

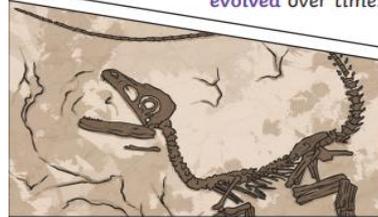


Year 6 Science – Evolution and Inheritance

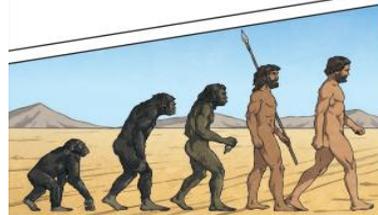
Key Vocabulary

offspring	The young animal or plant that is produced by the reproduction of that species.
inheritance	This is when characteristics are passed on to offspring from their parents.
variations	The differences between individuals within a species.
characteristics	The distinguishing features or qualities that are specific to a species.
adaptation	An adaptation is a trait (or characteristic) changing to increase a living thing's chances of surviving and reproducing.
habitat	Refers to a specific area or place in which particular animals and plants can live.
environment	An environment contains many habitats and includes areas where there are both living and non-living things.

Fossils are the preserved remains, or partial remains, of ancient animals and plants. Fossils let scientists know how plants and animals used to look millions of years ago. This is proof that living things have **evolved** over time.



Evolution is the gradual process by which different kinds of living organism have developed from earlier forms over millions of years. Scientists have proof that living things are continuously **evolving** - even today!



Key Vocabulary

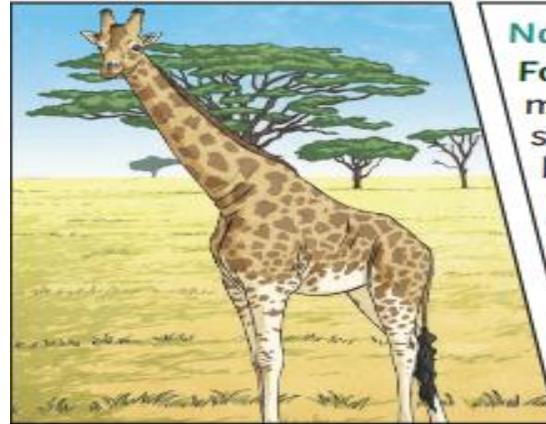
evolution	Adaptation over a very long time.
natural selection	The process where organisms that are better adapted to their environment tend to survive and produce more offspring .
fossil	The remains or imprint of a prehistoric plant or animal, embedded in rock and preserved.
adaptive traits	Genetic features that help a living thing to survive.
inherited traits	These are traits you get from your parents. Within a family, you will often see similar traits, e.g. curly hair.

Living Things		Habitat		Adaptive Traits
polar bear		arctic		Its white fur enables it to camouflage in the snow.
camel		desert		It has wide feet to make it easier to walk in the sand.
cactus		desert		It stores water in its stem.
toucan		rainforest		Its narrow tongue allows it to eat small fruit and insects.



Offspring
 Animals and plants produce **offspring** that are similar but not identical to them. **Offspring** often look like their parents because features are passed on.

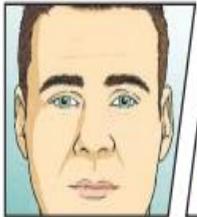
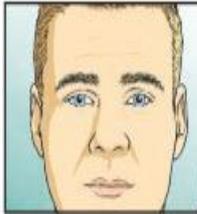
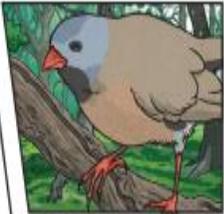
Variation
 In the same way that there is **variation** between parents and their **offspring**, you can see **variation** within any species, even plants.



Natural Selection
 Fossils of giraffes from millions of years ago show that they used to have shorter necks. They have gradually **evolved** through **natural selection** to have longer necks so that they can reach the top leaves on taller trees.

Adaptive Traits

Characteristics that are influenced by the **environment** the living things live in. These **adaptations** can develop as a result of many things, such as food and climate.



Inherited Traits

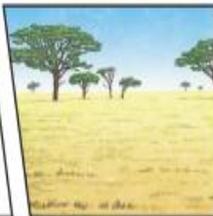
Eye colour is an example of an **inherited trait**, but so are things like hair colour, the shape of your earlobes and whether or not you can smell certain flowers.



Habitats
 A good **habitat** should provide shelter, water, enough space and plenty of food.



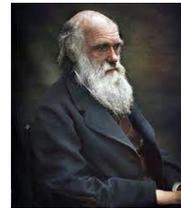
Environments
 There are many types of **environment** around the world. Polar regions, deserts, rainforests, oceans, rivers, and grasslands are all **environments**.



Sabera Nazneen Rahman is a geneticist who specialises in cancer research and is a non-executive director for Astra Zeneca. She was previously head of Genetics and Epidemiology at the Institute of Cancer Research.



Alfred Russell Wallace (1823-1913) was a British naturalist, explorer, geographer, anthropologist, biologist and illustrator. He is best known for independently conceiving the theory of evolution through natural selection; his paper on the subject was jointly published with some of Charles Darwin's writings in 1858.



Charles Darwin (1809-1882) was an English scientist best known for his theory of evolution. He studied many animals and plants on his travels and came up with the idea of natural selection (the strongest survive and evolve). His book 'On the Origin of Species' was very controversial at the time because it went against the creation story in the Bible. He studied finches and tortoises living across the Galapagos islands.