Chapter 6

Magnetism

LESSON PLAN

SPECIFIC OBJECTIVES

Students must learn about

- introduction to magnet and magnetism
- magnetic and nonmagnetic substances
- natural and artificial magnets
- property of magnets
- important terms for a bar magnet
- magnetic field around a magnet
- properties of magnetic field lines
- magnetic field of the earth
- permanent and temporary magnets
- making of magnets
- electromagnet
- uses of magnets; demagnetising a magnet
- caring and storing of magnets

Teaching Aids

Pictures/models of different types of magnet, i.e., bar magnet, dumb-bell-shaped magnet, ring-shaped magnet, cylindrical magnet, needle-shaped magnet; pictures of two bar magnets showing repulsion and attraction between them; chart showing important terms of a magnet; picture of electromagnet and magnetic compass.

Teaching Strategy

- The teacher should ask the students to study actual origin of magnet, and the difference between magnet and magnetism.
- The teacher should teach the students about the differences between magnetic and nonmagnetic substances with examples.

- Students should be asked to categorise magnetic and nonmagnetic substances given in activity 1 at page 88 using their difference in characteristics.
- The teacher should teach the students about the difference between natural and artificial magnets using examples and illustrations also.
- Students should be encouraged to study different properties of magnets and asked to identify the magnetic poles of a magnet using activity 2 given at page 89.
- The teacher should also show the students that magnet always rests in North-South direction using activity 3 given at page 90.
- Students should be suggested to learn the activity 4 showing that a magnet attracts magnetic substances given at page 90 and activity 5 showing the property of attraction and repulsion between magnets given at pages 90-91. They should also be asked to study about magnetic induction.
- Students should be asked to perform activity 6 showing that magnetic substance behaves as a magnet when it comes in contact with a bar magnet.
- Students should be encouraged to learn terms related to a bar magnet. They should also be asked to learn question-answer given at page 91. They should also be asked to perform activity 7 showing the mixing up of a magnet and a nonmagnet (iron) given at page 92.
- The teacher should ask the students to solve check point 1 given at page 92.
- The teacher should ask the students to study magnetic field around a magnet and its related activity 8 given at page 93. He/She should ask the students to study properties of magnetic field lines along with illustration given at page 93.
- Students should be asked to study magnetic field of the earth, question-answer given at page 93. They should be asked to solve check point 2 given at page 94. They should also be asked to learn question-answer given at page 94.
- Students should be asked to study the difference between permanent and temporary magnets using Table 6.1 given at page 95.
- The teacher should teach the students about making of magnets using single touch method and double touch method of magnetisation using activities 9 and 10 respectively given at pages 95–96. He/She should also ask the students to learn question-answer given at page 95.
- Students should be encouraged to study details about an electromagnet and also the making of electromagnet using activity 11 given at page 96. They should be also asked to study something more given at page 96, and also be asked to solve check point 3 given at page 97.
- Students should be asked to study uses of magnets, demagnetising a magnet, caring and storing of magnet, something more given at page 98, and also asked to solve check point 4 given at page 98.
- Students should be asked to study wrapping it up and know these terms to recap the whole chapter. They should also be asked to answer the questions given in test yourself, and also be asked to discuss think zone given in test yourself.

Boost UP

- The teacher should mix some magnetic and nonmagnetic substances with each other. He/She should call each student one-by-one of the class to select the magnetic and nonmagnetic substances separately.
- Students should be asked to tell one example of each of natural and artificial magnets.
- Students should be asked one-by-one to tell the answer of few questions related to properties of magnets, definition of terms related to magnets, magnetic field around a magnet, properties of magnetic field lines, magnetic field of the earth, difference between permanent and temporary magnets, making of magnets, electromagnet, uses of magnets, demagnetising magnet, caring and storing of magnets.

Expected Learning Outcomes

Students must be able to know the

- actual origin of magnet.
- difference between magnet and magnetism.
- identification of magnetic and nonmagnetic substances.
- details about natural and artificial magnets.
- different properties of magnets.
- important terms for a magnet.
- magnetic field around a magnet.
- properties of magnetic field lines.
- magnetic field of the earth.
- permanent and temporary magnets.
- making of magnets.
- brief history of an electromagnet.
- uses of magnets.
- demagnetising a magnet.
- caring and storing of magnets in details.

Evaluative Questions

The teacher should ask the following questions to evaluate the students.

1. What is meant by a magnet?
2. Write two magnetic substances.
3. Mention two nonmagnetic substances.
4. Why do magnetic poles occur in pairs only?
5. How do like and unlike poles of magnet act?
6. Define an electromagnet with one example.
7. Write two uses of magnets.
8. How can the property of a magnet be destroyed?