Maple Tree Primary School
Year 6: Evolution and Inheritance

What should I already know?

- That living things can be grouped in a variety of ways – mammals, amphibians, reptiles, fish, birds, invertebrates.
- That classification keys help group, identify and name a variety of living things in their local and wider environment.
- That environments can change and that this can sometimes pose dangers to living things.
- To gather, record, classify and present data in a variety of ways to help in answering questions.
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock.

Knowledge and skills

- To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Important Scientific Figures – Charles Darwin

Charles Darwin was an **English Naturalist** born on **February 12, 1809** in Shrewsbury, England. He is best known for developing a **theory of evolution** to explain biological change. He went on a voyage to **study animals** on the **Galapagos Islands.** On his voyage, Darwin **studied tortoises.** He noticed that each island had a different species of tortoise. He also studied **finches.** Each island had a **different species** of finch. He **wrote many books about his voyage**, Journal of Researches, Coral Reefs, Volcanic Islands and Geographical Observations on South America.

Adaptation - the process of changing.

Characteristics - a feature or quality belonging typically to a person, place, or thing and serving to identify them.

DNA - carries specific genetic information inside every living thing.

Ecosystem - a physical environment where things live.

Environment - the surroundings in which a person, animal or plant lives.

Evolution - a theory that states that all species that exist today developed from previous species.

Genetics - inherited characteristics.

Inherit - to pass on something.

Inheritance - something that has been passed on.

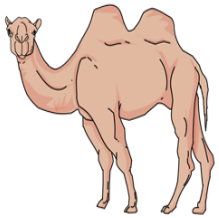
Natural Selection - when organisms that are best suited to their environment survive and pass on their genetic traits.

Organism - living things.

Trait - a feature or quality belonging typically to a person, place, or thing and serving to identify them.

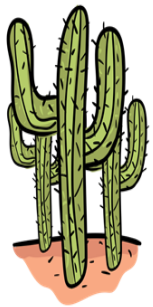
Adaptation

Adaptation is when a plant or animal has changed in some way, over a long period of time, to be better suited to the environment in which it lives.



Camels have long **eyelashes** to **protect** their eyes from the sand.

They also **have large, wide, flat feet** to help them **walk on the sand** without sinking.



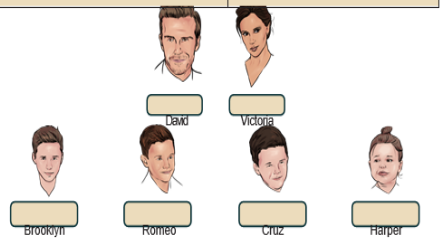
Cacti grow in the desert which is hot and sandy.

- They have spines instead of leaves to protect them from being eaten by predators.
- They have a thick, waxy skin which helps reduce the amount of water they lose.
- They have shallow, widespread roots which allow fast absorption of water when it rains.
- They have large, thick stems which allow them to store water until they need it.

Inheritance

When parents have **offspring,** they pass on their **physical traits.** The 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.

Traits you can inherit	Traits you can't inherit
eye/hair/skin colour, shape of nose, size of feet, height	a good singing voice, ability to play football, drawing skills

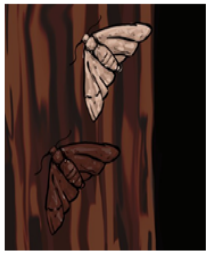


The Beckham Family

The children have inherited certain traits from their parents but they cannot inherit Victoria's singing ability or David's football skills.

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.** The fittest, most adapted organisms survive and multiply whilst the least adapted die out.

This was shown with the peppered moths. The light coloured moths were no longer adapted to their environment so started to die out. Whilst dark coloured moths were adapted to the environment so multiplied.



Natural selection is key to explaining evolution. Evolution is a theory that states that all species that exist today developed from previous species. For example, some scientists believe that humans evolved from apes!

Notes