


<p>Class Notes</p> <p><i>Ecological Relationships</i></p> <p>Questions/Main Idea:</p>	<p>Name: _____</p> <p>Period: _____</p> <p>Date: _____</p> <p style="text-align: center;">Notes:</p>
<p>What is a habitat?</p>	<ul style="list-style-type: none"> • Where an organism lives and all the resources (biotic and abiotic) it needs to survive
<p>What is a niche?</p>	<ul style="list-style-type: none"> • The species' role in its environment • Includes the type of food it eats, what other organisms eat it, the ability to reproduce, the habitat it needs
<p>What is competition?</p>	<ul style="list-style-type: none"> • When organisms attempt to use the same resource at the same place or time
<p>What is the Competitive Exclusion Principle?</p>	<ul style="list-style-type: none"> • No two species can occupy the same niche in the same habitat at the same time.
<p>What is symbiosis?</p>	<ul style="list-style-type: none"> • a close ecological relationship between the individuals of two (or more) different species (sym = together; bio = life)
<p>Types of Symbiosis</p>	<ul style="list-style-type: none"> • <u>Competition</u>: Both organisms are harmed • <u>Mutualism</u>: Both organisms benefit • <u>Commensalism</u>: One organism benefits, other is unaffected • <u>Parasitism</u>: Parasite benefits, host is harmed (but not killed) • <u>Predation</u>: Predator benefits, prey is killed • <u>Herbivory</u>: Herbivore benefits, plant is harmed or killed
<p>What are examples of competition?</p> 	<ul style="list-style-type: none"> • Two flowering plants that compete for the same space (both are harmed due to energy expense). • Introduced species competing with native species (e.g., house sparrow competes with native bluebird, kudzu covering native vegetation)

What are examples of mutualism (and why)?



- Clownfish/anemone - The anemone protects the clownfish, and the clownfish keeps the anemone free from dirt and debris
- Dove/cactus - Cactus provides fruit for the dove; dove eats the fruit (including the seed) and transports the seed (along a dose of fertilizer!) to a new location.
- Caterpillar/ants - Caterpillar feeds the ants with drops of honeydew, ants protect caterpillar from predators

What are examples of commensalism (and why)?



- Cattle egret and cattle - Cattle stir up insects, which the egrets eat
- Shark and remora - Remora (attached by a sucker) gets a ride on the shark, sometimes also gets food dropped by shark
- Whale and barnacle - The barnacle larvae swim around, attach to the whale, and form the adult; whale habitat is good location for finding food

What are examples of parasitism (and why)?



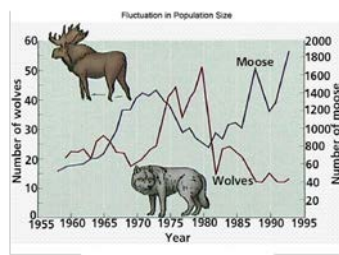
- Cookoo & other small birds - Cuckoo lays egg in host's nest to be raised by host (and often kills host's eggs)
- Leeches & mammal - Leech feeds on blood of mammal host
- Tapeworm and mammal - Tapeworm feeds off digestive tract of mammal

What are examples of predation (and why)?



- Spider/insect
- Snake/mouse
- Cheetah/variety of organisms!

What is meant by the Predator/Prey "Arms Race"?



- Predators and prey are involved in an ever-escalating evolutionary "arms race"!
 - e.g., antelope gets faster, so cheetah gets faster
- For many populations predation is the main cause of death.
- BUT the prey determines the predator population
 - When the prey population increases, predator population increases
 - When prey population decreases, predator population decreases

Summary:

