

BIOTIC / ABIOTIC

Biotic and Abiotic Environmental Factors

Biotic Environment: the living parts of the environment (plants, animals and Micro-organisms).

Abiotic Environment: the non-living parts of the environment (land, soil, environmental conditions, water) that can affect survival of biotic components.

LIVING or NON-LIVING

Characteristics of Living Things

Living things are Made of Cells
Living things need Energy (food)
Living things need Water
Living things need Oxygen
Living things Grow and Develop
Living things Reproduce
Living things need Suitable Living Conditions (Shelter)
Living things Respond and Adapt to their Environment

SYMBIOSIS

Beneficial or harmful relationships between living organisms is called SYMBIOSIS.

Mutualism: A relationship in which both species benefit.

Commensalism: A relationship in which one species benefits, while the other species does not benefit and is not harmed.

Parasitism: A relationship in which one species benefits, while the other species is harmed.

ADAPTATION

Adaptations

Behavioral Adaptations: are actions taken by organisms to survive in their environment.

Structural Adaptations: are physiological characteristics that an organism has that enable it to survive in its environment.

MANAGEMENT

Human Impacts on Ecological Balance

Management of Living Resources within ecosystems - Intended changes to an ecosystem can have far reaching unintentional consequences.

Management of Non-living Resources within ecosystems - Landfill Management can impact the environment both positively and negatively, depending on what considerations have been taken into account.

ECOSYSTEM

Ecosystem is an area where all the biotic and abiotic parts interact

Species: living organisms that are structurally similar and are able to reproduce and have young that reproduce.

Population: A group of organisms of the same species living together within the same ecosystem.

Community: All the populations of different species living and interacting together within the same ecosystem.

RELATIONSHIP

Relationships

Producers: organisms that can make their own food and provide food to others in an ecosystem.

Consumers: organisms that seek out and consume other organisms
Carnivores, Herbivores, Omnivores

Decomposers: organisms that recycle dead plants, animals and waste back into the ecosystem.

ENVIRONMENTAL CYCLE

Abiotic Cycles

Water Cycle:

Evaporation, Condensation, Precipitation, Storage.

Carbon Cycle:

Release (CO₂), Absorption (CO₂), Deposition (C), Intake (organic).

(Other cycles – Nitrogen, Oxygen, Phosphorus, Sulfur)

ENERGY FLOW

Food Chain: A producer provides food for a primary consumer (herbivore), who then provides food for a (carnivore) secondary consumer.

Food Web: Food chains linked within an ecosystem.

Food Pyramid: Indicates the biomass levels and numbers within an ecosystem.

Distribution of Biomass varies from one ecosystem to another.