

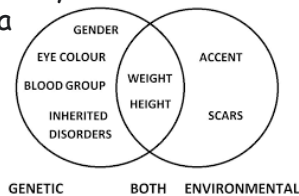
Variation

Threshold Concept

All living things need to change to live.

Variation

Individuals in a population are usually similar to each other, but not identical. Some of the variation within a species is genetic, some is environmental - the conditions in which they have developed and some is a combination of both



Keywords

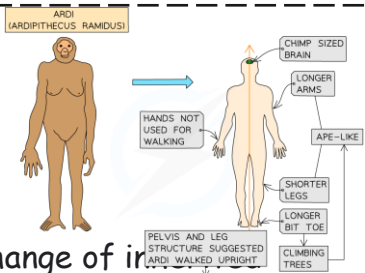
- Variation**..... any difference between the individuals in a species or groups of organisms of any species
- Evolution** the change in the characteristics of a species over several generations and relies on the process of natural selection
- Adaptation**..... the adjustment of organisms to their environment in order to improve their chances at survival in that environment
- Natural Selection**..... the process through which populations of living organisms adapt and change

Natural Selection

In any environment, the individuals that have the best adaptive features are the ones most likely to survive and reproduce



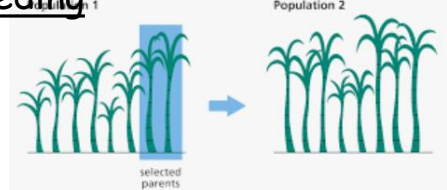
Evolution



Evolution is the change of its characteristics within a population over time through natural selection, which may result in the formation of a new species. Five main processes that lead to evolution:

- mutation
- non-random mating
- gene flow
- finite population size (genetic drift)
- natural selection.

Selective Breeding



Selective breeding or artificial selection is when humans breed plants and animals for particular genetic characteristics. Humans have bred food crops from wild plants and domesticated animals for thousands of years

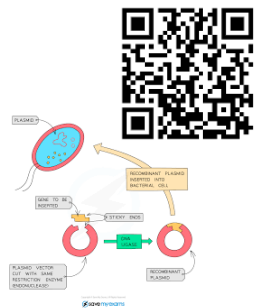
Fossils



A fossil is the preserved remains of a dead organism from millions of years ago. Evidence for early forms of life comes from fossils. By studying fossils, scientists can learn how much (or how little) organisms have changed as life developed on Earth

Genetic Engineering

Genetic engineering involves modifying the genome of an organism by introducing a gene from another organism to result in a desired characteristic



Required Practical

Equations for this topic