



Key Vocabulary

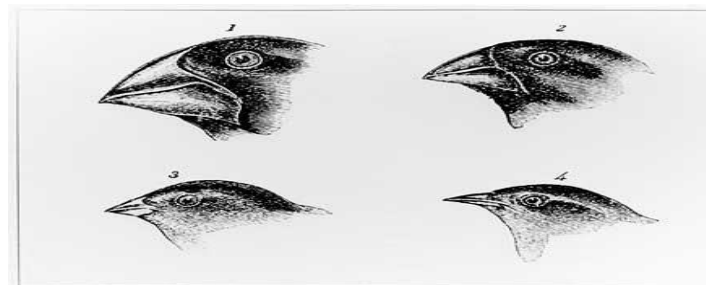
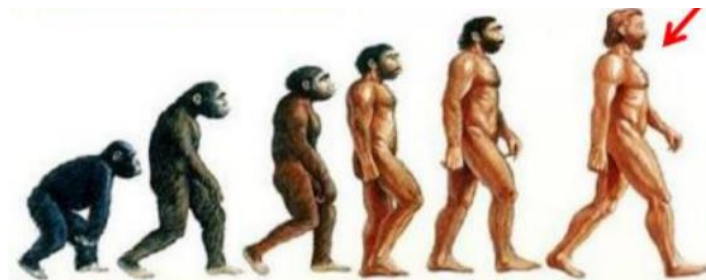
1	adaptation (adaptive traits)	The process of change so that an organism or species can become better suited to their environment.
2	breeding	The mating and production of offspring by animals.
3	environment	The surroundings or conditions in which a person, animal, or plant lives.
4	evolution	The process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth.
5	inheritance (inherited traits)	To gain a quality, characteristic or predisposition genetically from a parent or ancestor.
6	reproduction	The production of offspring from a living organism by a sexual or asexual process which creates a likeness of itself.
7	offspring	A person's child or children/ an animal's young.
8	variations	The differences between individuals within a species.
10	habitat	Refers to a specific area or place in which particular animals and plants can live.
11	natural selection	The process whereby organisms better adapted to their environment tend to survive and produce more offspring.
12	mutation	The changing of the structure of a gene, resulting in a variant form which may be transmitted to subsequent generations.
13	species	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.
14	population	The inhabitants of a particular place e.g. a community of animals, plants, or humans
15	generation	A set of members of a family regarded as a single step or stage in descent
16	Dominant genes	A genetic trait is considered dominant if it is expressed in a person who has only one copy of that gene. (e.g. brown eyes)
17	Recessive genes	A recessive trait which is expressed only when two copies of the gene are present (e.g. to have blue eyes both your parents must carry the genetic blue eyed trait)

Sticky Knowledge

- 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
- 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.
- 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.
- 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.
- 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!
- No two animals are the same, even if they belong to the same species.
- Fossils are the impressions of the remains of prehistoric animals or plants embedded in rock and preserved in petrified form.

Key Questions

- How have living things changed over time?
- How are fossils formed and what do they tell us about animals and plants that used to inhabit the earth?
- Why do living things produce offspring of the same kind but that are not exactly the same? How are the parents characteristics passed to their offspring?
- Who are the famous palaeontologists and scientists connected with the theory of evolution and inheritance?
- How are plants and animals adapted to suit their environment? Does adaptation lead to evolution? How have the plants and animals in our local environment adapted?
- How have some living things adapted to survive in extreme conditions, for example, cactuses, penguins and camels?
- What are the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.
- Are all adaptations good? What is the impact of human intervention on evolution? What impact does this have on the wellbeing of the world and its inhabitants?





Prior Vocabulary

1	Igneous rock	Rock that has been formed from magma or lava.
2	Sedimentary rock	Rock that has been formed by layers of sediment being pressed down hard and sticking together.
3	Metamorphic rock	Rock that started out as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure.
4	Sediment	Natural solid material that is moved and dropped off in a new place by water or wind.
5	Permeable	Allows liquids to pass through it.
6	Impermeable	Does not allow liquids to pass through
7	Fossilisation	The process by which fossils are made
8	Palaeontology	The study of fossils
9	Erosion	When water, wind or ice wears away land
10	Characteristic	A feature belonging typically to a person, place or thing.
11	Predator	An animal that kills and eats other animals.
12	Prey	An animal that is caught and killed by another for food.

Prior Knowledge

1	Soil is the uppermost layer of the Earth. It is a mixture of different things: minerals, air, water and organic matter (including living and dead plants and animals).
2	Reproduction is the process of producing offspring and is essential for the continued survival of a species.
3	Habitats change over time, either due to natural or human influences.
4	Changes to an environment could endanger living things and force adaptations in species.
5	Fossils form over millions of years and are the remains of a once living organism, preserved as rock.
6	Scientists can use fossils to find out what life on Earth was like in prehistoric times.
7	A food chain takes place within a biodiverse habitat. Animals can have more than one predator and can consume more than one food type.
8	An adaptation is a physical or behavioural trait that allows a living thing to survive and fill an ecological niche.

Future Learning

KS3	You will learn about inheritance, chromosomes, DNA and genes.
	Heredity is the process by which genetic information is transmitted from one generation to the next and that there are differences between species.
	There is variation between species and between individuals of the same species. This means some organisms compete more successfully, which can drive natural selection.
	Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction

Fossilisation

An animal dies. It gets covered with **sediments** which eventually become rock.

More layers of rock cover it. Only hard parts of the creature remain, e.g. bones, shells and teeth.

Over thousands of years, **sediment** might enter the mould to make a **cast fossil**. Bones may change to mineral but will stay the same shape.

Changes in sea level take place over a long period.

As **erosion** and weathering take place, eventually the fossil becomes exposed.



Soil

