

Year 6 – Evolution and Inheritance (biology, chemistry, physics)

NC objectives

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Prior learning

- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. (Y2 - Living things and their habitats)
- Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals, including humans)
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Y3 - Rocks)
- Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats)
- Describe the life process of reproduction in some plants and animals. (Living things and their habitats - Y5)

Future Learning

- Heredity as the process by which genetic information is transmitted from one generation to the next. (KS3)
- A simple model of chromosomes, genes and DNA in heredity, including the part played by Watson, Crick, Wilkins and Franklin in the development of the DNA model. (KS3)
- The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection. (KS3)
- 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. (KS3)

Key vocabulary

Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils

Common misconceptions

Some children may think:

	<ul style="list-style-type: none"> • adaptation occurs during an animal's lifetime: giraffes' necks stretch during their lifetime to reach higher leaves and animals living in cold environments grow thick fur during their life • offspring most resemble their parents of the same sex, so that sons look like fathers • all characteristics, including those that are due to actions during the parent's life such as dyed hair or footballing skills, can be inherited • cavemen and dinosaurs were alive at the same time.
Areas of enquiry	Hook suggestions
<ul style="list-style-type: none"> • Observation over time – How do different animal embryos change? • Comparative and fair testing - What is the most common eye colour in our class? • Identifying and classifying - Can you classify these observations into evidence for the idea of evolution and evidence against? • Pattern seeking - Is there a pattern between the size and shape of a bird's beak and the food it will eat? • Researching using secondary sources - What happened when Charles Darwin visited the Galapagos islands? 	<p><u>Books</u> One Smart Fish by Chris Wormell</p> <p><u>Scenarios</u> Scenario – Joseph has noticed that the birds in his garden eat different things. He thinks this might be something to do with the shapes of their beaks. (Comparative and fair testing & Research) Could use Battle of the Beaks resource from www.stem.org.uk</p>