

Science Knowledge Organiser - Year 6

Unit: Why do living things appear the way they do today?

Key Vocabulary:









adaptation	An adaptation is a trait changing to increase a living thing's chances of surviving and reproducing.
adaptive traits	Genetic features that help a living thing to survive are known as adaptive traits .
characteristics	Characteristics are the distinguishing features or qualities that are specific to a species.
environment	An environment contains many habitats and includes areas where there are both living and non-living things.
evolution	Evolution is adaptation over a very long time.
fossil	Fossils are the remains or imprint of a prehistoric plant or animal, embedded in rock and preserved.
habitat	A habitat is a specific area or place in which particular animals and plants can live.
inheritance	When characteristics are passed on to offspring from their parents, it is known as inheritance .
inherited traits	Inherited traits are traits you get from your parents.
natural selection	Natural selection is the process where organisms that are better adapted to their environment tend to survive and produce more offspring.
offspring	The youngest animal or plant that is produced by the reproduction of a species is known as offspring .
variations	Variations are the differences between individuals within a species.

Science Skills:

- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
- Identify how animals and plants are adapted to suit their environment in different ways.
- Identify how adaptation may lead to evolution.
- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- Identify scientific evidence that has been used to support or refute ideas or arguments.

Key Facts:

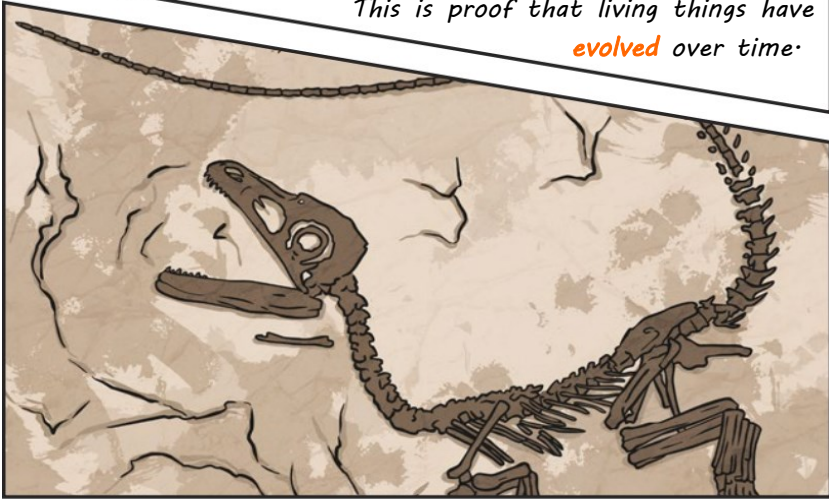
- The cells in our bodies contain chromosomes made up of DNA which carries the **characteristics** that we **inherit**.
- Within a family, you will often see **inherited traits**, e.g. curly hair, eye colour.
- **Offspring** are not normally identical to their parents.
- **Evolution** occurs when there is competition to survive (natural selection).
- **Variation** can be caused by either **inheritance** or **adaptation**.

Living Thing		Habitat		Adaptive Traits
polar bear		arctic		Its white fur enables it to camouflage in the snow, and its nostrils can close up so that water does not enter when it is swimming.
camel		desert		It has wide feet to make it easier to walk in sand, and it can last a week without drinking water.
cactus		desert		It stores water in its stem, and it has spines instead of leaves which reduces the amount of water that evaporates from it.
toucan		rainforest		Its narrow tongue allows it to eat small fruit and insects, and it has strong, sharp claws which allow it to grip branches firmly.

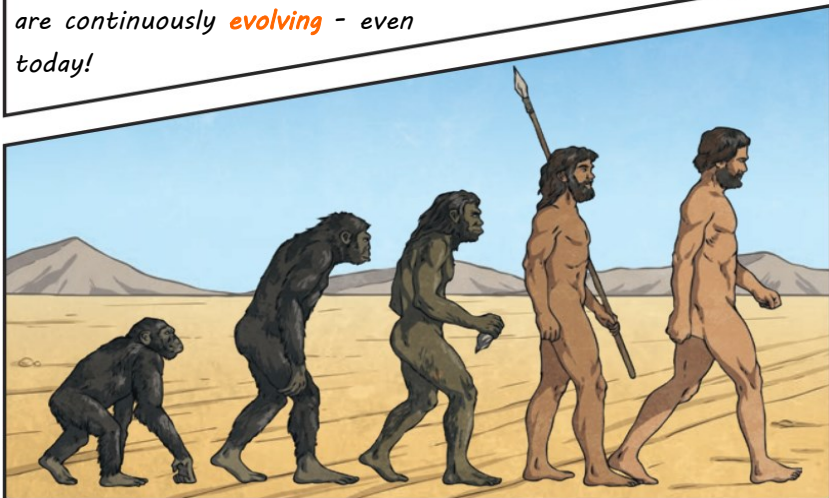
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Fossils are the preserved remains (or partial remains) of ancient animals and plants. **Fossils** let scientists know how plants and animals used to look millions of years ago. This is proof that living things have **evolved** over time.



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!



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.

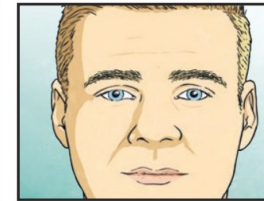
Variation

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



Adaptive Traits

These are **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 examples of **environments**.

