



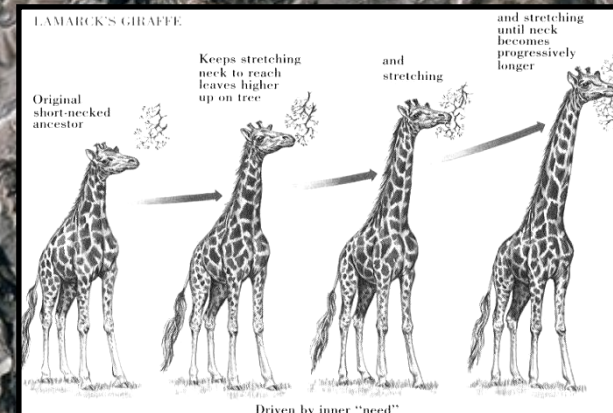
# The Theory of Evolution

## Key Vocabulary

<b>adaptation</b>	An adaptation is a trait (or characteristic) changing to increase a living thing's chances of surviving and reproducing.
<b>evolution</b>	adaptation over a very long time
<b>natural selection</b>	Natural selection is the process where organisms that are better adapted to their environment tend to survive and produce more offspring.
<b>adaptive traits</b>	genetic features that help a living thing to survive
<b>inherited traits</b>	These are traits you get from your parents. Within a family, you will often see similar traits, i.e. blue eyes, freckles and dimples.
<b>offspring</b>	Offspring are the young animals or plants that are produced by the reproduction of that species.
<b>inheritance</b>	This is when characteristics are passed on to offspring from their parents.
<b>variations</b>	the differences between individuals within a species
<b>characteristics</b>	the distinguishing features or qualities that are specific to a species
<b>fossil</b>	the remains or imprint of a prehistoric plant or animal, embedded in rock and preserved
<b>habitat</b>	Habitat refers to a specific area or place in which particular animals and plants can live.
<b>environment</b>	An environment contains many habitats and includes areas where there are both living and non-living things.

## Natural Selection

Natural selection is the process through which species adapt to their environments. It can lead to speciation, where one species gives rise to a new and distinctly different species. It is one of the processes that drives evolution and helps to explain the diversity of life on Earth.



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

Fossils are the preserved remains, or partial remains, of ancient animals and plants. They are not the bones of ancient animals. Fossils let scientists know how plants and animals used to look millions of years ago. This is proof that living things have evolved.



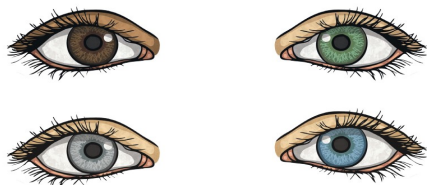


# Evolution and Inheritance

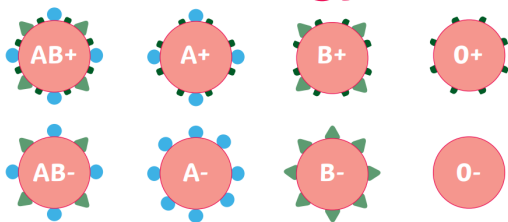
## Inherited Traits

Inherited traits (qualities owned by a person) are linked to genetics - you inherited traits from your parents. These traits are passed from generation to generation.

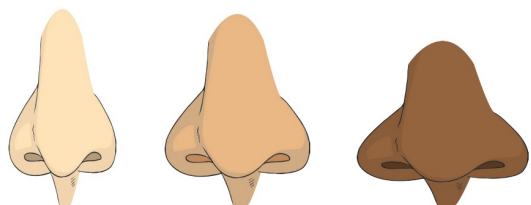
### Eye Colour



### Blood Type



### Nose Shape



## Adaptive Traits

Over many generations, a species will adapt to its environment to ensure that they can survive. Animals with the most successful characteristics are more likely to thrive and will then pass these adaptive characteristics onto their offspring to ensure their success too.

Although scientists discussed adaptation prior to the 1800s, it was not until then that Charles Darwin developed the theory of natural selection.

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.

## Famous Scientists

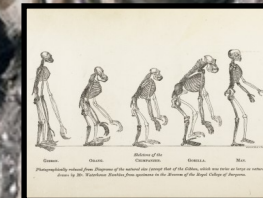
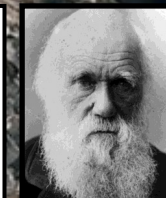
Mary Leakey  
(1913-1996)

Biologist and paleoanthropologist



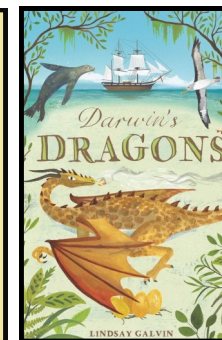
Charles Darwin  
(1809-1882)

Biologist, Geologist and Naturalist



## Charles Darwin

Charles Robert Darwin who provided scientific evidence that all species of life have evolved over time - he called this process natural selection. Whilst voyaging around South America, Darwin visited the Galapagos Islands and discovered the Galapagos finches. The finches on each island showed variations in their overall size, beak shape and claw size—these variations all linked to the variation of food sources which were available on the different islands.



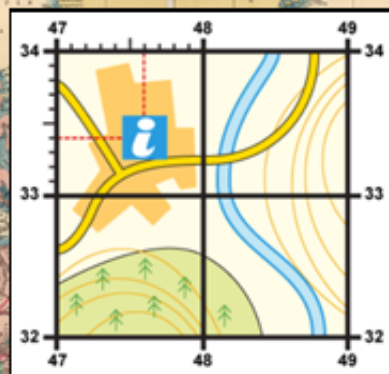


### 6 Figure Grid References

A grid of squares helps the map-reader to locate a place. The vertical lines are called eastings. They are numbered - the numbers increase as you move to the east. The horizontal lines are called northings as the numbers increase in a northerly direction.

When you give a grid reference, always give the easting first. We often say, "Along the corridor and up the stairs," to help us to remember which direction to travel first.

Sometimes it is necessary to be even more accurate. In this case you can imagine that each grid is divided into 100 tiny squares. The distance between one grid line and the next is divided into tenths. This then changes the grid reference from 4 to 6 figures.



Grid reference 476334

### The World



### The Beagle

The British navel vessel Darwin travelled to the Galapagos Islands on.



# Darwin's Voyage

### Key Vocabulary

<b>Tropic of Cancer</b>	This the most northerly circle of latitude on Earth at which the Sun can be directly overhead.
<b>Tropic of Capricorn</b>	This is the most southern circle of latitude where the Sun can be seen directly overhead.
<b>equator</b>	an imaginary line around the Earth that goes exactly midway between the North Pole and the South Pole and divides it into two equal halves, the Northern Hemisphere and the Southern Hemisphere
<b>biome</b>	areas of the planet with a similar climate and landscape, where similar animals and plants live
<b>vegetation</b>	the plant life of a region or the plant community
<b>climate</b>	the description of the long-term pattern of weather in a particular area
<b>grid reference</b>	a map reference indicating a location
<b>continent</b>	a large continuous mass of land regarded as a collective region
<b>country</b>	a nation with its own government, occupying a particular territory
<b>county</b>	an area of a state or country that is larger than a city and has its own government to deal with local matters