

What is the environment?

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- The terms ecosystem and environment do not mean the same thing
 - Environment includes the earth
 - Ecosystem is the community of things that interact in a certain environment
- Hierarchy of Ecosystems
 - Organism: any individual form of life (plants and animals)
 - Species: individual organisms of the same kind
 - Population: a collection of organisms of the same species living within a particular area
 - Community: populations of different organisms living and interacting in an area at a particular time
 - Ecosystem: communities and populations interacting with one another and with the chemical and physical factors making up the inorganic environment
 - Biome: large life and vegetation zones made of many smaller ecosystems
 - Biosphere: entire realm where life is found (includes atmosphere, ecosphere, lithosphere, and hydrosphere)
- The ultimate source of earth's energy is solar radiation which converts to different forms that organisms can use
- First law of thermodynamics: energy cannot be created or destroyed, only converted to different forms
 - however, it cannot be recycled over and over: when complex energies are used, they usually downgrade to low-grade energies that can no longer be used
- Second law of thermodynamics: we cannot recycle or reuse high quality energy to perform useful work again
 - Entropy: the tendency for energy to run downhill

- Food chain: the transfers of food energy from its primary producer sources through a series of consumer organisms where eating and being eaten is repeated a number of times
- Habitat: location of an organism within an ecosystem
- Ecological niche: an organism's role in a community of organisms that comprise an ecosystem
- Resource partitioning: species inhabit and feed from different parts of their environment, for the most part, they all aren't after the same things and therefore "share the wealth"

CLASS NOTES:

- People will have different understandings of their surroundings based on the way they were brought up, the media, pop culture, etc.
- Discourse - meaning/intentions behind words, symbols, or actions, we will work with environmental discourse
 - Meaning can change depending on place, time, and perspective
- Exchanges and cycles like the water cycle and the carbon cycle - which work separate from people but that people affect
- Ecosystem - most basic unit of ecological analysis
 - Composition: organism - species - population - community
- Biomes are classified based on major vegetation, a large life & vegetation zone made up of many smaller ecosystems
- Every organism needs food, water, shelter, & space to survive - they find these things in different ways in their ecological niche

- Carrying capacity - maximum population that an ecosystem can support
- Sociocultural systems - networks of interdependent actors that are relatively stable patterns of interaction and intercommunication - they share both material and symbolic cultural patterns
- Social institutions - nearly universal sociocultural formations (status and roles)
- Humans and human systems are part of the system and separate from the system
 - Talk about it through dualism and think about it dialectically
- There are always different ways of thinking about the same problem