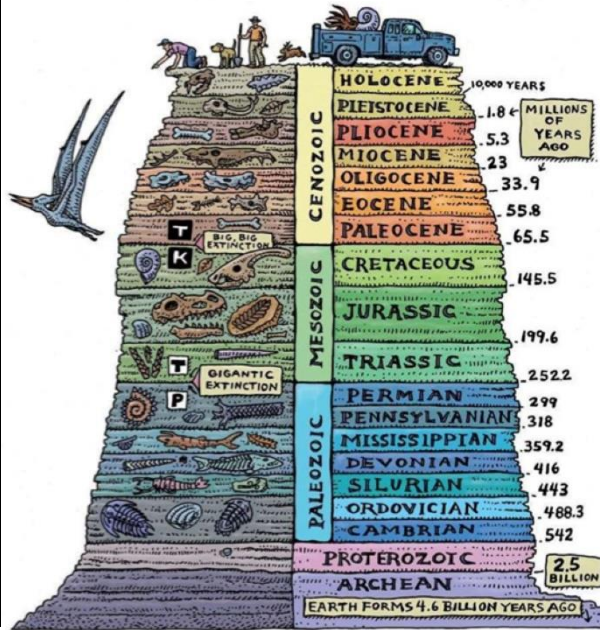


Knowledge Organiser – Evolution (Science Year 6)

Key Vocabulary	Definition
Evolution	Gradual process in which something changes.
Adaptation	Process of changing.
Characteristics	Qualities that make things different to other things.
Variation	A difference or change.
Inheritance	Passing of characteristics from parents to offspring.



Fossils are formed over millions of years and they are trapped in layers of rock. We can use these layers to find out how old the fossils are and how species have changed over time.

Similarities and differences between fossils in rocks of different ages help us to see how animals have evolved over billions of years.

A four-toed hoof evolved into a single hoof, more suitable for running. A modern-day horse is much taller than its original ancestor.



When living things reproduce, they pass on characteristics to their offspring.

When offspring have similar characteristics to their parents, we say that they are inherited.

### Inherited characteristics

Eye colour

Hair colour

Height

### Environmental characteristics

Food choices

Being good at sport

Liking football

## Why do species change over time?

Variation - Within a species, there are natural variations, mutations, that result from differences in the genetic material.

Adaptation - Sometimes a mutation occurs that makes an individual more able to survive than other members of the group.

Selection - Organisms with particularly advantageous adaptations are most likely to survive long enough to reproduce.

How have these animals adapted to their environment?

**Camel Adaptations:**

- Has long eyelashes to keep out sand.
- Can close nostrils to keep out sand.
- Can go for long periods without water.
- Has long legs to keep body away from hot sand.
- Can store fat in hump.
- Many blood vessels just under the skin to cool the blood.

**Polar Bear Adaptations:**

- Has white fur for camouflage.
- Each hair is hollow for extra insulation.
- Has ridged foot pads to prevent slipping.
- Has sharp teeth and claws to catch and eat prey.

Before selection



After selection



Final population



Natural selection

The better adapted members of the species to the environment survive...Survival of the fittest.

The survivors pass on their genes to their offspring.