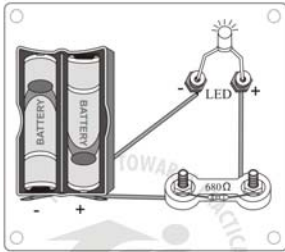


Step 5 : Remove 150Ω resistor pin and insert 680Ω resistor pin in that place and observe the intensity of the LED. What change do you observe here w.r.t both step 3 and step 4?



What is going on ?

Resistors are components that have a predetermined resistance. Resistance determines how much current will flow through a circuit. Resistors are used to control current. A very high resistor allows very little current to flow. A low resistor may allow a large amount of current to flow. (Current through resistor depends on wattage also).

Here in step 3 when you insert copper connector pin, you have observed that the LED glows with more intensity. Because copper is a good conductor and has very less resistance for the flow of current through it.

In step 4, when you introduce a 150Ω resistor instead of copper connector, you are putting a higher resistor in the circuit, which opposes the flow of current. Therefore the LED's intensity is reduced.

Where as in step 4, you are introducing a resistor of value 680Ω . This value is much more than 150Ω . Therefore the opposition for the flow of current increases further. As a result of this the intensity of LED will reduce further. Here the glow of LED will be hardly visible.



The German physicist Georg Simon Ohm, b. Mar. 16, 1789, d. July 6, 1854

THE WAY TOWARDS PRACTICAL SCIENCE

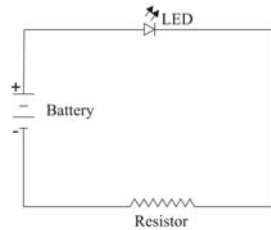
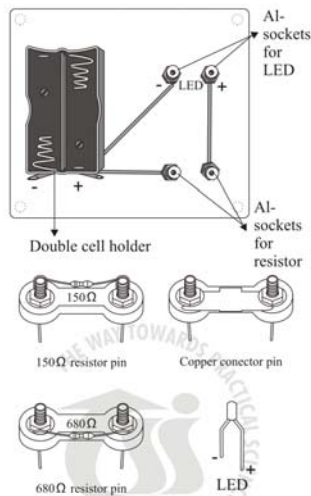
WORKING OF A RESISTOR

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WORKING OF A RESISTOR

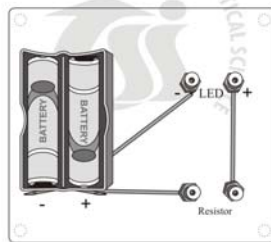
Resistor controls current in the circuit

Assembly : Consists of a double cell holder and four aluminum sockets fixed on a 3 mm clear acrylic plate and connected to each other with a wire as per the circuit diagram shown. Two resistor pins (of 150Ω and 680Ω), one copper connector pin and an LED are part of the kit.

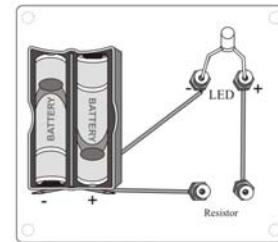


To do and observe :

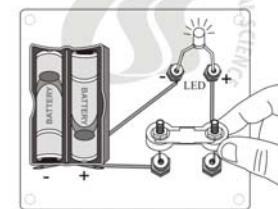
Step 1 : Insert two pencil cells in the double cell holder.



Step 2 : Insert LED in the aluminum sockets, provided for it with proper polarity. The long lead of LED is positive



Step 3 : Now insert the copper connector pin in the aluminum sockets provided for resistor, as shown in the diagram. You will observe that the LED glows with great intensity.



Step 4 : Now remove the copper connector pin and insert a 150Ω resistor pin in that place and observe the intensity of the LED. What change do you observe with respect to step 3?