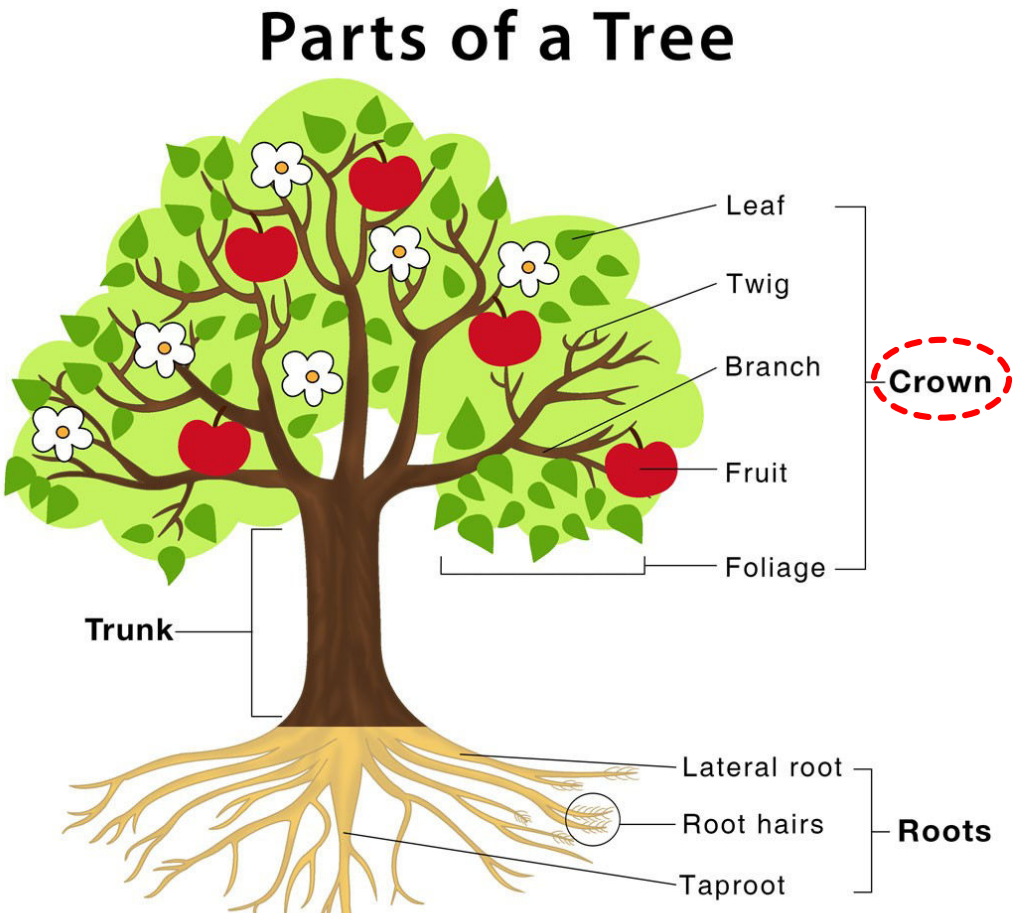
FOREST: OUR LIFELINE

LAYERS OF VEGETATION IN FOREST

- **CROWN OF THE TREE** - The **branchy part of the tree above the stem** is known as the crown of the tree. The crown includes the top part of a tree which has all the branches and leaves of the tree.



A forest consists of different horizontal layers of vegetation (trees and plants). It is divided into three layers of vegetation based on living environment.

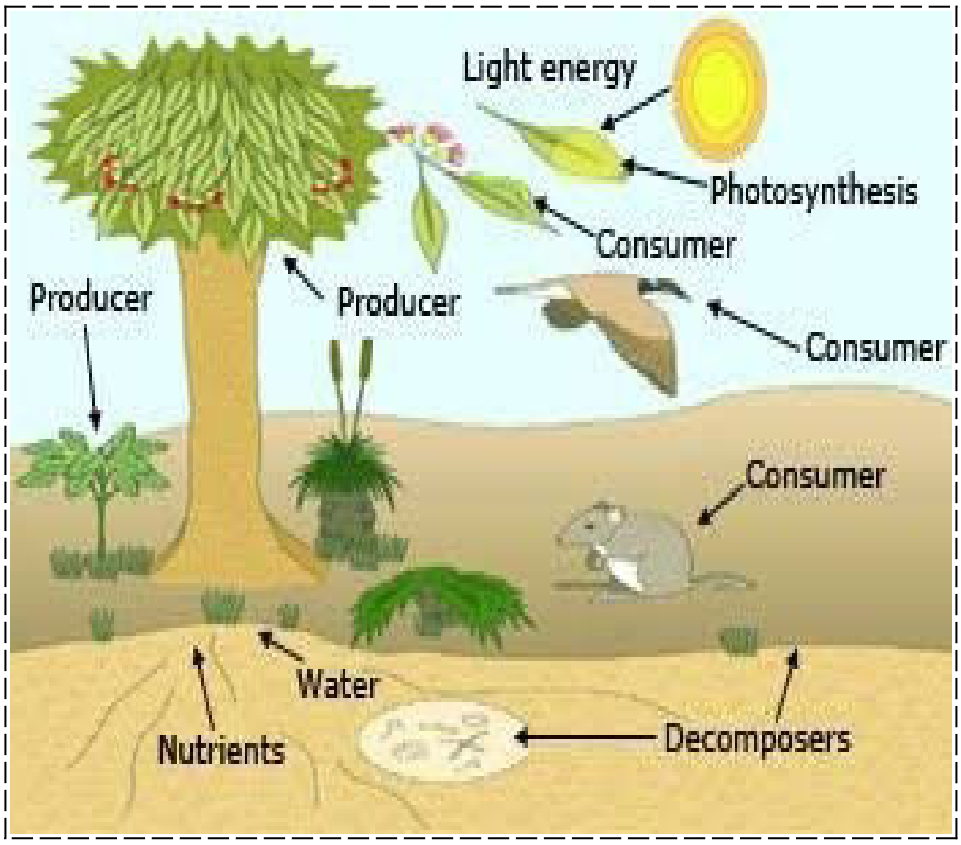
1. **CANOPY -**
   The topmost branches and leaves of the tall tree which look like a roof over the forest ground are called the canopy.

2. **UNDERSTOREY -**
   The layer of vegetation just below the canopy is called understorey. The constituents of understorey can be described as follows -
   - Top layer – It constitutes of giant and tall trees followed by shrubs and tall grasses.
   - Shrub Layer – It has many shrubs and bushes of approximately 1-2 metres of height from the forest floor.
   - Herb layer – It occurs just below the shrub layer of plants. It consists of herbs, ferns and grasses.

3. **FOREST FLOOR -**
   - The ground surface of the forest is called the forest floor.
   - It consists of small leafless plants such as mosses, liverworts, lichen, insects and worms.
   - Most of the forest floor is covered with dead and decaying leaves, fruits, seeds and small herbs.
   - Walking over the dead leaf layer on the forest floor feeds like walking over a spongy carpet.

- It is generally dark as not much sunlight reaches here.
- Forest floor is warm and humid.

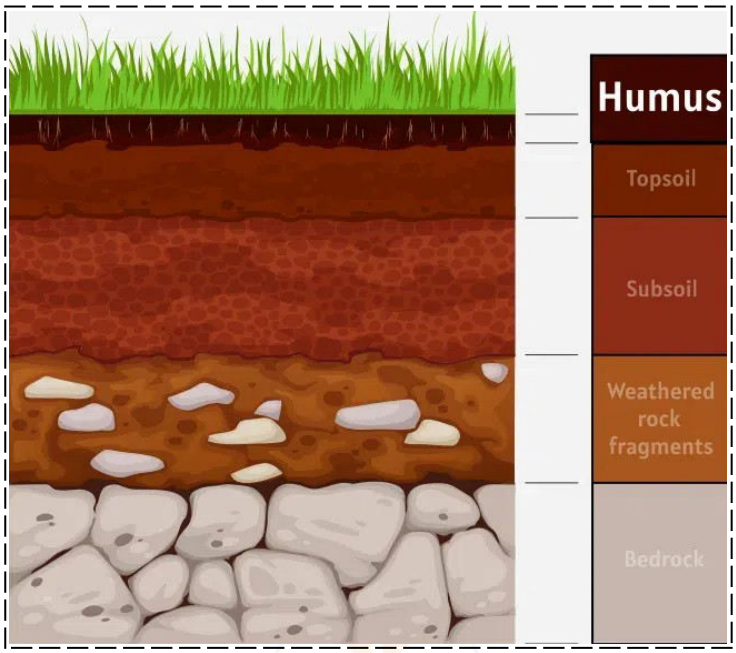
RECYCLING OF NUTRIENTS IN THE FOREST



- Whatever is produced in the forest is utilized by different components of forest and is naturally recycled.
- Herbivores eat plants. Carnivores eat herbivores. Omnivores eat both plants and animals.
- When plants and animals die, their dead remains are decomposed by microorganisms (bacteria and fungi) into nutrients, which are released back into the soil.
- These nutrients are absorbed by the roots of living plants. This is called recycling of nutrients due to which nothing goes to waste in a forest.

➢ HUMUS :

The dark coloured substance **formed by the action of micro-organisms on dead plants and animal tissues** is called Humus. Humus are rich in nutrients. Humus mix with the soil in the forest and the nutrients present in it is used for the growth of plants.

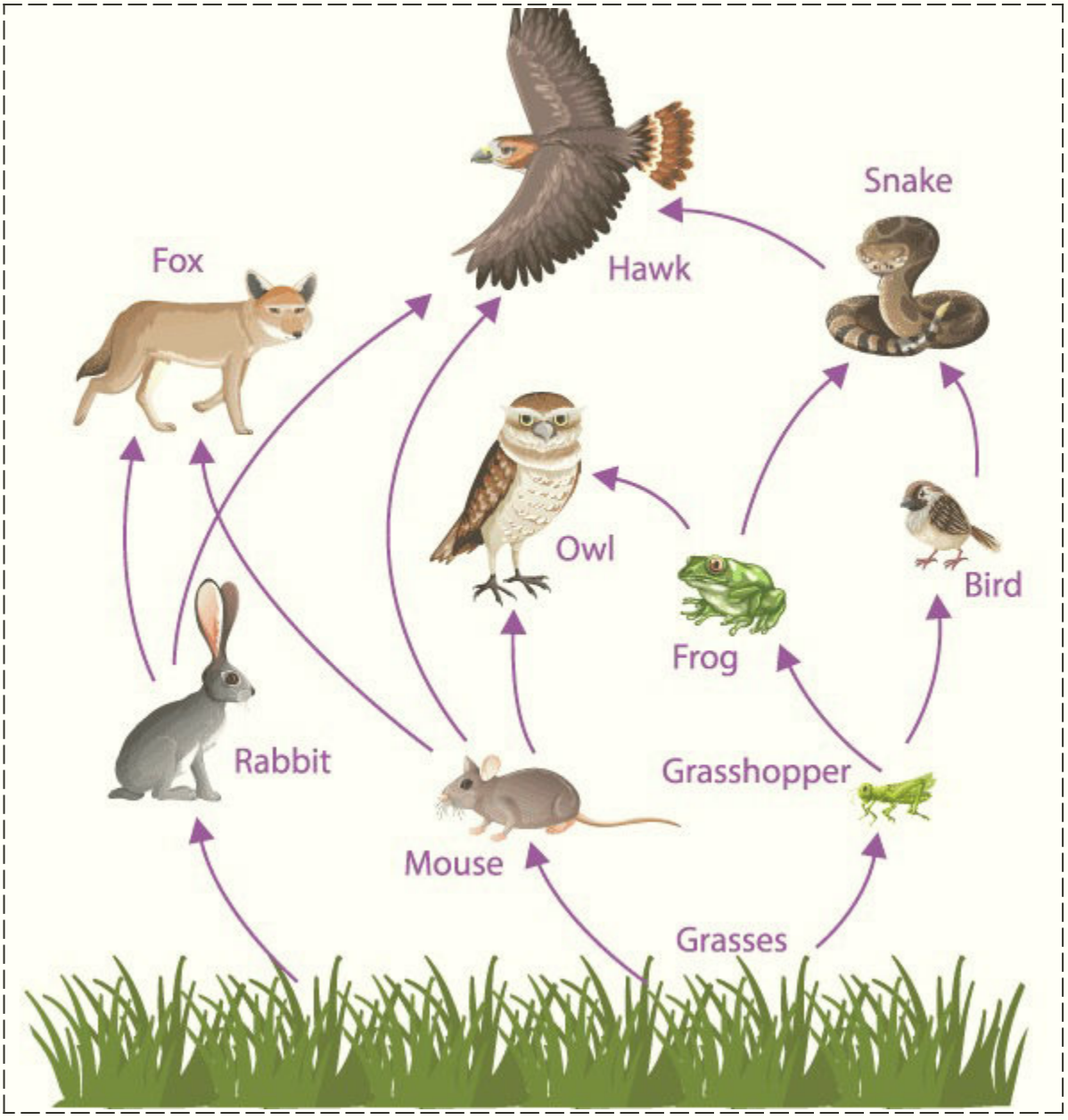


➢ DECOMPOSERS :

The **micro-organisms which convert the dead plants and animals to humus** are known as decomposers. Decomposers are bacteria and fungi. The decomposers break down dead leaves, branches, dead animals and animal waste to form humus which contains the nutrients.
The Humus is used by the plants for their growth. In this way, decomposers help in maintaining the supply of nutrients of the trees and other plants in the forest.

FOOD CHAIN

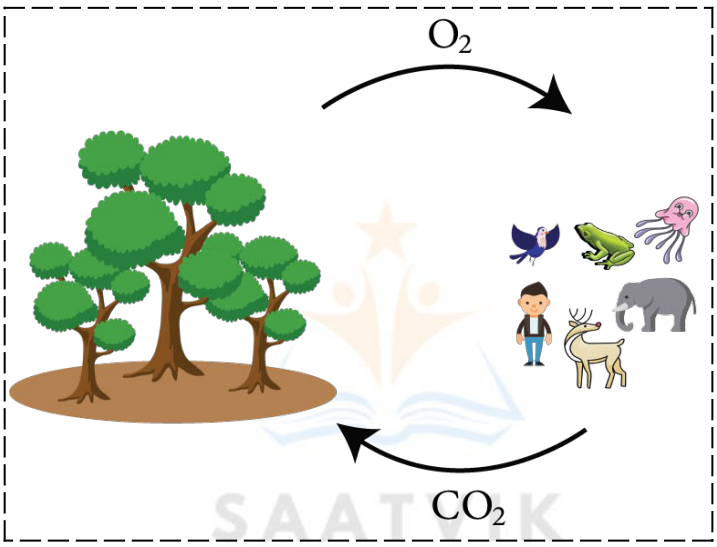
Food chain can be defined as a sequence of living organisms in which one organism feeds on another. There are many food chains present in the forest which are linked. If any one food chain is disturbed, it affects other food chain. If we remove one component, all other components would be affected.



IMPORTANCE OF FORESTS

The forests provide us with a large number of products. They purify air and improve water quality. They also maintain soil moisture and climate. So, they are called **LIFELINE**. The importance of forests are as follows -

1. **Forests maintain balance between oxygen and carbon dioxide -**
   Plants in the forest release oxygen during photosynthesis. This provide all animals including us with oxygen to breathe. They also help to maintain the balance of oxygen and carbon dioxide in the atmosphere. That's why, forests are known as **GREEN LUNGS**.



2. **Forests provide many useful products -**
   Forests give us a large number of useful products. Many trees in the forests have medical value and chemicals extracted from them are used in pharmaceutical or cosmetic industries.
   Some other important products like wood, honey, gum, spices, rubber etc. are also obtained from forests.

3. **Forests maintain water cycle -**
   The trees in forest absorbs water from the soil through their roots and release water vapours into the air through evaporation. The water vapours helps in the formation of cloud and brings rain on earth.

4. **Forests prevents occurrence of flood and soil erosion -**
   Rain water does not stagnate in the forest as the uppermost layer of the forest canopy intercepts the flow of raindrops. This results in most of the water coming down through the branches and the stems of the tree. If trees are not present, rain hit the ground directly and may flood the area around it. Heavy

rain may also damage the soil. Roots of the trees normally bind the soil together, but in their absence, the soil is washed away or eroded.

5. **Forests provide habitat for wildlife -**
   The different types of vegetation present in a forest provide food and shelter to animals, birds and insects which live in the forests.

DYNAMIC LIVING ENTITY

- By harbouring greater variety of plants, the forests provides greater opportunities of food and habitats for herbivores.
- Large number of herbivores means increased availability of food for a variety of carnivores.
- The wide variety of animals helps the forests to regenerate and grow.
- Decomposers help in maintaining the supply of nutrients to growing plants in the forest. Therefore, forest is a dynamic living entity.

DEFORESTATION

The removal of forests to meet the various demands of the increasing population, is called deforestation.

FACTORS RESPONSIBLE FOR DEFORESTATION -

- Expansion of agriculture
- Construction of road.
- Industrial development.
- Increasing demand of wood.
- Overgrazing of animals.

CONSEQUENCES OF DEFORESTATION -

- Increase of the Earth's temperature.
- No food and shelter to wildlife.
- There will be more flood.
- Deforestation endanger the environment.
- There will be less rainfall.

GLOSSARY

- **Canopy** – Roof formed by the tree branches in the upper region.
- **Crown** – Branchy part of a tree above the earth.
- **Decomposers** – Organisms which decompose the dead and decaying matters.
- **Deforestation** – Destruction of forests or falling of trees on a large scale.
- **Humus** – Dark colour substances produced by decomposers.
- **Regeneration** – Process of renewal and restoration.
- **Seed disposal** – Scattering of seeds over a large area.
- **Soil erosion** – Removal of the fertile top soil by wind, rain and river water.