



Bumblebees – Science KCV – Evolution and Inheritance



Key facts to learn:

- Know that all life on Earth began from a single point around 4.5 thousand million years ago
 - Know that living things change over time and that this gradual change is called evolution
 - Know that natural selection is the cause of this change; natural selection works as there is natural variation within a species; there is also competition to survive and reproduce and that members of a species with advantageous characteristics survive and reproduce - these characteristics are passed down to their offspring; members of a species with less advantageous characteristics do not survive and reproduce – these characteristics are not passed down to offspring
 - Know that offspring vary and are not identical to their parents
 - Know that the gradual change of species over millions of years can be observed by looking at examples of fossils
 - Know that Charles Darwin posited this theory of evolution by natural selection
 - Know that Darwin was a naturalist whose theory of evolution by natural selection developed while travelling through the Amazon rainforest
 - Know that Darwin’s theory is accepted as fact by the scientific community
- Know that Darwin did not know similarities were passed between parents and their offspring; know DNA, a chemical discovered in the 20th century, is contains the “code” that passes on information between parents and their offspring in all living things

Key skills to do:

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.

Words to know and spell (Tier 2 Vocabulary)

Adaptation	Ancestor	Breeding
Characteristics	Environment	Evolution
Extinct	Fossil	Genes
Generation	Inherit	Offspring
Reproduction	Species	Survive

Words to understand and spell (Tier 3 Vocabulary)

Biodiversity	The number and types of plants and animals that exist in a particular area or in the world generally, or the problem of protecting this.
Genetics	The study of how, in all living things, the characteristics and qualities of parents are given to their children by their genes.
Maladaptation	A maladaptation is a trait that is (or has become) more harmful than helpful, in contrast with an adaptation, which is more helpful than harmful.
Natural Selection	The process that results in the continued existence of only the types of animals and plants that are best able to produce young or new plants in the conditions in which they live

Concept check questions. Test yourself:

What are fossils? Why are they important to humans?
 Explain the similarities and differences found between siblings and their parents.
 Who is Charles Darwin and how has he contributed to the world of science?

Opportunities for Investigation:

Research: What happened when Charles Darwin visited the Galapagos Islands?