

Evolution

Why are organisms well suited to their environments?

- Charles Darwin:
 - English Naturalist, lived in the 1800's
 - Observed that organisms in a population differ slightly in form, function and behavior
 - Some differences are hereditary
 - Environment influences which individuals survive to produce offspring

Natural Selection

- Natural Selection is the unequal survival and reproduction that results from the presence or absence of particular trait.
- Natural selection causes the characteristics of a population to change.
- Evolution is a change in the genetic characteristics from one generation to the next.
- Survival of the Fittest

Evolution

- Darwin thought that nature selects certain traits that will help species survive or reproduce.
 - Example: sharper claws, lighter feathers
- Adaptation: An inherited trait that increases an organism's chance of survival and reproduction in a certain environment.

Evolution

- Coevolution: When two species evolve in response to long-term interaction with each other
 - Example: honeycreeper bird and flower
 - What are the adaptations of each?
- Artificial Selection: Breeding of organisms by humans for specific characteristics
 - Ex: Dog Breeding for specific functions
 - Ex: Plant breeding (seeds of biggest fruits)

Evolution

- Resistance: The ability of one or more organisms to tolerate a particular chemical designed to kill it.
 - Organisms may contain a gene that helps them to resist or break the chemical down into something harmless
 - Examples:
 - Insects that are resistant to pesticides
 - Humans that are resistant to antibiotics