



Evolution and Inheritance

I wonder how our race will evolve in the future?



Prior Learning:

Year 6 Living Things and their Habitats:

- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- give reasons for classifying plants and animals based on specific characteristics

Year 4 Living things and their habitats:

- Recognise that environments can change and that this can sometimes pose dangers to living things.

Year 3 Rocks including Fossils:

- describe in simple terms how fossils are formed when things that have lived are trapped within rock

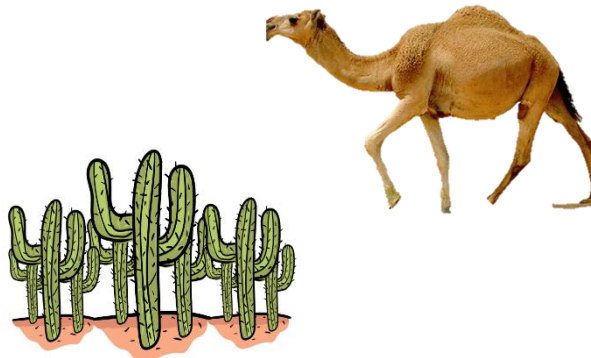
Year 6 Learning: -

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

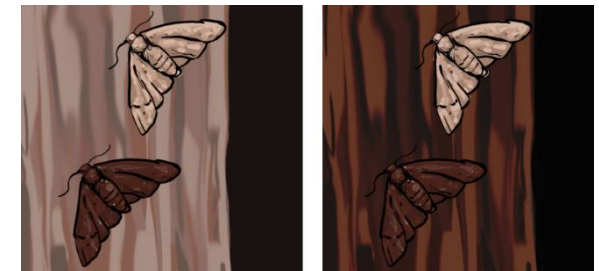
Offspring inherit their parents' qualities. This means that most offspring look like their parents, but they are not identical. The offspring may take characteristics from the father, the mother or a mixture of both.



Adaptation is when a plant or animal has changed in some way over a long period to be better suited to the environment in which they live.



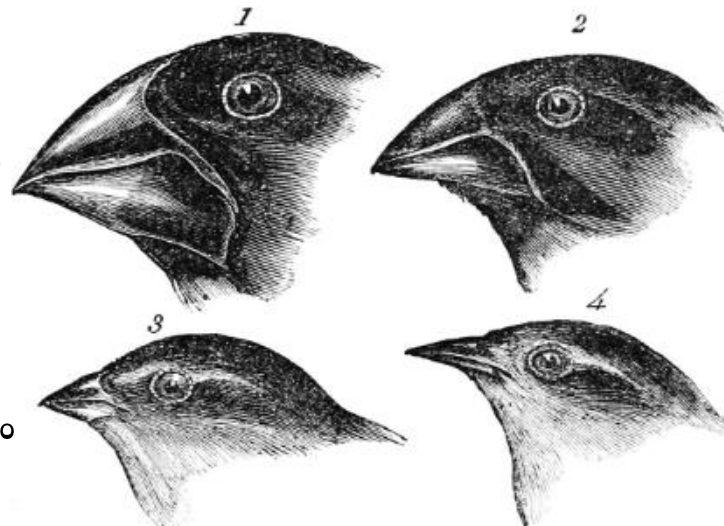
Natural selection is when organisms that are best suited to their environment survive and pass on their genetic traits. At the same time, organisms that are less likely to survive tend to be eliminated from the ecosystem.



Characteristics	Characteristics are traits that distinguish an organism/individual.
Variation	This is the differences in characteristics between individuals of the same species.
Genetics	The things in your DNA that make you how you are.
Inherited	Inheritance refers to the passing on of characteristics from parents to offspring through genetic material.
Adaptations	Adaptations are inherited traits that increase an organism's chance of survival and reproduction in a specific environment.
Natural Selection	This is a process where organisms that are better adapted to their environment are more likely to survive and reproduce, passing on their beneficial traits to the next generation.
Evolution	The change of inherited characteristics within a population over time through natural selection, which may result in the formation of a new species.

Charles Darwin visited the Galápagos Islands as a young man; he studied finches that had adapted their beaks to the different types of food on each island: fruit-eating finches had parrot-like beaks, finches that ate insects had narrow, pincer-like beaks and nectar-sipping finches had long, narrow, tubular beaks.

Although the finches were originally similar to those on the mainland, they evolved over time to survive better in their unique environments. This led Darwin to develop his theory of evolution by natural selection, which he later explained in his book *On the Origin of Species*.



A fossil is the preserved remains or traces of a dead organism. Fossilisation is the process by which the remains of ancient plants and animals are preserved in rock. It's a slow process that typically involves burial in sediment, the replacement of hard parts like bones with minerals, and eventual exposure through erosion or uplift.

