

Important Questions for CBSE Class 7 Science Chapter 10 - Electric Current and Its Effects

Very Short Answer Questions: 1 Mark

State whether the following statements are true or false. If false, correct the statement.

1. Cells connected in a series form a battery.

Ans: True.

2. In a battery the positive terminal of one cell should connect to the positive terminal of the other cell.

Ans: False. We connect the positive terminal of one cell with the negative terminal of another cell.

3. The circuit shown in the picture above is correctly represented by the diagram.

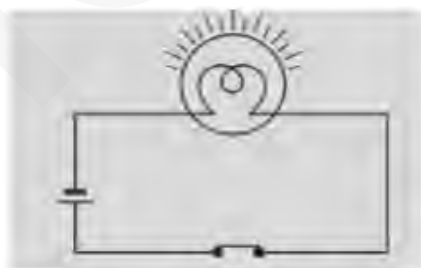
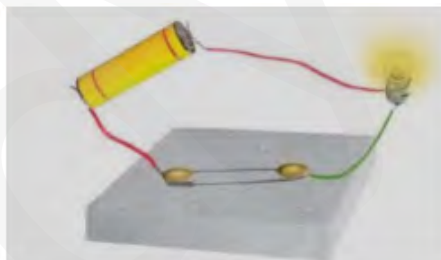
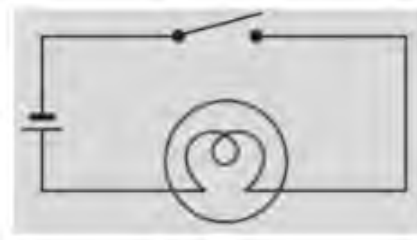


Image: Circuit Diagram

Ans: True.

4. The bulb will glow in the following circuit diagram.



Ans: False. In the given circuit switch is off and as a result the bulb will not glow.

5. The electric bulb contains a thin wire called the fuse which glows when electricity passes through it.

Ans: False. The thin wire present inside the bulb which glows is called filament.

6. A piece of nichrome wire will get heated when electricity passes through it.

Ans: True.

7. The coil of wire in an electric room heater that gets heated is called the element.

Ans: True.

8. The amount of heat produced in a wire is independent of its length, thickness and material.

Ans: False. Amount of heat produced is dependent on length, thickness and material.

9. Thomas Edison was the first person to notice that the compass needle deflected each time electric current was passed.

Ans: False. The first person to notice compass needle deflection was Hans Christian Oersted.

10. The electric bell works on the principle of electromagnetism.

Ans: True.

Short Answer Questions: 3 Marks

11. Explain the function of the electrical fuse in a circuit.

Ans: Fuse is made up of material having low melting point. The main function of a fuse is to break the circuit if there is overflow of current and prevent fire. The fuse protects electrical wires and appliances from damage from excess current.

12. What is MCB? What is its Function?

Ans: MCB is the abbreviation for Miniature Circuit Breaker. It is a tool that is used in place of a fuse. MCB automatically breaks the circuit if it exceeds the safe limit of current passing through it to prevent fire and other damage. MCB can be turned on manually

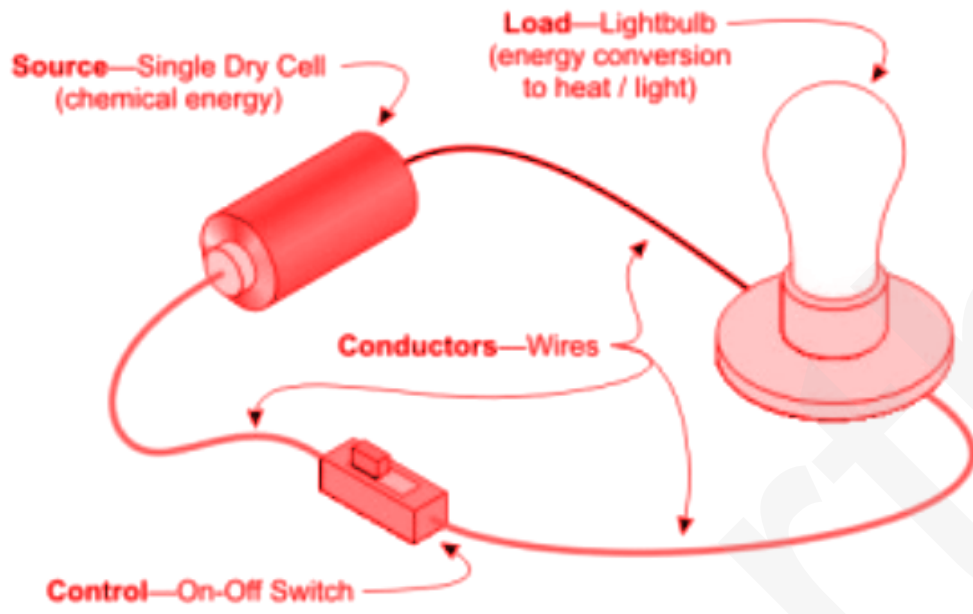
13. Give an example to show that we use the heating effect of electric current in our daily lives.

Ans: The use of heaters and geysers is an example of the heating impact of electric current. These instruments contain a thick coil of wire called heating elements. When electricity is passed through them these wires start glowing red and produce heat. Hence, heat is generated with the help of electric current.

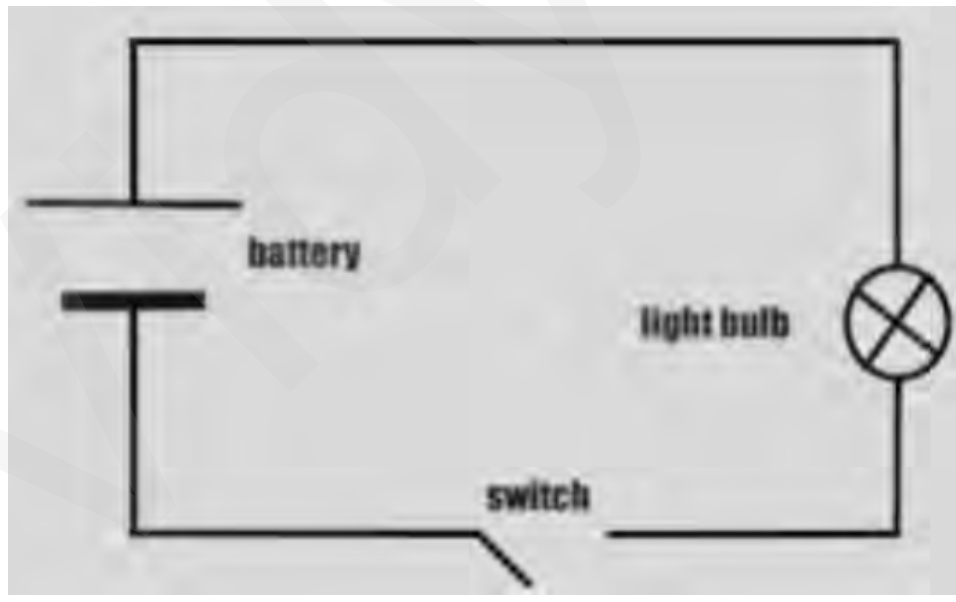
14. Why does an electric bulb get fused?

Ans: A filament is an extremely tiny wire found within an electric bulb. When electricity is passed through a filament, it heats up and glows, emitting light. The filament, on the other hand, is a thin wire. When too much electric current is passed through the filament, or when it is passed through the filament repeatedly, it becomes too hot and breaks. This results in fusing of the bulb.

15. Draw the circuit diagram for the following circuit.



Ans: Below is the circuit diagram:



Long Answer Questions: 5 Marks

16. What is an electromagnet?

Ans: An electromagnet is a temporary magnet that is formed because of the magnetic effect of electric current. When electric current passes through a wire it behaves like a magnet. The strength of an electromagnet depends on the amount of current passing through it. Electromagnets show all the property of a magnet such as:

1. Attractive Properties
2. Repulsive Properties
3. They also point in a north-south direction when suspended freely.

Electromagnets are used in large cranes in junkyards to separate iron or any other magnetic object from the garbage.

17. Explain the working of an electric bell.

Ans:



The electric bell consists of a coil of wire wound around a magnetic material like iron. The iron material is connected to a hammer at one end and a screw at the other end.

1. When we press the switch electric current flows through the coil and iron core gets magnetised and behaves as electromagnet.

2. Magnetic field created by this iron pulls the clapper towards themselves.
3. As a response the clapper strikes the gong and we hear the ringing of a bell.
4. The striking of gong breaks the circuit and the magnetic field is lost.
5. The clapper returns to its original place.
6. This process is repeated every time we switch it on and current flows through the circuit.

Important Questions for Class 7 Science Electric Current and its Effects

The chapter Electric Current And Its Effects Class 7 Science is essential as it builds the concepts for higher classes and more advanced topics to be studied further. Concepts like representing electric components by symbols, drawing circuit diagrams, the heating effect of current and its applications, electric fuse and Miniature Circuit Breakers (MCB), magnet-like behaviour of electric current while flowing through a wire, electromagnet, applications of electromagnets, etc. is discussed. Solving important questions is helpful from an exam point of view as it gives an overview of the problems and important topics of the chapter. It also helps students to know their weak parts, so that they can take special care in those topics.

In What Ways Solving Class 7 Science Chapter 14 Important Questions 14 Help You?

Class 7 Science Chapter 14 important questions help in the following ways:

- It saves students from mugging up the entire chapter. Important questions consist of essential topics and concepts which are important from an exam point of view.
- It helps students understand concepts in-depth and in a short period as students need not mug up the entire chapter.
- It creates a perfect learning environment for the students to learn and understand topics in a better way.
- By practising questions on crucial topics, students must understand essential points and concepts better.
- Students can also analyse their weak parts or topics which need extra attention from them. They can understand these topics in the chapter.

(Image will be uploaded soon)

Solved Examples

Following are some solved examples on Class 7 Science Chapter 14 important questions:

Q. Name any two effects that are caused due to electric current.

Solution:

(i) Heating effect of electric current.

(ii) Magnetic effect of electric current.

Q. A compass needle kept near a wire gets deflected from its north-south position when the current is switched on through a wire. Explain.

Solution: When the current is passing through a wire around, the magnetic field deflects the compass needle kept nearby.

Q. Can an electromagnet be used for separating plastic bags from a garbage heap? Explain.

Solution: The property of attraction does not apply for plastics and therefore an electromagnet cannot separate them.

Q. Some repairs are carried out in your house by an electrician. A fuse is to be replaced by a piece of wire. Would you agree? Give reasons for your response.

Solution: As a wire has a shallow melting point, it is not wise to replace the fuse by a piece of wire. The melting point will be high for metal, and the circuit will be intact if there is overload or overheat.

Q. Fill in the blanks:

(a) ___ is represented by the long line in the symbol of a cell.

(b) Two or more cells combined is called a ___.

(c) In a room heater, when current is switched 'on', it ___.

(d) The safety device is called a ___ which is based on the heating effect of electric current.

Solution:

(a) The positive terminal is represented by the long line in the symbol of a cell.

(b) Two or more cells combined is called a battery.

(c) In a room heater, when current is switched 'on', it produces heat.

(d) The safety device is called a fuse which is based on the heating effect of electric current.

evidyarthi