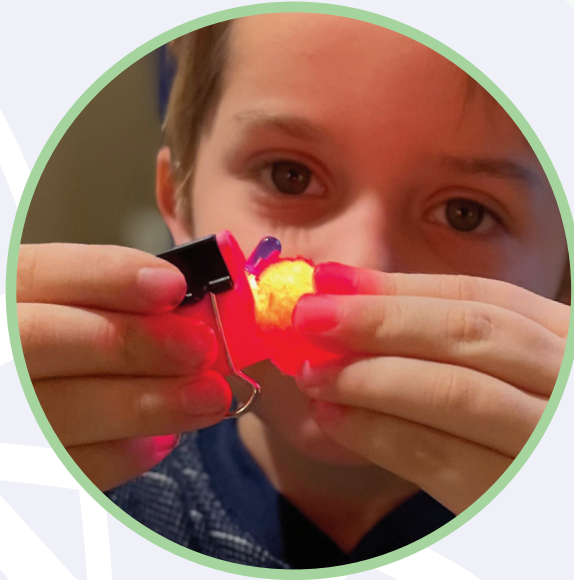


SUPPLIES

- ▶ Coin battery
- ▶ Two (2) LED bulbs
- ▶ Binder clip
- ▶ Foam pieces
- ▶ Chenille stems
- ▶ Markers
- ▶ Glue stick
- ▶ Blue Design Card
- ▶ Pencil
- ▶ Miscellaneous craft supplies



OPTIONAL

- ▶ Use craft materials YOU have!

INSTRUCTIONS

Make a Circuit:

1. Place the coin **battery** between the prongs of the **LED** bulb. Did it light up? If it didn't, try flipping the LED so the prongs touch the opposite sides of the battery this time.
2. Fold the small foam rectangle around the battery and bulb prongs. This serves as an **insulator** so the metal on the binder clip (see step 3) does not cause a **short circuit**.
3. Hold the battery, LED prongs, and foam together with a binder clip.
4. Watch the video at www.cmosc.org/electric-bling/ for other tips.

OTHER IDEAS AND INQUIRIES

- Did you notice that the prongs of the LED are different lengths? How does that matter? Try clipping the battery and bulb together without the foam rectangle. Does it still work?
- A **circuit** is a complete path around which **electricity** can flow. It must include a source of electricity, such as a **battery**. Materials that allow electricity to pass through them easily, called **conductors**, can be used to link the positive and negative ends of a **battery**, creating a circuit. The prongs on the LED bulbs are conductors.

VOCABULARY

Energy: The ability to do work. Energy comes in different forms and helps us in different ways. Some forms of energy are electrical, light, heat, chemical, potential, and motion.

Electricity: A type of energy that can build up in one place or flow from one place to another.

Electric Current: Electrical energy that flows through a conductive wire or other conductive material.

Electric Circuit: A complete path, or loop, that can carry electricity to make something work (light, motor, etc.)

Light Emitting Diode (LED): A light source that emits light when current flows through it.

Battery: A device that converts chemical energy to electrical energy and stores it so we can use it when we need it.

Conductor: A material that electricity can flow through.

Insulator: A material that electricity cannot flow through.

Short Circuit: A break in a circuit that sends the electric current on an unintended path causing the flow of energy to stop.



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