



Paper Circuit Card Instructions

1. Apply the Circuit Tape

- Use the copper circuit tape to follow the guide lines printed on the card.
- ⚠️ At corners: Fold the tape away from the direction you want to go, then fold it back on itself to change direction.
- Tip: Don't cut or tear the tape—keep it in one piece for a stronger connection.

2. **Poke the Hole** - Find the "X" mark on the card and poke a hole through it with a pen. This is where your LED will go.

3. **Check Your LED**- Look at the LED legs:

- The shorter leg is the negative (-) side.
- The longer leg is the positive (+) side.

4. **Insert the LED** - Push the LED through the hole so the bulb is on the front of the card.

5. **Tape the LED Legs**- Bend the legs flat against the paper.

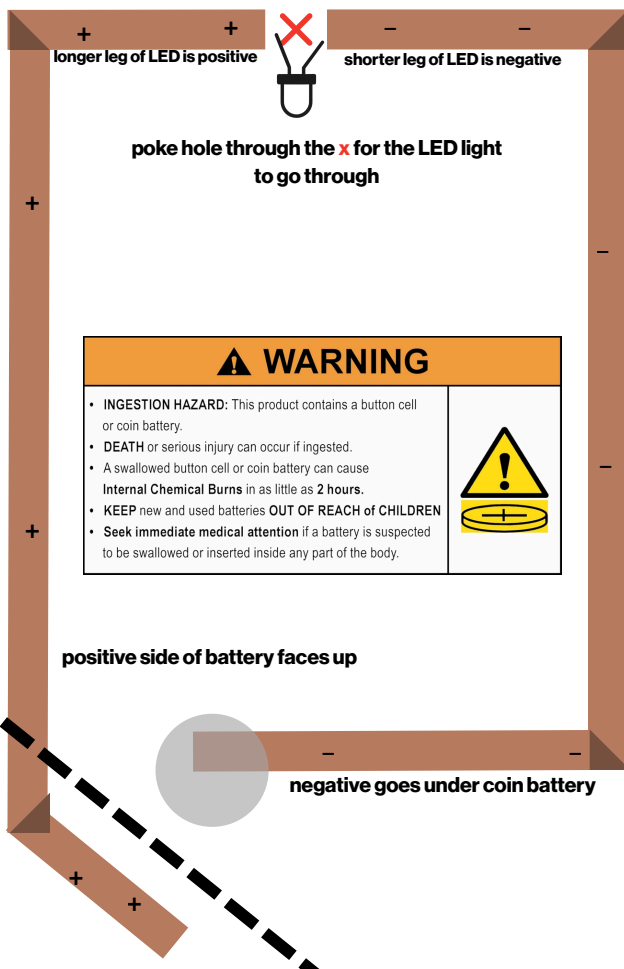
- Tape the short leg to the negative side of the circuit tape.
- Tape the long leg to the positive side of the circuit tape.
- Make sure the legs touch the tape directly—use extra tape if needed to secure it tightly.

6. **Add the Coin Battery**

- Place the battery negative side down (flat side down).
- Tape it in place, but don't cover the center of the battery with tape. The top must be able to make contact when the corner is folded down.

7. **Test Your Circuit**

- Fold the corner and press down on the top of the LED battery
- If everything is connected correctly, your LED should light up!



Materials List

- Adhesive Copper Tape
- 3V Lithium battery (also known as cell battery)
- 5mm LED light
- Cardstock paper (to print this card on)

Troubleshooting Tips

If your light doesn't turn on, try these steps:

1. ✓ Check LED Orientation

- Short leg = negative side (taped to the negative circuit line)
- Long leg = positive side (taped to the positive line)

2. ✓ Check the Tape Path

- Is the copper tape continuous, with no tears or breaks?
- Make sure folds are clean and the copper is not cracked.
- If you did cut the tape at any point, overlap the ends so they still conduct electricity.

3. ✓ Check LED Leg Contact

- Are the legs firmly touching the copper tape?
- Press down on the tape over the legs to ensure good contact.
- You can add extra tape on top or gently press the tape down harder.

4. ✓ Check the Battery

- Is the negative side (flat side) facing down against the copper tape?
- Make sure the positive side is not covered by tape so it can touch the folded part of the circuit.

5. ✓ Press the Card Firmly

- Try pressing down harder when you close the card—this helps close the circuit.

6. ✓ Try a Different Battery

- If the battery is old or weak, the LED won't light. Try a fresh one.

7. ✓ Try a Different LED

- Sometimes LEDs are faulty. Swap it with another to test.

8. ✓ Smooth Down All Tape

- Go over the entire tape path and press it down with your fingernail or a flat object to remove any air bubbles or loose areas.

For more information about the Revolutionary Spuds visit the Idaho State Treasurer's website at IdahoA250.com.

Find more STEM resources at community.idahostem.org.