

Unit-6

ENVIRONMENT

Environment is everything in the surrounding of an organism that could possibly influence it.

1. Habitats

What is Habitat?

Habitat is a place where an organism lives and reproduces in its environment.

It is a natural home or address, where an organism can be found.

Aquatic and terrestrial habitat

✓ Habitats are generally classified into two. Those are

1. Aquatic Habitat

2. Terrestrial Habitat

1. Aquatic Habitat is an environment, which is characterized by living organisms that live in water.

it includes pond, streams, rivers seas, and oceans.

2. Terrestrial Habits an environment, which is characterized by living organisms that live on land.

It includes forests, mountains, hills, rocks and soils.

2. Population and community

What is population?

- ❖ Population is a group of living organisms of the same species that lives in a particular area.
- ❖ Each population has its own requirements to live within a given habitat such as temperature, humidity, types of food and other factors that can determine its existence and reproduction.

What is Community?

- ✚ A community is all the various things or populations living and interacting in a particular area.
- ✚ Community is made up of all the plants and animals living in a habitat.
- ✚ Groups of population that live together in a given habitat are called community.

2. Studying a Habitat

Observing Habitat in Our surroundings

- ✓ Observing habitats and identifying different species, population or community requires a systematic approach.
- ✓ Scientific approach uses various tools and techniques.
Example sampling, quadrat.

Collecting and Preserving Plant and Animal Specimens

- ♦ Plants and animals are collected to obtain specimen for demonstration and studies.

How can you collect and preserve animal specimens?

- 👉 There are various methods of collecting and preserving plant and animals specimens depending on their nature (size, strength.)
- 👉 This can be done using collecting tool such as
 - Pitfall traps
 - Pooter
 - Sweep nets
 - Butter fly net and the like

How can you collect and preserve plant specimens?

Collecting plants specimens is different from animal specimens both in technique and procedure because of their nature.

❖ Plant specimens are collected and preserved using various technique, such as

👉 Pressing and drying

👉 Storing the seeds in a gene bank and other

Procedure followed in collecting and preserving plant specimen

1. Collecting various types of plants leaves and flowers
2. Pressing and drying
3. Mounting
4. Labeling

3. Food Relationships

A. Food Chain and Food Web

What is food chain?

- A food chain is a simplified food relationship showing Food transfer from green plants to the different organisms.
- It is single path of food transfer.

- A food chain always begins with a producer, or an organism that makes its own food through photosynthesis.
- 👉 Food chains are not always limited to three consumers; they contain more than three consumers.

What is food web?

- ❖ Food web is a complex feeding relationship showing actual food transfer in nature from producers to consumers.
 - 🌈 In general food web and food chain are means of describing feeding relationship within the environment.
 - In both cases, the feeding relationship starts from a producer.

Trophic levels

Trophic level is the feeding level of an organism in a food chain.

- Each stage of food chain is called trophic level.
- 🐭 The producers occupy the lowest (first) of any ecosystem trophic level.

- Herbivorous occupy the second trophic level.

- Carnivorous occupy the third trophic level.

Trophic level: as we go from the lower to the upper trophic level, the amount of initial energy decreases. This is because of the loss of much energy by consumers for their daily activity. As a result more energy is available at the lower trophic level than the upper.

Biological Pyramids

There are three types of ecological pyramids. These are

1. Pyramids of Number

2. Pyramids of biomass

3. Pyramids of energy

1. A pyramid of Number represents the number of individuals at each trophic level.

- ✓ The numbers of individuals generally decrease passing along a food chain.

2. Pyramids of biomass a measure of a total mass of dry organic matter produced in a given community.

- ✓ The pyramid of biomass is more useful than the pyramid of numbers because it indicates the quantity of living things present in each trophic level

3. Pyramid of energy shows the amount of energy lost and transferred in each trophic level.

- ✓ It decreases that means less energy is found in each next trophic level.