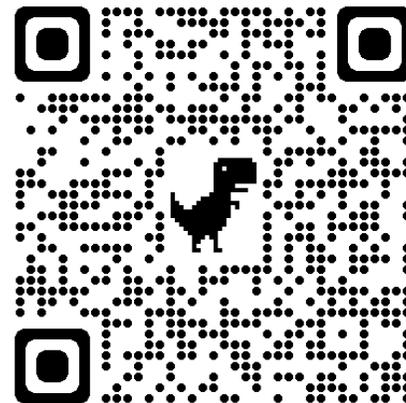


LIGHT-UP CARD: These steps will show how to make a card with a single LED placed in the center of the card.



Using the camera on a cellphone scan this QR code to access online video versions of directions showing how to make cards with LEDs, or enter the following into a web browser;

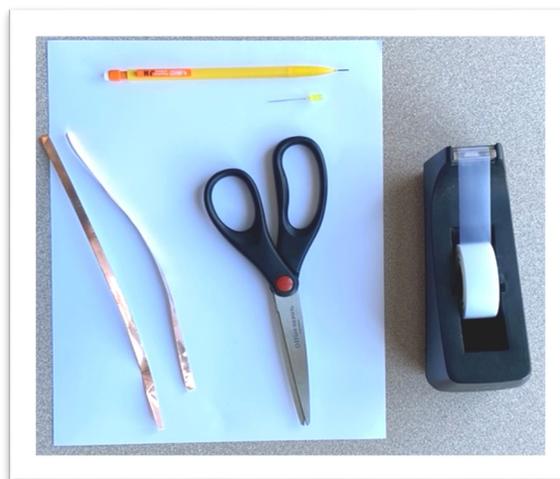
<https://www.sunprairiepubliclibrary.org/stem-bag>

MATERIALS:

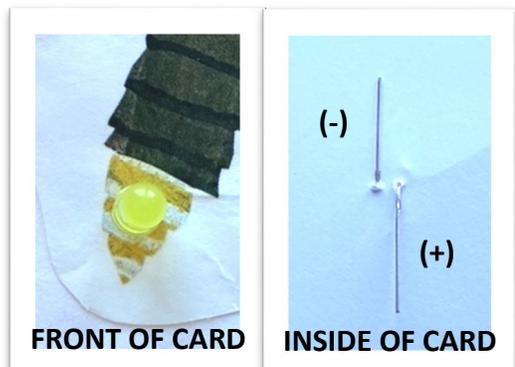
- 2 pieces of Copper Tape, about 8 inches long
- Coin Battery
- LED
- Cardstock paper

TOOLS:

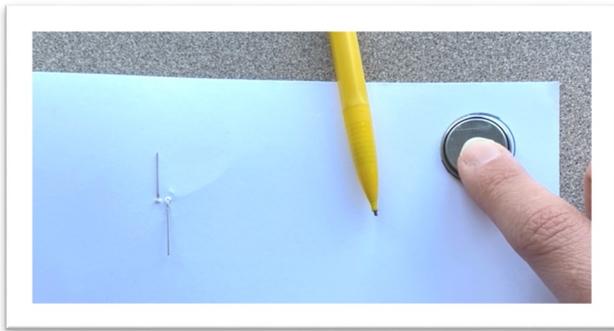
- Scissors
- Clear Tape
- Pencil
- Materials to decorate the card



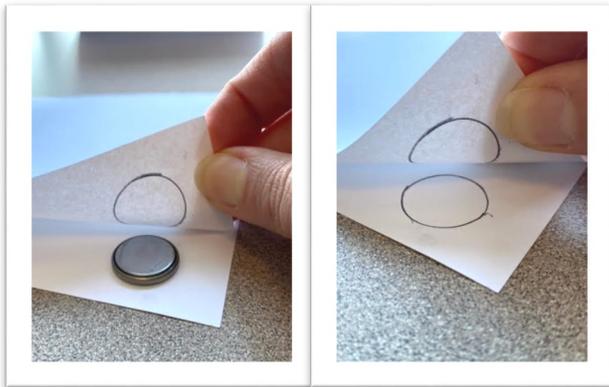
1. Fold the piece of cardstock paper in half. For this project, the LED will be placed on the front and in the center of your design and it will be lit when the card is closed. Keeping the LED placement in mind, create a drawing or design on the front of the card.



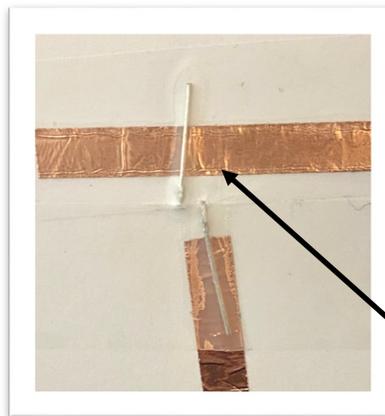
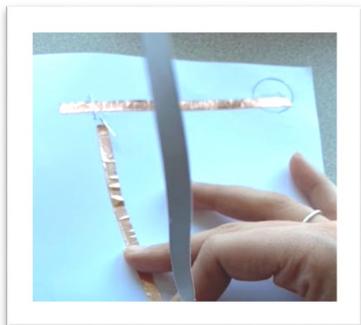
2. Take the LED and gently poke the legs through the cardstock in the center of the front of the card so the bulb is on the outside of the card and the legs are on the inside. Bend the short leg (-) upwards and flat against the paper and the long leg (+) downward and flat.



3. Take the 3V battery and place it in the top right corner of the inside of the card. Trace around it with a pencil to mark its placement.

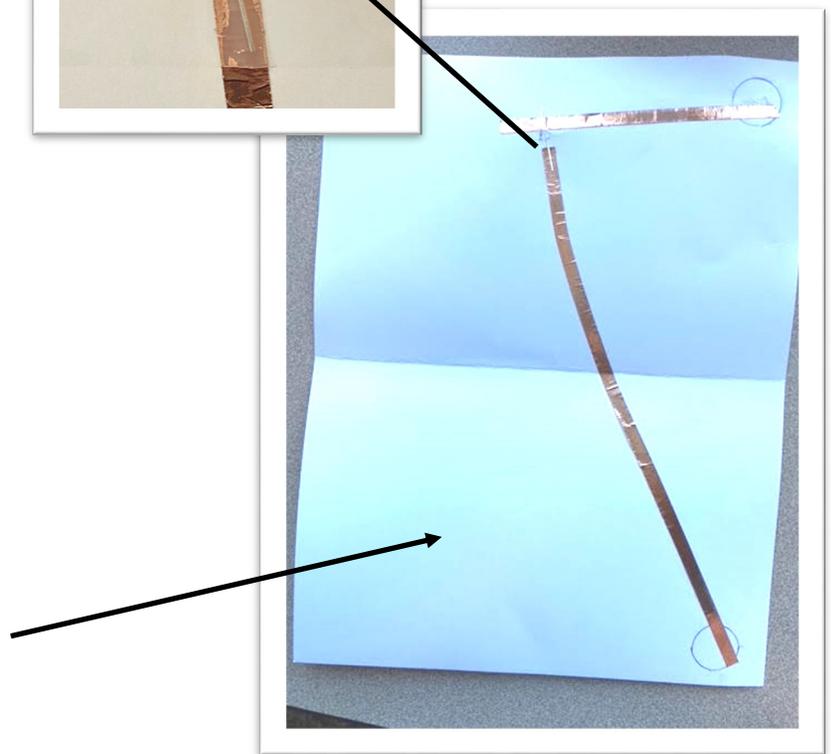


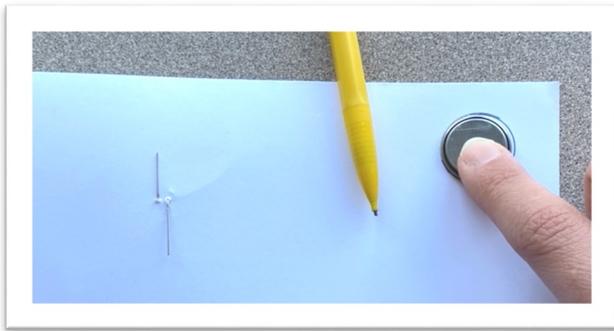
4. Holding the 3V battery in place in the top right corner close the card and let the battery drop onto the other side of the card. Outline the battery again in the bottom right corner. Then, check to make sure the two outlines of the battery match up. When your card is closed, the two



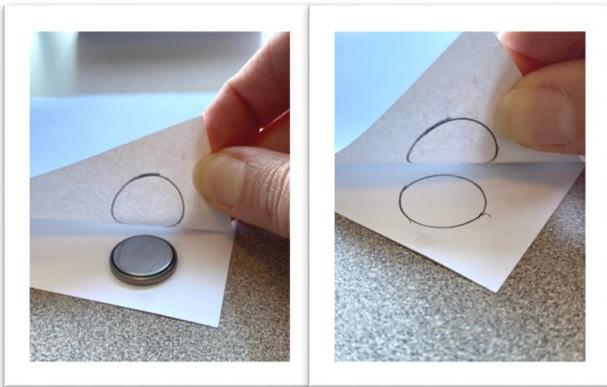
CLOSE-UP of LED legs with copper tape underneath

5. Copper tape application;
 - A. Gently begin to peel the backing off the copper tape. Place the copper tape under the short leg (-) and run it across the paper until you reach the center of the battery outline in the top right corner.
 - B. Repeat the same process running the copper tape from the long leg (+) to the battery outline in the bottom right corner.
 - C. Finally, tape the LED legs down with clear tape to keep them in place. When

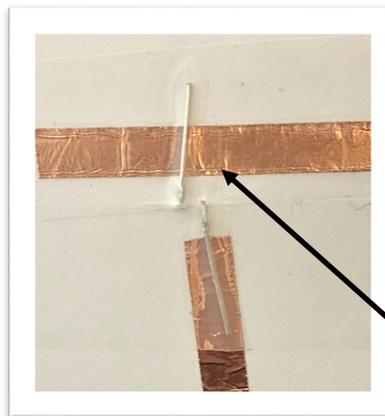
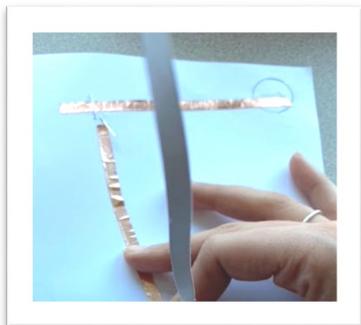




3. Take the 3V battery and place it in the top right corner of the inside of the card. Trace around it with a pencil to mark its placement.



4. Holding the 3V battery in place in the top right corner close the card and let the battery drop onto the other side of the card. Outline the battery again in the bottom right corner. Then, check to make sure the two outlines of the battery match up. When your card is closed, the two



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