

Study Guide: Unit 9 Test

HONORS BIOLOGY: ECOLOGY (Chapter 13-16)

Directions: The list below identifies topics, terms, and concepts that will be addressed on your Unit 9 Test. This list should help you focus your review. This is not a homework assignment you will turn into me.

CHAPTER 13

Principles of Ecology

- Ecology
- Levels of organization
- Ecology research methods

Biotic and Abiotic factors

- Biotic factors
- Abiotic factors
- Biodiversity
- Keystone species

Energy in ecosystems

- Producer (autotroph)
 - Photosynthesis
 - Chemosynthesis
- Consumer (heterotroph)
 - Types of consumers
 - Trophic levels
 - Detritivores
 - Decomposers

Energy in ecosystems

- Food chain
- Food web

Cycling of Matter

- Hydrologic cycle
- Biochemical cycles
 - Oxygen
 - Importance of photosynthesis and cellular respiration
 - Carbon
 - Importance of bacteria
 - Nitrogen
 - Importance of bacteria
 - Phosphorus

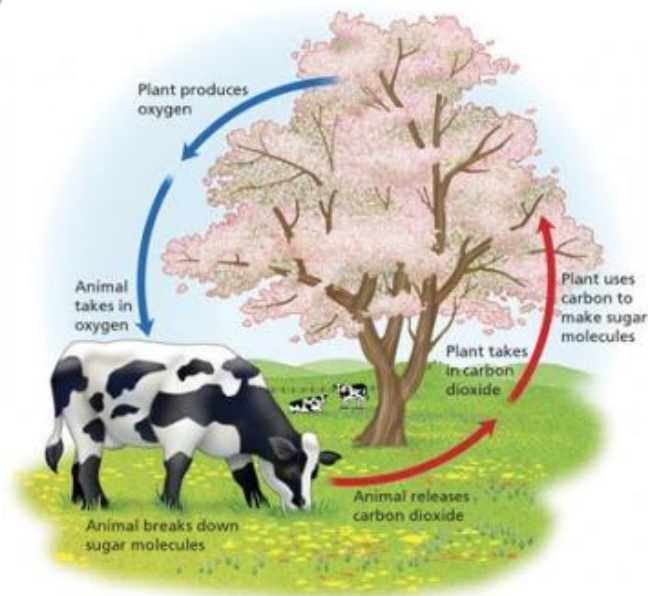
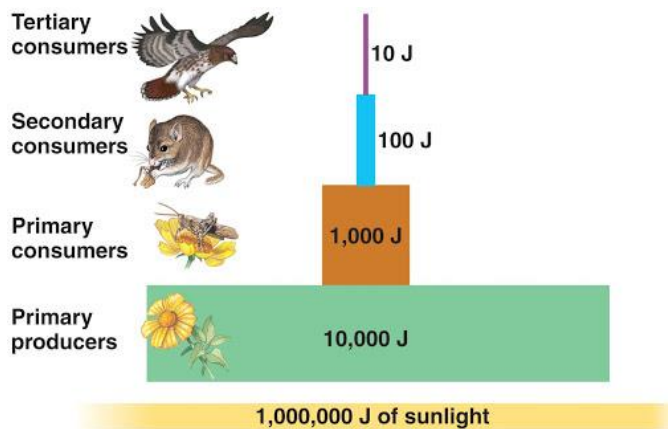
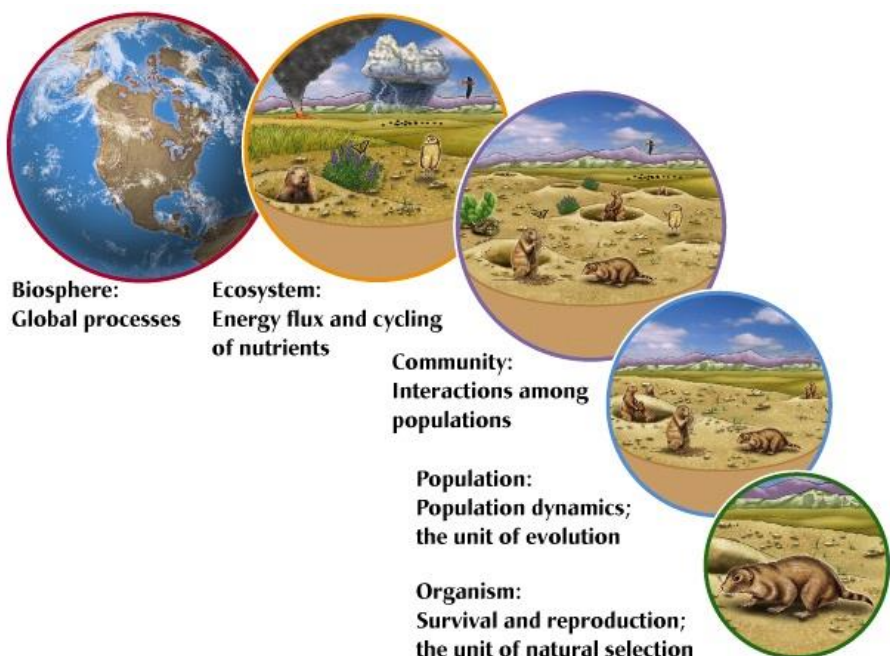
Cycling of Matter

- Pyramid Models
 - Biomass
 - Energy
 - Only 10% available
 - Numbers

CHAPTER 14

Habitat and Niche

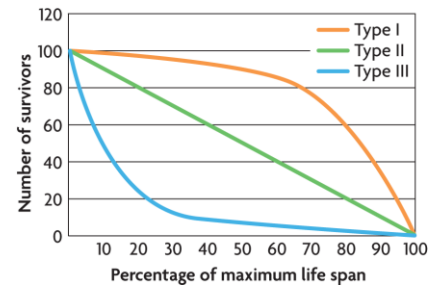
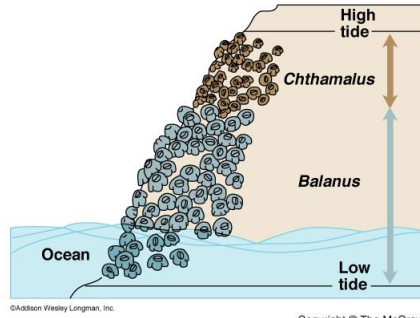
- Habitat
- Niche
- Competitive exclusion



- o Niche partitioning
- Ecological equivalents

Community Interactions

- Competition
 - o Intraspecific
 - o Interspecific
- Predation
- Symbiosis
 - o Types and examples

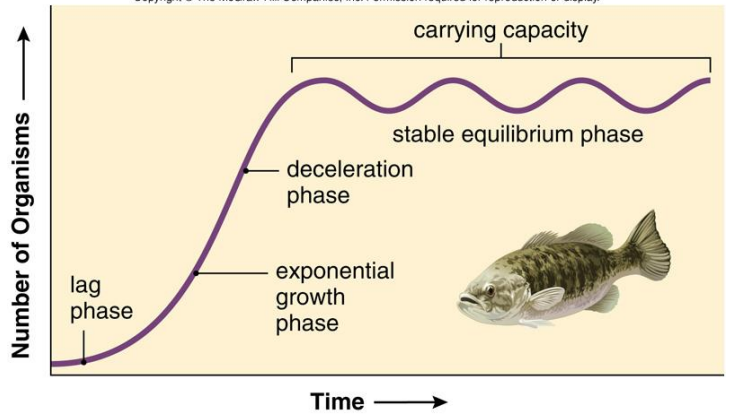


Population Density and Distribution

- Population density
- Population dispersion
- Survivorship curves

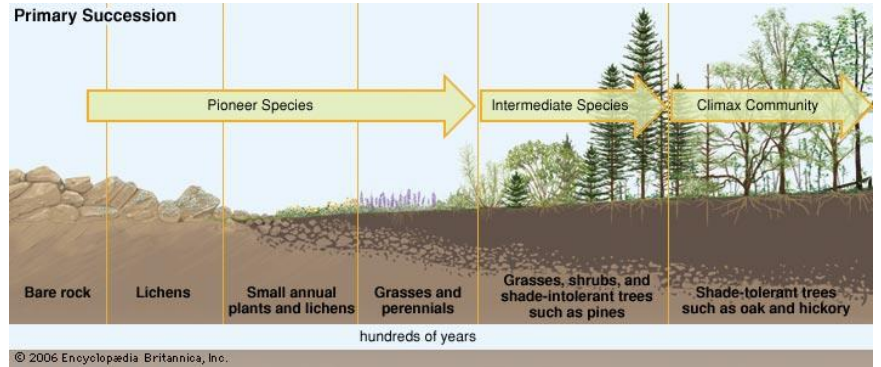
Population Growth Patterns

- 4 factors affecting population size
- 2 types of population growth
 - o Exponential
 - o Logistic
- Limiting factors
 - o Density dependent
 - o Density independent



Ecological Succession

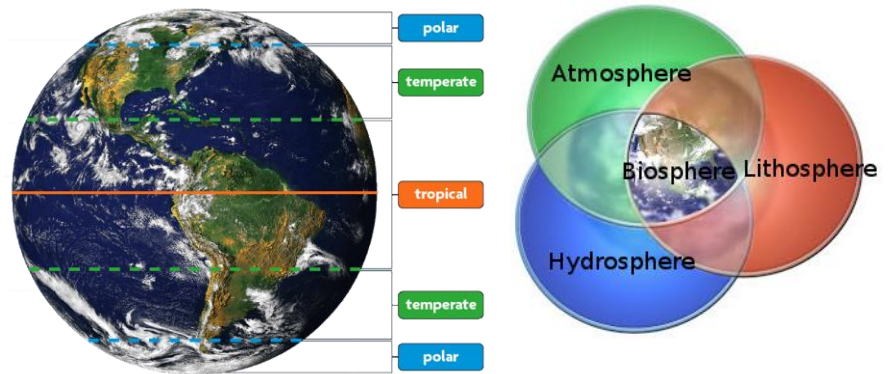
- Primary
 - o Pioneer species
- Secondary



CHAPTER 15

Life in the Earth System

- Biosphere
- Biota
- Earth systems
 - o Biosphere
 - o Lithosphere
 - o Atmosphere
 - o Hydrosphere

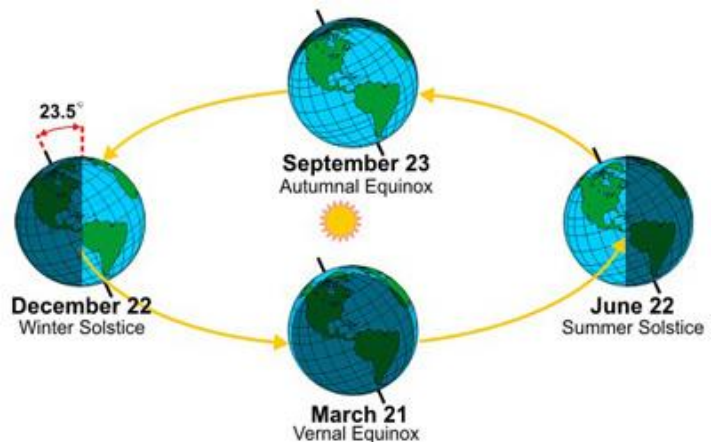


Climate

- Climate
 - o Key factors that shape an area's climate
- Weather
- Microclimate
- Climate zones
 - o Uneven heating of Earth's surface
 - o Earth's tilt (seasons)
 - o Air and water movement
- Landmass influence
 - o West Coast Marine Climate
 - o Orographic effect

Biomes

- 6 major biomes
- Climatogram
- Minor biomes



Marine Ecosystems

- Photic and aphotic zones
- Coral bleaching
- Ocean acidification

Estuaries and Freshwater Ecosystems

- Estuary
- Anthropogenic effects
- Eutrophication

CHAPTER 16

Human Population Growth

- Carrying Capacity
 - Ways humans increased
- Renewable resources
- Nonrenewable resources
- Ecological footprint

Pollution

- Air Pollution
 - Smog
 - Particulates
 - Ozone
 - Acid rain
 - Greenhouse effect
 - Global warming/Climate change
- Water pollution
- Indicator species
- Biomagnification
 - DDT

Threats to Biodiversity

- Loss of habitat
 - Habitat fragmentation
 - Deforestation
 - Introduced species (invasive species)

Conservation

- Sustainable development
- Environmental Protection Agency (EPA)
 - Endangered Species Act
 - Clean Air Act
 - Clean Water Act
- Formation of National Parks

