**Intro to Ecology Note Taking Page**

**The Organization of Life**

**Section 1**

**Defining an Ecosystem**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are communities of organisms and their abiotic environment.
* Examples are an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Ecosystems do not have clear boundaries.
* Things move from one ecosystem to another.
* Pollen can blow from a forest into a field, soil can wash from a mountain into a lake, and birds migrate from state to state.

**The Components of an Ecosystem**

* In order to survive, ecosystems need five basic components:
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Plants and rocks are components of the land ecosystems, while most of the energy of an ecosystem comes from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* If one part of the ecosystem is destroyed or changes, the entire system will be affected.

**Biotic and Abiotic Factors**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are environmental factors that are associated with or results from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which includes plants, animals, dead organisms, and the waste products of organisms.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are environmental factors that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the activities of living organisms which includes air, water, rocks, and temperature.
* Scientists can organize these living and nonliving things into various levels.

**Organisms**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are living things that can carry out life processes independently.
* You are an organism, as is an ant, and ivy plant, and each of the many bacteria living in your intestines.
* Every organism is a member of a species.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are groups of organisms that are closely related can mate to produce fertile offspring**.**

**Populations**

* Members of a species may not all live in the same place.
* Field mice in Maine will not interact with field mice in Texas. However, each organism lives as part of a population.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are groups of organisms of the same species that live in a specific geographical area and interbreed.
* For example, all the field mice in a cornfield make up a population of field mice.

**Populations**

* An important characteristic of a population is that its members \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rather than with members of other populations
* For example, bison will usually mate with another member of the same herd, just as other flowers in the same field will usually pollinate wildflowers.

**Communities**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are groups of various species that live in the same habitat and interact with each other.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is part of a community.
* The most obvious difference between communities is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ they have.
* Land communities are often dominated by a few species of plants. These plants then determine what other organisms can live in that community.

**Habitat**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are places where an organism usually lives.
* Every habitat has specific characteristics that the organisms that live there need to survive. If any of these factors change, the habitat changes.
* Organisms tend to be very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to their natural habitats.
* In fact, animals and plants usually cannot survive for long periods away from their natural habitat.

**BIOME**

* Large \_\_\_\_\_\_\_\_\_\_\_\_\_ of ecosystems that share the same \_\_\_\_\_\_\_\_\_\_.
* Examples:

BIOSPHERE

* Relatively thin layer of Earth and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that supports life.
* All of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ make up the biosphere.

**BIODIVERSITY**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**-** measure of the number of \_\_\_\_\_\_\_\_\_\_\_\_\_species there are as well as how common each species is.
* Ecosystems \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ more with more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**NICHE**

* Niche- an organism’s role in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (like a job)
* It includes the way an organism \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with its environment. (ex: How it gets food, how it finds shelter, when it reproduces, how many offspring it has)

**GENERALIST**

* Generalists- species with broad \_\_\_\_\_\_\_\_\_\_, they can tolerate many conditions and use many resources (ex cats, deer, roaches)

**SPECIALIST**

* Specialists- Species that have narrow \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, they can only tolerate certain conditions. (ex. Koala and Panda)

**SYMBIOSIS-** close \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between any 2 living organisms

Remember: Sym = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Bio = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- two species cooperating, they both benefit (+ and +)
* ex. bees and flowers, hippos and fish

**COMMENSALISM**

* one species benefits from another, the other species is not \_\_\_\_\_\_\_\_\_\_\_ (+ and no affect)
* ex. Sea anemones and clown fish
	+ Barnacles and whales

**PARASITISM**

* -one species benefits from another, the other species is \_\_\_\_\_\_\_\_\_\_\_\_\_ (+ and -), detriment = harm
* dogs and ticks, humans and tape worms

**COMPETITION**

**competition**- organisms that are in the same \_\_\_\_\_\_\_\_ and are therefore struggling for a resource (- and -)

There are 2 types

* **Interspecific**- between 2 \_\_\_\_\_\_\_\_\_\_\_\_\_ species

 Ex: lions and hyenas or pine trees and oak trees

* **Intraspecific-** between \_\_\_\_\_\_\_\_\_\_\_\_ species

Ex: 2 male elephants fighting for female

**PREDATION**

* **predation**- one species, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, hunting and eating another, the \_\_\_\_\_\_\_
* leopards and gazelles, spider and fly