

SPECIFIC OBJECTIVES

The students learn about

- ❖ air, its composition, uses and properties
- ❖ air pollution, its sources, effects and controls

TEACHING AIDS

Picture/animation showing the effects of moving air, e.g., rustling of leaves, flying of kite, rotation of pinwheel, flipping of book pages, clothes on clothesline, waving of flag, etc.; picture/chart of the earth clearly showing the circumference of air, i.e., atmosphere around the earth; picture/chart showing pie chart of composition of air; picture/animation showing breathing of animals and man under trees; burning of candle in bell jar or glass tumbler; picture/animation roots of pea/gram showing its nodules; picture/animation on photosynthesis; two footballs, beam balance; glass tumbler, water tub; syringe/pitchkari/fountain pen; siphon set-up; picture/animation on some sources of air pollution (as given in chapter); some effects of air pollution (as given in chapter); some control of air pollution (as given in chapter).

LESSON PLAN

- ❖ The teacher will start the chapter by asking some simple questions on air and water based on the previous knowledge of students.
- ❖ Now, teacher will show the pictures/animation on the effects of moving air (as mentioned in teaching aids) and explain the terms 'wind' and 'atmosphere'.
- ❖ With the help of pie chart, teacher will explain the proportion of gases present in air.
 - With the help of teaching aids, teacher will explain how oxygen is useful for living beings. The teacher will give a demo of activity given in the chapter under the head 'Composition of Air' and explain that air helps in burning.
 - With the help of teaching aids, teacher will explain how nitrogen from air reaches the soil, converted by soil bacteria and taken by plants through soil and how animals take plants as their food and get the nitrogen.
 - With the help of teaching aids, teacher will explain how carbon dioxide is used by plants and released by animals, and how a balance is maintained in nature.
- ❖ Teacher will explain the uses of air (as given in chapter).

- ❖ To test the learning of students, teacher will ask them to solve 'Checkpoint 1'.
- ❖ Using the teaching aids, teacher will explain the properties of air by performing the activities given in the chapter.
- ❖ Using teaching aids, teacher will define air pollution and air pollutants.
- ❖ By showing related charts/pictures/animation, teacher will discuss about sources, effects and control of air pollution (as listed in the chapter).
- ❖ Now, teacher will ask 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 discuss the conversation of Annu and Mannu given in bubbles in between the topics.
- ❖ 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'.
- ❖ Teacher should show some samples of roots of legumes bearing nodules for nitrogen fixation.
- ❖ Teacher should display barometer and show how it measures the atmospheric pressure.

EXPECTED LEARNING OUTCOMES

The students

- ❖ know about air, its composition, uses and properties.
- ❖ know about air pollution, its sources, effects and controls.

EVALUATIVE QUESTIONS

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

1. How do we feel air?
2. What is wind?
3. What is atmosphere?
4. How far is atmosphere extended above the earth's surface?
5. How does nitrogen reach soil?
6. How do animals get oxygen and nitrogen of the air?
7. What is a pollutant? Name some air pollutants.
8. Name some diseases caused due to polluted air.
9. Which gases cause acid rain?
10. Name a non-polluting fuel.