

Ch 10 Ecosystems

Ch 11. Five Kingdom Classification

Biology Fundamentals of Biology
Class 9

An Ecosystem

- 1. An ecosystem is a **self contained area** composed of different organisms, living and interacting with sunlight. Air, water, soil, climatic factors, prevailing in the area

- 2. An ecosystem has (a) food producers, (b) primary and secondary consumers, (c) Decomposers such as bacteria and fungi.

1. Kinds of
- Pond ecosystem
 - River ecosystem
 - Forest ecosystem
 - coastal area ecosystem
 - lagoon ecosystem

2. Flora are plants naturally occurring in the ecosystem.
- Fauna : are animals in the ecosystem

4. The ABIOTIC or non-living component of Forest consists of (a) Sunlight that is for production of plant food by photosynthesis.

3. BIOTIC or living component of the forest ecosystem consists of four Tropic levels from the green plants at level 1 to Tertiary or top level consumers.

- 4.1 **Air** for respiration of plants and animals and CO₂ for photosynthesis. It serves as medium of flight for birds and insects, and as an agency for dispersal of seeds and pollen grains for plants in the form of winds.

- 4.2 **Water**: received as rainfall , absorbed by plants and soil , and accumulated by ponds, lakes and rivers. Used by life forms for drinking.

- 4.3 **Warmth** in the fore influences the activities of living organisms.

- 4.4 **Soil**: is the primary component for all actio of life as provider of mineral and nutrients to plant life, micro organisms, burrows and living spaces for animals.

- Tropic level 1 (producers , plants)
- Tropic level 2 Primary herbivore consumer
- Tropic level 3 Secondary consumer -carnivore
- Tropic level 4 Tertiary consumer

Three kinds of Forests and their Flora and Fauna

1. Tropical Rain Forests: India and North East Himalayas. Flora includes evergreen trees, bamboo, ferns, shrubs. Fauna comprises of Tigers, Leopards, monkeys, snakes, flying squirrels, and various birds and insects.

- **Food chains and Food webs** interconnections of dependency of plants, rodents, birds, and other carnivorous animals on one another for food and survival.

2. Temperate Deciduous Forests: Japan, China, Korea, Australia. Pine , Oak, Birch trees and fauna includes deer, wolves, foxes.

- **Food pyramids**: are made up of the ratio and proportion of living organism needed for survival of the four Tropic Levels in an ecosystem. Example, a very large variety and quantity of plants are needed to sustain a few deer and other primary consumers, that are needed to sustain a few dozens of Level 4 consumers who are the top of the food pyramid.

3. Coniferous forests: Himalayas above 3000 m altitude. Fir and Pine trees. Very few animals such as Himalayan goat, sheep, antelope, wolves, a few birds

Ch.11. Five Kingdom Classification of Organisms (Ref. Table on page 82)

