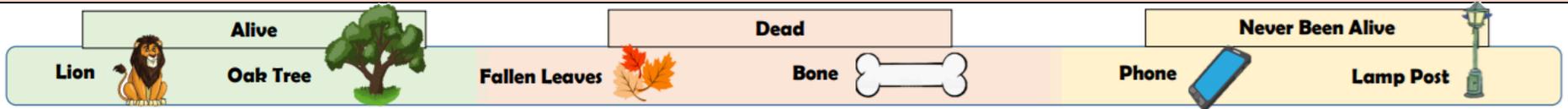


# Year 6: Evolution and Inheritance

Science

What do we already know?



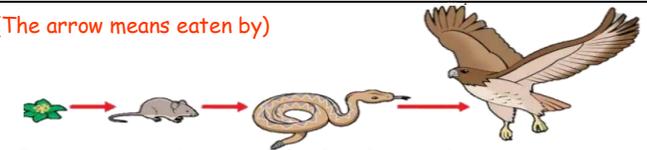
**Habitats:** A habitat is a place where living things, such as animals and plants, can find all of the things they need to survive. This includes food, water, air, space to move and grow and some shelter.



Some habitats are large, like the ocean, and some are very small, such as under a log.

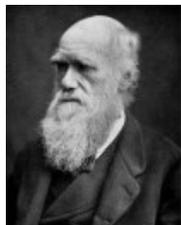
Vertebrate	Characteristics
Fish	Scales, live in water, cold-blooded, lay eggs, gills
Amphibians	Smooth skin, live in water and land, cold-blooded, lay eggs
Reptiles	Scales, lay eggs, cold-blooded, lungs
Mammals	Hair or fur, warm-blooded, live births, lungs
Birds	Feathers, warm-blooded, lay eggs, lungs

(The arrow means eaten by)



- Every living thing needs food in order to create energy. This process is called nutrition.
- Plants achieve nutrition by photosynthesising, using water, carbon dioxide and light.
- Animals cannot photosynthesise. They need to eat food (either plants or other animals) in order to get energy.
- Therefore, living things depend upon one another to live.

## Key Scientists



Charles Darwin (1809- 1882)

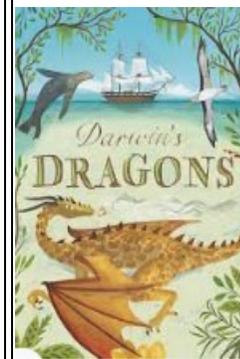
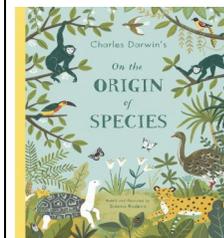


Mary Anning (1799–1847)

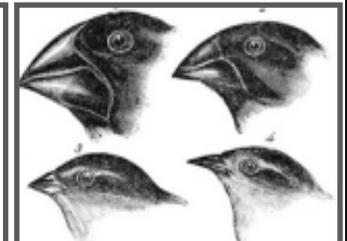
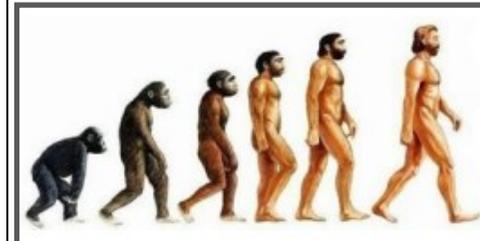
He was an evolutionary scientist, studied different animal and plant species, which allowed him to see how adaptations could come about. His work on the finches was some of his most famous

Over the course of her life she made many incredible discoveries. This made her famous among some of the most important scientists of the day. They would visit her for advice and to discuss scientific ideas about fossils. Today, Mary is remembered as one of the greatest fossil hunters to have ever lived.

## Key Texts



## Key information



- Evolution and Inheritance Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- Living things produce offspring of the same kind, but normally Animals and plants are adapted to suit their environment in different ways
- Adaptation may lead to evolution.

## Vocabulary



### 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.



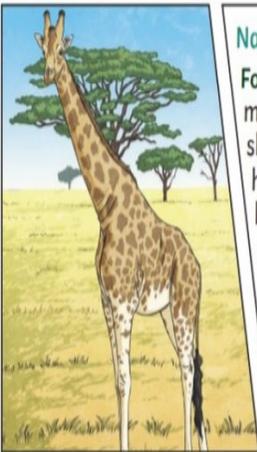
### Adaptive Traits

**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

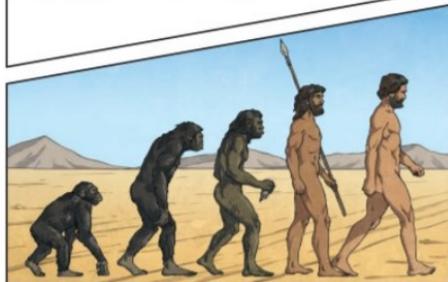
Eye colour is an example of an **inherited trait**, but so are things like hair colour, the shape of your earlobes and whether or not you can smell certain flowers.



### 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.

**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**.



## Scientific Skills



Observe and raise questions about animals and how they are adapted to their environment;



Compare how some living things are adapted to survive in extreme conditions e.g. cacti, penguins and camels.



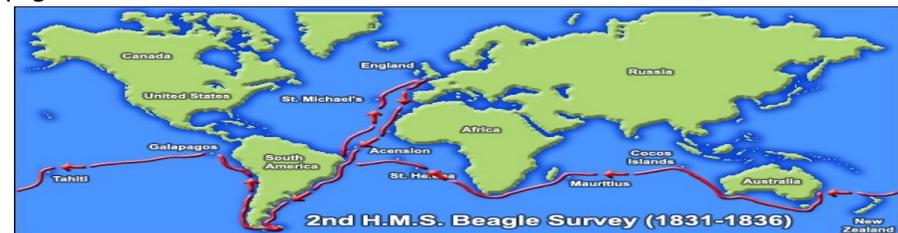
Analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.

## As a Scientist, here's what I will know by the end...

1. 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.
2. I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
3. I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

## Links to a significant turning point in British history...

1. I will know that before Darwin's theory of evolution the creation story was the common consensus in belief for the existence of humans.
2. I will be able to explain that Charles Darwin was a naturalist.
3. I will know that Charles was nominated to be the companion of Captain FitzRoy on the HMS Beagle to sail around the world. They left from Portsmouth on 27th December 1831 and didn't return to England until 2nd October 1836. Along the way they visited South America, the Galapagos Islands, New Zealand and Australia.



4. I will be able to explain that Mary Anning was a significant palaeontologist and what that means
5. I will be able to recount Mary Anning's life story and that she discovered the following fossils: ichthyosaur, plesiosaur and pterosaur.
6. I will understand that despite Mary Anning's growing reputation for finding and identifying fossils, the scientific community was hesitant to recognise her work. This was because she was a woman.