



The Canons CE Primary School



Year 6 – Evolution and Inheritance

Prior Learning	In Year 6	Future Learning
In Year 2 children will be taught to: • identify and name a variety of plants and animals in their habitats, including micro-habitats • describe how animals are suited to their habitats • identify that most living things live in habitats to which they are suited to provide their basic needs (<i>living things and their habitats</i>) • identify that animals have offspring which grow into adults. (<i>Animals, including humans</i>) In Year 3 children will be taught to: • describe how seeds are dispersed • describe how seeds are formed • describe how the structure of the plant links to its function • describe the functions and different parts of a flowering plant (<i>plants</i>) • describe how fossils are formed. (<i>Rocks</i>) In Year 4 children will be taught to: • recognise that environments change over time. (<i>Living things and their habitats</i>) In Year 5 children will be taught to: • compare the life cycles of plants in their local environment to different habitats around the world • describe asexual reproduction in plants	In Year 6 children will be taught to: • describe how adaptation can lead to evolution • research and identify how animals and plants are adapted to suit their environment in different ways • describe how variations occur between individuals of the same species • use evidence from their observations to describe how offspring vary and are not identical to their parents • describe how fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things have changed over time.	In KS3 children will be taught about: • heredity as the process by which genetic information is transmitted from one generation to the next • 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 • the variation between species and between individuals of the same species 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 Vocabulary	
	offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils	



The Canons CE Primary School



• identify the processes of sexual reproduction in plants • identify the processes of sexual reproduction in animals • describe the similarities and differences between the life cycles of different animals to include mammals, amphibians, insects and birds • describe the similarities and differences between the life cycles of different plants. (Living things and their habitats)		
Famous Scientists	Common Misconceptions	Possible Evidence to be Secure
• Charles Darwin (1809 – 1882) • Alfred Russel Wallace (1823 – 1913) • Richard Owen (1804 – 1882) • Mary Anning (may be covered in Year 3 - Rocks unit) • Jane Goodall	Some children may think: • 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.	Children can: • explain the process of evolution • give examples of how plants and animals are suited to an environment • give examples of how an animal or plant has evolved over time e.g. penguin, peppered moth • give examples of living things that lived millions of years ago and the fossil evidence we have to support this • give examples of fossil evidence that can be used to support the theory of evolution.



The Canons CE Primary School



Working Scientifically

National Curriculum Statutory Requirements

1. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
2. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.
3. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
4. Use test results to make predictions to set up further comparative and fair tests.
5. Report and present findings from enquiries, including conclusions, casual relationships and explanations of result, in oral and written forms such as displays and other presentations.
6. Identifying scientific evidence that has been used to support or refute ideas or arguments.

Highlighted = main focus during this topic

Teaching Ideas – Different Types of Scientific Enquiry

Comparative and Fair Testing	Identifying and Classifying	Observation Over Time	Pattern Seeking	Research
What is the most common eye colour in our class?	Compare the skeletons of apes, humans, and Neanderthals – how are they similar and different? Can you classify these observations into evidence for the idea of evolution, and evidence against?		Is there a pattern between the size and shape of a bird's beak and the food it will eat?	What happened when Charles Darwin visited the Galapagos islands? Why do some people need to wear glasses to see clearly?

Teaching Ideas – How Pupils Could Work Scientifically

Teaching Ideas – Possible Evidence to be Secure

(Bracketed Number = National Curriculum Statutory Requirement Link)

- | | |
|---|---|
| <ul style="list-style-type: none"> • Design a new plant or animal to live in a particular habitat. (6) • Use models to demonstrate evolution e.g. 'Darwin's finches' bird beak activity. (5) • Use secondary sources to find out about how the population of peppered moths changed during the industrial revolution. (6) • Make observations of fossils to identify living things that lived on Earth millions of years ago. (1) • Identify features in animals and plants that are passed on to offspring and explore this process by considering the artificial breeding of animals or plants e.g. dogs. (4, 5) • Compare the ideas of Charles Darwin and Alfred Wallace on evolution. (5, 6) • Research the work of Mary Anning and how this provided evidence of evolution. (6) | <p>Children can:</p> <ul style="list-style-type: none"> • identify characteristics that will make a plant or animal suited or not suited to a particular habitat (5) • link the patterns seen in the model to real examples (5, 6) • explain why the dominant colour of the peppered moth changed over a very short period of time (5) • create a fact file of an animal or plant identifying how it has adapted to its environment and how it has evolved to survive (5) • create a new planet and describe the environmental features. What animals and plants can live there? How have they adapted to survive? (5) |
|---|---|