Vocabulary Chapter 9 Evolution: Patterns and Diversity

similarities
Those characteristics which are the same or nearly the same in organisms
Example: Many fish have scales which make them similar in exterior covering.

diversity
The wide variety of living things found on earth
Example: There is great diversity of animals in the rain forest.

evolution
The process of ongoing species change through time
Example: The evolution of finches on the Galapagos Islands has resulted in a wide variety of species there.

species
A group of living organisms that can successfully breed with each other and produce breeding young.
Example: Humans are of a single species.

variation
Small differences within a species
Example: There are many variations within the dog world.

reproductive isolation
A population of organisms that is isolated from mating with other populations because of physical, behavioral, or anatomical differences
Example: Polar bears do not mate with brown bears because each species occupies a unique and distant habitat.

Charles Darwin
A naturalist and biologist often called the father of evolution

Galapagos Islands
A relatively young group of volcanic islands found in the mid-Pacific ocean west of South America

finch
A small bird found on many continents
Example: There are many species of finches living (and extinct) on the Galapagos Islands.

overpopulation
A population of organisms increasing in numbers to the point where they jeopardize their own survival
Example: Humans in such places as Ethiopia and other African locations

Thomas Malthus
A preacher and scientist who over 100 years ago warned of the dangers of human overpopulation

artificial selection
The breeding of plants and animals by humans in order to produce variations in the species desirable to humans
Example: The wide variety of dogs at the dog show shows the result of many years of artificial selection.

natural selection
A process of evolution found in nature in which plants and animals with the most successful adaptations for survival live to pass those traits on to their offspring
Example: Through the process of natural selection, dolphins have become highly successful sea mammals.

adaptation
A characteristic that improves an organism's chances of survival.
Example: The anteater's long nose and sticky tongue are good adaptations for survival where there are large populations of ants.

acquired characteristic
A characteristic of an organism that is acquired during the life of the organism. It is not passed to the next generation.
Example: The weightlifter developed huge pectoral muscles.

habitat
The place where an organism lives
Example: The open sea is the tuna's habitat.

predator
An animal that feeds on another animal
Example: A hawk is a predator and a mouse is the prey.

prey
An animal fed upon by another
Example: A hawk is a predator and a mouse is the prey.

generation
The set of offspring from the parents
Example: I am the first generation of my parents' descendants.

theory
An “educated guess” yet to be totally proven
Example: I have a theory that the dark moth will survive longer than the light moth because of the dark color of the tree bark on which it often lands.

penicillin
An antibiotic compound that is used to treat or prevent bacterial diseases

evolution
A change in a species or population through time
Example: The peppered moth’s evolution through color change is an example of a natural experiment in evolution.

intron
A small section of a DNA molecule

gene pool
The total number of genes in a population
Example: The gene pool of the California Condor, an endangered species, is very small because there are only a few individuals left..

migration
The movement of organisms into or out of a population
Example: There was a migration of caribou out of Alaska.

gene flow
The movement of genes into or out of a population
Example: Selective breeding in dogs can cause an increase of a specific gene in a certain population of Chihuahuas.

genetic drift
The changes in a small gene pool due largely to chance
Example: The Dunkers of Pennsylvania exhibit several characteristics blood type characteristics due to genetic drift.

speciation
The development of a new species

isolation
The process of being separated from similar individuals or populations over time
Example: Polar bears are isolated from other species of bears as they live in the vast icy habitat of the Arctic.

adaptive radiation
The emergence over time of new species from a common ancestor.

Example: "Darwin's finches" of the Galapagos Islands are believed to have descended from a common mainland finch.

punctuated equilibria
A process of evolution in which there are periods of little species development followed by periods of rapid speciation

divergent evolution
An evolutionary process away from an ancestral species
Example: The whale family returning to water over geologic time

parallel evolution
A type of evolution in which organisms of the same species become too different to successfully reproduce

convergent evolution
An evolutionary process in which very different organisms end up looking similar because of the environmental conditions in which they must live
Example: Cactus and euphorbia plants of the desert
coevolution
The evolution of two different species of organisms which help each other
Example: The yucca plant and pronuba moth