

NCERT SOLUTIONS- ELECTRIC CURRENT AND ITS EFFECTS

NCERT Solutions for Class 7 Science Chapter 14 Electric Current and its Effects is the essential study material to perfect Electric Current and its Effects topics. The NCERT Class 7 Science solutions provided here correctly answer NCERT textbook questions. Solutions curated comprehensively will help students understand the subtopics in this chapter in a better way.

IMPORTANT SUB-TOPICS MENTIONED IN THE NCERT CLASS 7 SCIENCE CHAPTER

14 ELECTRIC CURRENT AND ITS EFFECTS:





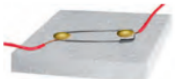

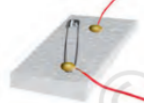

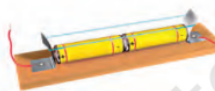



NCERT Solutions for Class 7 Science Chapter 14 Electric Current and its Effects has the following sub-topics as given below:

Sr. no	Topics
1.	Symbols of Electric Components
2.	Heating Effect of Electric Current
3.	Magnetic Effect of Electric Current
4.	Electromagnet
5.	Electric Bell

NCERT SOLUTIONS CLASS 7 SCIENCE CHAPTER 14 ELECTRIC CURRENT AND ITS EFFECTS:

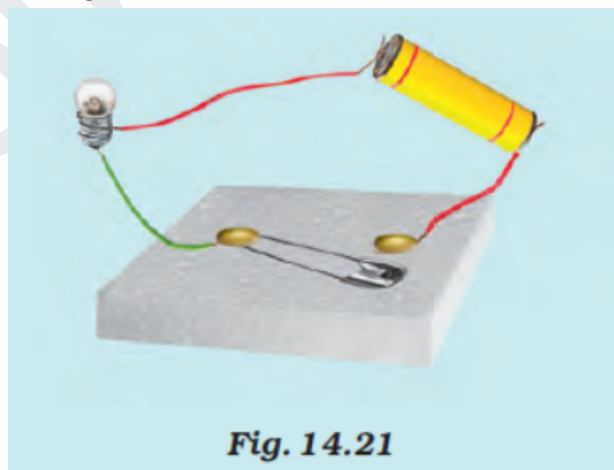
1. Draw in your notebook the symbols to represent the following components of electrical circuits: Connecting wires, switch in the 'OFF' position, bulb, cell, switch in the 'ON' position, and battery.

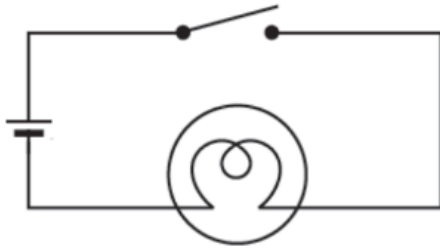
Table 14.1 Symbols for some electric circuit components

S.No.	Electric component	Symbol
1.	Electric cell 	
2.	Electric bulb 	
3.	Switch in 'ON' position 	
4.	Switch in 'OFF' position 	
5.	Battery 	
6.	Wire 	

ANS-

2. Draw the circuit diagram to represent the circuit shown in Fig.14.21.





ANS-

3. Fig.14.22 shows four cells fixed on a board. Draw lines to indicate how you will connect their terminals with wires to make a battery of four cells.

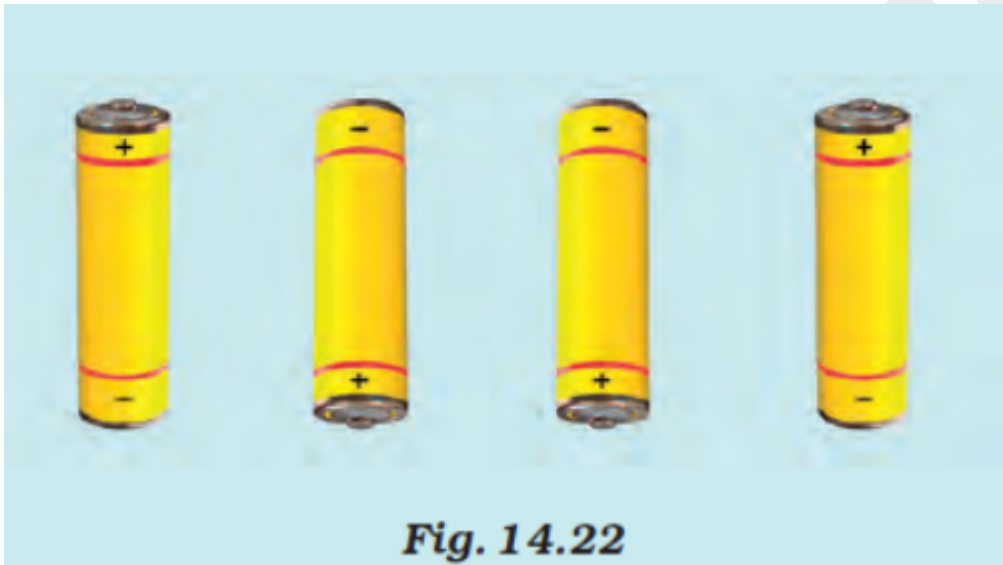
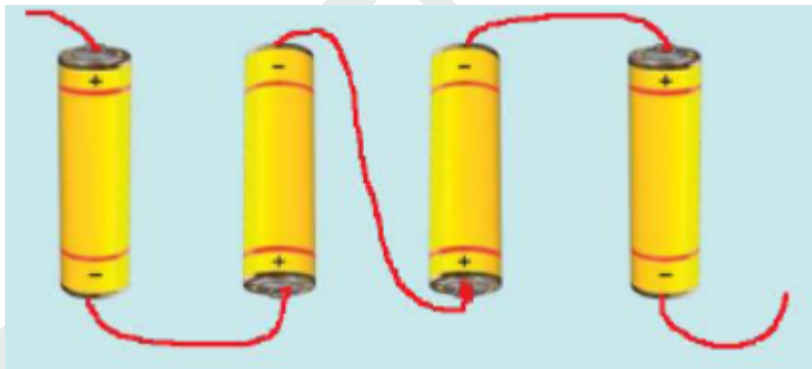


Fig. 14.22



ANS-

4. The bulb in the circuit shown in Fig.14.23 does not glow. Can you identify the problem? Make necessary changes in the circuit to make the bulb glow.

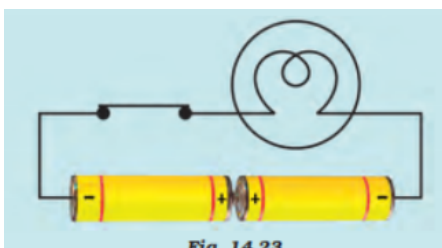
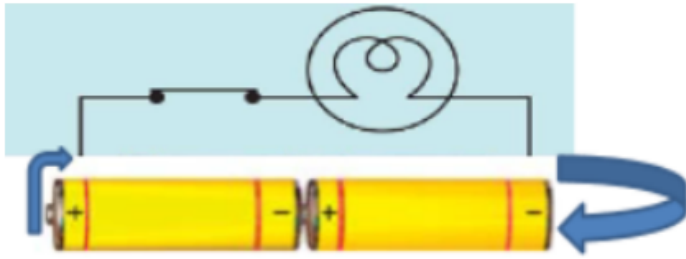


Fig. 14.23

ANS- In the circuit above, the bulb is connected on either side.



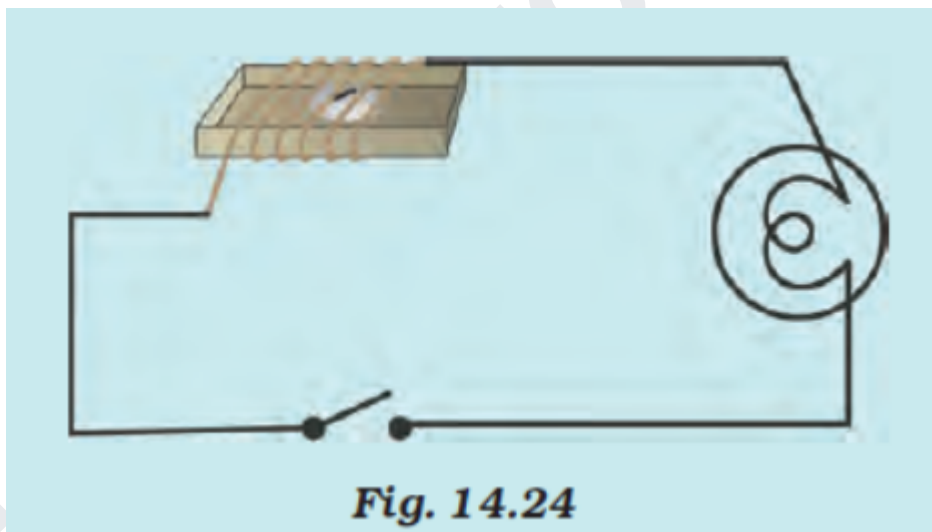
5. Name any two effects of electric current.

ANS- i) Heating effect of electric current
ii) Magnetic effect of electric current

6. When the current is switched on through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain.

ANS- The magnetic field is formed around a wire when the current is turned on, which causes the neighbouring compass needle to deviate.

7. Will the compass needle show deflection when the switch in the circuit shown by Fig.14.24 is closed?



ANS- No, the magnetic field is not formed until the current is flowing through the circuit, and the compass needle does not exhibit deflection when the circuit is open.

8. Fill in the blanks:

- (a) Longer line in the symbol for a cell represents its _____ terminal.
- (b) The combination of two or more cells is called a _____.
- (c) When the current is switched 'on' in a room heater, it _____.
- (d) The safety device based on the heating effect of electric current is called a _____.

ANS-

- a. Positive

- b. Battery
- c. produces heat.
- d. fuse

9. Mark 'T' if the statement is true and 'F' if it is false:

- (a) To make a battery of two cells, the negative terminal of one cell is connected to the negative terminal of the other cell. (T/F)
- (b) When the electric current through the fuse exceeds a certain limit, the fuse wire melts and breaks. (T/F)
- (c) An electromagnet does not attract a piece of iron. (T/F)
- (d) An electric bell has an electromagnet. (T/F)

ANS- a) False
b) True
c) False
d) True

10. Do you think an electromagnet can be used for separating plastic bags from a garbage heap? Explain.

ANS- No, a magnet cannot be used to separate plastic bags since plastic lacks the magnetic characteristics to attract to a magnet.

11. An electrician is carrying out some repairs in your house. He wants to replace a fuse with a piece of wire. Would you agree? Give reasons for your response.

ANS- Since wire has a very low melting point, replacing the fuse with it is not a good idea. The metal piece's high melting point ensures that even in the event of overload or overheating, the circuit will remain intact.

12. Zubeda made an electric circuit using a cell holder shown in Fig. 14.4, a switch and a bulb. When she put the switch in the 'ON' position, the bulb did not glow. Help Zubeda to identify the possible defects in the circuit.

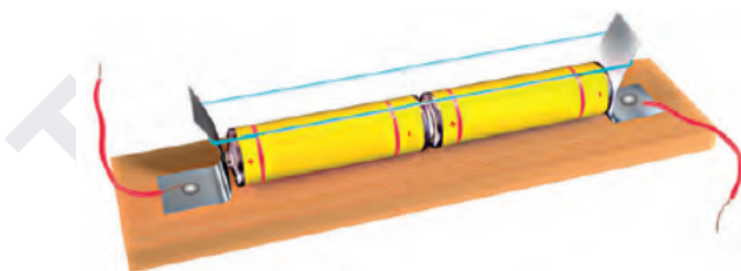
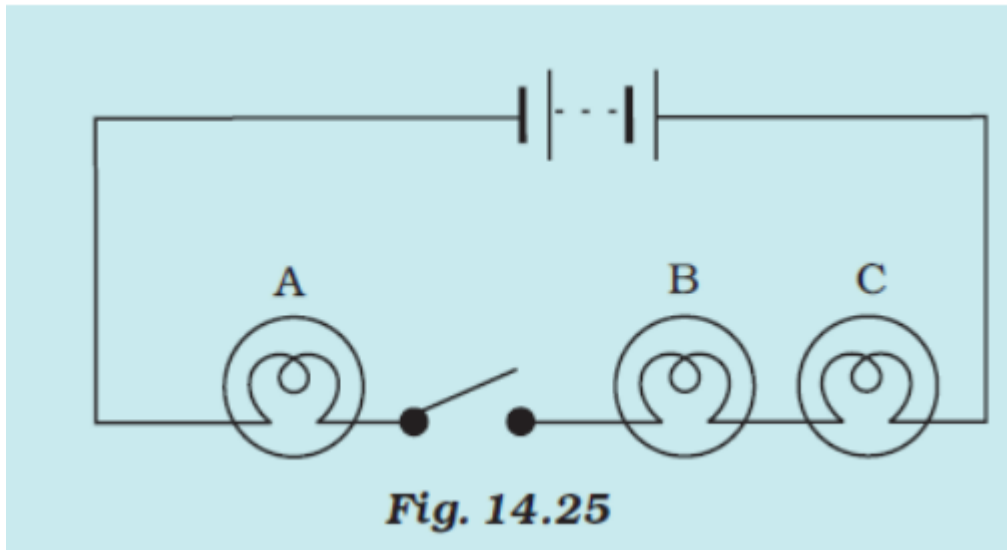


Fig. 14.4 A cell holder

ANS- The reasons may be as follows:

- i) The connecting wire may be loose
- ii) The electric cell may be used up
- iii) The switch may not be functioning well
- iv) Cell power has been exhausted

13. In the circuit shown in Fig. 14.25



- (i) Would any of the bulb glow when the switch is in the 'OFF' position?
(ii) What will be the order in which the bulbs A, B and C will glow when the switch is moved to the 'ON' position?

ANS- i) No, the bulb will not glow as the circuit is not complete when the switch is off.

ii) If the switch is 'ON', all the bulbs glow simultaneously.