

PARALLEL CIRCUIT

In this experiment, we'll learn how electricity travels through multiple pathways.

INSTRUCTIONS:

STEP 1: Attach one wire to the positive end of the battery using electrical tape or an alligator clip wire. Attach another wire to the negative terminal of the battery.

STEP 2: Take two separate wires from the positive end of the battery. Attach each wire to a light bulb holder or directly to the base of two small light bulbs.

STEP 3: From each light bulb, connect a wire back to the negative terminal of the battery. Make sure each pathway forms a complete loop:

Battery > Light Bulb 1 > Negative Terminal

Battery > Light Bulb 2 > Negative Terminal

Once everything is connected, your light bulbs should light up!

Materials

2 small light bulbs

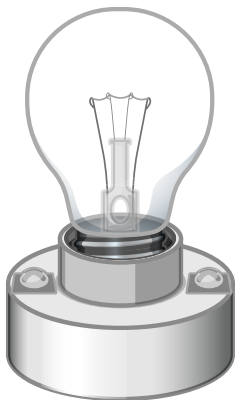
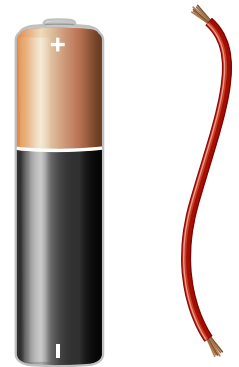
1 battery

(or battery pack)

**Alligator clip wires
or foil strips**

Electrical tape

Light bulb holders (optional)



THE SCIENCE

A parallel circuit allows electricity to flow through multiple pathways, meaning each component (like light bulbs) gets its own connection to the power source. If one bulb goes out, the others stay lit because the flow of electricity can continue through the remaining pathways.

In a parallel circuit:

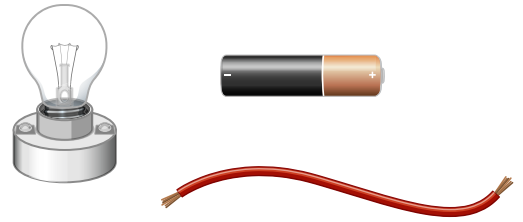
Each load (light bulb) has its own pathway to the power source.

The electrical energy flows evenly across each pathway.

If one bulb burns out, the flow of electricity continues through the other pathways.

Parallel Circuit Observations

Use this worksheet to process and evaluate your work.



What happens when you connect the wires to the battery for the first time?

Did all the bulbs light up immediately? If not, what could be the issue?

When you remove one light bulb, does it affect the other bulb?

How does the circuit behave if one of the wires becomes loose?

Can you think of real-world examples where parallel circuits are used?

