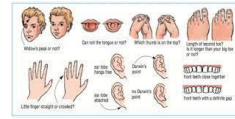


Science: Evolution and Inheritance

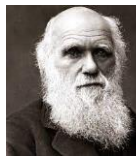


Vocabulary

Evolution	The process in which different kinds of living organism are believed to have developed from earlier forms during the history of the earth.
Inheritance	Is the process in which genetic information is passed from parent to offspring such as eye or hair colour, in plants it maybe size of leaf.
Characteristic	A feature or quality belonging typically to a living organism and serving to identify them eg the colour of their fur.
Adaptation	The way in which a living organism has adapted to survive the habitat that they live in eg a camel has a hump in which to store water while in the desert.
Variation	The difference in characteristics between individuals of the same species such as hair or eye colour.
Habitat	The place or location that a living organism lives, there are a range of habitats such as desert, arctic, rainforest, mountainous, wetland, meadow/plateau.
Theorist	A person who comes up with a theory.
Cladogram	A branching diagram to show the relationship between a number of species.

Key Questions and Facts

Why don't all humans look identical?	This is because when offspring are created they inherit 50% of their DNA from each parent. This gives the opportunity for different characteristics from each parent to be passed on such as height, ear lobe attachment etc. This new mix creates a new unique human being.
Why does adaptation occur?	When an organism reproduces a mutation (change) can occur this may help the organism to survive better and so that characteristic is passed on to its offspring. This is also known as natural selection.
Can variation always be a benefit?	No, sometimes a mutation can occur that makes the organism more susceptible to attack from predators. Because they are more likely to die their characteristics are not passed on and so are not necessarily seen again. Eg white fur on a meerkat.
How does the study of fossils help explain evolution?	When fossils are discovered scientists can compare the structure of the living organism with others and can measure the change that has occurred through many different species and millions of years.
What is a living fossil?	This is a living organism that has been around for millions of years with very little variation, a fern and a cockroach are examples of living fossils.



Charles Darwin

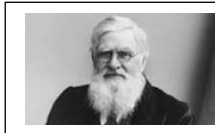
Feb 1809 - April 1882

Naturalist, Geologist and biologist.

Known for travelling on

HMS Beagle and while travelling developed his theory of evolution.

Wrote On the Origin of Species.



Alfred Wallace

Jan 1823-Nov 1913

Naturalist, explorer, Geographer, biologist, anthropologist and

illustrator. He independently conceived the idea of natural selection but knew it to be divisive so held back. He decided to jointly publish his work with Darwin; which meant he didn't receive as much recognition as Darwin.

Tusi 1332-1406

He came up with the theory of evolution 600 years before

Darwin. He realised that organ-

isms developed into three basic groups and that these organisms could change over time



Mary Anning May 1799- March 1847

Fossil collector, dealer and palaeontologist

significant discoveries of fossils along Lyme Regis in Dorset, an area now known as the Jurassic Coast. She sold many of her finds to scientists in London who didn't credit her with the finds.



Ibn Khaldun 1332-1406

He believed that humans had developed from monkeys by a process that produced

numerous species. He believed that all animals and plants were connected in this way. He believed that all living things were able to transform from one thing to another.

Can you design your own living organism?

What characteristics would you give it to survive?

Where would its habitat be?

Is it an invasive species?

What are its predators?

How does its offspring survive?