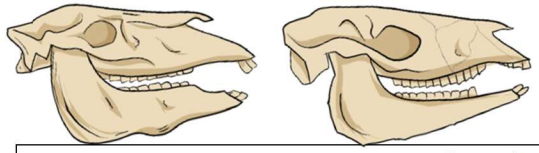
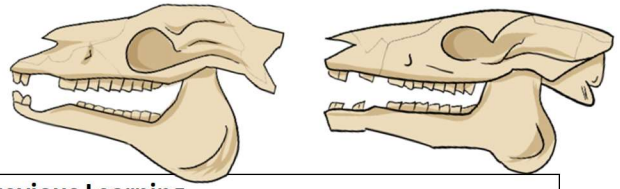


# Evolution and Inheritance – Year 6



| Overview of Learning | Previous Learning |
|---|---|
| During this unit of work, children will explore how animals and plants are adapted to the environment in which they live. They will learn that adaptations occur over time and that may lead to a species evolving. Children will conduct an experiment to answer the question; which beak is best adapted to pick up a seed? They will consider how certain adaptations occur in response to environmental conditions. They will learn about natural selection and how this links to inheritance and how some characteristics are inherited from parents and some are not. Children will consolidate previous learning on fossilisation and understand how studying fossils has helped explain the theory of evolution. | **KS1 –** Children may have learnt that most living things live in habitats to which they are suited and be able to describe how different habitats provide the basic needs of different kinds of animals and plants. They may have leant to identify animals and plants from a variety of environments. They may have noticed that animals have offspring that grow into adults.<br>**KS2 –** In the Rocks and Soils topic (Y3), children may have learnt how fossils are formed. |
| **Knowledge and understanding objectives** | **Future Learning** |
| **Pupils should be taught to:**<br>• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago<br>• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents<br>• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution | KS3 – Children will learn about inheritance, chromosomes, DNA and genes. They will learn that heredity is the process by which genetic information is transmitted from one generation to the next and that there are differences between species. They will also learn that 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. |
| **Key Vocab that needs explaining** | **Working Scientifically Objectives** |
| **Adaptation:** When a plant or animal has changed in some way, usually over a long period of time, to be better suited to the environment in which they live.<br>**Environment:** the conditions that surround an organism.<br>**Evolution:** the process by which different kinds of living organisms are believed to have developed from earlier forms during the history of the Earth.<br>**Gene:** A unit of heredity which is transferred from a parent to offspring and is held to determine some characteristics of the offspring.<br>**Natural selection:** When the fittest, most adapted organisms survive and multiply whilst the least adapted die out.<br>**Inheritance:** the reception of genetic qualities by transmission from parent to offspring.<br>**Organism:** an individual animal, plant or single-celled life form.<br>**Species:** a group of similar organisms that are able to reproduce. | **Pupils in Upper Key stage two should be taught to:**<br>• plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary<br>• take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate |
| **Misconceptions** | |
| That evolution happens quickly and that individual species adapt rapidly to changes in their environment. This is not the case, evolution happens over time. Children think that if you believe in evolution then you can't believe in God; however many evolution scientists also believe in God and have a religious background. Just because you believe in one, doesn't mean you can't believe in the other. Children may have heard that humans came from monkeys. Humans do belong to the same family as the great apes and the closest known living relative to Homo sapiens is the chimpanzee. However, this does not mean humans 'evolved from monkeys'. Humans share a common ape-like ancestor with old world monkeys and have very little connection to new world monkeys, which branched off the phylogenetic tree nearly 40 million years ago. | |