Electricity (English Medium)

Exercise 1:

Solution 1(a):

Radio work on electricity, hence electricity is required to switch on the radio. When there is power cut or no supply of electricity the television gets switched off..

Solution 1(b):

Fan, air conditioner, light, bulb, computer, radio, refrigerator, washing machine, etc. are devices or apparatus which use electricity.

Solution 1(c):

When we remove any of the wires connected to the bulb or the battery, the bulb does not glow. This because the circuit breaks and the path of flow of current through the circuit is disconnected. Thus, electric current does not flow through the circuit.

Exercise 2:

Solution 1(a):

The bulb does not glow.

Solution 1(b):

If both the terminals of the cell are connected by a wire without any electrical appliance in an electrical circuit, then there is wastage of electrical energy. Hence, one should not connect both the ends of the cell.

Solution 1(c):

Removing end	**Observation- Bulb glows / Bulb does not glow**

A	Bulb does not glow
B	Bulb does not glow
C	Bulb does not glow
D	Bulb does not glow

Exercise 3:

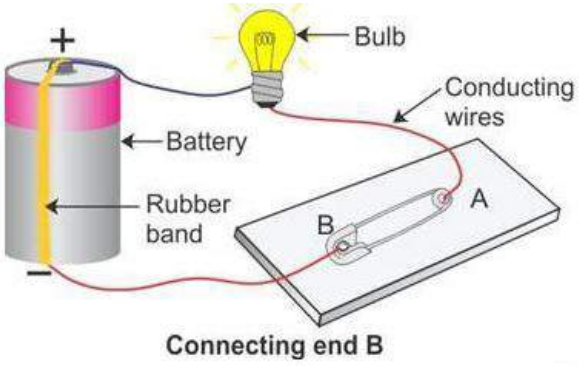
Solution 1(a):

When you switch ‘ON’ a fan, the circuit is completed and the fan’s blades starts moving.

Exercise 4:

Solution 1(a):

When the open end of the safety pin is brought in contact of the push pin, the circuit is completed and the bulb glows.



Solution 1(b):

When the end of the safety pin is removed from the contact, the circuit breaks and current cannot flow through it. Thus, the bulb stops glowing.

Solution 1(c):

Data missing.

Exercise 5:

Solution 1(a):

Sr. No	**Objects**	**Whether the bulb glows?** **Yes or No**

1.	Rubber	No
2.	Crocodile clips	Yes
3.	Unsharpened pencil	No
4.	Key	Yes
5.	Refill of pen	No
6.	Match stick	No
7.	Paper clip	Yes
8.	Wooden plank	No
9.	Chalk	No
10.	Pencil sharpened at both the sides	Yes

Exercise 6:

Solution 1(a):

Conductors: Key, crocodile clips, paper clips, pencil sharpened at both the ends.

Insulators: Rubber, wooden plank, unsharpened pencil, refill of pen, match stick, wooden plank, chalk

Solution 1:

Bus, rickshaw and bikes have a battery connected. When the switch of these vehicles is switched ON the internal circuit gets completed and the bulb glows.

Solution 2:

The bulb of a torch glows due the electrical energy in the dry cell used in it.

Solution 3:

In an electrical torch, there is a metal strip which connects the battery with the bulb. When the switch of the torch is pushed, the metal strip connects the two and the circuit is closed due to which the bulb glows.

Solution 4:

The red light of a mobile, television, VCD, DVD, etc. mostly remain ON for some time, even after the removal of electric power supply.

Exercise 7:

Solution 5:

1. The plug, switch or socket should not be touched with wet hands.
2. Three-pin plugs should be used.
3. The insulating layer of the wire should not be broken or torn.
4. The switch must be turned off before removing any plug from the socket.

Exercise 9:

Solution 1(a):

In household circuits, the electrical appliances are connected in parallel. In a parallel connection, there is a separate circuit for each appliance. When there is a problem in an appliance, the circuit connected to it breaks and electrical current stops flowing through that circuit. But, due to parallel connection the current continues to flow in the other circuits. Hence, the other electrical appliances in the house continue working.

Solution 1(b):

The circuit becomes open and the bulbs do not glow.

Exercise 10:

Solution 1(a):

The bulb connected to the wire which is removed stops glowing (working). But, the other bulb continues to glow.

Solution 1(b):

Circuit A is a series connection and circuit B is a parallel connection. In household circuits, electrical appliances are connected in parallel as in circuit B.

Solution 1:

Apparatus: Bulb, cell, conducting wire.
Connect a bulb or a lamp to the positive terminal of the cell. Connect one end of the conducting wire to the bulb and the other end to the negative terminal of the cell. The circuit will be complete and the bulb starts glowing.

Solution 2:

Electric conductors: Iron, aluminum, copper wire, key
Insulators: Rubber, plastic, match stick, chalk stick, cloth piece

Solution 3:

Electric fan, TV, radio, computer, light, lamp, air conditioner, refrigerator, washing machine, electric grinding mixer, oven, telephone, etc.

Solution 4:

1. Do not connect wires directly into the sockets.
2. Do not touch any electrical plug or sockets with wet hands.
3. Use insulating tape to connect the two ends of a wire.
4. Make sure that the switch is off before connecting any electric appliance/device in the circuit.