

Charles Darwin

Outstanding Science Year 6 - Evolution and inheritance - OS6C003

National Curriculum Statutory Requirements

6C2 - recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

Learning Objective



I can explain how Darwin developed the theory of natural selection.

Me:   

Teacher:   

Charles Darwin was one of the most important scientists and played a major role in developing the theory of **natural selection**. Here is a first-person account of his life and work. This account is fictitious, but the information is correct.

I was born in Shrewsbury, Shropshire, on 12th February 1809. My family were wealthy, and open to new scientific ideas.

*One of the key scientific problems at the time was how to explain **fossils** - they appeared to show the remains of living things that no longer existed. How could we explain '**transmutation**' - one species changing into another?*

My family wanted me to become a medical doctor, so I attended medical school at the University of Edinburgh. However, I did not enjoy my time there and soon began a different degree at Christ's College, Cambridge. I had plenty of free time to indulge my hobby of studying the natural world, in particular collecting different varieties of beetle.



Darwin in the 1830s

*In 1831, after graduation, I was offered the opportunity to join the crew of the **Beagle**. The ship's mission was to map the coastline of South America. My job was to act as a '**naturalist**' - an early form of natural scientist - and study the rocks and living things that we encountered.*

In total, we spent five long years at sea. I had plenty of time on land to investigate the local wildlife, and plenty of time at sea to think about what I had observed.

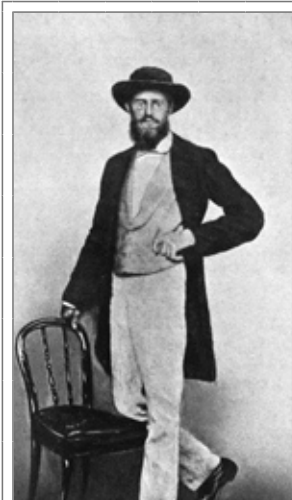
*One of our most important stops was at the **Galapagos Islands**, near Ecuador. I noticed that there were a variety of turtles and finches on the islands which were all similar but had unique differences.*



HMS Beagle at the Tierra Del Fuego
Conrad Martens

*When I returned home in 1836, I had come up with an idea which explained transmutation. It occurred to me that not all individuals reproduce, and those that do so successfully tend to have beneficial traits which they pass on to their offspring through heredity. Inspired by the **artificial selection** of animal and plant breeders, I called this idea **natural selection**.*

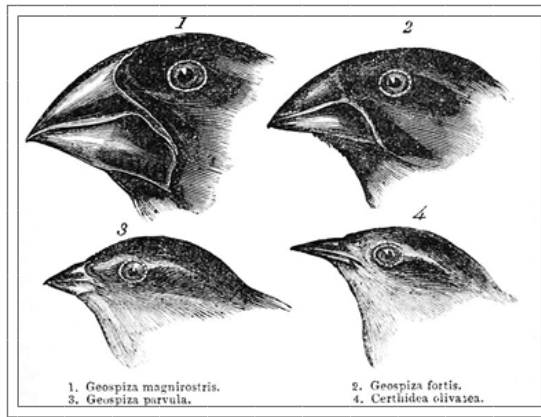
One of the problems that I foresaw with my theory was that it disagreed with accepted ideas about the age of the Earth and the creation of life. In the 19th century, most people in England accepted the Christian Biblical idea that the Earth had been created only a few thousand years ago, along with all currently living species in their present forms. I anticipated that many people would be hostile to my theory and spent a long time trying to come up with the best way to present it.



Alfred Russel Wallace independently developed a similar theory.

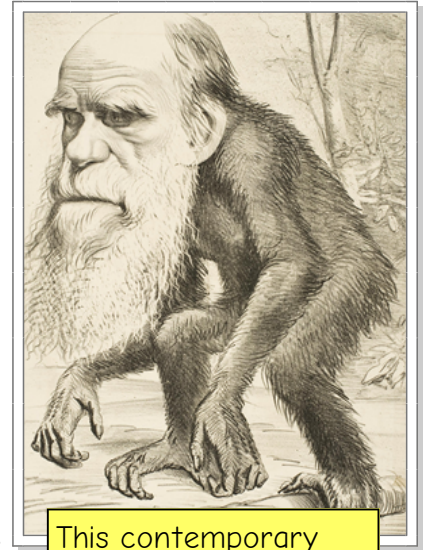
While I was thinking about how to publish my theory, I received a letter from another naturalist, Alfred Russel Wallace. He had come up with a similar theory on his own. I decided to publish my work quickly, making sure that I gave Wallace some credit.

In November 1859, I published my most famous work - '**On The Origin of Species**', setting out my theory. In it, I used the example of the species of finches on the Galapagos Islands, each of which had a different, specialised beak. I explained that these different species all shared a **common ancestor**, but on each island, the finches evolved different beaks because there were different types of food in the environment.



The book drew a lot of criticism, especially from the Church, because it seemed to suggest that human beings were descended from animals, rather than being God's special creation. I made this idea even clearer in another of my publications, '**The Descent of Man**'.

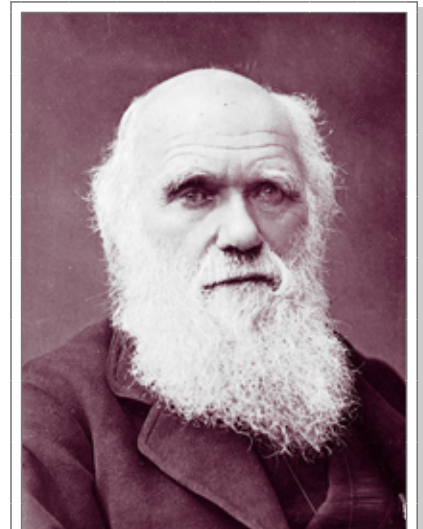
After suffering from ill health for most of my life, I died in 1882. As time went on, more and more people found the courage to agree with and develop my theory. Ideas such as **natural selection, survival of the fittest, evolution, extinction** and the **common ancestry of living things** became generally accepted by the mid-20th Century.



This contemporary cartoon pokes fun at Darwin and his theory.

Activity

Use the information in this fictitious autobiography to create an information text on Darwin. Remember to write in the third person, in the past tense. Think of some section headings to help you plan and organise your work. These might include **Early life, The Voyage of the Beagle, The Galapagos Islands, Natural Selection, Opposition to Darwin's Theory, Publications** and **Darwin's Legacy**.



The last portrait of Darwin (1881)