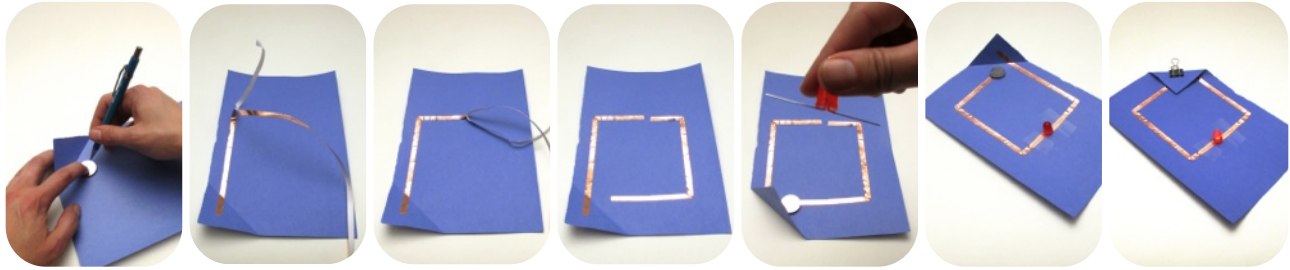


Make: Paper Circuits

Make a drawing that lights up! The copper tape circuit can be part of your drawing, or you can hide it. You decide! Once you know where you want the lights, sketch your circuit before making it with copper tape and LEDs.

Basic Circuit

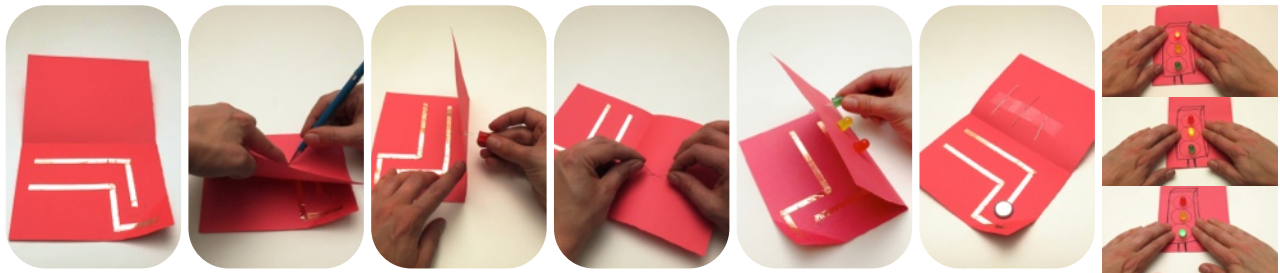


Fold one corner of your paper. Trace a coin battery. This will be your on/off **switch**.

Electricity will flow through the **conductive** copper tape. Start the circuit at the corner, peeling off the backing as you go. The sticky part does not conduct electricity, so bend (don't cut) to make curves or corners. Leave a gap where the LED will go. Finish your circuit on the circle battery trace at the corner.

Bend out LED leads and tape each lead to one side of the circuit. Add battery and clip. No light? Flip over the battery.

Parallel Circuit with Pressure Switch



A **parallel circuit** lets the same electrical current flow to more than one LED. Make two copper tape lines, one starting under the corner battery fold, one over it.

The LEDs go between the tape lines. Mark where they go with a pencil. Poke through. All long (+) leads go the same direction. Spread leads flat, then tape down the center. The leads must touch the copper tape to complete the circuit.

Add the coin battery and clip closed. To turn on an LED, press down on its two leads.

Parallel Circuit with Surface-Mount LEDs



Stick a straight or fancy line of copper tape on paper. Tape a second line as close as possible to the first without touching. At the end of one line, fold the tape over on itself to create a battery switch.

Surface mount LEDs are very small! Peel back package cover just enough for one to fall on the table. Pick up with a piece of clear tape, green triangle away from the sticky side.

Stick LEDs between the copper tape. Each arrow must point to the same line of tape. Add a battery and press or tape down.