

## UNIT: ELECTRICAL CIRCUITS

# LEAF TRAIL LIGHT PATH

**OBJECTIVE:**

Use a circuit with “leaf-shaped” LEDs to light a path out of the jungle.

**MATERIALS:**

- ✓ Green LED lights
- ✓ Battery + holder (2 AA or 9V)
- ✓ Green construction paper (cut into “leaves”)
- ✓ Wire or foil strips (to connect the circuit)
- ✓ Tape
- ✓ Optional: Paper map or cardboard path base

**STUDENT DIRECTIONS:****Step 1: Make Your Glowing Leaves**

- Take a piece of green paper and cut it into leaf shapes.
- Tape **one LED** to each paper leaf. Make sure the **metal legs of the LED stick out** so you can connect them later.

**Step 2: Plan Your Jungle Trail**

- Lay out the leaves in a **path or winding trail**—this could be across your desk, on the floor, or over a paper jungle map.
- Decide where your path starts (rescue base) and ends (safe zone).

**Step 3: Build the Light Circuit**

- Connect your battery holder to the first leaf using **foil strips or wire**—one strip to the longer leg of the LED (positive) and one to the shorter leg (negative).
- Keep connecting the leaves one after the other, forming a **series or parallel circuit**.
- Tape everything in place so the connections stay secure.

**Step 4: Test the Path!**

- Turn on the battery power (or plug in the holder). Watch as your “leaves” glow!
- Use your finger to “walk” through the jungle and follow the glowing path.

**Record & Reflect:**

- What's happening to the energy in this circuit?  
(Hint: How does electrical energy become light?)

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- How does light help in dark, wild areas like a jungle?  
(Hint: What could rescuers, animals, or explorers use the lights for?)

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**Optional Challenge:**

Can you make the lights blink or turn on only when someone steps on the trail? Add a switch or foil pressure plate to make it interactive!

- What's happening to the energy in this circuit?

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- How does light help in dark, wild areas?

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**STANDARDS ALIGNMENT**

**NGSS:** 4-PS3-4 **STEL:** STEL 1A, STEL 2A, STEL 3A, STEL 4A, STEL 5A, STEL 6A, STEL 7A, STEL 8A **CCSS:** CCSS.MATH.CONTENT.3.MD.D.8, CCSS.MATH.CONTENT.4.G.A.1, CCSS.MATH.CONTENT.4.MD.A.3, CCSS.MATH.PRACTICE.MP2, CCSS.MATH.PRACTICE.MP5, CCSS.MATH.PRACTICE.MP7