

## Environmental Science: Notes 1.3: Interactions Among Living Things

### Adapting to the Environment

#### Natural Selection

The process of natural selection helps develop characteristics in species that enables the species survive in its environment.

Offspring born with the characteristic tend to survive, reproduce and pass the characteristic to their offspring.

Natural selection results in adaptations, the physical characteristics and behaviors that allow an organism to survive in its environment.

#### Niche

An organism's role in its environment is known as its niche.

A niche includes what an organism eats, how it gets its food, which organisms may use it for food, when and how the organism reproduces and the physical conditions it needs in order to survive.

There are three major ways organisms interact with one another...

#### Competition

The struggle between organisms to survive as they try to use the same limited resources (food, shelter, and water)

#### Predation

Predation is the process in which one organism kills another for food.

The predator does the killing, the prey is the organism killed.

#### Symbiosis

Symbiosis describes the relationship between two organisms, in which at least one benefits from the relationship.

## Three types of symbiotic relationships...

- 1) Mutualism- both organisms benefit from the relationship.  
Example: A butterfly and a flowering plant. The butterfly gets nectar for food, while the plant is pollinated to help in reproduction.
- 2) Commensalism- one organism benefits, while the other is neither helped nor harmed.  
Example: An eagle may build a nest in a tree.
- 3) Parasitism- one organism living on or in another organism, which is harmed.  
Example: Tape worm (parasite) and a human (host).

Parasites usually do not kill their host, why?