ECOSYSTEMS STUDY GUIDE

ECOSYSTEMS

Climate (temperature & precipitation over long periods) controls our world's biomes.

Closer you move toward equator, warmer biomes become

Biome – large, distinctive complex of plant communities created and maintained by climate.

Tundra – cold & dry (think arctic)

Taiga –2 seasons, cold winter & warm summers, moderate rainfall (think coniferous/pine trees) - largest

Deciduous – only biome with 4 seasons, leaves change color and fall – aka Temperate Forest – **NC**!

Tropical Rainforest – warm & humid, close to equator, most rain, a lot of biodiversity

Grassland – low precipitation = not very many trees

Desert – hot & dry

Freshwater = lakes, ponds, streams, rivers, wetlands, marshes

Marine (salt water) = oceans, estuaries (salt + fresh), coral reefs

{oceans have very little plant life at bottom b/c of no sun}

habitat – area inhabited by organism (its home)

	Description	Example
Organism	A living thing	One **deer**
Population	One type of organism living in the same habitat	A herd of **deer**
Community	More than one population living in the same habitat	**Deer**, trees, insects, bacteria, mushrooms, wolves, flowers
Ecosystem	Living (biotic) and nonliving (abiotic) things in a habitat	**Deer, trees, insects, bacteria, mushrooms, wolves, flowers**, sun, lake, soil, rocks, rain, snow

niche—involves both the **place** where an organism lives and the **roles** that an organism has in its **habitat**.

competition – occurs when two organisms of same or different species try to use a resource in the same place at the same time

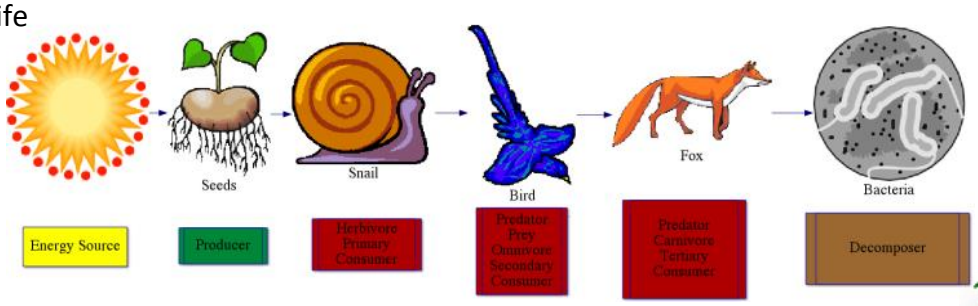
PRODUCERS	CONSUMERS	DECOMPOSERS
An organism that gets its energy from the sun (plant)	An animal that eats plants or another animal for energy and nutrients	An organism that gets its energy and nutrients from dead organisms (worms, mushrooms/fungi, bacteria)
		

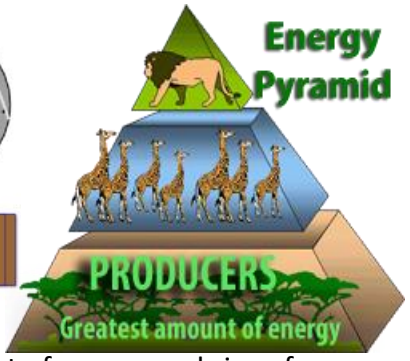
HERBIVORE	OMNIVORE	CARNIVORE
Eats mainly plants	Eats plants and animals	Eats animals (insects included)
		

predator—one that does the killing
prey—one that is the food
symbiosis - the interaction and relationship between 2 species

PARASITISM	MUTUALISM	COMMENSALISM
one helped (parasite), other harmed (host) WIN - LOSE	both benefit WIN - WIN	one helped, other not hurt or helped WIN - 0
		

food chain – a series of organisms dependent on the next as a source of food; shows how energy and nutrients are passed from organism to organism; always begins with plant life (producers) and ends with animal life

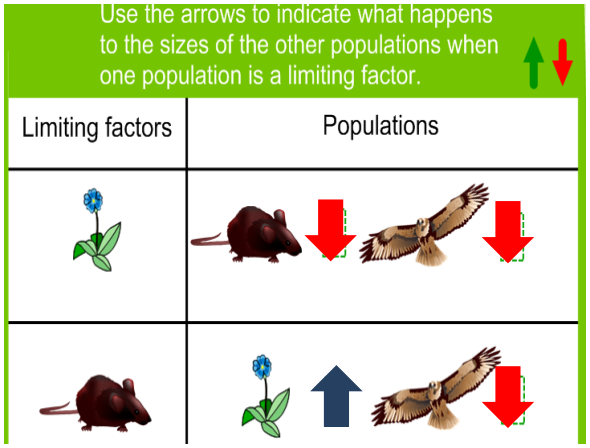




food web – shows how food chains overlap
energy pyramid – producers have the most energy and largest population; amount of energy and size of population decreases as you move up the pyramid
limiting factor – any biotic or abiotic factor that limits or prevents a population from growing any larger

Biotic Factors
Competitors
Predators
Food
Population Density

Abiotic Factors
Temperature
pH
Humidity
Wind Speed
Sunlight Intensity
Nutrients
Amount of available oxygen



Other Limiting Factors:
Disease/Parasites
Natural Factors (fires, flood, etc.)
Accidents
Illegal Hunting
Oil Drilling, Deforestation, Pollution, Mining, Residential Development (homes)