

What should I already know?

- I know that most living things live in habitats to which they are suited. I can describe how different habitats provide for the basic needs of animals and plants and how they depend on each other.
- I can describe how fossils are formed when things that have lived are trapped within rocks.
- I know that environments can change and that this can sometimes pose dangers to

Vocabulary

offspring	A person's children or an animals young.
vary	A change or slight difference.
environment	All the circumstances, people, things and events around them that influence their life.
fossils	The hard remains of a prehistoric animal or plant that
sexual reproduction	When an animal or human produces offspring with a male
characteristics	The qualities or features that belong to them and make them recognisable.
adapted	A change in structure or function that improves the chances of survival within a given habitat.
inherited	A characteristic you are born with because your parents or ancestors also had it.
species	A class of plant or animal whose members have the same main characteristics.

Evolution is a change over time. It occurs when there is competition to survive (natural selection).

Inheritance and Mutation

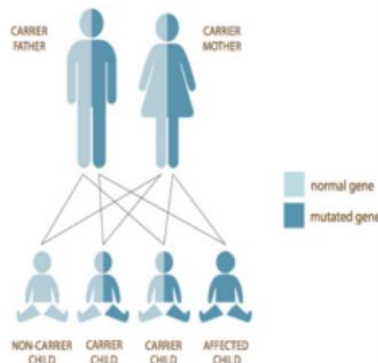
Living things produce offspring of the same kind.

Some of a parent's characteristics are passed down to the offspring - this is called inheritance. This is why we often share similar features with our parents.

Inheritance is genetic, not environmental. e.g. If two blonde-haired parents dye their hair black, this does not mean they will have black-haired child.

Some features are new to the offspring. These are called mutations. This is why we are not exact copies of our parents.

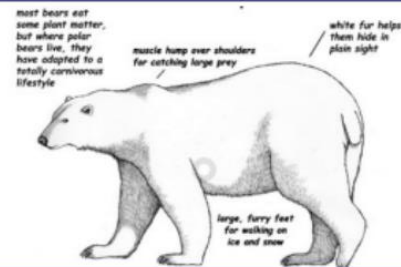
These changes in offspring over time allow evolution to take place.



Some characteristics that are passed on genetically negatively affect the offspring.

Adaptation

Evolution and natural selection have enabled living things to adapt to their



Sometimes the changes that offspring have from their parents are advantageous - they allow the offspring to cope better in their environment.

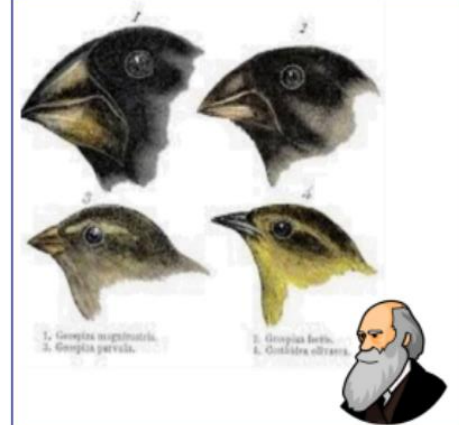
Often the changes are not advantageous (called maladaptation). When this is the case, the offspring will find it more difficult to thrive.

Natural selection ensure that, over time, the advantageous characteristics survive in the species.

If environments change rapidly, some variations of species may not suit the new environment and will die. If the environment changes slowly, animals and plants with variations that are best suited survive in greater numbers. They reproduce and pass their characteristics on to their young. Over time, these inherited characteristics become more dominant within the population. Over a very long period of time, these characteristics may be so different to how they were originally that a new species is created. This is evolution.

Evidence for Evolution

Fossils are the remains of living things, found in sedimentary rocks. They provide evidence about living



When palaeontologists compare animals in fossils to animals today, they can see similarities and differences between them.

- Fossils show that giraffes necks were not always long. They have developed over time to reach high branches.

Living things also provide evidence of natural selection and evolution.

- On the Galapagos Islands, Charles Darwin found differences between finches from island to island. They had adapted for the different foods that they eat.

Adapted to Warm Environments

Camel



Fennec Fox



Kangaroo



Penguin



Seal



Polar Bear



Adapted to Cold Environments