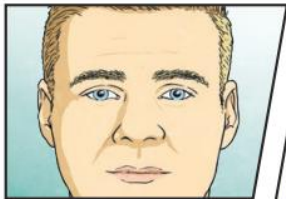


## Science Knowledge Organiser: Evolution and Inheritance

Working Scientifically	Plants	Animals, inc humans	Rocks	Light and Sound	Forces & Magnets	Living Things and Habitats	States of Matter / Materials	Electricity	Earth & Space	Evolution & Inheritance
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A trait is something you have. You get your traits in two different ways:



### 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.



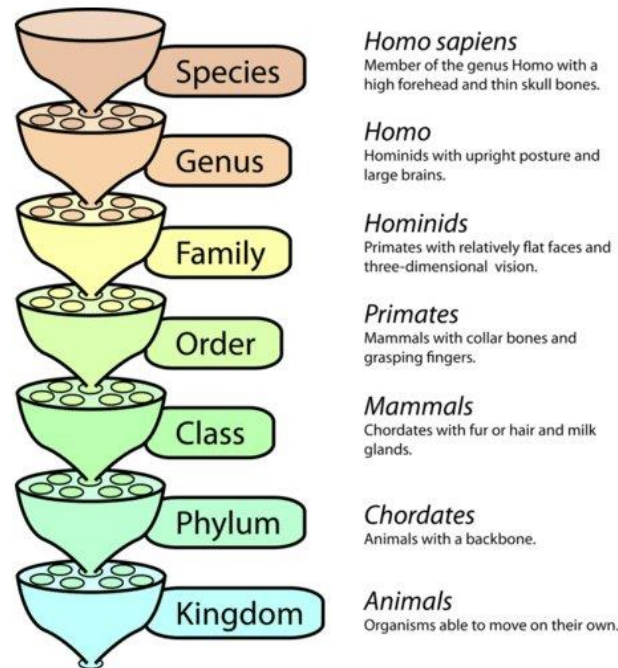
### Adaptive Traits

**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.



## The Linnaeus Classification

Carl Linnaeus was a Swedish scientist who developed a way to group animals by their characteristics. This made it easier for scientists to compare them.

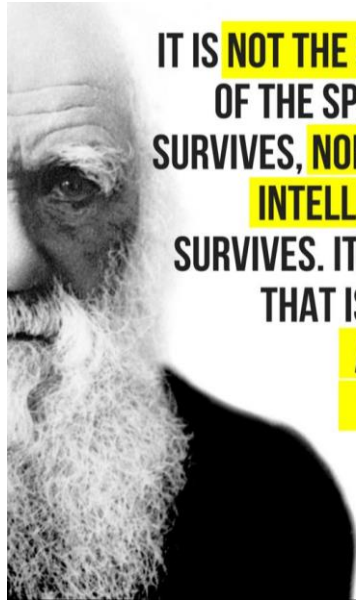


## Key Vocabulary

- 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 difference between individuals in 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** – 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
- Evolution** – Adaptation that happens over a 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. your height
- Palaeontology** – The area of science concerned with fossils and plants

Charles Darwin: 1809-1882

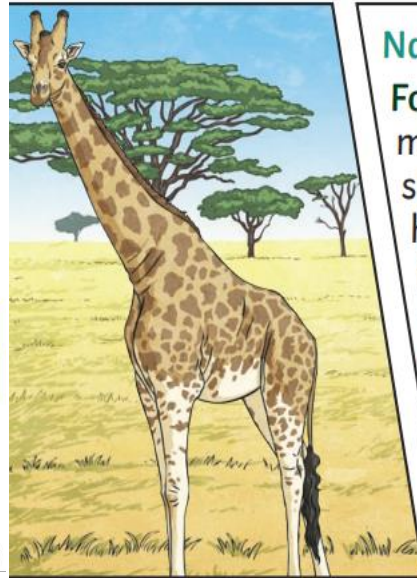
Darwin travelled to the Galapagos Islands on the HMS Beagle which was a boat belonging to the Royal Navy. He went here to observe the different plants and animals and bring back specimens.



**IT IS NOT THE STRONGEST OF THE SPECIES THAT SURVIVES, NOR THE MOST INTELLIGENT THAT SURVIVES. IT IS THE ONE THAT IS THE MOST ADAPTABLE TO CHANGE**

- CHARLES DARWIN

@MRKTRS



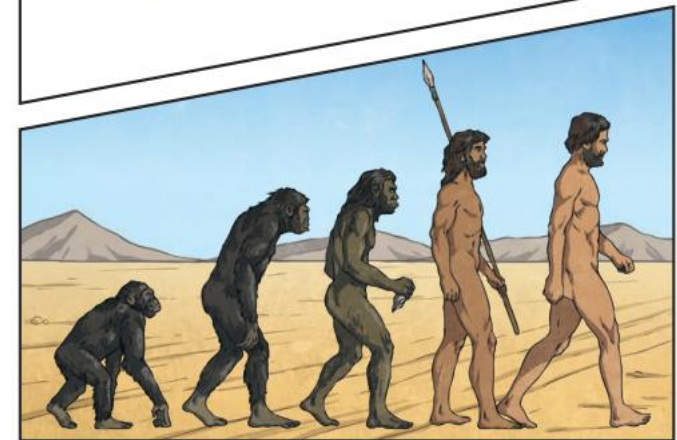
**Natural Selection**









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.

**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!



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.

Name: \_\_\_\_\_

Year: \_\_\_\_\_

Assessment mark: (1-9) \_\_\_\_\_

Assessment Questions: To be completed at the start of the unit and then repeated at the end of the topic

1. What is a gradual change that takes place over many generations called?

Beginning of the Unit	End of the Unit

2. Give an example of how an animal has adapted to survive in an environment?

Beginning of the Unit	End of the Unit

3. What evidence do we have that evolution is true?

Beginning of the Unit	End of the Unit

4. What's the difference between an adaptive trait and an inherited trait?

Beginning of the Unit	End of the Unit

5. If an animal is unable to adapt to its environment to survive it will become what?

Beginning of the Unit	End of the Unit

6. Comparisons of species can reveal common ancestors, can you give an example of two species that may have a common ancestor?

Beginning of the Unit	End of the Unit