Biology Grade 8
Unit six summary

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ENVIRONMENT
6.1 ECOSYSTEM

DIFINITION: Ecosystem is a given area, where biotic factors interact with abiotic factors.

1.BIOTIC FACTORS OF THE ECOSYSTEM.

It includes all living things (Plants, animals and microorganisms.)

2.ABIOTIC FACTORS OR PHYSICAL FACTORS.

It includes all non living things such as climatic condition, soil factors, temperature, light, water and nutrients . Soil and water are the major physical factors of a given ecosystem.

The interaction within an ecosystem

- Interaction within an ecosystem is common to any ecosystem.
- 1. Interaction between biotic factors.
- 2. interaction between abiotic factors.
- 3. interaction between biotic and abiotic factors.
- Example: Plants with air and nutrients for growth.

  HOW BIG IS AN ECOSYSTEM ? / SIZE OF ECOSYSTEM.
- An ecosystem can be as small as single tree, pond ,aquarium etc.
- An ecosystem can be as big as forest, ocean, desert etc.
- Ecosystems vary greatly in size and the elements that make them up.

Types of ecosystems

- Generally there are two types of ecosystems:

1 Aquatic ecosystem: Water bodies fresh water and marine ecosystem.

2. Terrestrial ecosystem: forest, grassland, desert.

6.2.BIOLOGICAL ASSOCIATIONS/ SYMBIOSIS

- It's the general biological term of living together in a close association of two or more organisms of different species.

1.PARASITISM(positive and negative).

in this relationship one organisms benefits(the parasite) and the other harmed (the host).

The parasite is provided food and shelter by the host.

The two types of parasites are ecto- parasite and endo-parasite.

Endo-parasites: live within the body of its hosts. Example, ascaries, tapeworm, amoeba and hookworms.

Ecto- parasites: Live on the outer bodies of its host.

Example, fleas, bugs, and ticks.

2.PREDATION(prey-predators)

- In this relationship one organism is killer /predator and other is killed/ prey. Predators are skillful, very strong and fast than their prey. Some of them are carnivores like lion and tiger and some of them are omnivores like bears.

3.MUTUALISM:

- Its the relationship by which two of the organisms are benefited from the association.

TYPES OF MUTUALISM

- 1. Animal-Animal relationships.
  Example. Crocodiles and Egyptian birds
- 2. plants – Animal relationships.
  Example: Bees and flowering plants.
- 3. Alage- Fungi relationships.
  Alage with fungi form lichen.
- 4. microorganisms and plant/animals.
- Termites and protozoa.
- Nitrogen fixing bacteria and leguminous plants.
- Question: Discuss how both organisms benefited from the association in the above.
- Refer, table, 6.2. What does each relationship looks like.

Commensalism

- In this relationship, one organism is benefited, but others neither benefited nor harmed.
- Example, grazers and birds (cattle egrets).
- Shark and remora fish(for transportation)
- And remora fish takes the advantages of protection.

Others mode of nutrition for survival.

- **1. decomposer: organisms decompose on dead body/ organic matter.**
- **2. scavengers: animals feed on the dead body of other animals.**

6.3. physical factors of the ecosystem

- The major physical factors of a given ecosystem includes features of soil and water.
- Soil and water affects the biotic factors of the ecosystem and in turn are being affected by them.
- Nonliving factors determine what living things can be supported in an ecosystem.

SOIL

- Soil consists of matrix tiny particles of rock.
- Soil is a complex mixture of minerals , water, organic maters , minerals salts and air.

FORMATION OF SOIL

- Formation of soil takes several years before it be comes to soil. The process of soil formation includes :
- WEATHERIMG
- DECOMSING AND
- HUMIFICATION

CONTRIBUTING FACTORS FOR SOIL FORMATION

1. Parent materials: material from which the soil is formed.

2.Climate: it affects a number of processes during soil formation.

3.Biotic(living organisms):they are contributing the texture of the soil.

4.Time: all activities involved in the processes of soil formation require a time.

5.Relief(land forms and topography): it has an effect on soil profile thickness, on climate.

Types of Soil

There are three types of basic soils namely, loam(silt), sand, and clay.

Instruction: Read carefully through the characteristics of each type of soil and then complete table 6.3, based on the information given.(page.134)

Water

Uses of water

- Common domestic uses of water: for drinking, washing clothes and other things.
- Industrial uses of water: water used as cooling agent and used as universal solvent.
- Agricultural uses of water: water used for irrigation.
- **Water cycle**
- The main processes involved in water cycle are:
- Evaporation/ transpiration ↑**condensation, precipitation**↓.