



Evolution and Inheritance



Prior Learning

Year 6 Learning

In year 3, we learnt...

- To describe in simple terms how fossils are formed when things that have lived are trapped within rock

In year 4, we learnt...

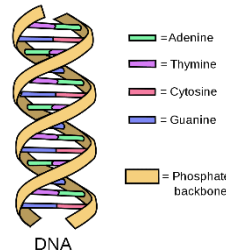
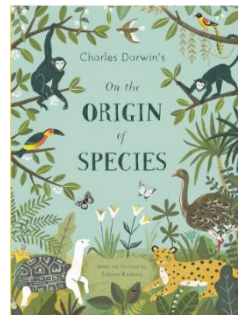
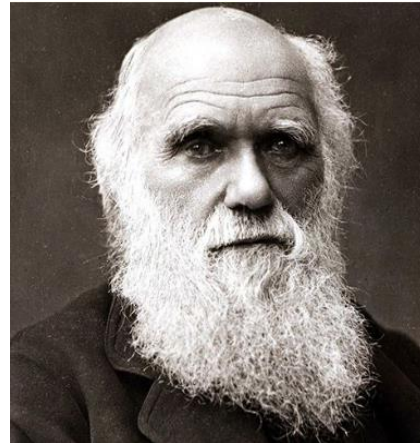
- To recognise that environments can change and that this can sometimes pose dangers to living things.

In year 6, we will learn...

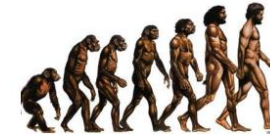
- To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
- To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Charles Darwin

Charles Darwin was an English scientist who studied nature. He is known for his theory of evolution by natural selection. According to this theory, all living things are struggling to survive. The living things that have the most helpful traits for their environment tend to survive. These living things then pass along their helpful traits to their young. In this way, animals change, or evolve, over hundreds of years. He described his ideas in his important book, *On the Origin of Species by Means of Natural Selection* (1859).



Evolution



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!

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.

Key Vocabulary

inheritance	The process of passing on features from parents to offspring
adaption	The process of change by which an organism or species becomes better suited to its environment
organism	An individual animal, plant, or single-celled life form
evolution	The process by which living things can gradually change over time
variation	Variation is the differences between individuals of the same species, caused by genetic and environmental factors
species	A group of living things with very similar characteristics. They can breed together to make more living things of the same type
palaeontologist	Scientists who study plants and animals that lived millions of years ago
Charles Darwin	A scientist who studied nature. He is known for his theory of evolution by natural selection
genetics	The study of how genes and how traits are passed down from one generation to the next
environmental traits	Characteristics formed from habitat or human experiences
offspring	The young animal or plant that is produced by the reproduction of that species.

Fossil

A fossil is the preserved remains of an organism, either animal or plant, that has been in the earth for millions of years. The organism dies and gets buried under multiple layers of rock and silt - as the flesh degrades the bones remain and a fossil is left behind. Palaeontologist spend their lives digging up fossils and use these to study and create theories about how different creatures lived and moved throughout history. Some of the fossils that they discover are millions of years old.

Inheritance

Inheritance is when a living thing reproduces and passes on genetic information to its offspring. For example, when parents have offspring, they pass on their physical traits. The offspring inherit their parents' qualities. This means that most offspring look like their parents but they are not identical. The offspring may take characteristics from the father, the mother or a mixture of both.

