Food Chain-

A **food chain** is a linear sequence of organisms through which **food, nutrients and energy are transferred** from one organism to another. It represents the feeding relationship between different organisms in an ecosystem. In a food chain, each organism obtains energy by consuming another organism, while at the same time becoming a source of food for another organism.

The food chain generally begins with a **producer**, such as green plants. Producers prepare their own food through **photosynthesis** and therefore form the first trophic level. Herbivorous animals that eat plants are called **primary consumers**. They are followed by secondary and tertiary consumers, which are generally carnivorous animals.

Example of a Food Chain

Grass → Grasshopper → Frog → Snake → Eagle

In this example:

1. **Grass** is the **producer** because it prepares its own food through photosynthesis.
2. **Grasshopper** is the **primary consumer** because it feeds on grass.
3. **Frog** is the **secondary consumer** because it eats the grasshopper.
4. **Snake** is a **tertiary consumer** because it eats the frog.
5. **Eagle** may occupy a higher trophic level because it feeds on the snake.

Thus, energy passes from **grass → grasshopper → frog → snake → eagle**.

Food Web-

A **food web** is a complex network of interconnected food chains within an ecosystem. In nature, organisms usually do not depend on only one type of food. An animal may eat several different organisms, and it may also be eaten by several different predators. Therefore, several food chains become interconnected and form a **food web**.

A food web provides a more realistic picture of feeding relationships in an ecosystem than a simple food chain.

Example of a Food Web

Consider a grassland ecosystem:

Grass → Grasshopper → Frog → Snake → Eagle

But grass is also eaten by **rabbit and mouse**, while the mouse may be eaten by **snake and eagle**. The grasshopper may be eaten by **frog and birds**. Thus, several food chains become interconnected.

For example:

Grass → Grasshopper → Frog → Snake → Eagle

Grass → Rabbit → Eagle

Grass → Mouse → Snake → Eagle

Grass → Grasshopper → Bird → Eagle

These interconnected food chains together form a **food web**.

Difference Between Food Chain and Food Web

Food Chain	Food Web
It is a **single pathway** of food and energy transfer.	It consists of **many interconnected pathways**.
It is relatively simple.	It is relatively complex.
An organism generally has one main feeding relationship in the chain.	An organism may have several feeding relationships.
It shows a limited number of organisms.	It can show many organisms and their relationships.
It is less stable because disruption of one link can affect the chain considerably.	It is generally more stable because organisms may have alternative food sources.
Example: Grass → Grasshopper → Frog → Snake → Eagle	Several such food chains interconnected together form a food web.