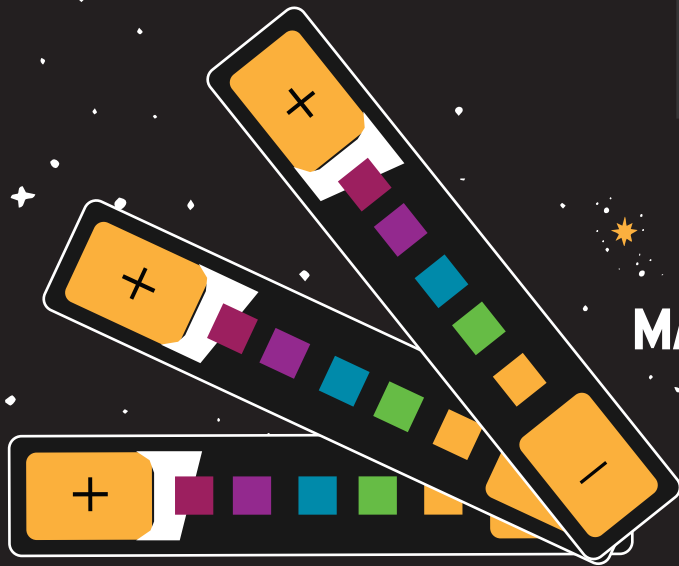


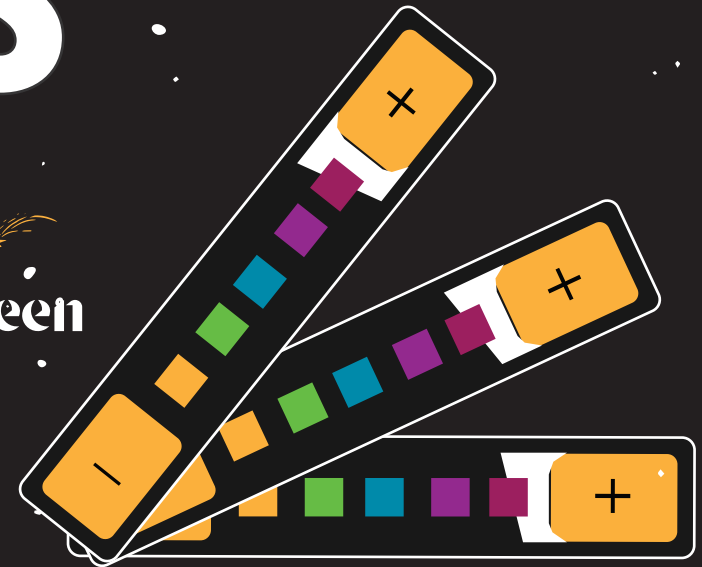
Get started with

GLOWSTITCH

LEDS



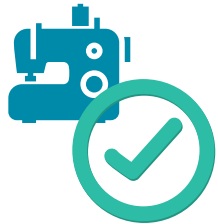
by
MAKER Queen



INTRODUCTION

GlowStitch LEDS

GlowStitch LEDs are one of the most versatile ways to add electronics to crafting and sewing projects.



Fully Machine Sewable



No Soldering Required



Paint over circuits and create light-up artworks



No Coding Required



Rainbow color-cycling lights

HOW IT WORKS

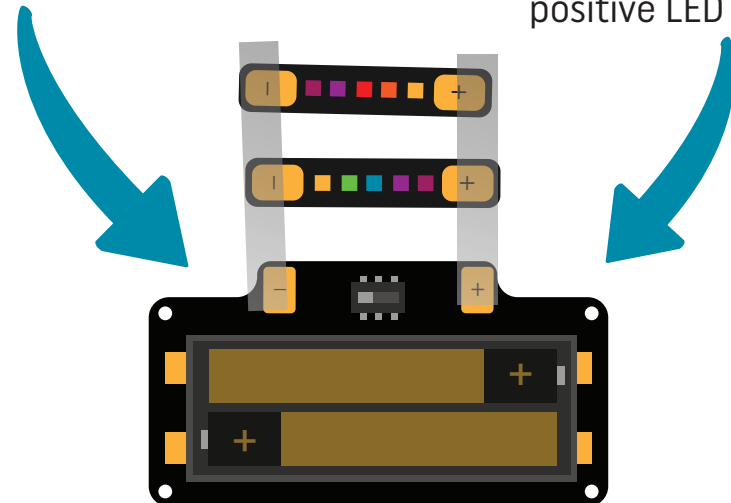
Tape & Craft



Create a circuit with conductive fabric tape

Connect negative '-' battery terminal with negative LED strip tab

Connect the positive '+' battery terminal with positive LED strip tab

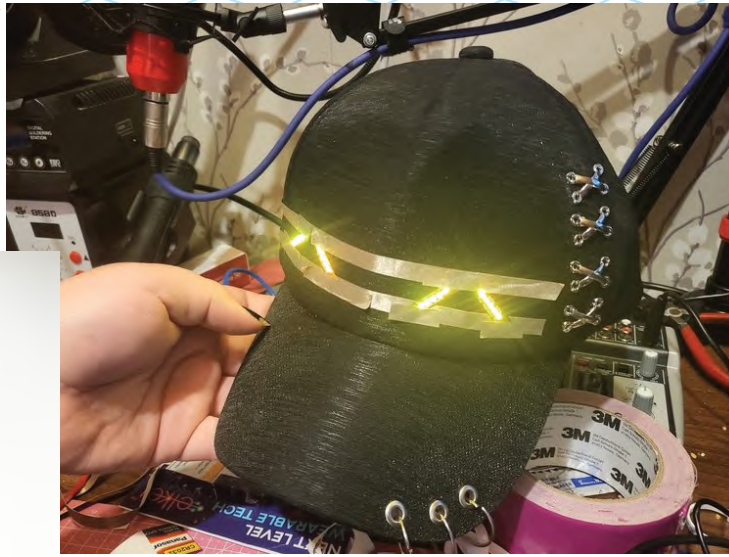


WHAT YOU CAN MAKE

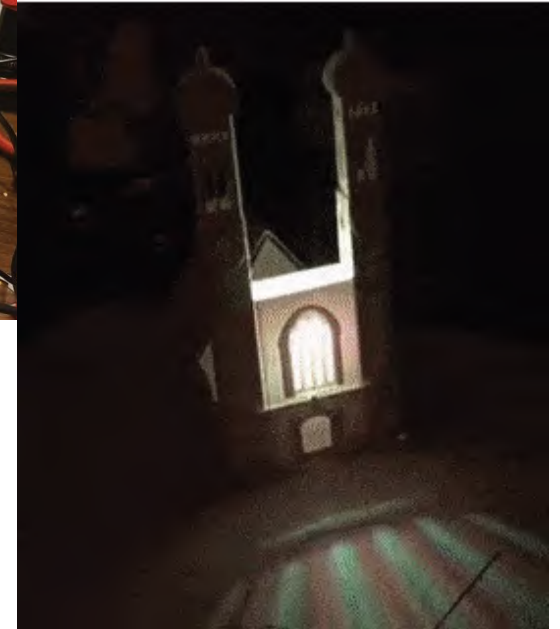
Example projects



Paint over your circuit



Use for wearable tech



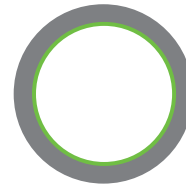
Use for paper circuits

YOU'LL NEED

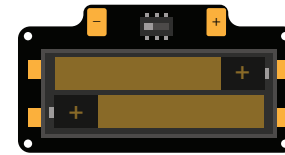
Get these ready before starting



GlowStitch
LED Sheet



Conductive
tape



Battery
holder & Batteries



Scissors
or craft knife



Instructions
Booklet

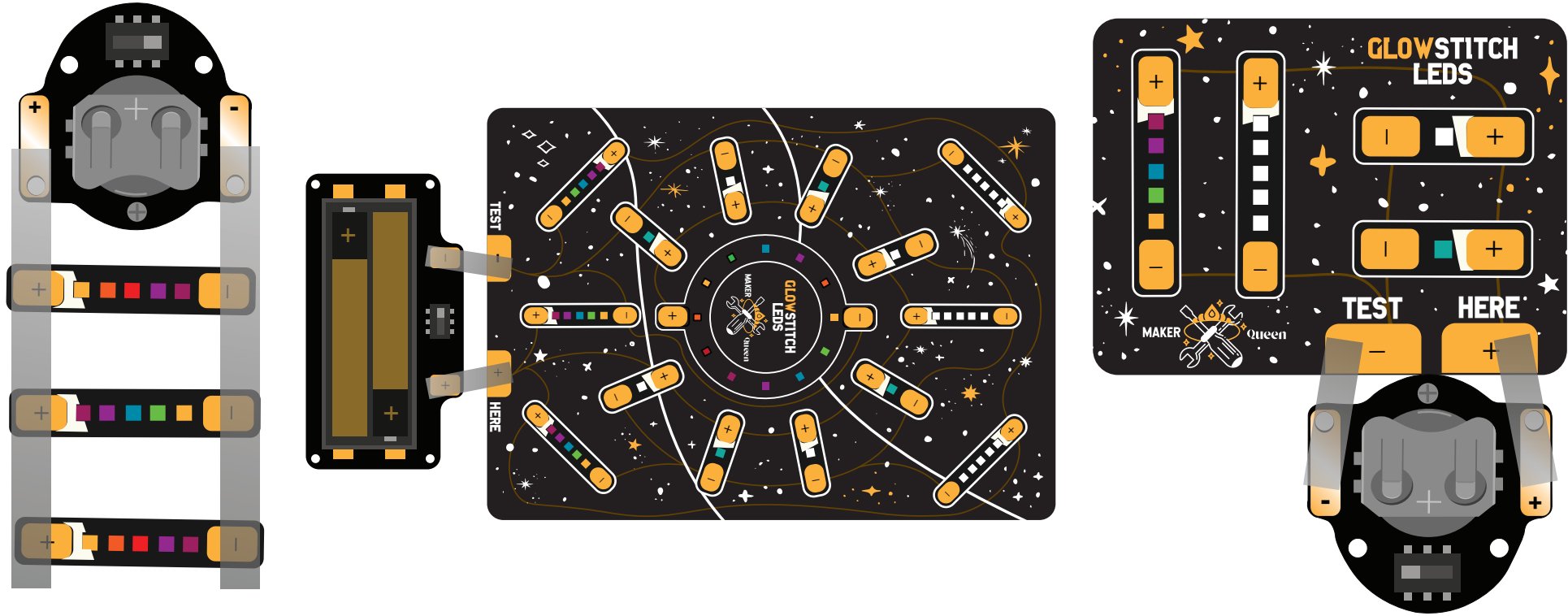


x2 AAA
Batteries

Plus any crafting materials you'd like to use! Paper, fabrics, cardboard, paints and more.

TEST YOUR CIRCUIT

Light up before crafting

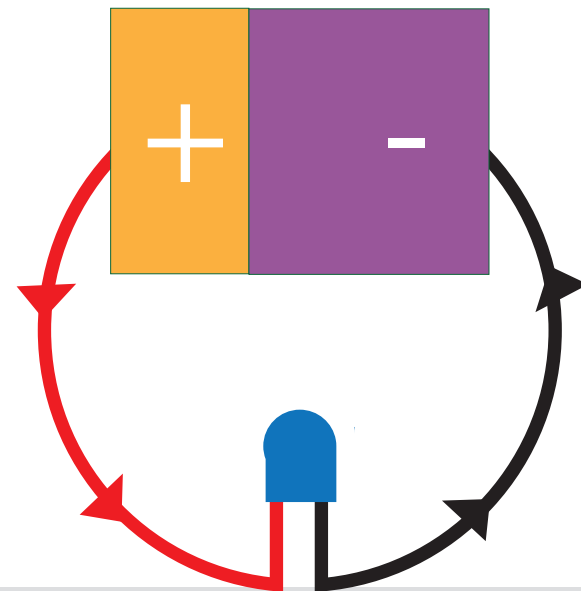
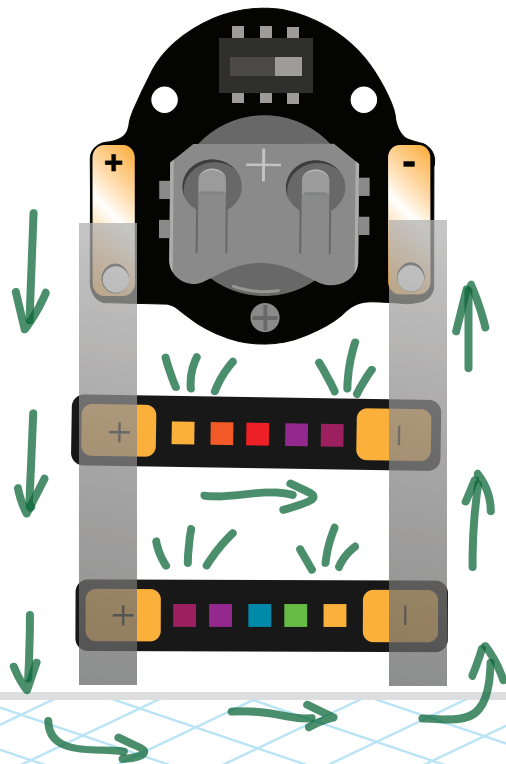


Connect the test points to your battery pack with conductive tape. It should light up!

CIRCUIT DESIGN

How does it work?

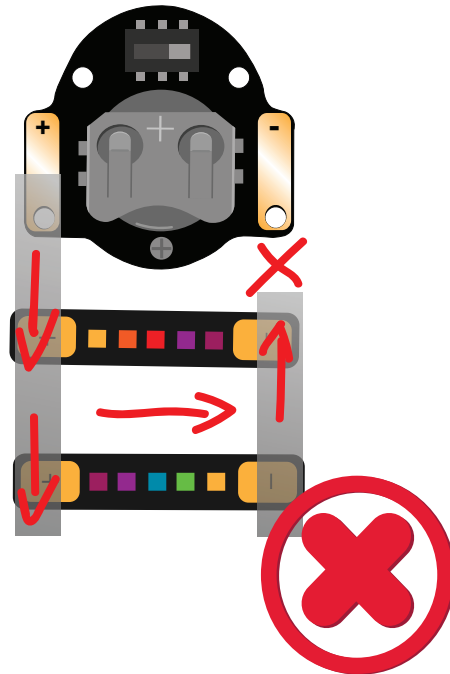
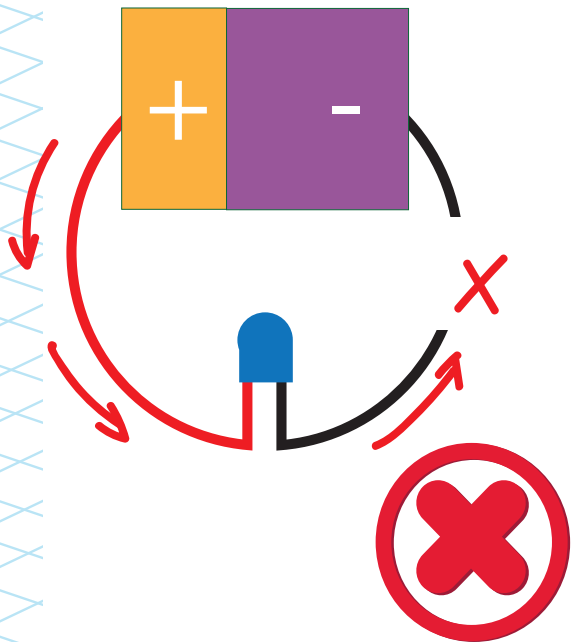
A circuit is called a circuit because it's always a circle. Starting at the positive side, electrons flow through the LEDs to make them light up. The circuit always returns home to ground, or negative '-'.



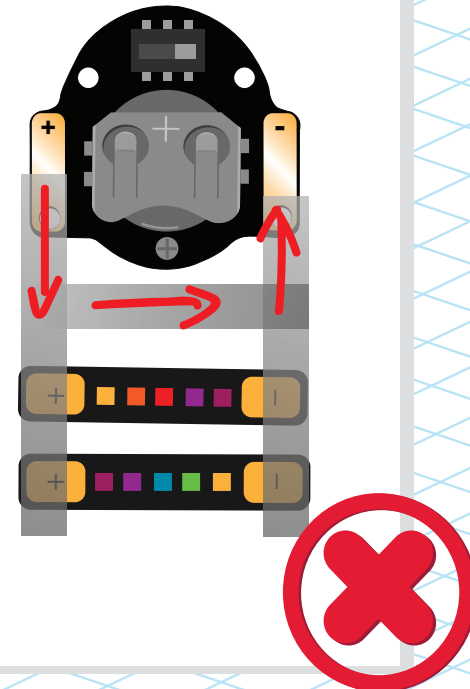
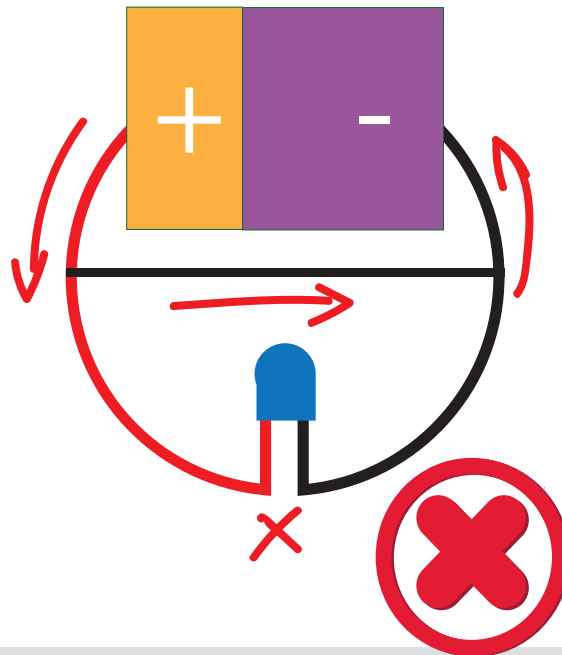
CIRCUIT DESIGN

How does it work?

If there is a break in the circuit, the electronics won't work and the circuit no longer makes a circle.



If there is a shortcut past the parts, the lights won't come on. This is called a **short circuit**.

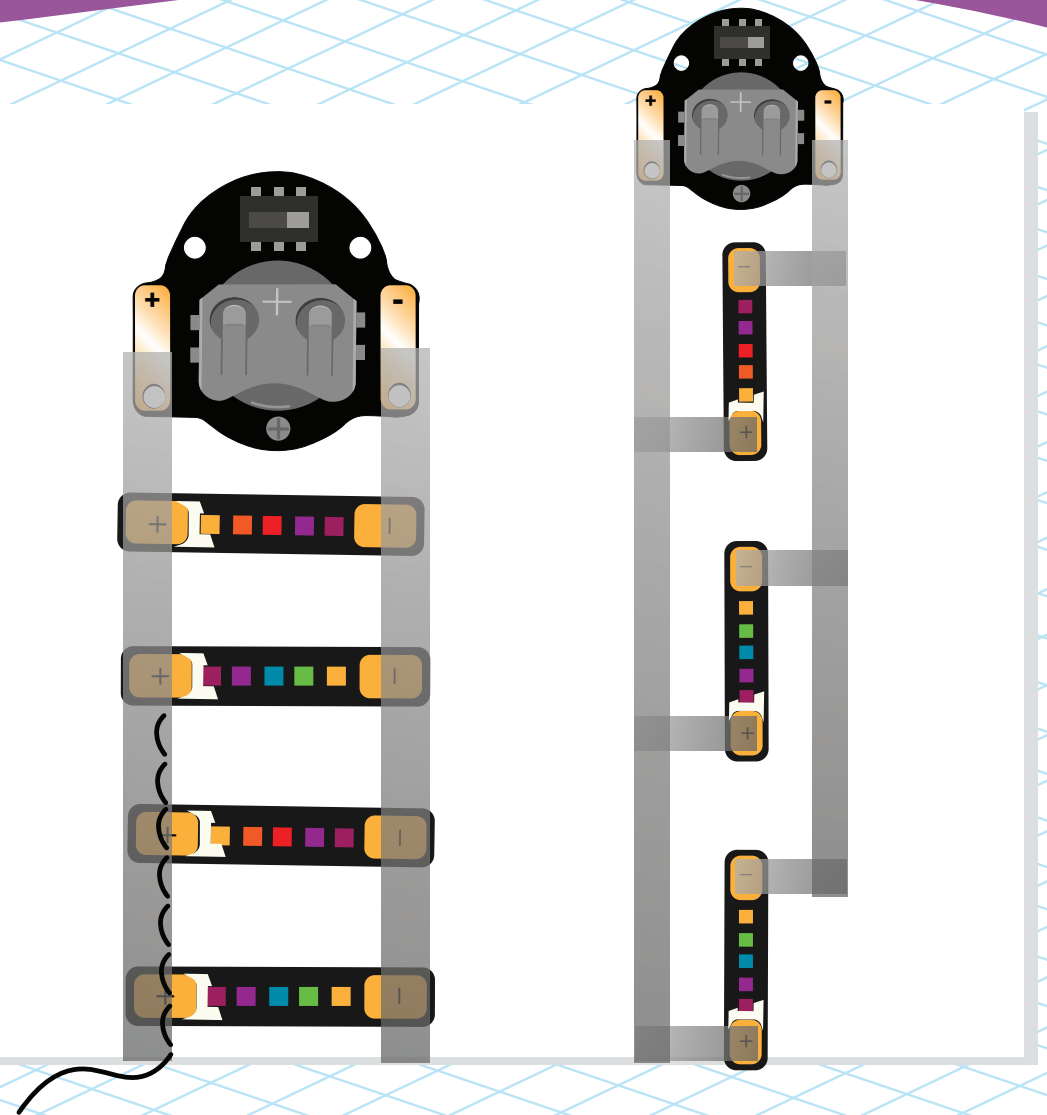


PARALLEL CIRCUITS

Vs. In Series Circuits

- Parallel circuits connect all Positives with Positives and Negatives with Negatives.
- They share the current equally between LEDs and work best! This makes it easy to run more lights.

Use Parallel Circuits!



PARALLEL CIRCUITS

Vs. In Series Circuits

- In-Series circuits connect Positives to Negatives.
- The first LED gets most of the current and each LED after gets less current, and in the example don't have enough current to run.

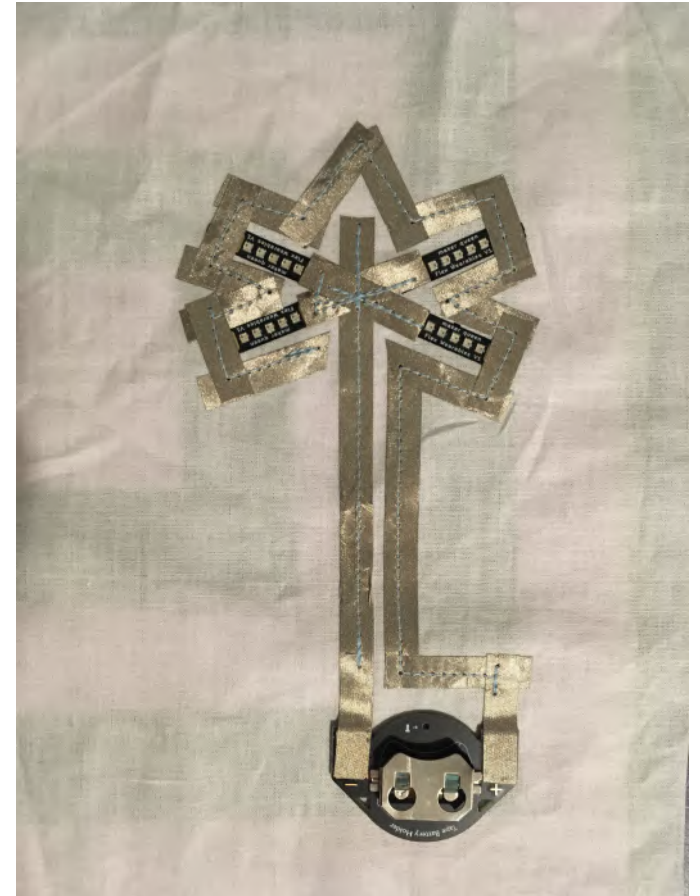
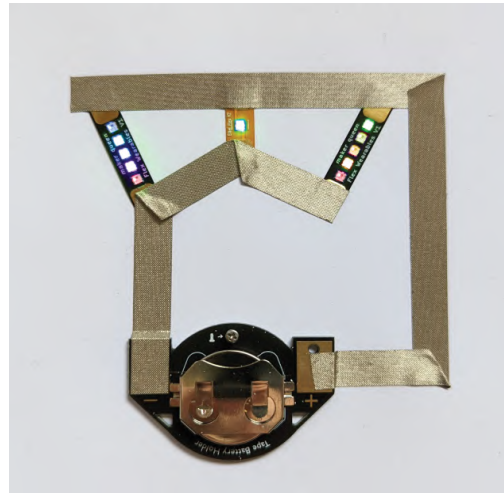
Don't use in-series circuits!



PARALLEL CIRCUITS

Vs. In Series Circuits

- Many other unique parallel circuit designs are possible.
- Just remember to connect all Positives with Positives and Negatives with Negatives.



TAPE TIPS

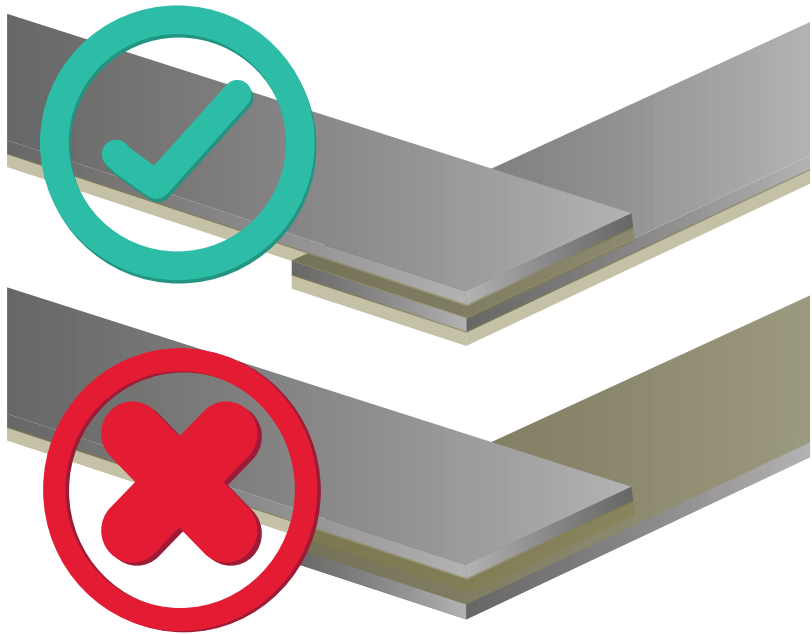
Get the most out of your circuit



- Protect your circuit from shorts by adding a cover to your conductive tape to stop them touching each other or rubbing on anything else.
- You can use paper, fabric, or other kinds of fabric tape to insulate your circuit. This is a great final step to ensure the longevity of your project.

TAPE TIPS

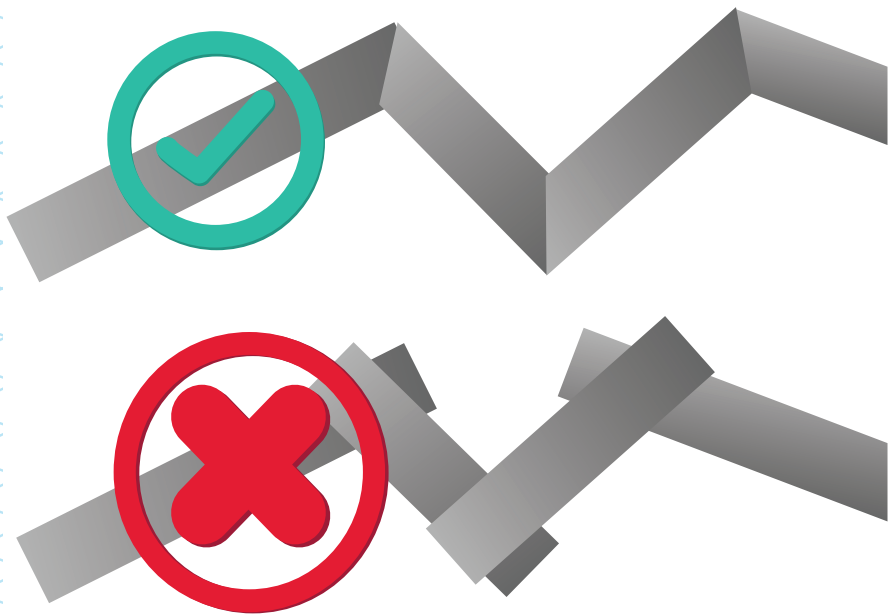
Get the most out of your circuit



- Conductive fabric tape is made up of a sticky adhesive and the conductive top. The adhesive is conductive but not as strongly as the silver part.
- If you join the tape sticky to silver, it will make a good connection, but if you join sticky to sticky, it will make a poor connection.

TAPE TIPS

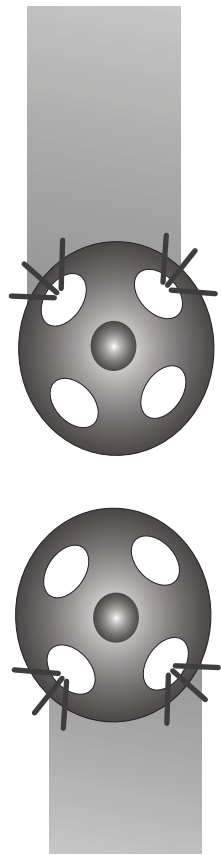
Get the most out of your circuit



- Even when using 'sticky to silver' connections this can introduce more resistance to your circuit when done repetitively.
- You'll have a stronger connection by bending or folding the tape around corners rather than cutting and sticking. You'll start to see problems when using 5+ cut and stuck pieces.

MAKE A SWITCH

Turn your circuit on and off in a creative way



- You can add a switch in a range of different ways and it can be added between the battery and LED strips.
- Two touching pieces of conductive tape can be a switch, or you can use snap fasteners, slide switches or buttons to turn your circuit on and off.

SEWING (OPTIONAL)

Finalise your circuit on the sewing machine

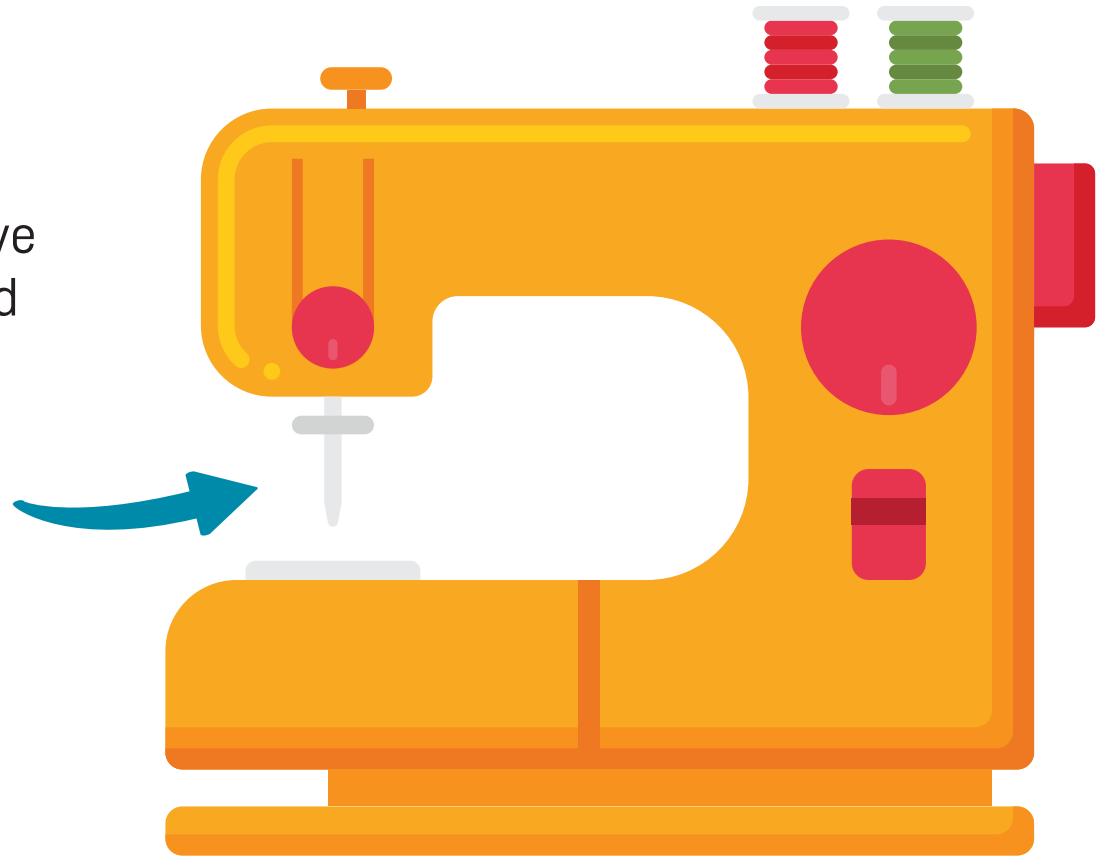


- Secure your LEDs with conductive fabric tape, and run them through the sewing machine to finalise your design. Make sure to only sew the gold pad areas and not beyond it where the LEDs lay.
- Do not sew into the battery holder, there is a small hole in the battery pads for you to hand stitch this down into place.

SEWING (OPTIONAL)

Finalise your circuit on the sewing machine

- After prolonged sewing with conductive tape, the needle can get a little gummed up with adhesive. Keep it clean with alcohol wipes or something similar to keep on sewing.
- Turn the machine off and remove the needle to clean safely.



Let's get started!