

## Year 6 Science Curriculum

Working scientifically links   Rubric/PCMD opp.   Key Vocabulary

### Evolution & Inheritance

**What's the big picture?** Prior learning from year 3 rocks to be recapped - knowledge organiser (fossils) .- children to generate own questions for investigation

**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)

National Curriculum Principles	Objectives	Knowledge and key Vocabulary	Reading opportunities	Technology
To recognise that living things have changed overtime	I know how the earth and living things have changed over time	Children to choose one <b>animal</b> and research how it has changed overtime (project link) eg - horse, giraffe... Understand that some animals have not changed overtime and are <b>living fossils</b> eg crocodile, turtle	One Smart Fish (Christopher Wormell)	
To know that fossils provide information about living things that inhabited the earth millions of years ago.	I know how fossils can be used to find out about the past	Observe different <b>fossils</b> using a magnifying glass. Produce observational drawings of fossils. What can we learn about the animal/plant from the fossil? - children to research and <b>generate own questions.</b>	The Molliebird (Jules Pottle) Our Family Tree (Lisa Westberg Peters)	
To recognise that living things produce offspring	I know about reproduction and offspring	Children to know that <b>living things</b> have <b>offspring</b> and are different to parents and each other. Children to be introduced to the words <b>characteristics, inherit, inheritance,</b>	The Moth ( Isabel Thomas and Daniel Egneus)	

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<p>of the same kind, but normally offspring vary and are not identical to their parents</p>	<p>(recognising that offspring normally vary and are not identical to their parents)</p>	<p><b>reproduction, vary and variation.</b>          Children to match offspring to parents. <b>Look at Mr Men and Little Miss ( or Pokemon) - which offspring could they produce - make out of playdough.</b></p>		
<p>To know how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>I know how animals and plants are adapted to suit their environment.</p>	<p>Study how different animals and plants have <b>adapted</b> to their <b>environment</b>. Eg hedgehog, African elephant, polar bear, cactus, Venus fly trap, water lily (teachers to choose and link to project)</p> <p><b>Design a new planter animal to live in a specific habitat.</b></p>		
	<p>I link adaptation overtime to evolution</p>	<p>Plants and animals have characteristics that make them suited (adapted) to their environment. If the environment changes rapidly, some variations of a species may not suit the new environment and will die. If the environment changes slowly, animals and plants with variations that are best suited survive in greater numbers to reproduce and pass their characteristics on to their young. Over time, these inherited characteristics become more dominant within the population. Over a very long period of time, these characteristics may be so different to how they were originally that a new species is created. This is evolution.</p> <p>Study the work of <b>Charles Darwin and Alfred Wallace - Natural selection</b>. Children to be introduced to the words <b>evolution, species, adaptation</b></p>		
	<p>I know about evolution and can explain what it is.</p>	<p><b>Model evolution using tweezers/utensils as bird beaks and different foods (PSTT resources).</b>  <b>Research how the colour of the peppered moth changed over a short time period.</b>  <b>Compare the work of Charles Darwin and Alfred Wallace.</b></p> <p><b>Create a double page spread of learning</b></p>		

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### Famous scientists

Charles Darwin - evolution

Alfred Russell Wallace - evolution

### Common misconceptions

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.

### Enquiry ideas

<u>Comparative tests</u>	<u>Identify and classify</u>	<u>Observations over time</u>	<u>Pattern seeking</u>	<u>Research</u>
What is the most common eye colour in our class.	Compare the skeletons of apes humans and Neanderthals - how are they similar and how are they different?	How has the skeleton of the horse changed over time?	Is there a pattern between the size and shape of the birds beak and the food it will eat?	What happened when Charles Darwin visited the Galapagos Islands?
				What ideas did American geneticist Barbara McClintock have about genes that one have a Nobel Prize?