Evolution and Inheritance

Key Vocabulary

Offspring	The young animal or plant that is produced by the reproduction of that species.	**Adaptation**	An adaptation is a trait or characteristics changing to increase a living thing's chances of surviving and reproducing.	**Natural selection**	The process where organisms that are better adapted to their environment tend to survive and produce more offspring.
Inheritance	This is when the characteristics are passed on to offspring from their parents.	**Habitat**	Refers to a specific area or place in which particular animals and plants can live.	**Fossil**	The remains or imprint of a prehistoric plant or animal, embedded in rock and preserved.
Variations	The differences between individuals within a species.	**Environment**	Contains many different habitats and includes areas where there are both living and non-living things.	**Adaptive traits**	Genetic features that help a living thing survive.
Characteristics	The distinguishing features or qualities that are specific to a species.	**Evolution**	Adaptation over a very long time.	**Inherited traits**	These are traits that you get from your parents. Within a family, you will often see similar traits e.g. curly hair

Key Knowledge

What is the scientific concept of inheritance?

These are characteristics that are passed on to offspring from their parents. Discuss:

- Inherited characteristics
- Acquired characteristics

What are the key ideas of the theory of evolution?

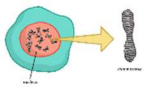
Charles Darwin studied different animals and started to come up with the theory of evolution when he travelled to the Galapagos Island.

- Only the offspring with large beaks could break open and eat the larger seeds.
- Therefore, these offspring survived and the other, smaller beaked offspring died.

'Survival of the fittest' means those that are most suited to their environment as a result of their inherited or adaptive traits survive while others do not.

What are Cells, Chromosomes, DNA and Genes?

- Cells are the building blocks of all living things. All living things are made up of cells.
- The nucleus of a cell contains chromosomes, which are made up of DNA.
- DNA carries the characteristics that we inherit.
- Genes are short sections of DNA that contain specific information



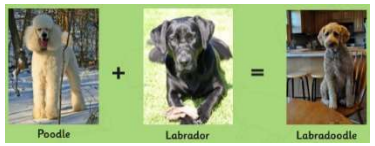
What evidence is there of evolution?

Darwin used fossils as evidence to support his theory of evolution.
Review children's understanding of the fossilisation process.
Human Evolution:

- Australopithecus
- Homo-neanderthalensis

How does natural selection affect adaptation?

Adaptation by natural selection results in evolution if the following 3 conditions are met:
1) The mutation causes a variation in an existing trait.
2) This trait is heritable.
3) This version of the trait enables a greater chance of survival than other versions of the trait.

What is adaptation?	These are characteristics that are influenced by the environment the living thing lives in.	**What is human intervention ?**	This includes: • Selective Breeding • Cross Breeding • Genetic Modifications 

Prior Learning	**Next Steps**
Children will have knowledge of classification and lifecycles. Children will have an understanding of different rocks and some knowledge of fossils.	At KS3, the children will continue to learn about evolution and inheritance at greater depth.