4 Reproduction in Animals

SPECIFIC OBJECTIVES

The students learn about

- the phenomenon of reproduction
- the animals giving birth to young ones and egg-laying animals
- life cycles of amphibians (frog) and insects (cockroach and butterfly)
- to be sympathetic towards animals

TEACHING AIDS

Pictures/charts/animations of animals producing young ones, egg-laying animals; Internal structure of an egg; Hatching of eggs of snakes/turtle/bird, spawn of fish/frog, eggs of cockroach, butterfly; Life cycle of frog, cockroach and butterfly (as given in the chapter); Some mammals like cow and dog feeding their young ones.

LESSON PLAN

- Teacher will start the chapter by discussing the conversation of Annu and Mannu.
- Using the pictures of some animals with their young ones, teacher will define reproduction and its need.
- By showing pictures of animals producing young ones and those laying eggs, teacher will explain that some animals give birth to young ones, whereas some others lay eggs.
- Teacher will explain that the animals which produce young ones are called mammals and we humans are also mammals.
- By using teaching aids, teacher will also explain that mammals feed their babies on their milk and take care of them.
- Teacher will ask students to solve 'Checkpoint 1'.
- Now, teacher will explain that birds, fishes, reptiles, amphibians and insects do not give birth to young ones but they lay eggs.
- With the help of teaching aids, teacher will explain the structure of a bird's egg.
- Now, with the help of teaching aids, teacher will explain that animals like fish and frog lay a mass of eggs covered by jelly. This mass of eggs is called spawn. Teacher will also tell that eggs of these animals do not have hard shell so they are covered by jelly.

- With the help of teaching aids, teacher will explain the features of eggs of reptiles and insects that they have hard shells. They are not incubated by parents and young ones come out of them when they get warmth from outside.
- Now, with the help of teaching aids, teacher will explain the life cycles of frog, cockroach and butterfly (as given in chapter).
- To evaluate the understanding of students about the chapter, the teacher will ask them to solve the 'Checkpoint 2' given at the end of chapter.
- 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 do activity given in the chapter.
- Teacher should discuss the conversation of Annu and Mannu given in bubbles in between the topics.
- Teacher can discuss the information given in the 'Knowledge Desk'.
- Teacher can show the eggs of fish, frog and other animals (without harming them) in the breeding season of these animals.
- Teacher should help students to find the answers of questions given in 'Think Zone' and 'Beyond the Text'.
- Teacher should also discuss the facts given in 'Interesting Information' section.
- Teacher should arouse moral values in children to be kind and careful towards animals.

EXPECTED LEARNING OUTCOMES

The students

- can define reproduction and its need.
- know about the animals that give birth to young ones and the ones that lay eggs.
- know about the features of eggs of birds, amphibians, fish, reptiles and insects.
- know about the life cycle of amphibians (frog) and insects (cockroach and butterfly).

EVALUATIVE QUESTIONS

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

1. What is reproduction?
2. Why do animals reproduce?
3. What are mammals?
4. How do mammals feed their young ones?
5. What is incubation?

6. What is a spawn?
7. Eggs of which groups of animals do not have hard shell?
8. Where does a frog lay its eggs?
9. What is a tadpole?
10. What is a nymph?
11. What is moulting?
12. What is a caterpillar?
13. What is a pupa?