



Key Vocabulary

1	Archipelago	An area that contains a group of islands in water.
2	Charles Darwin	Charles Robert Darwin (12 February 1809 – 19 April 1882) was an English born evolutionary biologist, naturalist and geologist who was best known for his contributions to the science of evolution. He first formulated his theory in his book "On the Origin of Species" in 1859.
3	Mary Anning	Mary Anning (21 May 1799 – 9 March 1847) was an English fossil collector, dealer, and palaeontologist who became known around the world for important finds she made in Jurassic marine fossil beds in the cliffs along the English Channel at Lyme Regis in the county of Dorset in Southwest England.
4	Alfred Wallace	British naturalist, explorer, geographer and biologist. He is best known for independently coming up with the theory of evolution through natural selection; his work and ideas were jointly published with some of Charles Darwin's work.
5	evolution	the process by which different kinds of living organisms are believed to have developed from earlier forms during the history of the earth inherit derive (a quality, characteristic, or predisposition) genetically from one's parents or ancestors
6	adaptation	the process of change by which an organism or species becomes better suited to its environment
7	palaeontology	The branch of science concerned with fossil animals and plants palaeontologist an expert in or student of palaeontology
8	theory	a system of ideas intended to explain something
9	creation theories	Religious theories that some choice to believe to explain how the world came to be what it is today.

Sticky Knowledge

1	Charles Darwin was the first to explore the possibilities of Natural Selection and it is now regarded as be the main process that brings about evolution.
2	In 1831, Charles Darwin set off on a 5 year journey across the world on HMS Beagle. This journey allowed him to discover many species and evidence of fossils and he used this evidence to support his developing theory of Natural Selection
3	Charles Darwin was the first to explore the possibilities of Natural Selection and it is now regarded as be the main process that brings about evolution.
4	Darwin famously visited the Galapagos Islands where he realised that Finches adapted their beaks to the different food sources that were available. For example in areas where nut were surrounded by tough cases only the birds with strong beaks would be able to get to the food and therefore more likely to survive.
5	Over the course of her life, Mary Anning, made many incredible discoveries. This made her famous among some of the most important scientists of the day. They would visit her for advice and to discuss scientific ideas about fossils. Today, Mary is remembered as one of the greatest fossil hunters to have ever lived.
6	'Living fossils' are plants and animals that remain unchanged from their ancient ancestors. Think coelacanths, elephant sharks, crocodiles, horseshoe crabs and nautilus (among many others).
7	The Natural History Museum has 80 million specimens from different species: 6 million plants, 34 million insects and arachnids, 29 million animals, 7 million fossils, 500,000 rocks and gems.
8	Dinosaur eggs have been found and, when put through a CAT scanner, you can see the foetus inside.
9	'Lucy's' skeleton presents a small skull akin to that of non-hominin apes, plus evidence of a walking-gait that was bipedal and upright (walking on two feet rather than 4), akin to that of humans (and other hominins – apes and monkeys but not gorillas)
10	The discovery of 'Lucy' supports the theory that evolution to walk on 2 feet (bipedalism) has increased humans brain size.

Key Questions

1	How have living things changed over time?
2	How do fossils provide information about living things that inhabited the Earth millions of years ago?
3	How are animals adapted to suit their environment? Does adaptation lead to evolution?
4	When and who coined the phrase 'survival of the fittest' and what does this mean?
5	How did Galapagos finches arise? How about the differences among them?
6	What are the main factors for evolution?
7	What were some of Mary Anning's most famous discoveries?
8	Explain the differences between evolutionary theories and creation theories?
9	What is the 'Big Bang Theory' and how does this support the views of the evolutionary theory?

Charles Darwin's journey on board HMS Beagle





Prior Vocabulary

1	Naturalist	An expert of natural history.
2	Environment	The surroundings in which a living thing operates.
3	South America	One of the 4 th largest continents.
4	Fossils	The preserved remains of plants and animals whose bodies were buried in sediments.
5	Organism	An individual life form.
6	Species	A group of living organisms consisting of similar individuals who can exchange genes.
7	Biodiversity	The variety of plant and animal life in a particular habitat.
8	Inherit	A characteristic genetically received from a parent or ancestor.
9	Equator	A line that divides the Earth into Northern and Southern hemispheres.
10	Voyage	A long journey involving travel by sea or space.
11	Pacific	Name given for our oceans, can also mean peaceful/calm.
12	Geological	Studies of the earth's physical structure and substance.

Prior Knowledge

1	71% of the Earth's surface is covered with water, most of which is salt water in the oceans
2	Europe is a continent made up of 44 counties,
3	Oceans are very large areas of salt water that cover approximately two-thirds of the Earth's surface.
4	A continent is one of Earth's seven main divisions of land. The continents are, from largest to smallest: Asia, Africa, North America, South America, Antarctica, Europe, and Australia
5	There are five major types of biomes: aquatic, grassland, forest, desert, and tundra
6	the four main points of a compass: north, east, south, west. symbol indicating the cardinal directions (N, S, E, W).
7	The water cycle shows the continuous movement of water within the Earth and atmosphere.
8	Sedimentary rocks are formed on or near the Earth's surface, in contrast to metamorphic and igneous rocks, which are formed deep within the Earth. The most important geological processes that lead to the creation of sedimentary rocks are erosion and weathering.
9	Maps provide visual information about the world in a simple way that help the reader locate where they are and where they want to go. They usually use a grid system to help identify places.



Future Learning

KS3	Inheritance, chromosomes, DNA and genes You will learn about further theorists such as 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 The importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.
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