

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ✧ electric current
- ✧ electric circuit and its components
- ✧ circuit diagram
- ✧ effects of electric current
- ✧ heating effect of electric current
- ✧ electric fuse, its structure and applications
- ✧ Miniature Circuit Breaker (MCB)
- ✧ applications of electromagnetism – an electromagnet
- ✧ electric cell and its working

TEACHING AIDS

Pictures/charts/models/animations on an electric circuit showing its main components, simple circuit diagram (with open and closed circuits); some electrical appliances working on heating effect of electricity; electric fuse, fuse used in electrical appliances, MCB; electromagnet, structure and function of electric bell.

LESSON PLAN

- ✧ The teacher should start the chapter with ‘Gear Up’ by discussing the questions given in the section.
- ✧ The teacher should define electric circuit and its components with their symbols and the conditions necessary for electric current to flow in an electric circuit.
- ✧ The teacher should define circuit diagram and drawing a circuit diagram with special reference to open and closed circuits.
- ✧ Introducing the different effects of electric current, teacher should elaborate the heating and magnetic effects of electric current.
- ✧ The teacher should discuss the heating effect of electric current by performing Activities 1 and 2 and applications of this effect.
- ✧ The teacher should discuss characteristics of few electrical appliances (electric iron, toaster, geyser, electric fuse and miniature circuit breaker) based on the heating effect of electric current.

- ✧ Now, the teacher should define the magnetic effect of electric current by performing Activity 3.
- ✧ Now, the teacher should describe electromagnetism and its applications—an electromagnet by performing the Activity 4.
- ✧ The teacher should also discuss the factors affecting the strength of an electromagnet and the uses of electromagnets.
- ✧ The teacher should define an electric bell, its components and working.
- ✧ Students should be asked to answer the ‘Check Points’ 1, 2 and 3.
- ✧ At last, the teacher will sum up the lesson by going through the points given under the head ‘Wrap Up Now’.
- ✧ The teacher will help the students to solve all the questions given in exercises under the head ‘Practice Time’ and will also discuss the topics given under the head ‘Formative Tasks’.

BOOST UP

- ✧ The teacher should ask students to tell few examples of insulators and conductors of electricity.
- ✧ Students should also be asked to identify the symbols of electric components made by teacher on the board.
- ✧ Students should be encouraged to learn symbols of electric components in addition to those given in the chapter and their use in a circuit diagram.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ concept of electric current.
- ✧ electric circuit, its components and circuit diagrams.
- ✧ heating effect of electric current and its applications.
- ✧ magnetic effect of electric current.
- ✧ an electromagnet and its applications.
- ✧ an electric bell, its components and working.

EVALUATIVE QUESTIONS

The teacher may ask the following questions for evaluating the understanding of students.

1. Define insulators and conductors with two examples each.
2. What is meant by an electric circuit?
3. Draw the symbol of bulb and key.
4. Explain the structure of a fuse.
5. Mention few uses of electromagnets.
6. Write the role of armature and gong in an electric bell.
7. Explain the working of an electric bell.