

**SPECIFIC OBJECTIVES**

The students learn about

- ❖ the rocky features of the earth
- ❖ the types of rocks and their features
- ❖ the minerals and their types
- ❖ fossil fuels, their types, uses and need to conserve them

**TEACHING AIDS**

Pictures/animation on formation of igneous rocks, sedimentary rocks and metamorphic rocks; samples/pictures of various types of igneous, sedimentary and metamorphic rocks; pictures of some metallic and non-metallic minerals (as given in chapter), pictures/animation on the formation of coal, petroleum; picture of an oil refinery, fossil fuels—coal, petroleum; CNG gas station, vehicles run by CNG.

**LESSON PLAN**

- ❖ Teacher will start the chapter by giving a brief idea of extraction of metals and minerals from the earth.
- ❖ Now, teacher will explain the rocky nature of the earth that it contains a large number of valuable minerals in different forms.
- ❖ Teacher will define the three types of rocks and their formation with the help of teaching aids.
- ❖ Using teaching aids, teacher will explain the features of various kinds of rocks.
- ❖ Now, to check the learning of students about the topic, teacher will ask students to solve 'Checkpoint 1'.
- ❖ Teacher will define the terms 'mineral' and 'ore' and with the help of suitable examples, will explain the features of metallic and non-metallic minerals (as given in chapter).
- ❖ Now, teacher will define the fossil fuels, their uses and how they were formed.
- ❖ Now, teacher will discuss the need and ways of conservation of fossil fuels.
- ❖ Now, teacher will ask the students to solve 'Checkpoint 2'.
- ❖ At last, teacher will make students revise the new terms given in 'Science Vocabulary' and sum up the lesson by going through the points given in 'Wrapping it up'.
- ❖ Now, teacher will help students to solve the questions given in 'Exercises'.

## BOOST UP

- ❖ Teacher should encourage students to carry out activities given in the chapter.
- ❖ Teacher should discuss the information given in the 'Knowledge Desk' at various places in the chapter.
- ❖ Teacher should help students to find the answers of questions given in 'Think Zone' and encourage to do activities or projects given in 'Beyond the Text'.
- ❖ To make the students understand how layers of sedimentary rocks are cemented, teacher should perform the activity given in the chapter.
- ❖ Students should be encouraged to explore the materials used in the making of famous monuments such as Taj Mahal, Red Fort, etc.
- ❖ Teacher should discuss the ways to save fossil fuels.

## EXPECTED LEARNING OUTCOMES

The students

- ❖ understand the rocky nature of the earth.
- ❖ know the formation and types of rocks.
- ❖ know about minerals and their types.
- ❖ know about fossil fuels and their uses.
- ❖ understand the need and ways of conserving fossil fuel.

## EVALUATIVE QUESTIONS

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

1. Which rocks are called fire rocks?
2. How are layers of sedimentary rocks held together?
3. Which types of minerals are used in making of gemstones?
4. Which type of rock is the coal?
5. What is the ore of aluminium?
6. Which gas is used to run vehicles?