

## 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; electromagnet, structure and function of electric bell.

LESSON PLAN

- ✧ The teacher will start the lesson with ‘Science Vocabulary’ section by telling the meaning/definition of new terms which are used in the chapter.
- ✧ 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 and electric fuse) 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 explain the components and working of an electric bell.
- ✧ Students should be asked to answer the ‘Check Points’ 1, 2 and 3.
- ✧ The teacher will help the students to solve the questions given in exercises under the head ‘Let’s Drill Our Skills’ and to complete the flowchart given under the head ‘Let’s Memorise’.

### **BOOST UP**

- ✧ The teacher should ask students to explore more examples of insulators and conductors of electricity.
- ✧ Students should be encouraged to learn more 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. What is an electric fuse?
5. Mention few uses of electromagnets.
6. Write the role of armature and gong in an electric bell.