

13.2 Adaptations

I. Adaptations in Species

A. What is adaptation?

1. Variations are slight differences in inherited traits among individual members of a species.
2. Variations occur through mutations.
3. Adaptations are inherited traits that help a species survive in its environment.

B. How Adaptations occur

1. Natural Selection is the process by which organisms with variations that help them survive in their environments live longer, compete better and reproduce more than those that do not have the variation.
2. Variations that become adaptations depend on the environment
3. When the environment changes, a population either adapts or dies off
4. Selective breeding is the selection and breeding of organisms with desired traits. Example is that humans breed organisms for food or for pets.

C. Types of Adaptations

1. Structural-a physical trait such as color, shape or internal structure that increases survival.
2. Behavioral-a behavior or action such as migration, hibernation, hunting at night or playing dead that increases survival.
3. Functional-a biochemical change such as hibernating, shedding or splitting that enables a species to increase survival or maintain homeostasis.
4. Maintaining homeostasis is the ability of an organism to keep its internal conditions within a certain limit. Example is sweating on a hot day. Helps survive temporary changes.
5. Protection from predators
 - a. Camouflage is an adaptation that enables a species to blend in with its environment
 - b. Mimicry is an adaptation in which one species resembles another species
6. Movement-like running fast or other ways that can help a species survive.
7. Food gathering like storing food, using camouflage or mimicry to find food or like predators using these adaptations to hunt their prey.