Theale Primary School

Science

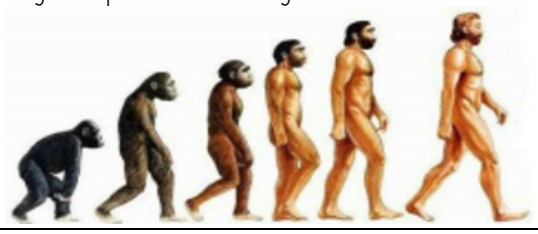
Topic: Evolution and Inheritance

Year: 6

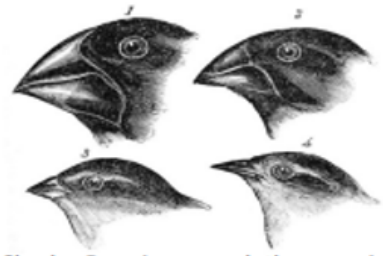
Key Knowledge	
What is the theory of evolution?	• Evolution is a process of change that takes place over many generations, during which species of organisms slowly change some of their physical characteristics. • It occurs when there is competition to survive. This is called natural selection. • Offspring are not identical to their parents. Variations within a species can be caused by inheritance and mutations. • Inheritance is when characteristics are passed on from one generation to the next. • Mutations are not inherited from the parents and appear as new characteristics.
How do we know about evolution?	• Evidence of evolution comes from fossils. Paleontologists compare similarities and differences with living creatures. • Other evidence comes from living things – comparisons of some species may reveal common ancestors.
What is adaptation?	• Adaptation is when species evolve to survive in their environments. For example, polar bears have a thick layer of blubber under their fur to survive the cold of the Arctic, while giraffes have long necks to reach the leaves on trees. • Some animals and plants have adapted to survive in very challenging environments. • Adaptations that are more harmful than helpful are called maladaptations. For example, the dodo lived for so many years without predators that it lost its ability to fly through evolution. When its native island became inhabited, the dodo could not fly away from hunters and became extinct.

Investigate

How inheritance creates variation in a species.
Who was Charles Darwin?
What is the Theory of Evolution by Natural Selection?
How do fossils provide evidence for evolution.



Charles Darwin



Scientist Charles Darwin studied different animal and plant species, which allowed him to see how adaptations could come about. Some of his most famous work was his research on the finches of the Galapagos islands. This led to the development of his famous theory of evolution through natural selection.

Key Vocabulary	
adaptation	A change in structure or function that improves the chance of survival for an animal or plant in a given environment.
ancestor	An early type of animal or plant from which a later, usually dissimilar type has evolved.
biodiversity	A wide variety of animal and plant species living in their natural environment.
characteristics	The qualities or features that belong to something and make it recognisable.
environment	All the circumstances, things and events around something that influences its life.
evolution	A process of change that takes place over many generations, during which a species slowly changes some of its physical characteristics.
extinct	A species is extinct if it no longer has any living members.
fossil	The hard remains of a prehistoric animal or plant, found inside rock.
inherit	If you inherit a characteristic, you are born with it because your parents or ancestors also had it.
mutations	New characteristics that appear and are not inherited from parents or ancestors.
natural selection	A process by which species that are best adapted to their environment survive and reproduce, while those that are less well adapted die out.
offspring	A person's children or animal's young.
species	A group of plants or animals whose members have the same main characteristics and are able to breed with each other.
variation	A change or slight difference.