

LC Biology – Ecology Theory Definitions

Ecology



The study of the interactions between living things and between living things and their environment.

Biosphere



The part of the Earth containing living organisms. The biosphere includes the air, soil and rock, and the oceans.

Ecosystem



A group of organisms that interact with each other and with their environment. Examples of ecosystems include rainforests, deserts, grasslands and seashores.

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Habitat



The place where an organism lives.

Abiotic factors



Non-living features of the environment, e.g. aspect, exposure, soil pH.

Biotic factors



Living factors, e.g. food, competition, predation, parasitism.

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Climate



Weather over a long period of time.
Climatic factors include rainfall, temperature, light intensity or wind.

Edaphic factors



Factors relating to the soil, e.g. soil pH, soil type, humus, water content.

Aquatic factors



Factors relating to organism living in or near water-based environments, e.g. light, currents, wave action, oxygen concentration.

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Food chain



A sequence of organisms in which each organism is eaten by the next one in the chain.

Trophic level



Feeding stage in the food chain. For example, the producer feeds at the 1st trophic level, the primary consumer at the 2nd trophic level and so on.

Producer



An organism that makes its own food.

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Carnivore



An organism that feeds mainly on meat.

Herbivore



An organism that feeds on flora.

Food web



Consists of two or more interlinked food chains. It should have two producers and at least nine organisms.

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Pyramid of numbers



Represents the number of organisms at each stage (trophic level) in the food chain.

Niche



The functional role of an organism in an ecosystem or habitat. Refers to what an organism eats.

Population



Comprises all the members of a species in an area.

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Competition



Occurs when two or more organisms actively struggle for a resource that is in short supply.

Contest competition



Occurs when one organism gets most (or all) of a resource and the other organism gets very little (or none) of the resource. E.g. robins defending their territories by singing.

Scramble competition



Occurs when all of the competing organisms get some of the resource.
E.g. seedlings growing in overcrowded conditions, striving to get enough light.

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Adaptation



Any alternation that improves an organism's chance of survival. E.g. rabbits have good hearing, which helps them to avoid predators.

Predation



The catching, killing and eating of another organism for food. E.g. fox preying on a rabbit.

Parasite



A living thing that takes its food from another living thing (called a host) and usually causes harm. E.g. fleas or mosquitos on humans.

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Symbiosis



Occurs when two organisms from different species live, and have to live, in close association, where at least one of them benefits. E.g. in parasitism one species gains and the second loses.

Mutualism



A form of symbiosis, in which both organisms benefits. E.g. nitrogen-fixing bacteria living in nodules of plants such as clovers.

Population dynamics



Refers to the factors that cause population numbers to rise or fall.