Grumpy Ghost

Truly a ghost with the most, this spooky circuitry project has LED eyes and a simple fold-out frown! Make your own this Halloween.

Written By: Joshua



INTRODUCTION

Truly a ghost with the most, this spooky circuitry project has LED eyes and a simple fold-out frown! Make your own this Halloween.

You can make this project (and many more!) with our **Paper Circuits Kit**.

TOOLS:

- Scissors (1)
- Clear Tape (1)
- X-ACTO Knife (1)

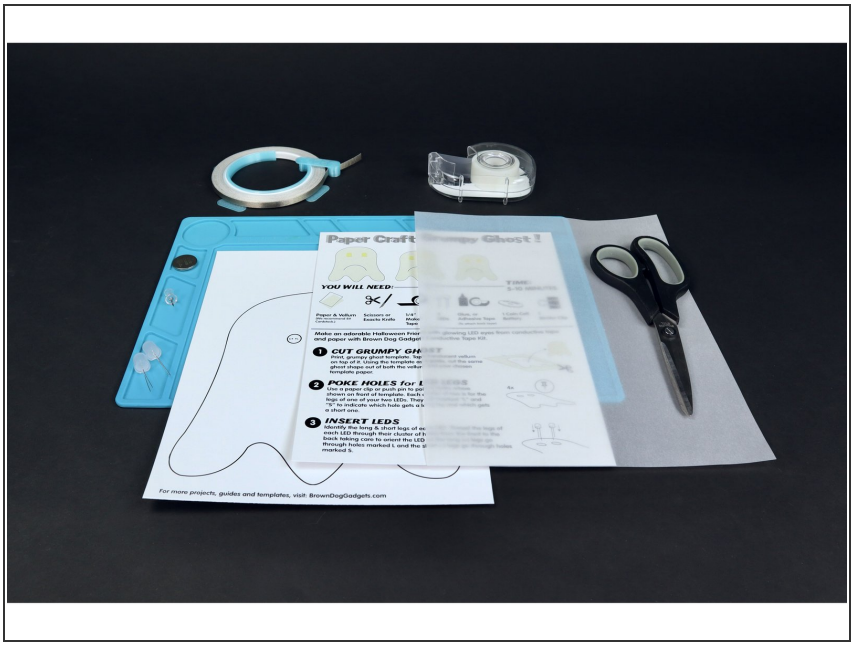
**optional*

- Push Pin (1)

PARTS:

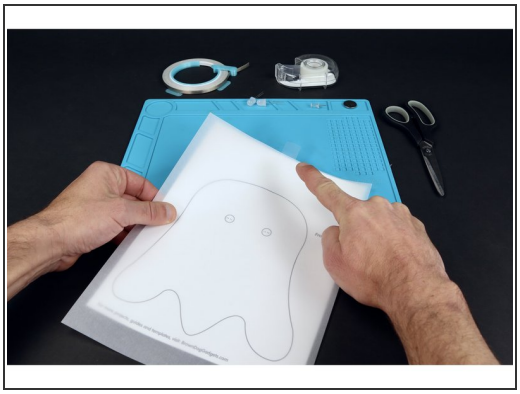
- Paper Circuits Kit (1)
- Tracing Paper (1)
- Clear Tape (1)
- Black Magic Marker (1)
- Printable Template (1)

Step 1 — Grumpy Ghost

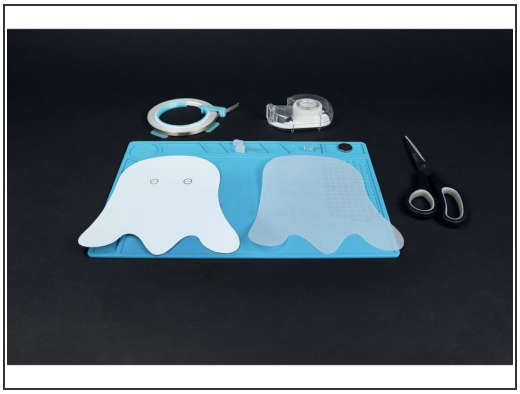


- **Gather the materials listed** in this guide **and print out the template** found at the bottom of the guide.

Step 2



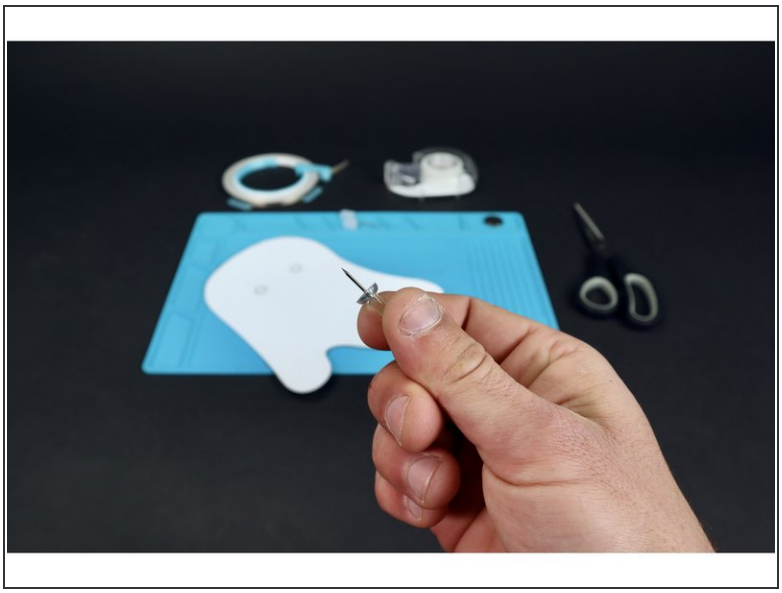




- **Tape the piece of transparent vellum to the template and carefully cut both out** using the template lines viewable through the vellum as your guide.

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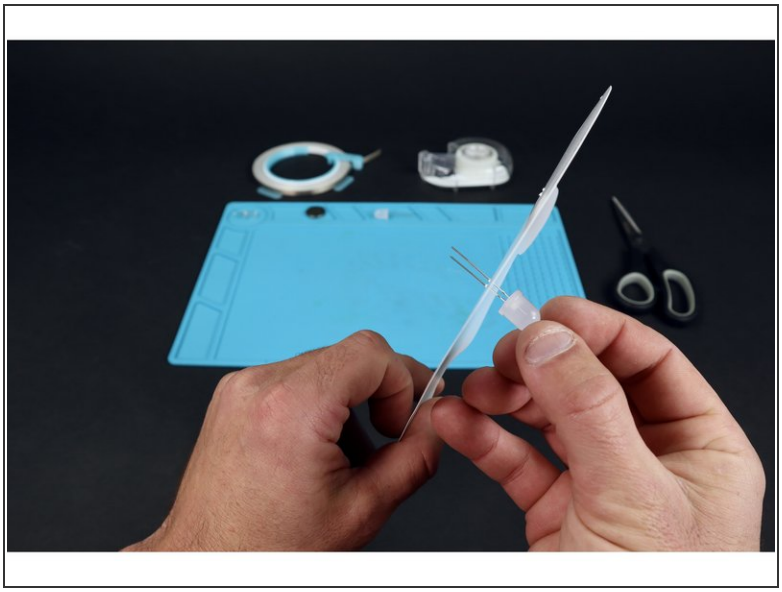
Step 3

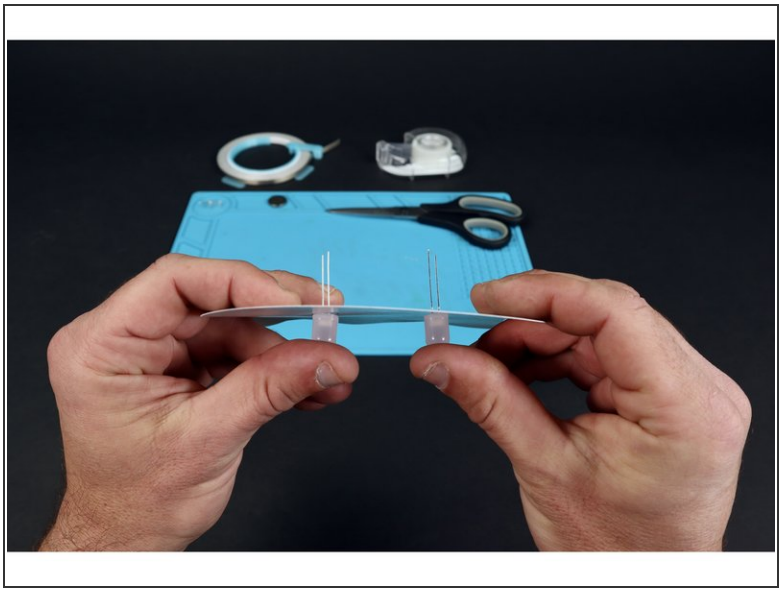




- **Use a pushpin to poke 4 holes** where shown within the two circles that indicate where LEDs will be placed.

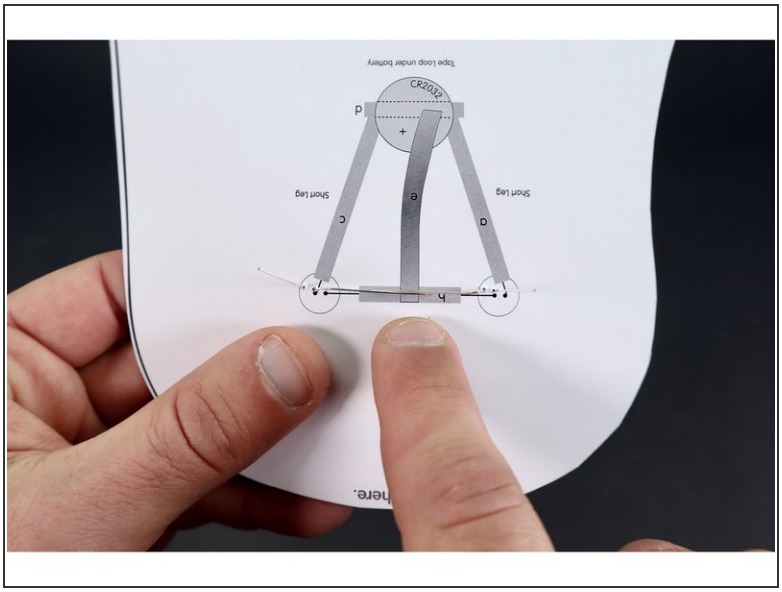
Step 4

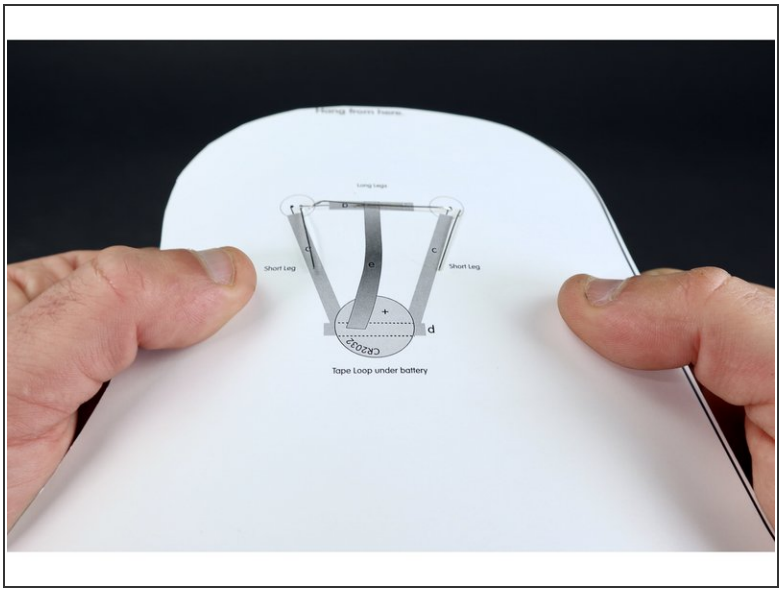




- **Thread each of your two LEDs through these two sets of two holes.** Orient the LEDs so that the long legs go through the holes marked "L" and the short LED legs go through the holes marked "S".

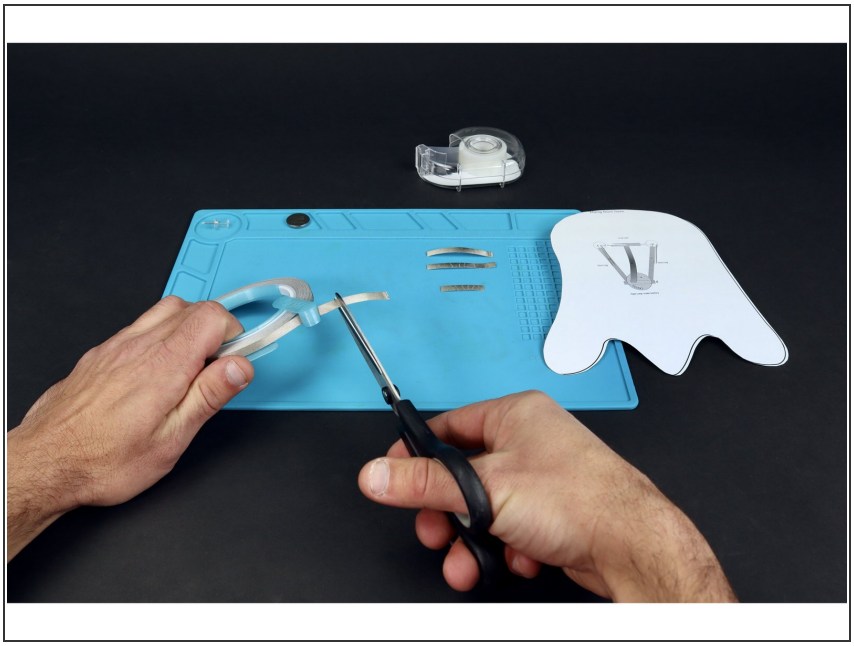
Step 5





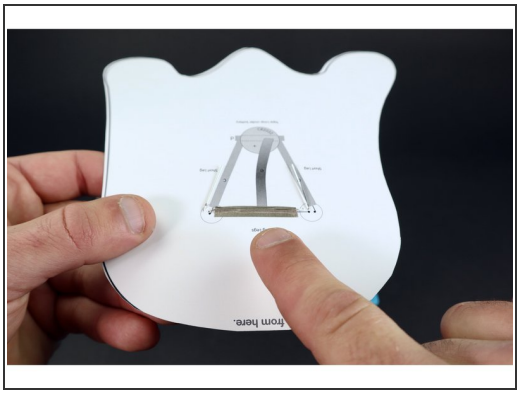
- **Flip your project over.**
- **Bend the two long LED legs inward** from their positions so that they lay flat against the project atop the Maker Tape path on the diagram marked "B".
- **Bend the two short LED legs over the paths marked "A,C" on the diagram** in the same way you did for the first two legs.

Step 6



- **Use the paths printed on the diagram to help you measure and cut Maker Tape pieces for the circuit paths labeled "A,B,C,D".**

Step 7







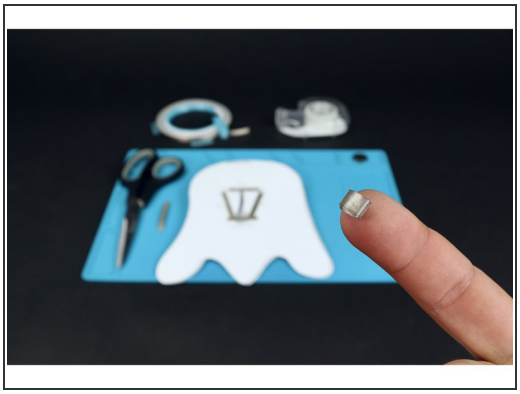
- **Peel and stick these Maker Tape segments for paths "A,B,C,D".** NOTE: "A,B and C" go OVER the LED legs while D simply goes atop paper.

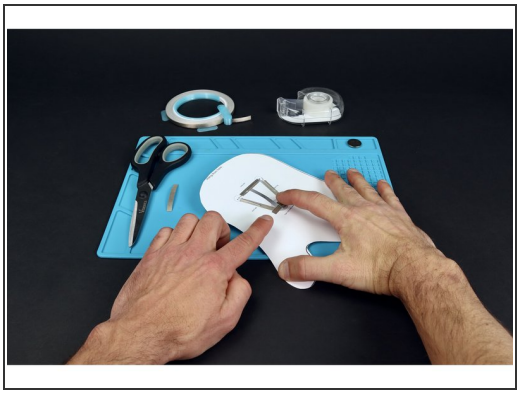
Step 8

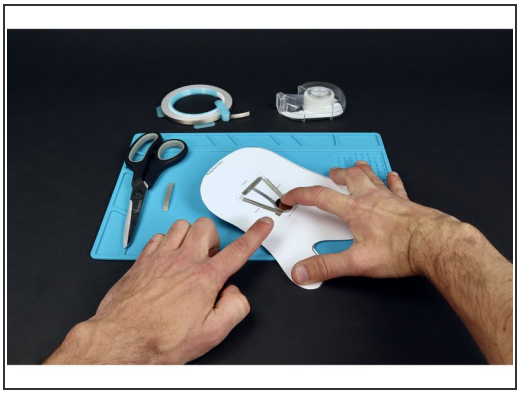


- **Use the diagram again to measure and cut a piece of Maker Tape for the path labeled "E" as well as a smaller one of no particular length.**

Step 9

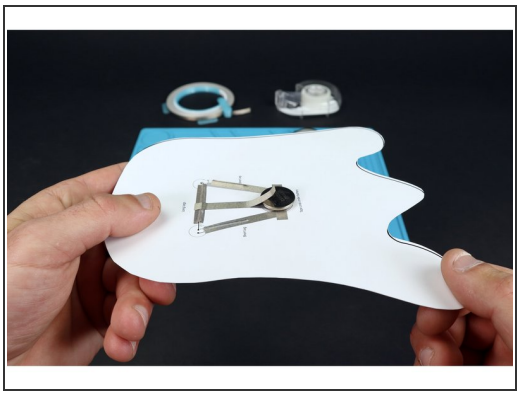
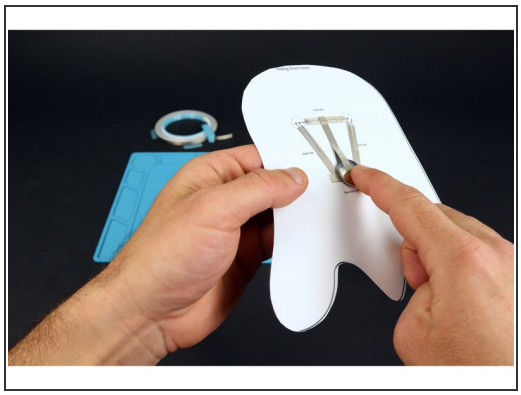
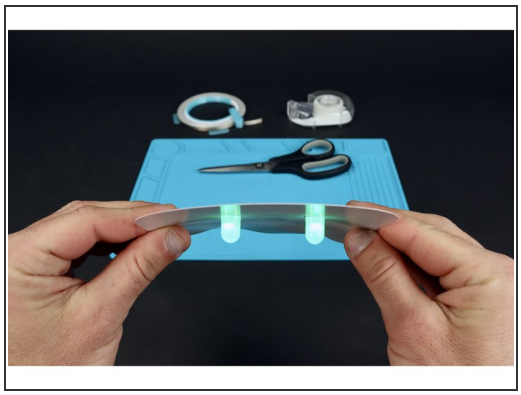






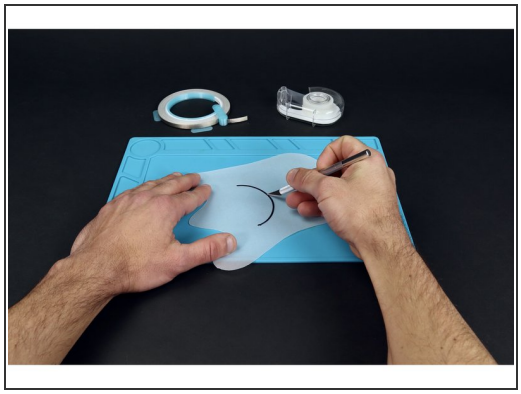
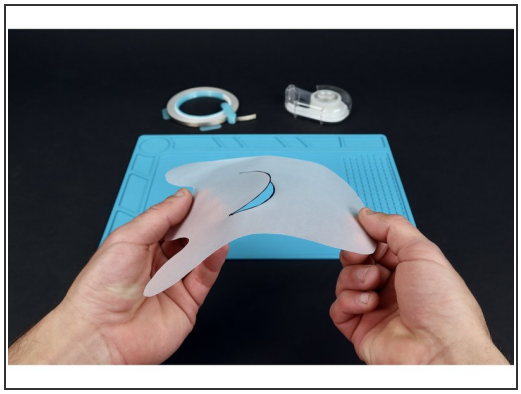
- **Make a tape loop** with the smaller piece of Maker Tape you just cut and p **lace it where shown on the circuit diagram atop path segment “D” .**
- **Stick battery atop the tape loop** so that the positive (+) side faces UP.

Step 10

- **Peel and stick the longer piece of Maker Tape so that it contacts path "B" on one end and the top of the battery on the other end.** This will turn your LEDs on! Simply peel back to turn them off.

Step 11

- **Use a marker to draw an expressive mouth on the vellum and them a craft knife to cut it from end to end.** This should allow you to pull the mouth away from the rest of the shape a bit as pictured in photo 3.

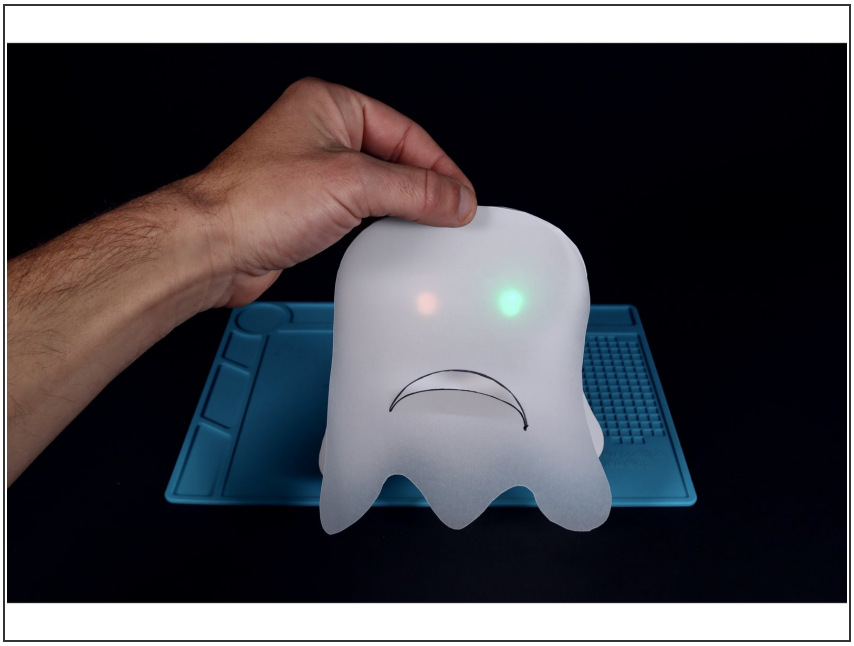
Step 12





- Lay the vellum ghost atop the circuit ghost and use a piece of transparent tape to connect the two layers at the top.

Step 13



- Boo-Ray! You just connected two LEDs in parallel to make this fun, spooky circuit!