

Interactions Within Ecosystems

ecology: the study of the relationship between living organisms and their environment

An **ecologist** studies these relationships as well as the effect humans have on these ecosystems

The Needs of Living Things

All living things share the following basic needs:

- Food
- A place to live (habitat)
- Air to breathe
- Water to drink

Adaptations

Adaptation: an inherited characteristic that helps an organism survive and reproduce in its environment.

Ex) different types of birds have different looking beaks. Each beak is specially designed for the kind of food the bird eats and the environment it lives in.

Ecosystems

Ecosystem: the interactions between living and nonliving things in a particular environment.

Ex) a rotting log ecosystem includes the air, soil, microorganisms, plants, fungi and animals that live on or around the log.

Interactions in Ecosystems

Symbiosis: two species live closely together in a relationship that lasts over time. There are three basic types:

- **Mutualism:** relationship where both species benefit ex) sharks and remoras. The shark gets cleaned by the remora and the remora gets a free ride and protection from the shark
- **Parasitism:** relationship where one species benefits (parasite) and the other species is harmed (host) ex) tapeworms and animals
- **Commensalism:** relationship where one species benefits and the other does not lose or gain anything ex) orchids living on tree trunks, the orchids get a safe place to live sheltered from the tree and the tree is not harmed