

How can we identify and demonstrate the idea that adaptation may lead to evolution?

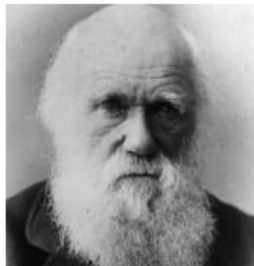
Key questions:

- 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? How have living things have changed over time?
- Are all adaptations good?
- What is the impact of human intervention on evolution?

**Important scientists**

**Charles Darwin**

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**

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.

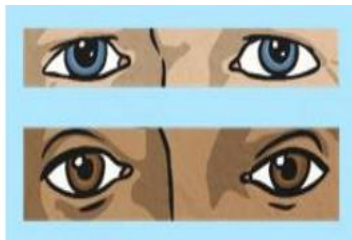


**Key Vocabulary:**

Adaptation	The process of change so that an organism or species can become better suited to their environment
Breeding	The mating and production of offspring by animals
Environment	The surroundings or conditions in which a person, animal, or plant lives
Evolution	The process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth
Fossil	The remains or impression of a prehistoric plant or animal embedded in rock and preserved
Inherit	To gain a quality, characteristic or predisposition genetically from a parent or ancestor
Offspring	A person's child or children/ an animal's young
Organism	An individual animal, plant, or single-celled life form.
Palaeontology	The branch of science concerned with fossil animals and plants.
Reproduction	The production of offspring by a sexual or asexual process
Selective breeding	The process by which humans use animal breeding and plant breeding to develop selective characteristics by choosing particular animals and plants

**What is inheritance?**

Inheritance refers to the characteristic traits that are genetically passed to offspring from their parents e.g. hair colour, eye colour, height etc. Darwin refers to this as natural selection when the strongest traits survive over generations.



Fossil

**What was Darwin's theory of evolution?**

The theory of evolution by natural selection (first formulated in Darwin's book "On the Origin of Species" in 1859) is the process by which organisms change over time as a result of changes in inheritable physical or behavioural traits.

