



CONDUATOR & INSULATOR

TARANG SCIENTIFIC INSTRUMENTS

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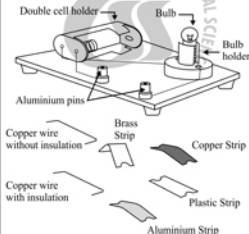
Conductor & Insulator

The conductor provides a path for electrons to move, whereas the insulator not.

Assembly :

Consists of a bulb holder with bulb and a double cell holder of plastic fixed on a Acrylic base. These are connected in series with two aluminium pins in series. The aluminium pins are fixed at a 40mm gap between them (refer fig.)

Copper, Brass & aluminium strips of 50mm length, 12 mm width and 0.5mm thickness, a plastic strip of length 40mm, width 12 mm and thickness 2mm and two copper wire of [shape and 40mm in length, one coated with insulation and another without insulation are the part of the kit.



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To do and observe :



Step 1:

Insert two pencil cells in the cell holder.

Step 2:

Insert the copper strip in the gap between two aluminium pins as shown in the diagram. You will observe that the bulb in the circuit glows.

Step 3:

Now remove the copper strip and insert brass and aluminium strips one after another in place of copper strip. In these cases also you will observe that the bulb in the circuit glows.

Step 4:

Now insert the plastic strip. You will observe that the bulb in the circuit doesn't glow.



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Step 5:

Repeat the experiment by inserting copper wire with insulation first and then without insulation in the holes of the aluminium pins.

What you observe in these two cases? What is your conclusion?

What is going on ?

Copper, aluminium and brass are good conductors of electricity. When you introduce these strips in between aluminium pins, they allow electrons to flow from one pin to another and thereby conduct current. As a result of this the electrical circuit gets completed and bulb glows. Where as plastic is an insulator, it does not allow electrons to flow through it. Therefore when you introduce it in the circuit the circuit remains open. As a result the bulb does not glow.



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