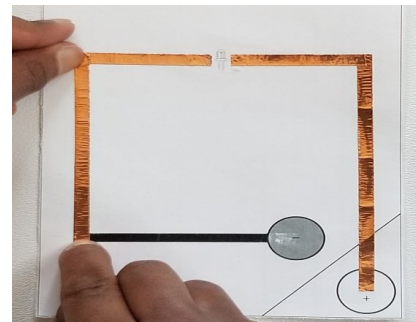
1. Print out the simple circuit diagram.



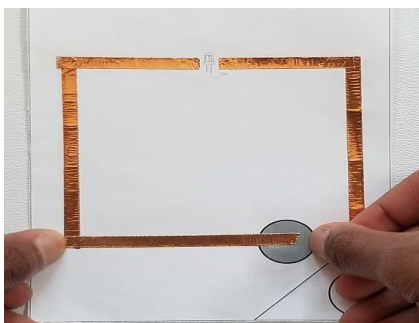
2. Starting from the middle of the white circle, adhere copper tape on the trace lines.



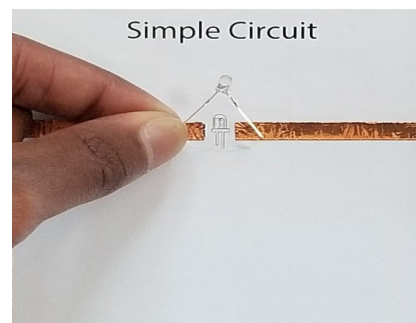
3. Make sure the corners of the tape are connected to each other.



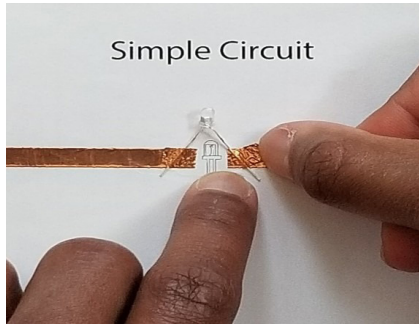
4. Continue to apply tape to all trace lines.



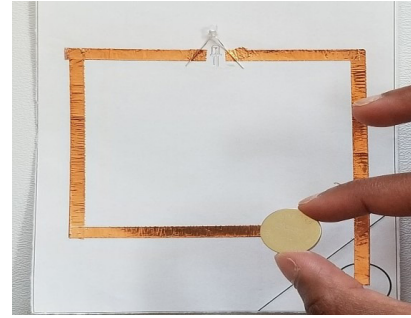
5. Make sure to keep the LED sign on the template uncovered.



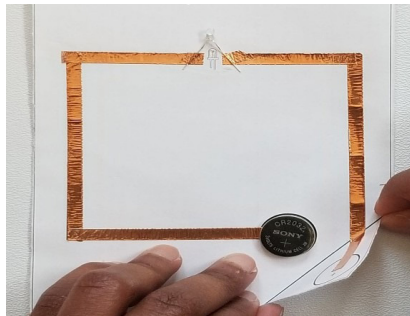
6. Place LED where the LED icon is. To do this, separate LED prongs and place the positive prong, which is the longer prong on top of the positive side of the copper tape.



**7.** Place the negative side on top of the negative side of the copper tape and tape both sides to keep the LED in place.



**8.** Place the coin cell on top of the gray circle. Make sure the negative side is facing down and the positive is facing up.



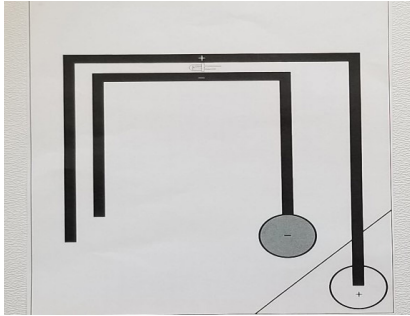
**9.** Fold the corner to connect both circles. Is important that both circles line up.



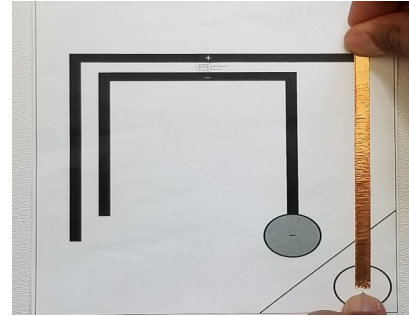
**10.** Secure the corner flap with paper clip and your LED should light up.

### Step 3: Simple parallel circuit

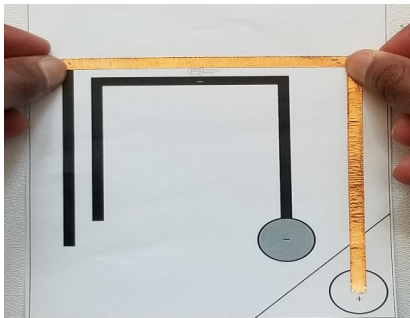
A parallel circuit is one that has two or more paths for the electricity to flow.



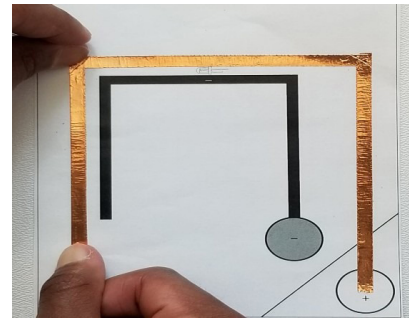
1. Print out the simple circuit diagram.



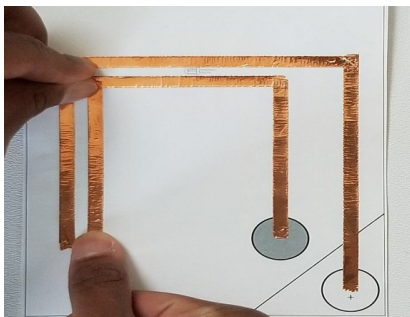
2. Starting from the middle of the white circle, adhere copper tape on the trace lines.



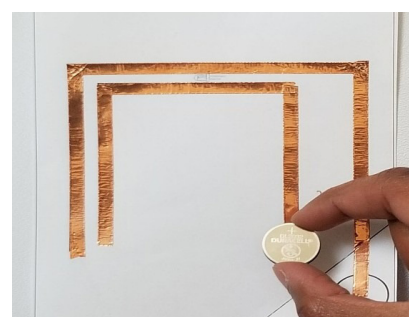
3. Make sure the corners of the tape are connected to each other.



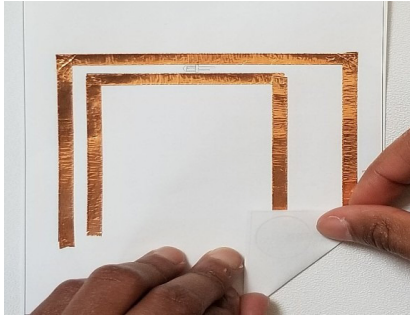
4. Continue to apply tape to all trace lines.



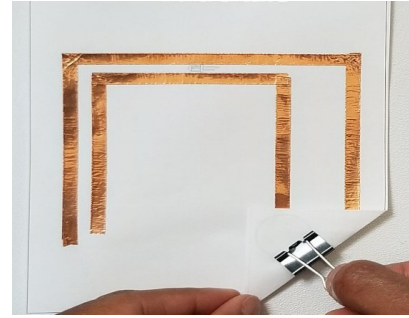
5. Press the corners firmly to make sure they are connected.



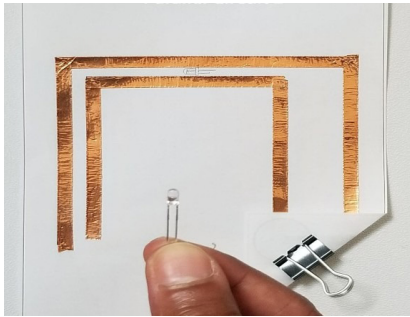
6. Place the coin cell on top of the gray circle. Make sure the negative side is facing down and the positive is facing up.



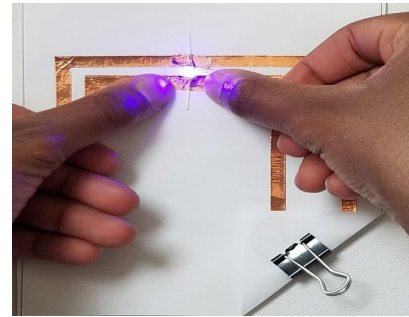
**7.**  
Fold the corner to  
connect both circles.  
Is important that  
both circles line up.



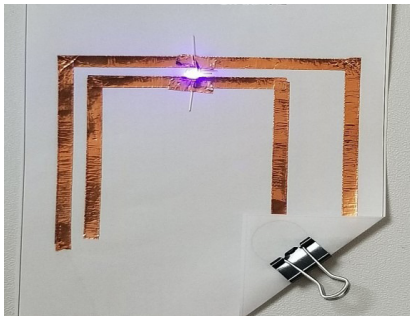
**8.**  
Secure the corner flap  
with paper clip.



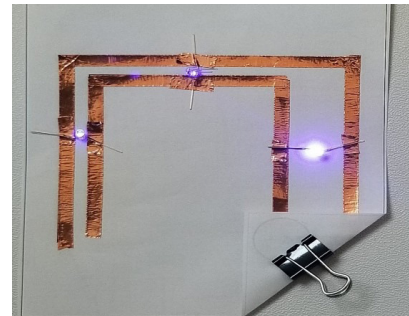
**9.**  
Take the LED and bend  
both legs at 90 degree.



**10.**  
Place the LED on top of  
the LED sign. Make sure  
the positive side goes  
on top of the positive  
strip and the negative  
side rests on the  
negative strip.

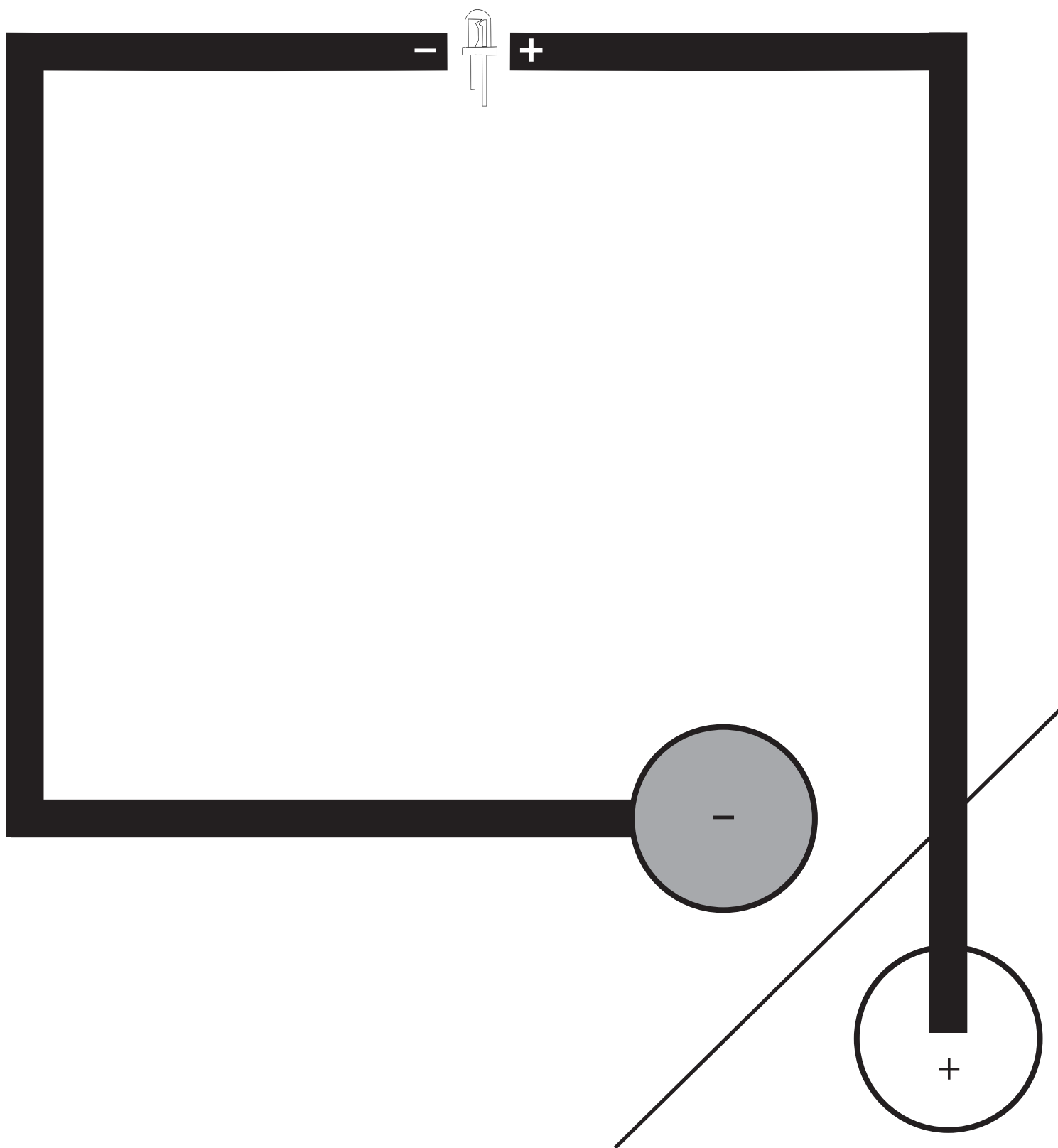


**11.**  
Add some tape on both  
sides of the LED to keep  
it in place.



**12.**  
Optional: Add more  
LEDs.

# Simple Circuit



# Parallel Circuit

