

# Year 6

## Unit: Evolution and inheritance

### Intent:

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.

### Prior learning

Year 2 – Identify that most living things live in habitats to which they are suited.

Year 2 – Notice that animals have offspring which grow into adults.

Year 3 – Describe how fossils are formed when things that have lived are trapped within rock.

Year 4 – Recognise that environments can change and that this can sometimes pose dangers to living things.

### Later learning (not in Year 6)

KS3 – Heredity as the process by which genetic information is transmitted from one generation to the next

KS3 – The variation between species and between individuals within a species means some organisms compete more successfully, which can drive natural selection.

KS3 – Changes in the environment may leave species less well adapted to compete successfully and reproduce, which may lead to extinction.

### Key Questions:

What is the name given to the young animal or plant of the same species?

What is a habitat?

Name something that is not an inherited trait.

Why are adaptive traits important to living things?

How long does evolution take?

Name an adaptive trait that a camel has.

In which habitat would a cactus need to store water?

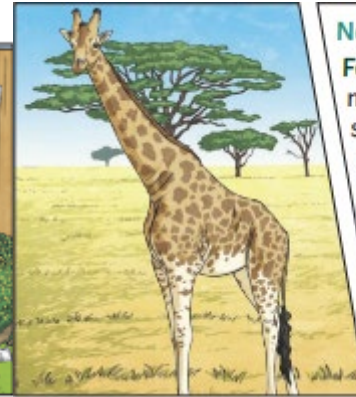


### Offspring

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.

**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!



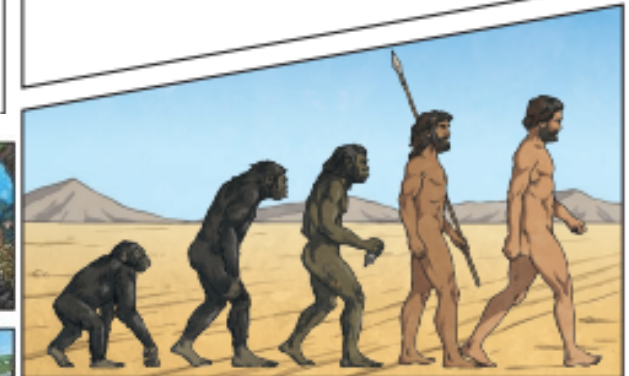
### Habitats









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**.



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.

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.



### Vocabulary

<b>Adaptation</b>	An adaptation is a trait (or characteristic) changing to increase a living thing's chances of surviving and reproducing.
<b>Adaptive traits</b>	Genetic features that help a living thing to survive.
<b>Characteristics</b>	The distinguishing features or qualities that are specific to a species.
<b>Environment</b>	An environment contains many habitats and includes areas where there are both living and non-living things.
<b>Evolution</b>	Adaptation over a very long time.
<b>Fossil</b>	The remains or imprint of a prehistoric plant or animal, embedded in rock and preserved.
<b>Habitat</b>	Refers to a specific area or place in which particular animals and plants can live.
<b>Inheritance</b>	This is when characteristics are passed on to offspring from their parents.
<b>Inherited traits</b>	These are traits you get from your parents. Within a family, you will often see similar traits, e.g., curly hair.
<b>Natural selection</b>	The process where organisms that are better adapted to their environment tend to survive and produce more offspring.
<b>Offspring</b>	The young animal or plant that is produced by the reproduction of that species.
<b>Variations</b>	The differences between individuals within a species.