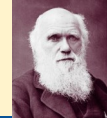


Year 5/6 Science: Evolution and Inheritance

EQ: What is the theory of evolution?

Charles Darwin published his theory of evolution in the 19th Century, after observing variation in living things.



Evolution: The way in which plants and animals have changed over millions of years. They have **evolved**.



Stages of Evolution

1. In every population there is variation.
2. Individuals with the best adaptations are most likely to survive and reproduce. This is natural selection.
3. Inheritance means these adaptations are more likely to be passed to offspring.
4. Also, less well adapted individuals are less likely to pass on their adaptations.
5. Over many generations, these small differences add up to the formation of a new species by evolution.

EQ: What are fossils and how do they provide evidence for evolution?

Fossils are the preserved natural remains of living things from a long time ago.



Discovered fossils help create a **fossil record** which shows how a species has evolved over time.

The fossil record shows the small adaptations made over time which has led to the evolution of a species.

EQ: What is adaptation and why is it important?

When you see a fish swimming in its habitat, it is clearly suited to it. (E.g. gills, fins...) It's easy to think that the fish has adapted to suit its habitat.

However, this is incorrect. No living thing chooses to adapt to an environment.

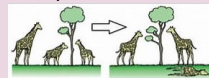
A fish has developed these features accidentally, not intentionally or deliberately.

In science, this process is called **adaptation**.

Adaptation: How changes to living things cause them to be suitable for their environment



Natural Selection: Changes in a species over time in response to changes in the environment.



EQ: How have some species adapted to survive in their environment?

Polar bears: thick, white fur for camouflage/warmth.

Desert Foxes: thin coat and large ears to keep cool.

Cactus: Spines instead of leaves to reduce water loss. Long root system.

Camels: Wide feet to walk on sand.

Giraffes: long necks to reach leaves high up.

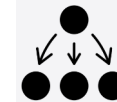
Coral: some have stinging ability.

EQ: What is inheritance?

Some characteristics can be passed from a parent to their offspring: this is inheritance.

Different offspring inherit different characteristics to each other, which leads to variation in a species. Offspring are not identical to their parents.

Inheritance



Traits or characteristics passed to offspring from a parent.

Offspring



An animal's young

Variation



Differences between individuals in a species

Characteristics



Distinguishing traits, features or qualities.

EQ: Which characteristics are inherited in humans?

- Hair colour
- Eye colour
- Height
- Blood Type
- Dominant hand
- Nose shape
- Roll tongue
- Colour blindness

Look at a family photo. Can you see which characteristics you or your siblings have inherited from your parents or grandparents?

Maybe people say that you look more like one parent than the other. Or that you have similar characteristics to a cousin or grandparent.

