Evolutionary Adaptation

Organisms are extremely adapted to their environment. These adaptations are a result of natural selection. Members of a species with characteristics that are better suited to the environment leave more offspring. This ensures that over time, the population becomes more and more adapted to its environment.

Shark's streamline body allows it to move fast in water. Its gills effectively absorb dissolved oxygen in seawater. It also has mechano-receptors in its lateral line system that detects low frequency vibrations. Sharks also have electroreceptors called ampullae of Lorenzini which it uses to detect bioelectric fields of prey.

Regulation

Living organisms maintain an internal environment that has conditions significantly different than the external environment. Biological processes occur only at a small range of set conditions which must be maintained.

Sweating allows humans to lose excess heat and maintain an internal body temperature of 37°C on average. In response to low external temperatures, human muscles contract automatically to generate heat. This process is called shivering thermogenesis.

Reproduction

Living organisms reproduce their own kind. The process of reproduction allows organisms to pass their genetic materials to the next generation. Only characteristics encoded in genetic materials are passed on from parent to offspring through reproduction.