

**What should I already know?**

- Which things are living and which are not.
- How to identify animals using classification keys.
- Examples of herbivores, omnivores and carnivores.
- Animals have offspring that grow into adults.
- What food chains are and the role that predator and prey play.
- Some examples of different biomes.
- The life cycles of some plants and animals.
- Features of some habitats and the wildlife that exist there.

**What will I know by the end of the unit?**

**What is evolution?**

- Evolution is a process of change that takes place over many generations.
- During this time, species slowly change some of their physical characteristics. This is because offspring are not identical to their parents.
- It occurs when there is competition to survive. This is called natural selection.
- Differences within a species can be caused by inheritance and mutations.
- Inheritance is when characteristics are passed onto the next generation.
- Mutation in characteristics are not inherited from the parents and appear as new characteristics.

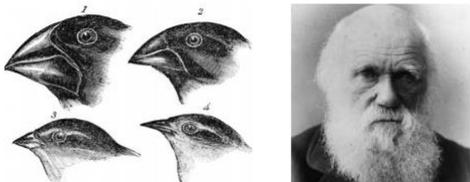
**How do we know about evolution?**



- Evidence of evolution comes from fossils.
- Palaeontologists can compare the similarities and differences of fossils to living creatures today.
- Other evidence comes from living things – comparisons of some species may reveal common ancestors.

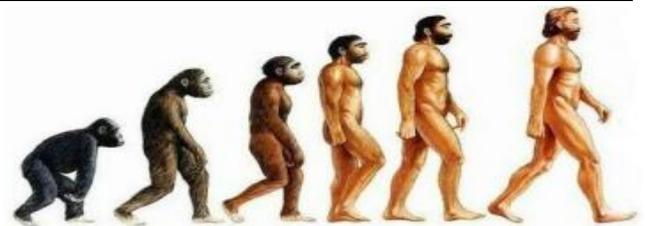
**What is adaptation?**

- Adaptation is when living things evolve so they are suited to survive the challenges of an environment.
- For example, polar bears have a thick layer of blubber to survive the harsh cold, while giraffes have a long neck to reach leaves on trees.
- Some adaptations can be disadvantageous (maladaptations). For example, the dodo, which became extinct as it lost its ability to fly through evolution. Flying was unnecessary for the dodo as it had lived for so many years without a predator, until its native island became inhabited.
- Charles Darwin, an evolutionary scientist, studied different animal and plant species. He developed a theory about how adaptation happens.



**Vocabulary**

adaptation	a change that improves the chances of survival in an environment
ancestor	an early plant or animal from which later ones have evolved
biodiversity	a wide variety of species living in an environment
breeding	producing plants or animals through reproduction
characteristics	features that help you recognise it
environment	all the circumstances around something that affect its life
evolution	a process of physical changes that take place over many generations
extinct	no longer any living members
fossil	hard remains of a prehistoric animal or plant that are found inside a rock
inherit	to be born with characteristics of your parents
mutation	characteristics that are not inherited from parents
natural selection	animals or plants that are best suited to the environment will survive and reproduce, while those less suited will die out
offspring	a person's children or animal's young
palaeontology	the study of fossils
reproduction	when an animal has offspring
species	a class of plant or animals whose members have the same characteristics and are able to breed with each other
survive	continue to exist
theory	an idea intended to explain something
variation	a change or slight difference



**Data Handling**

Identify the possible breeds that a cat or dog has inherited its traits from. Present findings using an appropriate graphical method.