Science 9

Earth Science I

Name:
Date:
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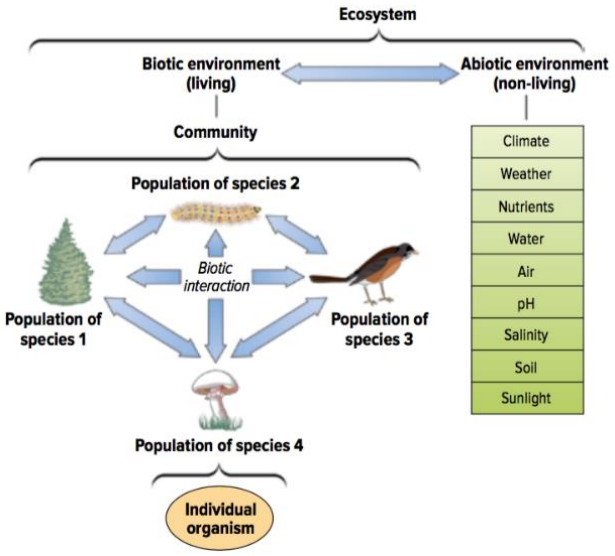
1. **Living vs Non-Living Organisms**
2. **Limiting Factors**
3. **Carrying Capacity**

Living vs Non-Living Organisms

An individual living thing (like an animal or a plant) is called an organism. In order to be classified as a living organism, these individuals must display all of the following characteristics:

1. Made up of one or more _____
2. Respond to _____in their environment
3. Need _____
4. _____ (at a cellular level)
5. _____
6. _____
7. Eliminate _____



In an environment, there will be a mixture of both living and non-living things.

- _____ parts of an environment are called _____
- _____ parts of an environment are called _____

Both biotic and abiotic factors are important within an environment. Biotic and abiotic parts of an environment are _____through ways that they _____with one another.

Why are abiotic factors important?

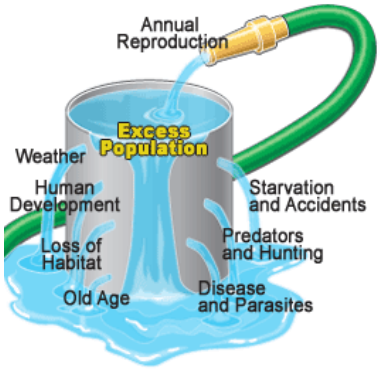
Abiotic factors help the biotic factors _____ in their environment.

Example:

- Oxygen allows animals to breathe
- Rocks help fish hide
- Water gives fish a home

Limiting Factors

_____ _____ are factors that control how _____a _____can be in its environment. These factors can be either _____or _____factors. Limiting factors usually occur when there is a _____of a particular _____



Example:

- If there is not enough food for predators, food becomes a limiting factor
- If there is not enough space for a large number of deer in an environment, space becomes a limiting factor
- If there is not enough sunlight for plants to photosynthesize, sunlight will become a limiting factor

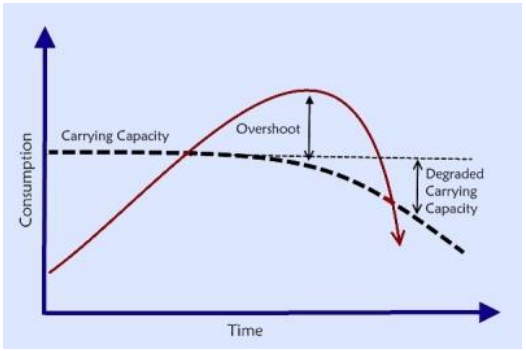
Carrying Capacity

Limiting factors will determine the _____ _____ of a population within an environment. Carrying capacity is the _____ _____ of _____ an environment can support. It can be referred to as the average population size in a habitat.

- The population size can be limited by environmental factors such as amount of food, space for shelter, amount of available mates, etc. (limiting factors)

Example:
A piece of land can support a maximum amount of 10 animals.

- Scenario 1: The population is at 20 animals. These animals will starve as there is not enough food
- Scenario 2: The population is at 9 animals. These animals will eat well.
- Scenario 3: The population is at 10 animals. These animals can eat enough to survive.
- Scenario 4: The population is at 11 animals. These animals will starve some and the environment *degrades* which causes the carrying capacity to reduce. This can eventually cause starvation.



Some key terms:

- _____ _____: The *largest population* an area can support with its resources (i.e. food, water, land)
- _____ _____: When the population in an environment exceeds (goes over) the carrying capacity.
- _____ _____ _____: This will occur when the resources in an environment is destroyed or degraded (deteriorate; break down) which will then lower the carrying capacity.

Earth's Spheres