

The Light Up & Paint activity uses a simple LED light circuit and freely available software called Glow Doodle to let you paint with light.

Check it out

Look for Light Up and Paint in the Fiesta Hall during Maker Faire Education Day.

You can see more examples light paintings (and get your software) here: tinyurl.com/LUPstuff (originally scripts.mit.edu/~eric_r/glowdoodle)

See a video of the activity: tinyurl.com/LUPvideo (originally youtube.com/watch?v=2hkf97HcEJw)

Overview

In this hands-on activity, students will be able to build their own simple circuit of an LED (light emitting diode) taped to a battery, with optional crafty embellishments. They will then take their homemade light brush into a darkened space and wave it in front of a webcam-enabled computer running Glow Doodle to create a light painting.

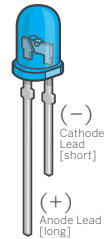
What you need

The Light Up and Paint activity is easy to replicate at home or in the classroom. The software can be accessed via a web browser, or downloaded onto a computer. To build the LED circuit, you just need a few items:

- LEDs (We used Amazon's **B0060FGA8A**)
- CR2032 Coin Lithium Batteries (We used Amazon's **B004AT066A**)
- Scotch Tape
- Craft supplies (tissue paper, feathers, pipe cleaners...aim for things that will diffuse/pattern the light or allow the lights to be swung or moved in interesting ways)

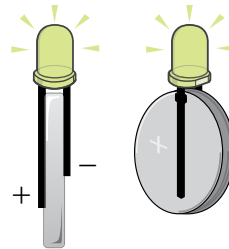
How to build a simple "glowie" circuit

Each LED has 2 legs or "leads" coming out of it. The longer LED lead, called the anode, should be touching the positive terminal (+) of the battery.



The shorter LED lead, called the cathode, should be touching the negative terminal (-) of the battery.

Nothing bad happens if you



get it wrong, so you can figure it out through experimentation. (If you buy a grab bag from Jameco or another supplier, you may even find some bidirectional LEDs that glow amber in one direction and green in the other.)

Simply insert the battery between the leads & pinch them to the battery. The LED should light up. Tape the whole thing up, and you have a simple circuit.

How this connects

Light Up & Paint introduces students to the basics of circuitry and also encourages creativity. It can be used as a stepping stone to further explorations of electronics and circuit building.

Thanks!

This activity is sponsored by Intel as part of their commitment to the Maker Education Initiative: makered.org

