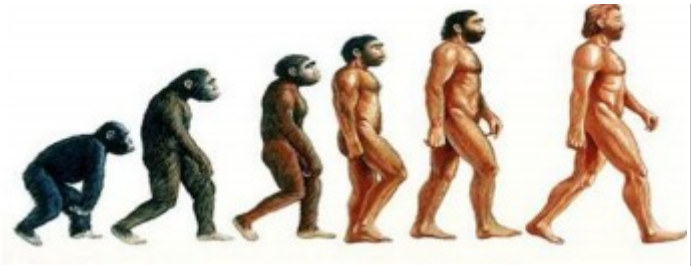
Evolution and Inheritance



-Evolution is a change over time. It occurs when there is competition to survive (natural selection).

-Characteristics are passed from parents to their offspring. This is called inheritance.

-Offspring are not identical to their parents. Some characteristics are inherited, but some are new in the offspring – these are called mutations.

-Fossils are remains of living things, and provide evidence about living things from the past.

-Animals and plants are suited to their environments, and adaptation leads to advantageous changes.

Prior learning

In year 3 you learnt how fossils are formed. We will extend our learning to show how fossils provide information about living things that lived millions of years ago.

In year 5 you learnt the changes as humans develop to old age. We will be learning about offspring and how living things produce offspring of the same kind.

Key questions

- What was Darwin's theory of evolution?
- What is inheritance?
- How are fossils formed and what do they tell us about animals and plants that used to inhabit the earth?
- What is the impact of human intervention on evolution?

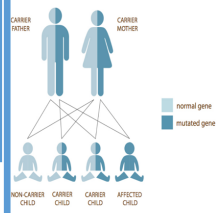
evolution	the process by which different kinds of living organisms are believed to have developed from earlier forms during the history of the earth
inherit	derive (a quality, characteristic, or predisposition) genetically from one's parents or ancestors
adaptation	the process of change by which an organism or species becomes better suited to its environment
fossil	the remains or impression of a prehistoric plant or animal embedded in rock and preserved in petrified form
organism	an individual animal, plant, or single-celled life form
naturalist	an expert in or student of natural history
geology	the science which deals with the physical structure and substance of the earth, their history, and the processes which act on them
geologist	an expert in or student of geology
biology	the study of living organisms
biologist	an expert in or student of biology
palaeontology	the branch of science concerned with fossil animals and plants
palaeontologist	an expert in or student of palaeontology

Evidence for Evolution - Fossils

Fossils are the remains, impressions or trace of any once-living thing from a past geological age. When paleontologists compare animals in fossils to animals today, they can see similarities and differences between them e.g. fossils show that giraffes' necks did not used to be as long. They have developed over time to reach high branches.

Living things also provide evidence of natural selection and evolution. On the Galapagos Islands, Charles Darwin found differences between finches from island to island. They had adapted for the different foods that they eat.

Inheritance



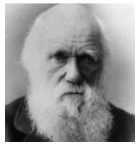
-Living things produce offspring of the same kind.

-Some of a parent's characteristics are passed down to the offspring – this is called inheritance.

-Some features are new to the offspring. These are called mutations. This is why we are not exact copies of our parents.

-These changes in offspring over time allow evolution to take place.

Famous scientists



Charles Robert Darwin (12 February 1809 – 19 April 1882) was an English born evolutionary biologist, naturalist and geologist who was best known for his contributions to the science of evolution. He first formulated his theory in his book "On the Origin of Species" in 1859.

Mary Anning (21 May 1799 – 9 March 1847) was an English fossil collector, dealer, and palaeontologist who became known around the world for important finds she made in Jurassic marine fossil beds in the cliffs along the English Channel at Lyme Regis in the county of Dorset in Southwest England.