Evolution and inheritance

Year 6

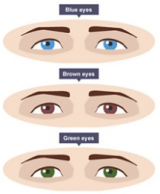
Key vocabulary

offspring	The young animal or plant that is produced by reproduction.
inheritance	This is when characteristics are passed on to offspring from their parents.
variation	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.
environment	An environment contains many habitats. Examples are polar regions, oceans, deserts, rainforests, rivers and grasslands.
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.

Inheritance

Living things produce **offspring** that are similar but not identical to them.

Some of a parent's **traits/ characteristics** are passed down to the offspring—this is called **inheritance**. This is why we often share similar features with our parents (we often look similar). Eye colour, hair colour and the shape of your earlobes are examples of **inherited traits**.



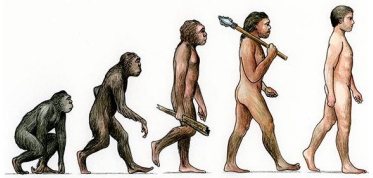
Some features are new to the offspring. This is why we are not exact copies of our parents.

Some of these new features may be influenced by the environment we live in—**adaptive traits**. These **adaptations** can develop as a result of many things, such as food and climate.

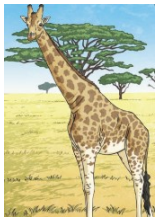
In the same way that there is **variation** between parents and their offspring, you can see variation within any species, even plants.

Evidence for evolution

Fossils are the remains of living things, found in sedimentary rocks.



When palaeontologists (scientists) compare animals in fossils to animals today, they can see similarities and differences between them. This shows that living things have **evolved** over time - they have developed from earlier forms millions of years ago!

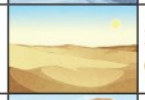


E.g. Fossils show that giraffes' necks didn't used to be as long. They have developed over time to reach high branches.

Adaptation

Changes that offspring have from their parents can sometimes make it easier to cope in their environment and sometimes harder. As a result, the offspring that have more advantageous characteristics are more likely to survive and pass on their characteristics to their own offspring. This is called **natural selection**.

This allows living things to become **adapted** to their environment.

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.

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