

Food chains and Food Web

Food chain:

- ▶ Transfer of food from one trophic level to another through series of organisms with repeated eating and being eaten is called a food chain.

OR

- ▶ Food chain is the linear unidirectional flow of energy and materials through the food from one trophic level to the other.
- ▶ In a food chain, each stage represents a trophic level.
- ▶ A food chain consists of following trophic levels:
 1. Producers
 2. Consumers
 - I. Primary consumers
 - II. Secondary consumers
 - III. Tertiary companies
 3. Decomposers

Trophic levels:

- ▶ The feeding levels from producers to consumers is called trophic level. The energy flows only one way through various trophic levels.
 - I. **First trophic level**- Producers – Autotrophs
 - II. **Second trophic level** – Primary consumers – Herbivores
 - III. **Third trophic level** – Secondary consumers – Carnivores
 - IV. **Fourth trophic level** – Tertiary consumers – Top level carnivorous

1. Producers:

- ▶ They are autotrophs and represent 1st trophic level which can synthesize the food using light energy.
- ▶ They produces food for all other organisms of ecosystem.
- ▶ They are largely green plants and photosynthetic prokaryotes which converts inorganic substrate into organic food by the process of photosynthesis.

2. Consumers:

- They are heterotrophs which obtain energy from producers directly or indirectly. They can be further divided as

i. Primary consumers:

- They are animals which feeds directly on plants.
- They are 1st level consumers and therefore they are known as primary consumers.
- Primary consumers make the II trophic level in food chain.
- **Examples:** herbivores animals such as deer, goat, cow etc.

ii. Secondary consumers:

- These are animals that feeds on other animals.
- They are omnivores and carnivores.
- **Examples** Bear, wolf, jackel, and snake etc.

iii. Tertiary consumers:

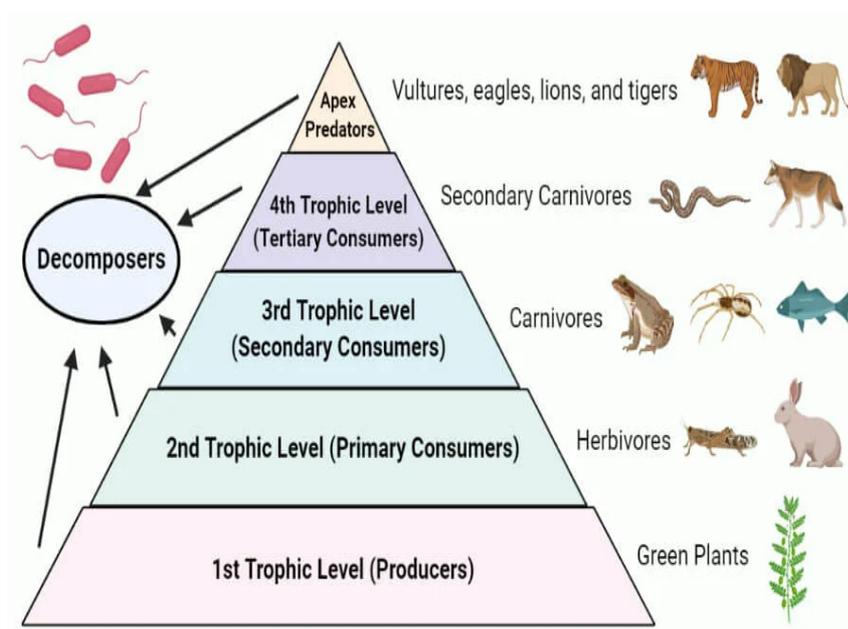
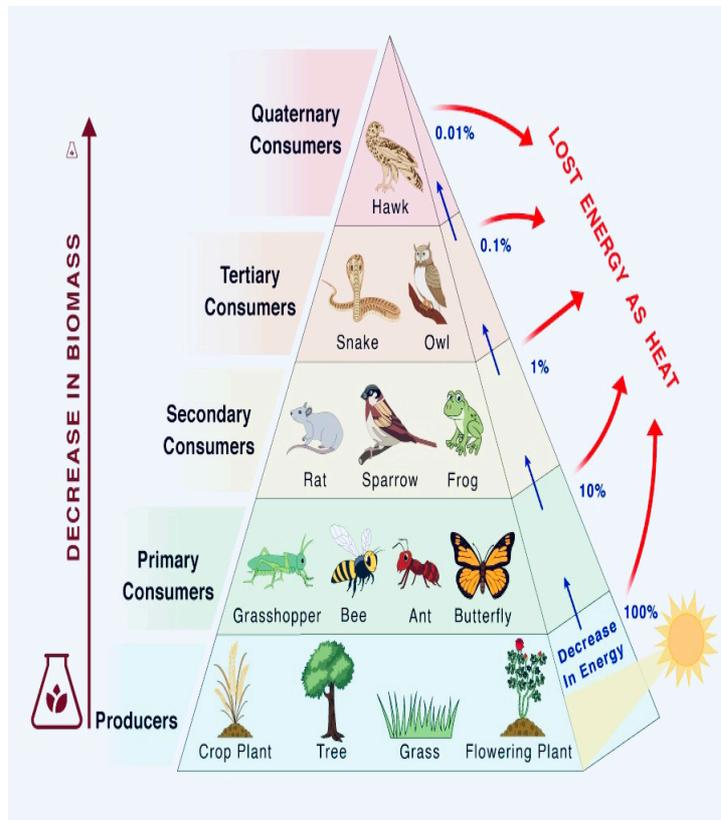
- These animals get their food from all consumers.
- They are top carnivores.
- **Examples:** lion, tiger, and eagle etc.

3. Decomposers:

- They feed on dead and decayed plants or animals.
- They make up the final trophic level in food chain.
- They decompose the dead and decay matter and helps in recycling the nutrients.
- They are classified into two class:
 - I. **Micro-decomposers:** Bacteria, Fungi, Protozoa
 - II. **Macro-decomposers:** Earth worm, Nematodes, Molluscs

Trophic level Pyramid:

- The trophic level pyramid or ecological pyramid is the graphical structure representing the interactions in biological communities in the form of the transfer of food and energy from one trophic level to the next in a food chain.



Food Web:

- A **food web** is a diagram made from many food chains linked together.
- **Food webs** always start with a producer.
- The **arrows** in a **food web** always point from the food to the animal that eats it.

Examples

These two **food chains** can be combined into a **food web**.

