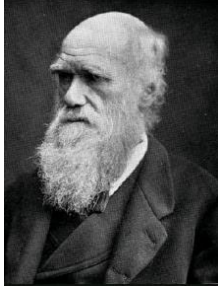
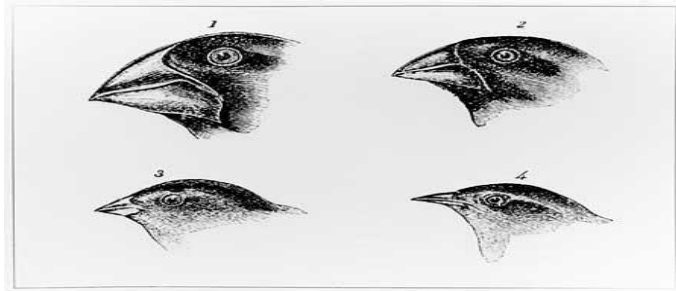


Evolution and Inheritance: Knowledge Organiser



Charles Darwin
(1809–1882)

English scientist best known for his theory of evolution. He was a geologist who went travelling in 1831 on the HMS Beagle. He saw many animals and plants and came up with the idea of natural selection (the strongest survive and evolve). His book, *The Origin of the Species* was released in 1851 and was controversial because it went against the Creation Story from the Bible



The Process of Evolution		An Example of Natural Selection: Peppered Moths	
1. More organisms are born than can survive.		1. Light-coloured moths were common	
2. These individuals all have slight variations between them.		2. During the Industrial Revolution (1760 – 1840) coal burning covered the moth's habitats in black soot	
3. Some of these variations are helpful and improve an organism's chance of survival		3. This gave the dark coloured moths a greater chance of survival because they had better camouflage than the light moths	
4. Those that survive pass their characteristics onto their offspring.		4. Many light-coloured moths died as they were easily spotted by their prey	
5. Over time these helpful variations are passed on to the next generation.		5. Dark coloured moths became more common	
6. This process takes thousands of years and can't be seen from one generation to the next.		6. As pollution has reduced over time the light-coloured moths have now become more common again	
Charles Darwin		Darwin's Journey on the HMS Beagle	
Dates	1809 - 1882		
Famous Book	On the Origin of Species		
Famous Achievement	Developed the theory of evolution which attempts to explain why there are different species of animals		
Quote	"A man who dares to waste one hour of time has not discovered the value of life."		
Famous Voyage	HMS Beagle (1831- 1836) Visited the Galapagos Islands		

What is adaptation?	<ul style="list-style-type: none"> • Adaptation is when animals and plants have evolved so that they have adapted to survive in their environments. For example, polar bears have a thick layer of blubber under their fur to survive the cold, harsh environment of the Arctic while giraffes have long necks to reach the leaves on trees. • Some environments provide challenges yet some animals and plants have adapted to survive there • Sometimes adaptations can be disadvantageous, One example of this can be the dodo, which became extinct as it lost its ability to fly through evolution. Flying was unnecessary for the dodo as it had lived for so many years without predators, until its native island became inhabited. When adaptations are more harmful than helpful, these are called maladaptations.
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