

SYLLABUS CLASS 6

Chapter Name

Key Concepts

1. Life on Earth

1. Characteristics of living things—Need nutrition, respire to convert food into energy, made up of cells, respond to stimuli, undergo definite changes during their life, live for a definite period of time, reproduce more of their kind.
Difference between living and non-living things.
Differences between plants and animals.

2. Living things may be classified into groups:

A. (1) Plants: Herbs, shrubs and trees

(2) Annuals, biennials and perennials

(3) Flowering and non-flowering plants.

Common examples of these categories.

B. Animals: Vertebrates and invertebrates, fish, amphibians, reptiles, birds, mammals, molluscs, worms (without legs)
Arthropods (with jointed legs and bodies)—insects, arachnids, crustaceans, millipedes/centipedes.

Common examples of these categories.

C. Classification may be based on several criteria; a group of items may be classified in many different ways—what are other possible ways of classifying plants/animals?

Open-ended practical exercises based on actual observations of students.

(Note: These exercises are intended to develop the skill of classification rather than the learning of formal scientific classification. Practical exercises undertaken should be based on a limited number of items, not exceeding six to eight. Initially a group should be divided into two groups based on a single criterion. Later, after adequate practice, each group may be divided into several sub-groups.)

- Practical observation in garden/park of different groups of plants (E)
(This is an opportunity to train students not to break twigs/branches, or pluck more one specimen of each kind.)
- Practical observation of live/preserved specimens of animals(E)
(Caution: Students should be instructed not to pick up or handle any unknown animals. Many invertebrates can sting; others are poisonous.)
- Drawing leaves/ simple animals from specimens—live and preserved (E)
(Drawing from specimens is an essential skill in which students need practice)
- Groups of students may create bulletin board displays on common Indian animals and plants; endangered species; unusual animals/plants—modifications and adaptation to their life-style/environment. (E)
- Identification/labelling of trees/plants in the school garden (E).

2. The Structure & Functions of Plant Parts

The structure, functions and some modifications of plant parts:

- (i) Roots—Storage roots: e.g carrot, radish, turnip, beetroot (without mentioning the terms—fusiform, napiform)
Support—prop roots—banyan
- (ii) Stems—Underground stems: tuber, bulb, rhizome—suitable examples
Stem tendrils, thorns, climbing stems (with examples)
- (iii) Leaves—venation, simple/compound leaves, arrangement
Some modification with examples (e.g. prickly pear)
- (iv) Flowers—parts and their functions
Pollination—agents and types of pollination
Fertilization—fruit, seed dispersal

- Parts of a flower—using specimens like lily/ hibiscus. Students to observe/draw parts. (Teacher may also draw attention of students to the shape, texture, edge of leaves.)
Practical observation and drawing of the different parts of plants available in school garden/park, the variations in them (E)
- Modifications—specimens—to be observed and drawn. (E)

Factors affecting maintenance of good health

- Balanced diet (brief revision of food groups learnt in junior classes). (ii) Adequate exercise and rest. (iii) Maintaining personal cleanliness—bathing, care of the hair, teeth, eyes; frequent washing of hands. (iv) Maintaining cleanliness of the surroundings. (v) Basic first-aid—how to deal with cuts and bruises, small burns. (vi) How diseases spread—coughs and cold (droplet infection) contaminated food/water (gastro-intestinal infections), direct contact (conjunctivitis, lice), vectors mosquitoes—malaria, dengue). Steps to avoid infection. (vii) How pollution affects our health—polluted air and water, noise pollution. Classroom discussion will elicit much of the information needed. Students should be encouraged to talk about personal experiences, how they can avoid sickness etc.
- First-aid training—practical training with the help of the local Red Cross/ a doctor.
- A doctor parent could talk to students about common diseases and avoidance.
- Survey to find out how many students consume unsafe food outside home. (E)
- Survey to find out how many students eat an excess of fast foods/exercise regularly/get enough sleep/ watch TV for long hours (resulting in eye strain and lack of sleep) (E)
- Listing cause of air, water and noise pollution in their city.

3. Health & Hygiene

4. Our Environment

- Earth is a unique planet in the solar system—it has the right combination of several factors which support life:
 - Correct distance from the sun, to ensure adequate heat and light. (ii) An atmosphere which protects living things from harmful radiation and has a combination of gases needed to sustain life. (iii) Sufficient water for living things. (iv) Several minerals available in the soil, which organisms use to grow and reproduce.
 - The environment has three interactive components—abiotic, biotic and cultural:
 - Abiotic components—light, temperature, water, air and soil. (ii) Biotic components—plants, animals, microorganisms. (iii) Cultural components—owing to human influences on the environment. Some details about each of these factors; interactions between these factors; how they influence life on earth.
- Producers, consumers, scavengers and decomposers.
Herbivores, carnivores, omnivores.
Simple food chains and food webs
Energy chains—all start with the sun.
- Some useful plant and animal products.
Plants and animals are interdependent.
Maintaining the balance in nature—what happens when this balance is upset—how human beings can do this.
Pollutants.
The need for conservation of all kinds of resources—a few examples of ways in which individuals can practise this in their daily lives (saving energy, fuels, materials, water, avoiding polluting practices).
 - Collection of magazine/newspaper clippings about pollution/conservation efforts and creating a bulletin board on the same—followed by discussion.
 - Games involving the building of Food Chains.
 - Investigating the effect of light, water, excess heat, different kinds of soil on potted plants. (E) (Teachers to explain the need for a control and also ensure that only one variable is altered at a time. Good training in scientific method.)
 - Find out about the Greenhouse Effect (E).

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