

Step 5 : Finally insert the male pin in pin no.4. Observe the intensity of the bulb. Here it is very low, less than that of observed in step 4.

What's going on?

In each case battery voltage is constant. Length and diameter of each wire is constant. As the intensity of the bulb reduces from one coil to next, its resistance must be large. It must be due to change of material.

GEORGE SIMON OHM



Born : 16 March 1789(1789-03-16)
 Erlangen, Germany
 Died : 6 July 1854 (aged 65)
 Munich, Germany
 Residence : Germany
 Nationality : German
 Fields : Physics
 Institutions : University of Munich
 Alma mater : University of Erlangen
 Doctoral advisor : Karl Christian von Langsdorf
 Known for : Ohm's law
 Ohm's phase law
 Ohm's acoustic law
 Notable awards : Copley Medal (1841)



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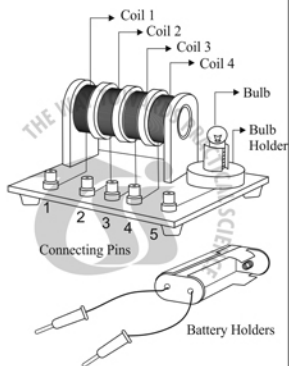


VARIATION OF RESISTANCE (with respect to Material)

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VARIATION OF RESISTANCE (with respect to Material)

The resistance is different for different materials



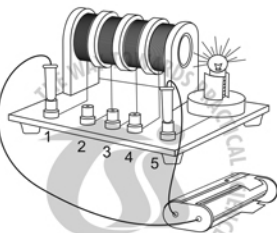
Assembly :

Consists of 4 coils
 Coil 1 : Copper wire
 Coil 2 : Brass wire
 Coil 3 : G.I. Wire
 Coil 4 : Nichrome
 All the wires are of 26 gauge and of length 1500 mm. The coils are wound on a plastic pipe. The



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pipe assembly is fixed on a clear acrylic base with connecting pins for each coil. An indicator bulb of 3V with holder is also fixed on the base with connecting pins for it. The bulb will be in series with each coil when connected. A two dry cell holder with connecting male pins soldered to it comes with battery unit. This provides 3V supply when cells are new.

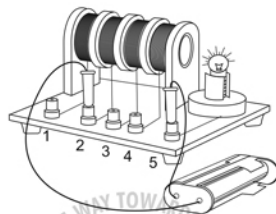


To do and observe :

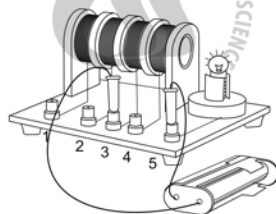
Step 1 : Put 2 new dry cells in the cell holder. Insert one connecting male pin in the connecting pin No.5
 Step 2 : Now insert the other male pin in the pin No.1. Observe the intensity of the bulb and remove the pin.



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Step 3 : Then insert the male pin in the Pin no.2. Observe the intensity of the bulb. Here it is less than that of observed in step 2. Remove the pin.



Step 4 : Then insert the male pin in Pin no.3. Observe the intensity of the bulb. Here it is still less than that of observed in step 3. Remove the pin.



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