

Environmental Science

Chapter 1: Populations & Communities

Section 1: Living Things and the Environment

Brain Storm: *What is an environment?*

Habitats

- **Organism** – a living thing
 - An organism obtains food, water, shelter, ,and other things it needs to live, grow, and reporocue from its environment.
- **Habitat** – An environment that provides the things an organism needs to live, grow, and reproduce

Can you think of any organisms or habitats?

Biotic Factors

- An organism interacts with both the living and nonliving parts of its habitat.
- **Biotic Factor** – a living part of an organism's habitat.

Can you think of any biotic factors?

Abiotic Factors

- **Abiotic Factors** – A nonliving part of an organism's habitat
 - Include water, sunlight, oxygen, temperature and soil.

Abiotic Factor: Water

- Water makes up a large part of most organisms.
- Plants need water to carry out **photosynthesis**- the process in which organisms use water along with sunlight and carbon dioxide to make their own food.

Abiotic Factor: Sunlight

- Sunlight is needed for plants to grow and prosper.

Abiotic Factor: Oxygen

- Oxygen is needed to carry out life processes.

Abiotic Factor: Temperature

- Temperature determines what kinds of organisms will be able to live in certain habitats.

Abiotic Factors: Soil

- Soil influences the kinds of plants that can be grown in a habitat.

Levels of Organization

- **Species** – a group of organisms that are physically similar and can mate with each other and produce offspring that can also mate and reproduce.
- **Population** – all the members of one species in a particular area
- **Community** – All the different populations that live together in an area.
- **Ecosystem** – the community of organisms that live in a particular area along with their nonliving surroundings.

Levels of Organization

- The smallest level of organization – a simple organism.
 - The organism belongs to a population that includes other members of its species.
 - The population belongs to a community of different species.

***The community & abiotic factors together form an ecosystem.**

Levels of Organization

- **Ecology**- The study of how living things interact with each other and their environment.



Organism: Prairie dog



Population:
Prairie dog town

Community: All the living things
that interact on the prairie



Ecosystem: All the living and nonliving
things that interact on the prairie

