Science: How do living things vary? (Variation and adaptation)

Key vocabulary

evolution, breed, offspring, variations, environment, adaptation, population, environment, habitat, inheritance, characteristics, selective breeding, generation, survival, natural selection, genes, genetics, DNA, extinct, extinction, speciation, natural selection, common ancestor, species

Working Scientifically

Use relevant scientific language and illustrations to discuss, communicate and justify scientific ideas.

Record data and results of increasing complexity using scientific diagrams.

Evaluate usefulness of secondary sources and

begin to separate opinion from fact.

Identifying scientific evidence that has been used to

Must-know knowledge

Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

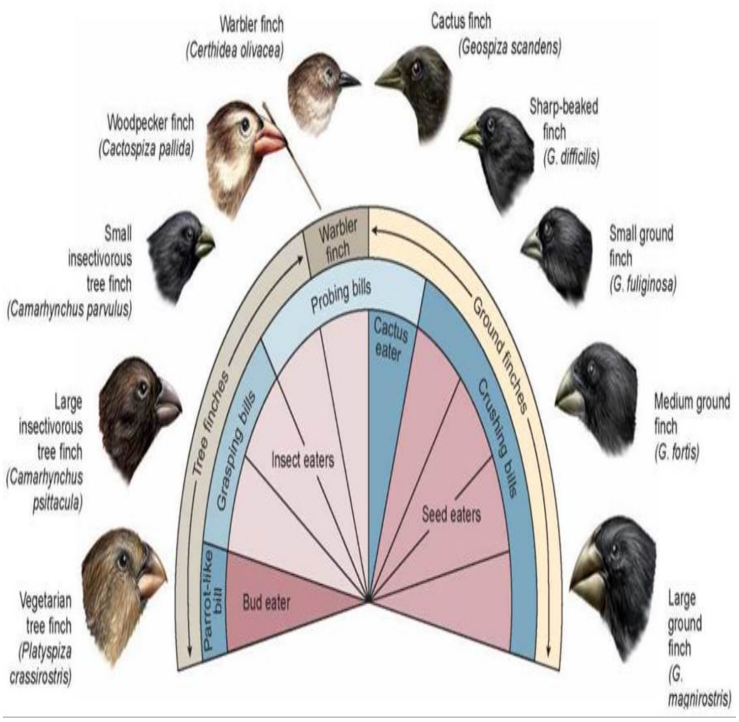
Animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Recognise the term "species" as a group of similar organisms where two parents can reproduce to create offspring and that "variation" refers to differences between organisms.

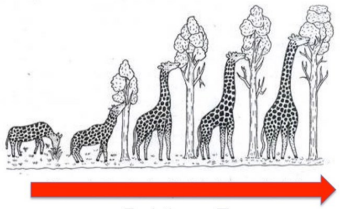
Offspring inherit characteristics from their parents such as hair colour or eye colour.

Evolution is a process where descendants develop different characteristics from their ancestors, creating new species.

The Beaks of Finches Diagram:



Natural selection: species change over time in order to survive in their environment and reproduce. As offspring are born, they have the advantageous genetic characteristics passed on from their parents. Over time, this is how species adapt. Living things that are unable to adapt to the changes in the environment are unlike to survive. Fossils of giraffes from millions of years ago show that they used to have shorter necks. They have gradually evolved through natural selection to have longer necks which offers them an advantage to fight and to reach the higher



Galapagos Islands

Charles Darwin explored the Galapagos Islands with the HMS Beagle and this was the main base of study for his book. He observed the different finches on the multiple islands and saw how they were of the same species but differed because of variations.