



# Evolution Act 2: Charles Darwin

## Chapter 22: Famous Science Series

In 1831, Charles Darwin began a journey circumnavigating the globe by sea. Darwin was a thoughtful observer of nature. He spent a lot of his life puzzling over things he saw. Early in the voyage, he stopped at the Cape Verde Islands in Africa. There he saw, 45 feet above sea level, a white stripe of fossilized shells running through the rocks around the islands. Darwin wondered how these shells came to be so far above the sea. He asked himself: Why were there different organisms in different locations? Why were there were so many different types when fewer would work just as well? Then there was the fossil evidence. People had been discovering fossils for a long time. Darwin wondered what had happened to all the types of organisms that had gone before and no longer existed. Darwin had read about the theory of uniformitarianism and he wondered that if the earth was constantly changing, was it possible that organisms had been changing too?

**Look up Darwin's voyage that began in 1831. Draw his path on the map below.**



## Chapter 22: Famous Science Series *(continued)*

What was the name of the ship Darwin sailed on?

How long was he at sea?

What was his job on the ship?

Darwin spent only 18 months of the journey at sea. The rest of the time he spent on land collecting plant, animal, and fossil specimens and making geological observations. Some of the most important collecting was done during the five weeks he spent on the Galápagos Islands. The Galápagos Island chain is 600 miles west of the west coast of South America, in the Pacific Ocean. Different islands in the chain have different environments, with different types of plants and insects growing on them. Most of the islands are far enough from each other so that there is reproductive isolation for many of the species on each island. Darwin visited four of the over 14 islands in the chain. While on the islands, he collected finches.

Darwin returned to England with 13 different species of finches, each with its own beak shape and size, collected on the Galápagos Islands. This started Darwin wondering why each island had a different finch species. There was only one species of finch on the South American mainland. He puzzled over why there were 13 species only 600 miles away. What did he conclude was the answer?

The finches from the Galápagos Islands are one of the many examples used in Darwin's book showing evidence of evolution. What was the complete title of his book? (It has 21 words in it!) What is the shortened title most people use?

How long did it take Darwin to write it?

Why did he finally publish it?

There was one weakness in Darwin's book. Darwin did not provide the mechanism for how traits are passed on from parents to their offspring. That is because Darwin did not know it . . . The finale is in the next chapter.