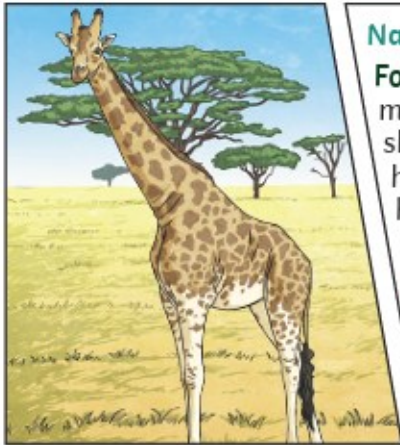


Science Knowledge Organiser—Evolution and Inheritance

Curriculum Objectives

By the end of this unit, your child will be able to:

- Identify inherited traits and adaptive traits.
- Understand that adaptations are random mutations.
- Examine fossil evidence supporting the idea of evolution.
- Identify the difference between selective and cross-breeding.



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.



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.

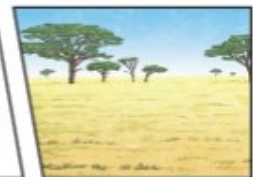


Habitats

A good **habitat** should provide shelter, water, enough space and plenty of food.

Environments

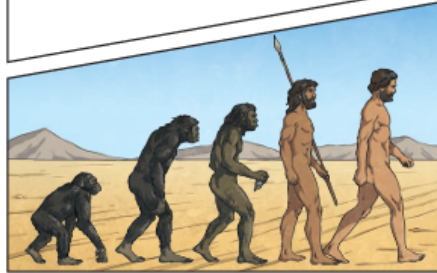
There are many types of **environment** around the world. Polar regions, deserts, rainforests, oceans, rivers, and grasslands are all **environments**.











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.

Scientist in the Spotlight



Mary Anning was an English fossil collector, dealer, and an expert of palaeontology (the study of extinct animal and plants). She became known across the globe for the discoveries she made in Jurassic marine fossil beds in the cliffs along the English Channel.

Key Vocabulary/Terminology



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 or 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
habitat	Refers to a specific area of place in which particular animals and plants can live.