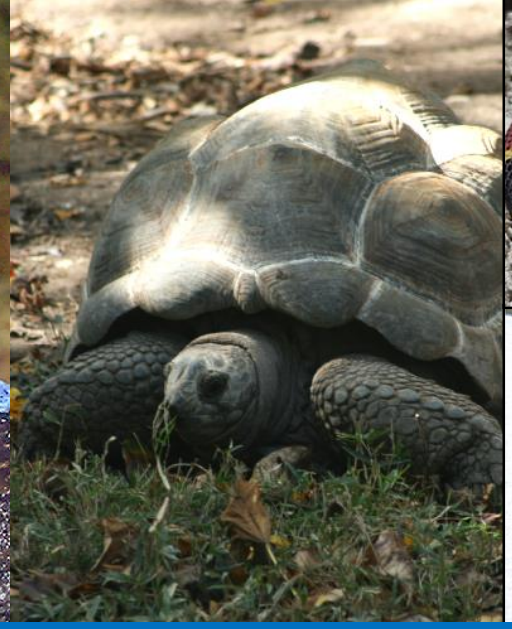
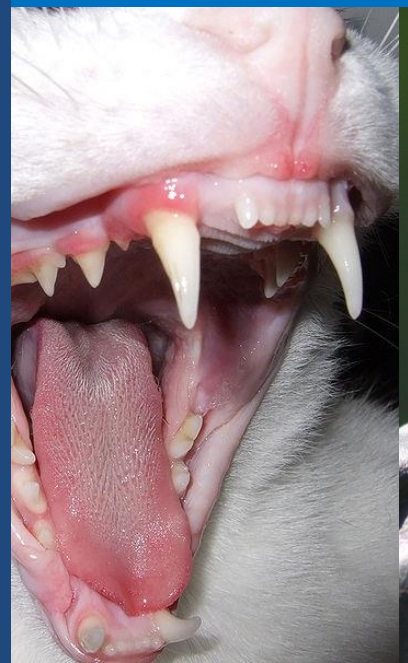


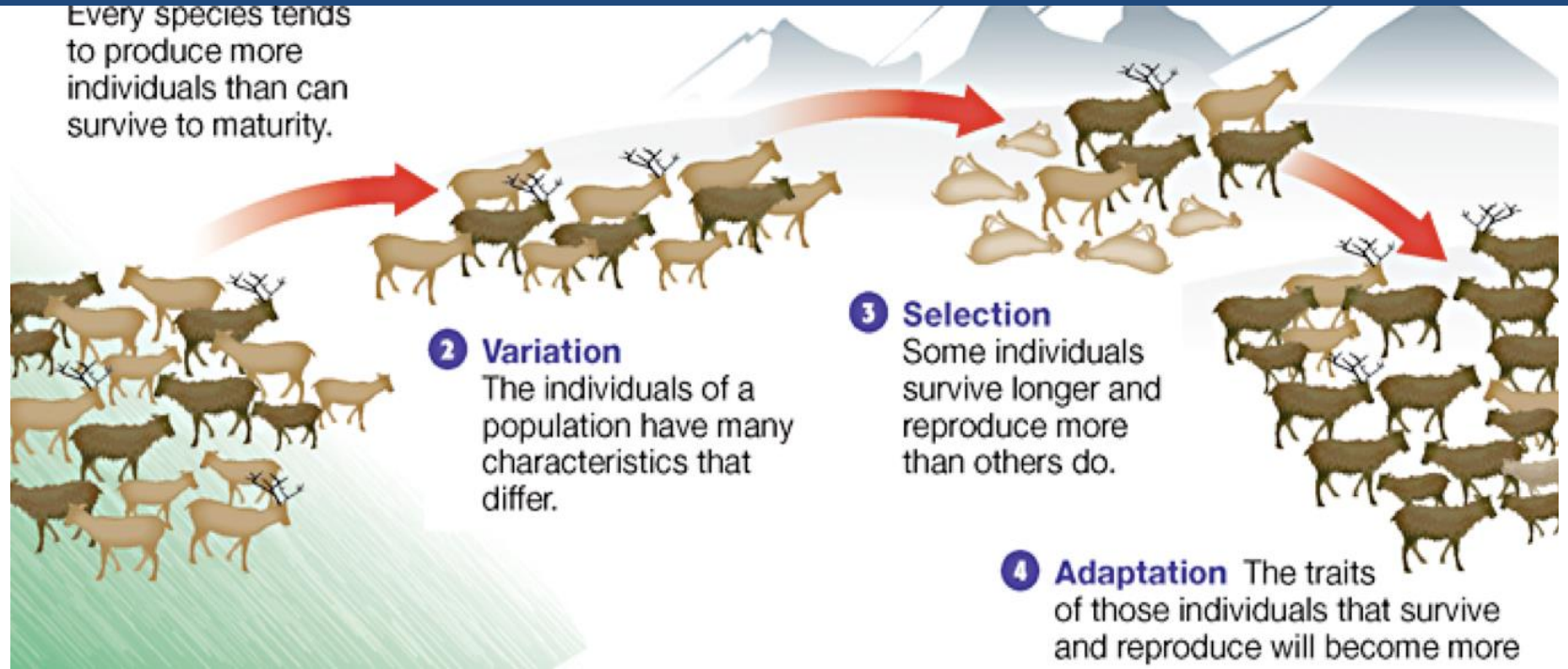


Important Adaptations



Adaptations

The process of organisms with the best adaptations surviving to reproduce and pass on their genes is known as natural selection. Adaptations allow an organism to *acquire resources*, *avoid predation*, and *reproduce successfully*.



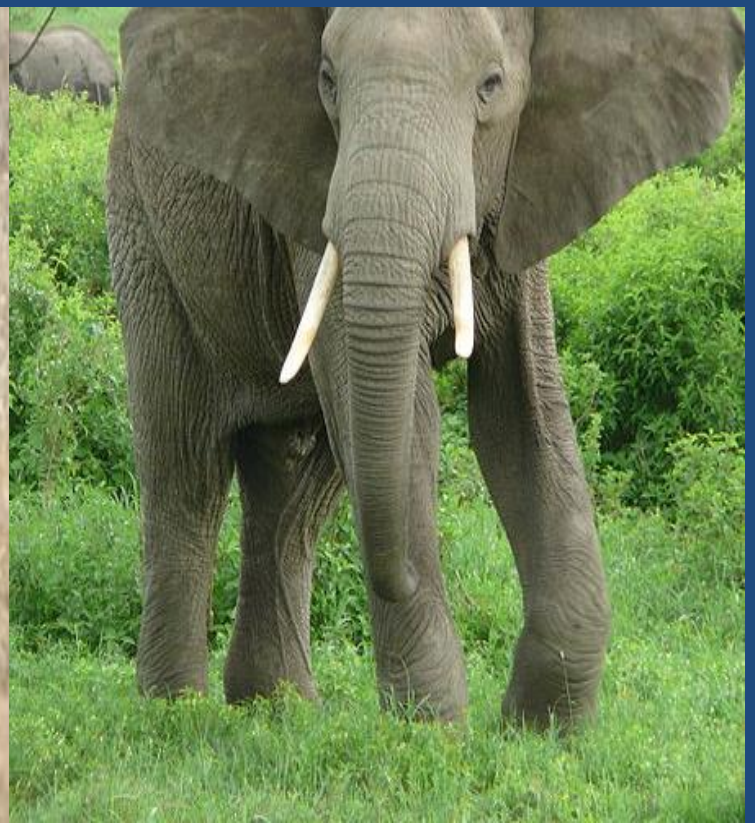
Defensive Adaptations

Many organisms have adaptations that allow them to *defend themselves* from predators. Many animals have armor and shells which makes them difficult for predators to kill and eat.

Photo by Tom Friedel

Defensive Adaptations

Rhinoceroses and elephants are examples of animals with *tough, thick skin* and horns or tusks for protection.



Defensive Adaptations

Plants often have sharp thorns or spines to deter herbivores from eating them.

Defensive Adaptations

Dart frogs and poison ivy are examples of organisms that use toxins and poisons to deter predators. Predators avoid eating these organisms that make them sick.

Defensive Adaptations

Animals often use bright colors to advertise to predators that they are toxic or distasteful. Once predators get sick from eating one, they learn to avoid eating others.

Photo by Michael J. Plagens

Photo by Bruce Marlin

Camouflage

Some animals have developed very elaborate camouflage to hide or *mimic* another object. This makes it difficult for the predators to see them which helps them survive longer to reproduce.

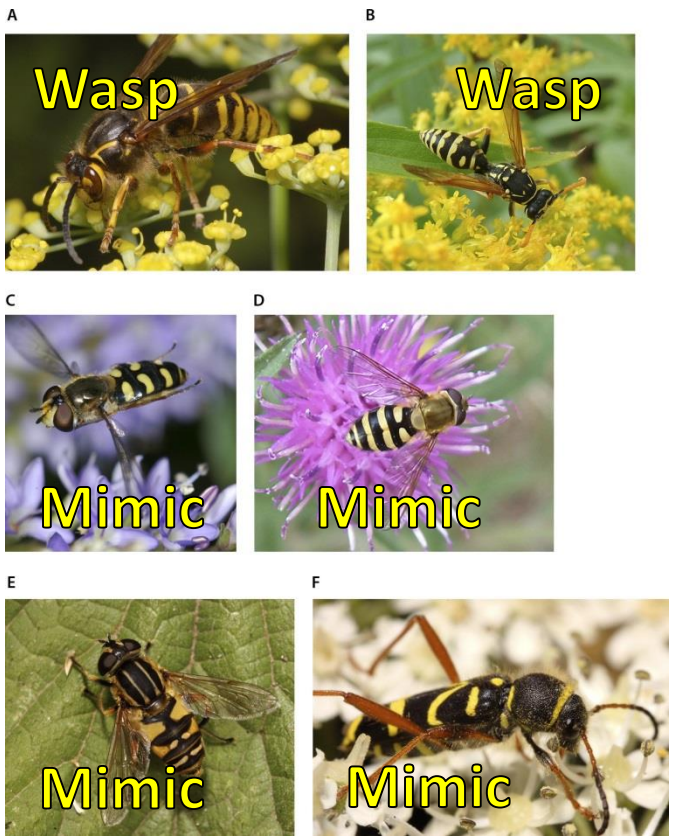
Photo by Theuerkauf

Camouflage

Camouflage also helps *predators hide from their prey* while they hunt for food.

Mimicry

Some organism also mimic *poisonous* or *toxic* animals to trick their predators. By looking like a harmful species, these *harmless* organisms trick predators into leaving them alone.



Four examples of insects that mimic stinging wasps.

Behavioral Adaptations

Some animals live in large groups. Predators will eat the *sick* and *weak* animals since they are easier to kill. This helps keep the population strong by allowing the more well adapted members to survive and reproduce.

Behavioral Adaptations

Many animals also migrate long distances to follow *resources* or to *reproduce*. Other animals migrate south to *warmer climates* during cold winter months.

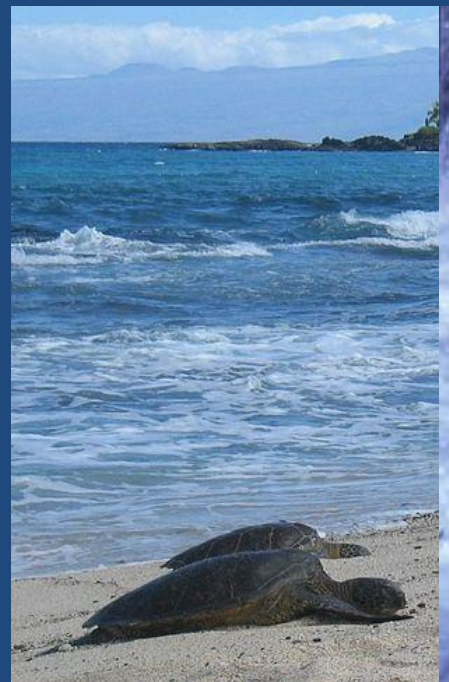
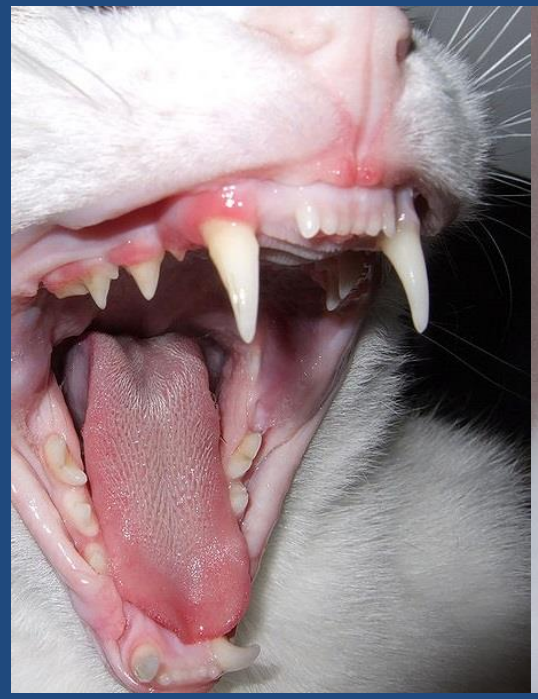


Photo by Bjørn Christian Tørrissen

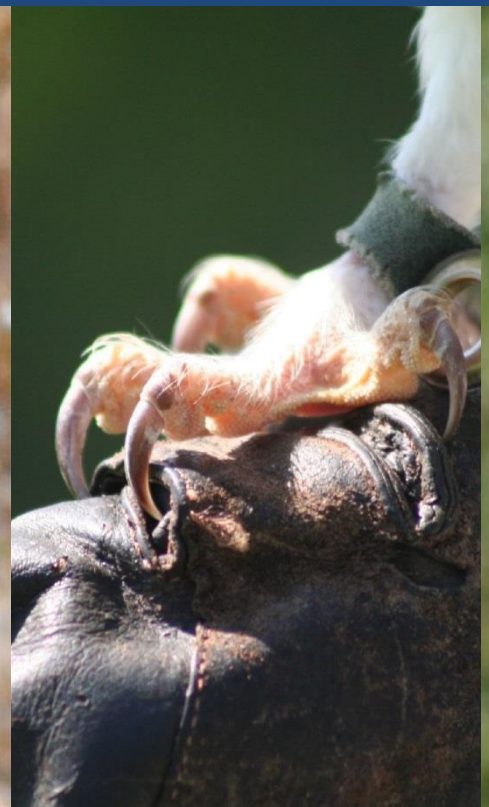
Predatory Adaptations

Predators have many adaptations that allow them to *catch* and *kill* their prey. Many animals have sharp fangs and claws which allows them to kill and eat other animals.




Predatory Adaptations

Predatory birds have talons and sharp, hooked beaks that allow them to capture and kill their prey.



Predatory Adaptations

Some animals, like scorpions, spiders and snakes, have developed venoms and poison which allows them to paralyze and kill their prey.

Herbivore Adaptations

Plant eating animals have **flat teeth** designed to grind plant material.

Herbivore Adaptations

Birds that eat mostly plants tend to have *short beaks* that are *wider at the base* designed to crack open nuts and seeds.

Photo by P. Kuczynski

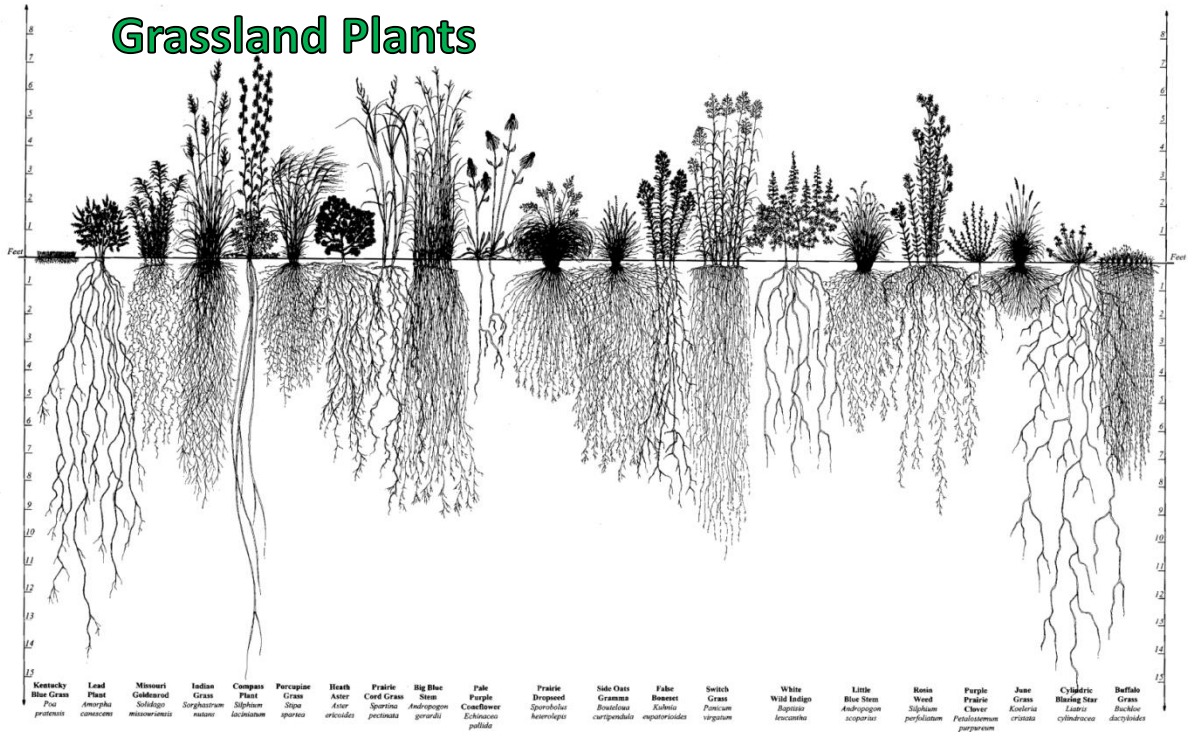
Plant Adaptations

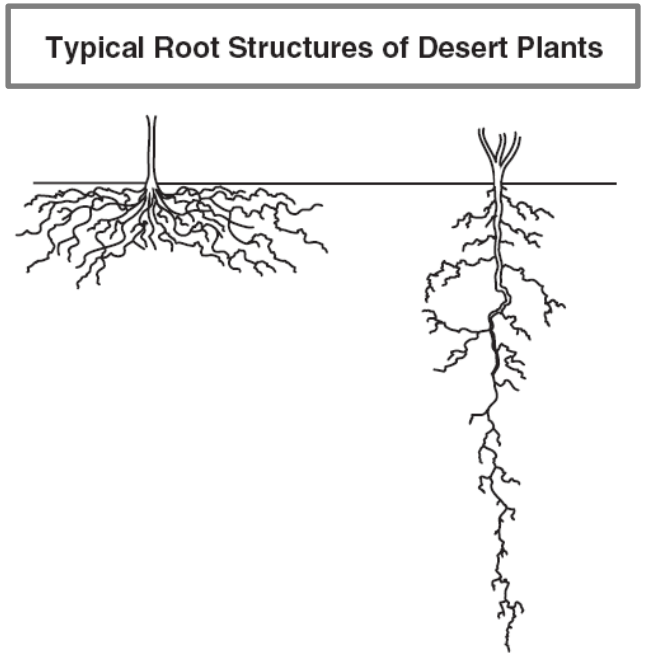
There is often not much light that gets through a forest canopy to reach the forest floor. Because of this, plants on the forest floor often have large leaves to capture more light.


Forest Canopy

Plant Adaptations

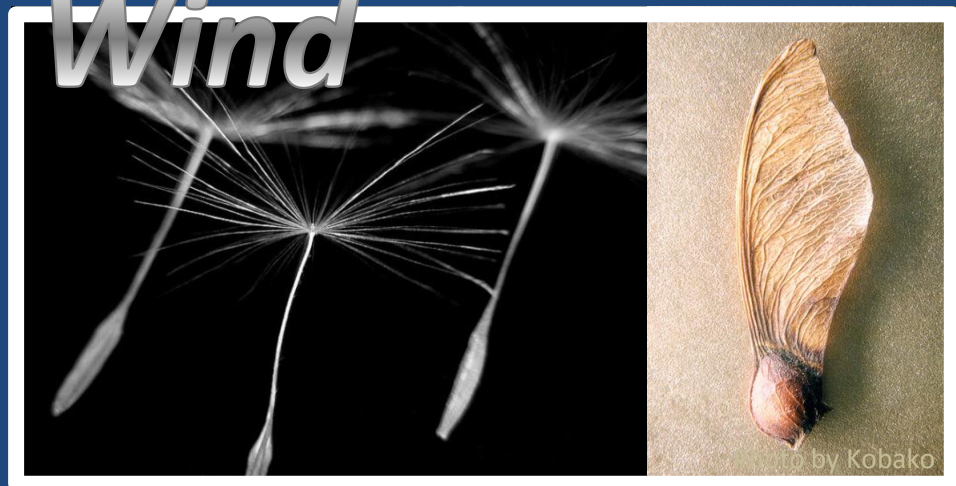
Plants that grow where water is scarce often have **long roots** to reach *water*. Some have roots that are **shallow but wide** to catch rare desert rainfall as quickly as possible.





Plant Adaptations

Plants have also adapted many ways to *disperse their seeds*. This prevents plants from competing for resources with offspring and allows both to survive and reproduce.

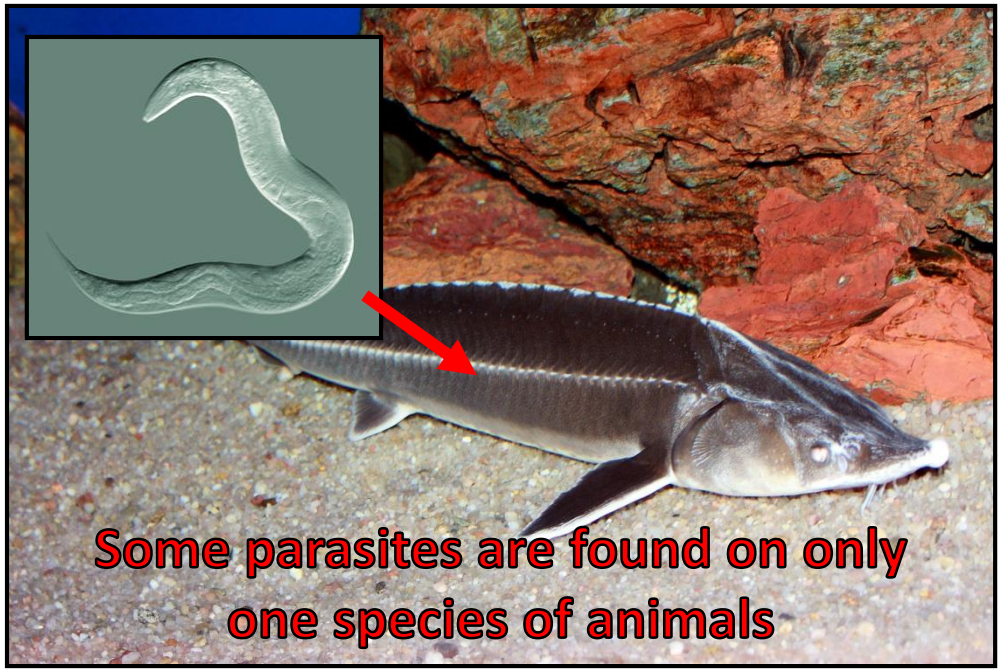


Specialization

Some organisms have adapted to their environments by becoming extremely **specialized**. This means that the organism uses only very specific resources.

Specialization

Some organisms become so specialized that they only eat one type of food. Specialization can benefit a species by *reducing competition* for resources.



Specialization

However, specialization can also put a species at risk. If something happens to the few other species they depend on, their own survival will be put into jeopardy.