

**Paper Circuits**

**9-12**

**Activity #2**

# **Objective**

Use simple materials to build a paper circuit and learn how to make a switch turn a circuit on and off.

# **Materials**

* Copper Tape
* Gumdrop LEDs
* Coin Cell Battery

# **Instructions**

1. LEDs have two legs of unequal length: the longer one is the positive (+) side of the LED, the shorter leg is the negative (-) side.
2. Fold over one corner of the paper and trace the battery on either side of the fold. Try taping down two strips of copper tape with each piece starting from one of the circles and ending about a half inch apart.
3. Tape down one LED with the legs touching the copper. Connect the (+) side of the battery to the (+) leg of the LED, and the (-) side of the battery to the (-) leg of the LED.
4. Fold the corner to see the LED light up. If it doesn’t light up, try flipping the battery to make sure the positive side of the battery connects to the positive leg of the LED.
5. With these starting steps, the possibilities for creating paper circuits are endless. You can fold the copper tape into different designs or make a collage that is lit by a hidden circuit on another piece of paper underneath.

**Troubleshooting:**

If the light is not on, follow these troubleshooting procedures.

1.) Verify you have the battery properly installed (see step 3).

2.) Verify the LED legs are connected to proper ends of the battery (see step 3).

3.) Check that the copper tape is making contact with the battery and LEDs.

4.) Make sure the copper tape touches the battery when folded.

5.) If none of these steps fix the issue, test with a new LED. The previous one may have shorted if initially connected wrong.



