

What is Evolution?

Created: Friday, 22 July 2011 05:41 | Published: Friday, 22 July 2011 05:41 | Written by [Super User](#) | [Print](#)

An introduction to Evolution

Evolution is the process of change in all forms of life over generations. It helps us to understand the history of life.



Definition:

Evolution is the change over time in one or more [inherited traits](#) found in [populations](#) of [organisms](#).

Other names of Evolution:

Biological evolution or organic evolution

Biological Evolution

The central idea of biological evolution is that all life on Earth shares a common ancestor.

Process

Through genetic variation, selective forces can occur in order for evolution to occur. That means, as genetic variation happens, some variations will survive and reproduce, potentially passing on that variation, while others will not reproduce and not pass on the variation. Variations that increase survival drive evolution.

Common causes of evolution

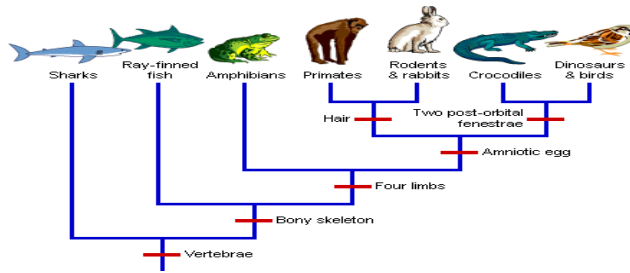
- Genetic Drift - Random changes to the proportions of two or more inherited traits within a population
- [Natural selection](#) - differential survival and/or reproduction of organisms that differ in one or more inherited traits.

3 Conditions of Natural Selection

1. Every individual receives genes from their parents then passed on to their offspring.
2. Organisms tend to produce more offspring than the environment can support.
3. Variations among offspring occurs.

Reasons of Variations

- [Mutations](#) – introduction of new genes via random changes
- Reshuffling of existing [genes](#) during sexual reproduction



The Histor

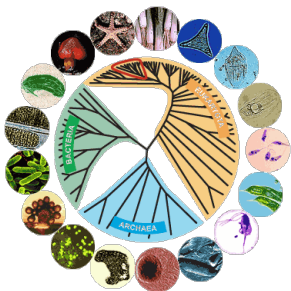
y of Life

Life history has changed over time and different species share [common ancestors](#).

Evolutionary change and evolutionary relationships are represented in family trees. These family trees are constructed and this knowledge affects [biological classification](#).

The Family Tree

- Process of evolution produces a pattern of relationships between species.
- Lineages evolve and modifications get inherited.
- A branching pattern of evolutionary relationships produced.
- The Tree of Life then represents the [phylogeny](#) of organisms



The Three Domains:

This tree of life referred to as the three domains:

1. Archaea
2. Bacteria
3. Eukaryota

Modern evolutionary synthesis

The [modern evolutionary synthesis](#) defines evolution as the change over time in this genetic variation.

Population Genetics

From a genetic viewpoint:

Evolution is a generation-to-generation change in the frequencies of [alleles](#) within a population that shares a common gene pool.

Hardy-Weinberg principle:

[Hardy Weinberg principle](#) states that the frequencies of alleles in a sufficiently large population will remain constant if the only forces acting on that population are the random reshuffling of alleles during the formation of the sperm or egg, and the random combination of the alleles in these sex cells during [fertilisation](#).

Evolution is currently applied various areas within biology such as [conservation biology](#), [developmental biology](#), [ecology](#), [physiology](#), [paleontology](#) and [medicine](#). The impact is on other areas like [agriculture](#), [anthropology](#), [philosophy](#) and [psychology](#).

Want to know more about 'Evolution?' [click here](#) to schedule live homework help from a certified tutor!

About eAge Tutoring:

[eAgeTutor.com](#) is the premium online tutoring provider. Using materials developed by highly qualified educators and leading content developers, a team of top-notch software experts, and a group of passionate educators, eAgeTutor works to ensure the success and satisfaction of all of its students.

[Contact us](#) today to learn more about our guaranteed results and discuss how we can help make the dreams of the student in your life come true!

Reference Links:

- <http://en.wikipedia.org/wiki/Evolution>
- http://en.wikipedia.org/wiki/Introduction_to_evolution
- <http://www.actionbioscience.org/evolution/lenski.html>
- <http://evolution.berkeley.edu/evosite/evo101/IIIMechanisms.shtml>
- <http://en.wikipedia.org/wiki/Mutation>
- <http://en.wikipedia.org/wiki/Phylogenetics>

Category:ROOT

[Joomla SEF URLs by Artio](#)