

Evolution and Inheritance

Knowledge

Evolution and Inheritance

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

I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Working Scientifically

observing and raising questions about local animals and how they are adapted to their environment

comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, 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.

Building on what they learned about fossils in the topic on rocks in year 3, children will find out more about how living things on earth have changed over time. They will be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles.

They will also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes' necks got longer, or the development of insulating fur on the arctic fox.

Hook into a Book



Activate Prior Knowledge

EY

- Exploring the natural world around them, making observations.
- Know similarities and differences between the natural world around them.
- Habitats of creatures under the sea
- Minibeasts habitats
- Mary Anning
- Fossils - Dinosaurs
- Lifecycles of animals

KS1

- Living, dead, never living
- Food chains
- Habitats and Microhabitats
- Working Scientifically
 - Sorting and classifying animal characteristics
 - Answer questions using scientific vocabulary
 - Carry out practical tests using their observations and drawing simple conclusions

KS2

- I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- I can describe in simple terms how fossils are formed when things that have lived are trapped within rock
- I can recognise that soils are made from rocks and organic matter.
- Classify vertebrates and invertebrates, using classification keys
- Create their own classification keys
- The process of reproduction in plants and animals
- Differences in the life cycles of different animals

Investing in

the UNIQUENESS

of each individual

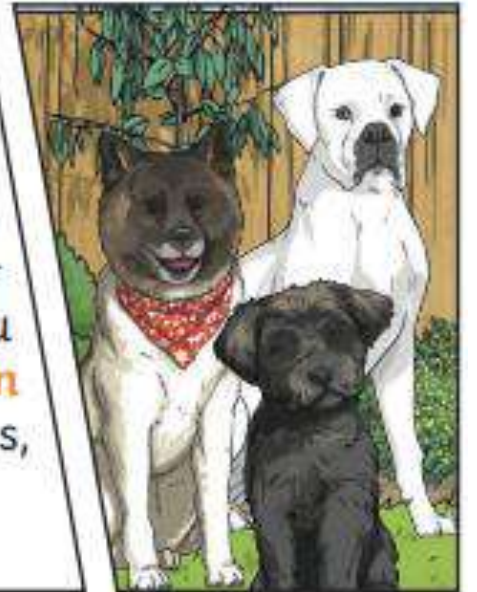
"I Am Fearfully And Wonderfully Made"
- Psalms 139 v14

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 differences between individuals within 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	Refers to 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.



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.

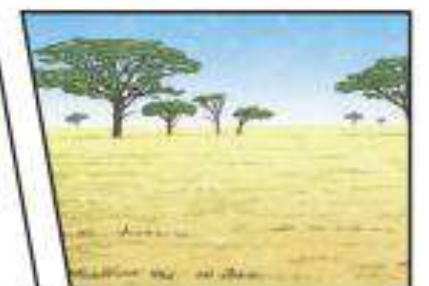


Inherited Traits
Eye colour is an example of an **inherited trait**, but so are things like hair colour, the shape of your earlobes and whether or not you can smell certain flowers.



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**.

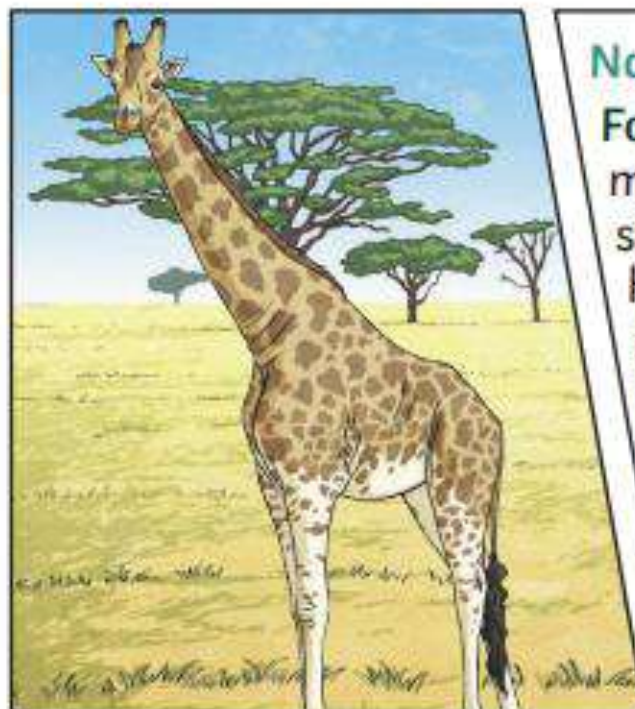
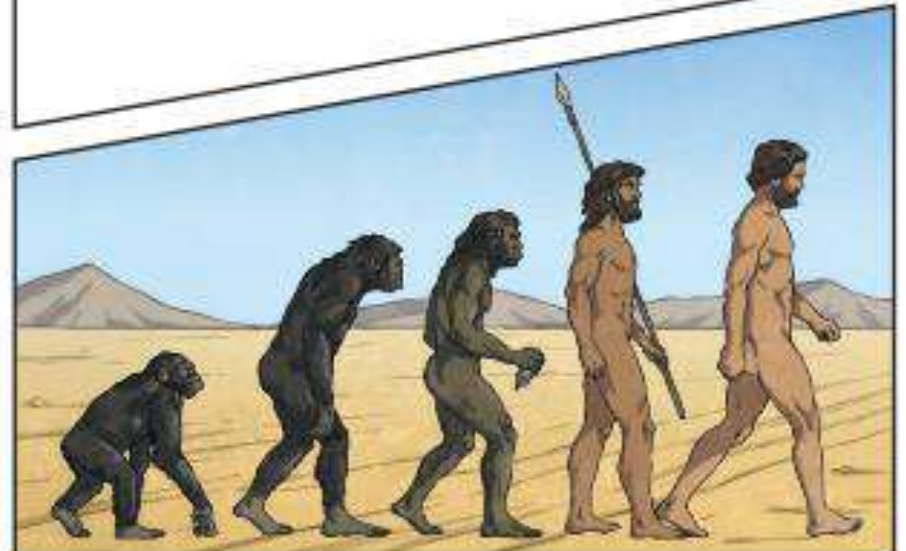


Key Vocabulary	
evolution	Adaptation over a very long time.
natural selection	The process where organisms that are better adapted to their environment tend to survive and produce more offspring .
fossil	The remains or imprint of a prehistoric plant or animal, embedded in rock and preserved.
adaptive 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. curly hair.

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!



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.

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.