Year 6: Why do some scientists such as palaeontologists, biologists, climatologists and meteorologists study into the past?

Fossils

As you learned in Year 3, fossils are the preserved remains of animals and plants from millions of years ago. By comparing fossils to living day specimens scientists can recognise how living things have evolved (changed) over time.

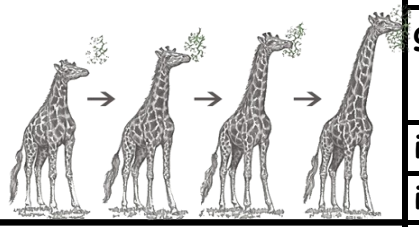
Evolution

Evolution is the gradual change an organism makes over time. These changes are continuous.

Why do species evolve?

It is all to do with an animal or plants survival on this planet. Over time, the environment changes. Animals and plants must **adapt** to these changes or they will not survive. Those that adapt and survive pass on these strengths (characteristics) to their offspring. Sometimes these adaptations can result in the evolution of a new species.

A giraffe has adapted its long neck in order to reach the leaves that many other animals are unable to get to.



How does a species adapt?

All living things produce offspring. Most offspring are produced from sexual reproduction so they will inherit characteristics from both parents. Most parents will have a slight difference in their characteristics — this is called variation (see images below). When an animal survives to maturity, it is most likely down to its strong characteristics which it passes on to its offspring. Over time, this allows species to adapt to their environment.

Vocabulary

adaptation	A change to a characteristic to increase the chance of survival.
adapted	A change has been made.
biologist	A scientist studying living things.
characteristics	The distinguishing features of a species.
climatologist	A scientist studying the climate.
environment	An area made up of living and non-living things. It contains many habitats.
evolution	To change over time.
fossils	Animal remains found in rock.
genes	Information that is made up of DNA and decides the characteristics of an animal or plant.
inheritance	To pass something on.
inherited	To have something passed on.
meteorologist	A scientist studying the weather.
offspring	The young of an animal or plant.
palaeontologist	A scientist studying fossils.
sexual reproduction	When a male and female sex cell produces offspring.
species	A type of animal or plant.
suited	How an animal or plant survives.
variation	The slight differences in a species.

CRC Article 17: All children have the right to find out information as long as it is safe.

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