

SERIES CIRCUIT

In this experiment, we'll learn how electricity travels through one single pathway.

INSTRUCTIONS:

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

STEP 2: Attach the other end of the wire to the base of the first light bulb or light bulb holder.

STEP 3: Take a new wire and connect the end of the first light bulb to the base of the second light bulb.

STEP 4: Attach a final wire from the end of the second light bulb back to the negative terminal of the battery.

Your connection should form one continuous loop:

Battery > Light Bulb 1 > Light Bulb 2 > Battery (Negative Terminal)

Once everything is connected, the bulbs should light up.

Materials

2 small light bulbs

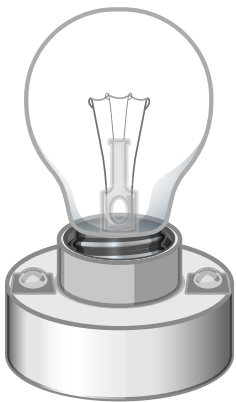
1 battery

(or battery pack)

**Alligator clip wires
or foil strips**

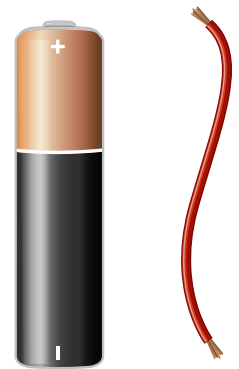
Electrical tape

Light bulb holders (optional)



THE SCIENCE

A series circuit is a type of electrical circuit where the flow of electricity follows one single pathway. The components (like light bulbs) are connected end-to-end, and if one component stops working, the entire circuit stops functioning.



Electricity travels along one single pathway.

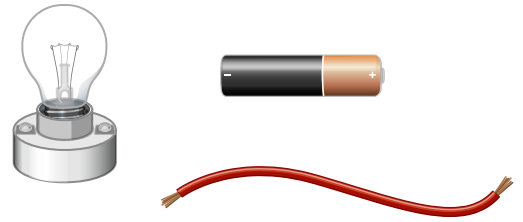
Each load (light bulb) shares the same flow of electricity.

If one bulb is removed or stops working, the flow of electricity is interrupted, and all bulbs go out.

The more bulbs you add, the dimmer each bulb becomes because the energy is shared.

Series Circuit Observations

Use this worksheet to process and evaluate your work.



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

Can you describe the pathway electricity takes in this circuit?

If one of the wires is disconnected, what effect does it have on the circuit?

Which type of circuit (series or parallel) do you think is better for certain applications, like in household wiring?

Why is it important for the pathway to be continuous in a series circuit?

