Notes will vary based upon individual class concept attainment. These notes will be modified with examples and more in depth information at the teacher’s discretion.

What Shapes an Ecosystem?  
Section 4-2

Biotic and Abiotic Factors

Biotic Factors are the biological, or living, influences on organisms within an ecosystem.
- ex. animals, trees, plants, bacteria

Abiotic Factors are the physical, or non-living, factors that shape ecosystems.
- ex. climate, wind, soil type, sunlight

Together, Biotic and Abiotic Factors determine the survival and growth of an organism and the productivity of the ecosystem in which the organism lives.

The Niche

A Niche is the full range of physical and biological conditions in which an organism lives and the way in which the organism uses those conditions.

Community Interactions

Community interactions, such as competition, predation, and various forms of symbiosis, can powerfully affect an ecosystem.

A Resource is any necessity of life, such as water, nutrients, light, food, or space.

The Competitive Exclusion Principle is a fundamental rule in ecology which states that no two species can occupy the same Niche in the same habitat at the same time.

Predation is an interaction in which one organism captures and feeds on another organism.

Symbiosis is any relationship in which two species live closely together. There are 3 main classes of Symbiotic Relationships in nature which are:
1. Mutualism- both species benefit from the relationship.
2. Commensalism- one member of the association benefits and the other is neither helped nor harmed.
3. Parasitism- one organism lives on or inside another organism and harms it.

Ecological Succession

Ecosystems are constantly changing in response to natural and human disturbances. As an ecosystem changes, older inhabitants gradually die out and new organisms move in, causing further changes in the community.

Ecological Succession is the series of predictable changes that occur in a community over time.

Primary succession occurs on land where no soil exists.
Notes will vary based upon individual class concept attainment. These notes will be modified with examples and more in depth information at the teacher’s discretion.

**Pioneer Species** are the first to populate an area.

**Secondary Succession** occurs when the community interaction restore an ecosystem to its original condition after some disturbance has occurred. Ex. fire or farming