6 Combustion and Flame

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ✧ combustion
- ✧ conditions necessary for combustion
- ✧ firefighting
- ✧ types of combustion
- ✧ flame and its structure
- ✧ fuel, characteristics of a good fuel, fuel efficiency and impacts of burning of fuels on environment

TEACHING AIDS

Pictures/charts/models/animations on wood, petrol, kerosene, coal, LPG; fire triangle; a fire brigade; carbon dioxide fire extinguisher; flames of different materials, zones of a candle flame.

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 combustion by demonstrating Activity 1 and discuss combustible and noncombustible materials by demonstrating Activity 2.
- ✧ The teacher should discuss conditions necessary for combustion and demonstrate Activity 3.
- ✧ Now, the teacher should discuss firefighting and its ways.
- ✧ The teacher should demonstrate Activity 4 and discuss the use of carbon dioxide fire extinguisher.
- ✧ The teacher should also discuss types of combustion.
- ✧ The teacher should define flame, materials that give off flame and structure of flame.
- ✧ The teacher should define incomplete and complete combustions of fuel.
- ✧ The teacher should define fuel, features of a good fuel and fuel efficiency.

- ✧ The teacher should discuss the impacts of burning of fuels on environment and its alternatives.
- ✧ Now, the teacher should ask students to solve 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 encourage students to collect pictures of combustible and noncombustible substances.
- ✧ The teacher should discuss the need of learning firefighting for every one.
- ✧ Students should be encouraged to observe flames of different materials but with care.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ combustion and its types.
- ✧ conditions required for combustion.
- ✧ firefighting and its ways.
- ✧ flame and structure of a candle flame.
- ✧ fuel, characteristics of a good fuel and fuel efficiency.
- ✧ environmental impacts of burning of fuels and its alternatives.

EVALUATIVE QUESTIONS

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

1. Define combustion.
2. Mention the conditions necessary for combustion.
3. Write the steps taken in order to fight a fire.
4. Define spontaneous combustion.
5. Describe the structure of a candle flame.
6. Mention the characteristics of a good fuel.
7. What is meant by calorific value of a fuel?