

ACTIVITY NO. –13 – SERIES vs PARALLEL!!

Subject	Science
Class	X
Chapter/Unit	Chapter 12-Electricity
Topic	Series and parallel circuit
Time	20 Minutes
Nature of Activity	Pair work

What will I learn (Learning Outcome)?

To verify that current flowing through a series circuit is lesser as compared to a parallel circuit (having same resistors).

Skills: Analyzing and Creating

What I have to do?

To demonstrate an activity to show the output produced in a circuit having two bulbs connected in series is less as compared to the circuit having the same bulbs connected in parallel.

What do I require?

Two bulbs(2.5 V each), connecting wires, bulb holders, switch and one 9 V battery.

What do I need to know?

In a series circuit, all components are connected end-to-end, forming a single path for current flow. In a parallel circuit, all components are connected across each other. In a series circuit, adding more components to the circuit increases resistance, meaning the electric current decreases. Resistance can be reduced even further by having more pathways in a parallel circuit.

➤ Teacher's Activity

Teacher will :

1. discuss the concept of series and parallel connections and how to do the connections in both the circuits.
2. will explain the steps of the activity.
3. ensure that each participant in pair performs the activity .

How will I proceed?

➤ Students activity

1. For series connection, all components – bulbs, switch and battery are connected end-to-end, forming a single path for current flow.
2. Switch on the circuit and observe the intensity of the bulbs
3. For parallel connection, the bulb 1 is connected to battery and switch using connecting wires . Then the second bulb is connected to the first bulb from both sides of the bulb holder.
4. Switch on the switch and observe the intensity bulbs.

What have I observed?

S. No	Type of circuit	The intensity of the two glowing bulbs - Less or More
1	Series circuit	
2	Parallel circuit	

What have I learnt?

- When the bulbs are a series connection , the bulbs will glow.....
- When the bulbs are connected parallel in the circuit, the bulbs will glow

What am I curious to learn?

- In place of copper wires, use Dough (Atta with bit of salt added to it) wires and two LEDs in place of bulbs to verify the same concept.
- Why the salt was added while preparing the dough?

Let me evaluate myself

Q.1.What causes an electric current to flow in a circuit?

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Q.2. If in Christmas lights/ Fairy lights , one bulb gets fused, the entire row of bulbs will not glow. Why?

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Q.3 Why resistance of a series circuit is more than the parallel circuit (having same resistors)?

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Q.4.How can we dispose used bulbs and batteries which are potential hazards?

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Q.5.What is the nature of gas inside an electric bulb? What is it's purpose?

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