Evolution and Inheritance

Knowledge Organiser

Key Vocabulary

Environment	All the factors that affect the life of an organism
Habitat	A place where an organism lives in nature
Adaptation	Characteristics that an organism has evolved to have to adjust to a particular environment
Characteris-tics / traits	A notable feature of an organism
Organism	An individual life form
Offspring	The young produced by an organism
Evolution	The theory that all the kinds of living things that exist today developed from earlier types
Ancestor	An earlier form of an animal or plant from which others have evolved
Inheritance	The process by which genetic information is passed on from parent to child e.g. hair colour, eye colour and height
Mutation	A mistake or a change in a living things DNA
DNA	Deoxyribonucleic Acid is a chain of chemical units found in each cell of a living thing. DNA is the substance that carries genetic information within the cells of all living things
Variation	A slightly different version of something, distinct from other lifeforms
Species	A group of animals or plants that are similar and can produce offspring together

Adaptation

An ***adaptation*** is a ***characteristic*** that increases an chances of surviving and reproducing (produce its own ***offspring***).
For example:

A snake's hinged jaw allows it to eat larger prey like rodents and frogs.

The more attractive a peacock's tail - the more likely it is to get a mate.

A polar bear's thick fur (among other adaptations) allow it to survive in the Arctic

Inheritance

Whilst ***survival*** is key in ***evolution***, it is only part of the picture. Reproduction is the more important factor in driving evolution. When organisms reproduce they produce offspring, which will share characteristics of their parents.

This is called **inheritance.** Inheritance is why you share similar features to both your parents (sometimes more one than the other). It is worth noting that which characteristics are inherited is largely random.

A Labradoodle offspring shares characteristics from both of its Labrador and Poodle parents.

Fossil Record

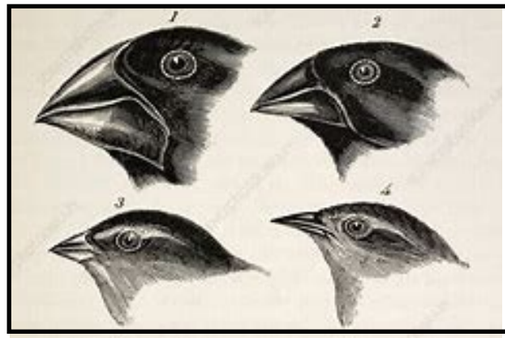
Fossils are the preserved remains or traces of a dead organism. They are significant because they provide evidence for how living things and the environment have changed over time.

Natural Selection

Natural selection is a central concept of ***evolution***. It was an idea of Charles Darwin and Alfred Wallace, and is sometimes called the ***survival of the fittest.***

It is the process where organisms with favourable traits are more likely to reproduce. In doing so, they pass on these traits to the next generation . Over time this process allows organisms to adapt to their environment .

Scan the QR code to learn a bit more about Charles Darwin and Alfred Wallace.



Charles Darwin used observations of finches to provide evidence for natural selection.