

NCERT Solutions for Class 6th Science

Chapter 12 - ELECTRICITY AND CIRCUITS

Q.1 Fill in the blanks:

- (a) A device that is used to break an electric circuit is called _____.
- (b) An electric cell has _____ terminals.

Ans (a) A device that is used to break an electric circuit is called **switch**.
(b) An electric cell has **two** terminals.

Q.2 Mark 'True' or 'False' for following statements:

- (a) Electric current can flow through metals.
- (b) Instead of metal wires, a jute string can be used to make a circuit.
- (c) Electric current can pass through a sheet of thermo Col.

Ans (a) Electric current can flow through metals. (**TRUE**)
(b) Instead of metal wires, a jute string can be used to make a circuit. (**FALSE**)
(c) Electric current can pass through a sheet of thermo Col. (**FALSE**)

Q.3 Explain why the bulb would not glow in the arrangement shown in Fig. 12.13.



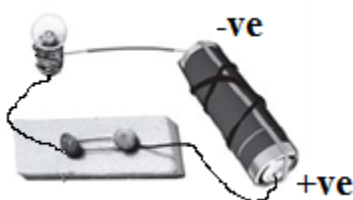
Ans The handle of the screw driver is a bad conductor of electricity and hence does not allow current to pass through it. Thus, the circuit remains open and the bulb does not glow.

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- Q.4** Complete the drawing shown in Fig 12.14 to indicate where the free ends of the two wires should be joined to make the bulb glow.



- Ans** The circuit shown needs to be completed. One end of the wire needs to be connected to the positive terminal whereas the other end to the bulb as shown in the figure below.



- Q.5** What is the purpose of using an electric switch? Name some electrical gadgets that have switches built into them.

- Ans** A switch is a simple device that either breaks the circuit or completes it. If it is in ON position, current can flow in the circuit whereas current will not flow in the circuit if position of switch is OFF. Table fan, washing machine, mixer-grinder, television, etc. are some gadgets which have inbuilt electrical switches.

- Q.6** Would the bulb glow after completing the circuit shown in Fig. 12.14 if instead of safety pin we use an eraser?

- Ans** Eraser is made of rubber which is a bad conductor of electricity. Since it does not allow current to flow in the circuit the bulb would not glow.

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Q.7 Would the bulb glow in the circuit shown in Fig. 12.15?



Ans The bulb will not glow. This is because the two terminals of the cell are connected to the single terminal of the bulb and hence no current flows in the circuit.

Q.8 Using the "conduction tester" on an object it was found that the bulb begins to glow. Is that object a conductor or an insulator? Explain.

Ans The bulb begins to glow which shows that the object allowed current to pass through it. Hence it is a conductor.

Q.9 Why should an electrician use rubber gloves while repairing an electric switch at your home? Explain.

Ans Electric switch (containing wires) conducts electricity and as human body is a good conductor of electricity, the electrician may get shock while repairing an electric switch. Since rubber is a bad conductor of electricity and does not allow current to pass, it protects electrician from the shock.

Q.10 The handles of the tools like screwdrivers and pliers used by electricians for repair work usually have plastic or rubber covers on them. Can you explain why?

Ans As human body is a good conductor of electricity, the electrician may get shock during repair work due to accidental touching of electrical wires. Since rubber or plastic is a bad conductor of electricity, they do not allow current to pass through screwdrivers and pliers and protects electrician from the shock.