



Common Descent

In *On the Origin of Species*, Charles Darwin suggested that all life on Earth descended from one common ancestor. This means that every species - from a human to an oak tree - all started off as the same thing billions of years ago. That means that your DNA shares a very small similarity with that of an oak tree, as well as everything else that lives today.

This wasn't a new idea. Since 1740, scientists have speculated that this might be the case. It wasn't until recently, though, that scientists discovered how far back we have to go to find the point where life started to separate into different species. That point was roughly 3.8 billion years ago. Scientists think that the point where plants and animals diverged and became what are known as separate kingdoms was around 1.5 billion years ago.

All living things are divided by a system called the Linnaean classification system. This is named after the scientist who created it, Charles Linnaeus. Until he created his system in the 1700s, scientists could call animals whatever they felt like, which made it very difficult to compare findings. Linnaeus's system split the living world into groups.

Kingdom

This is the first grouping for a living thing. The kingdoms are animal, plant, fungi, bacteria and protists (very simple organisms). All living things fall into one of these.

Phylum

This grouping divides living things further based on some of their key physical characteristics. Some examples are chordata (animals with a backbone), molluscs (snails etc) and arthropods such as insects. At this point, a cat, a shark and a snake are all together.

Class

A living thing's class divides into groups that we are more likely to recognise. These include mammals, reptiles, amphibians and fish.

Order

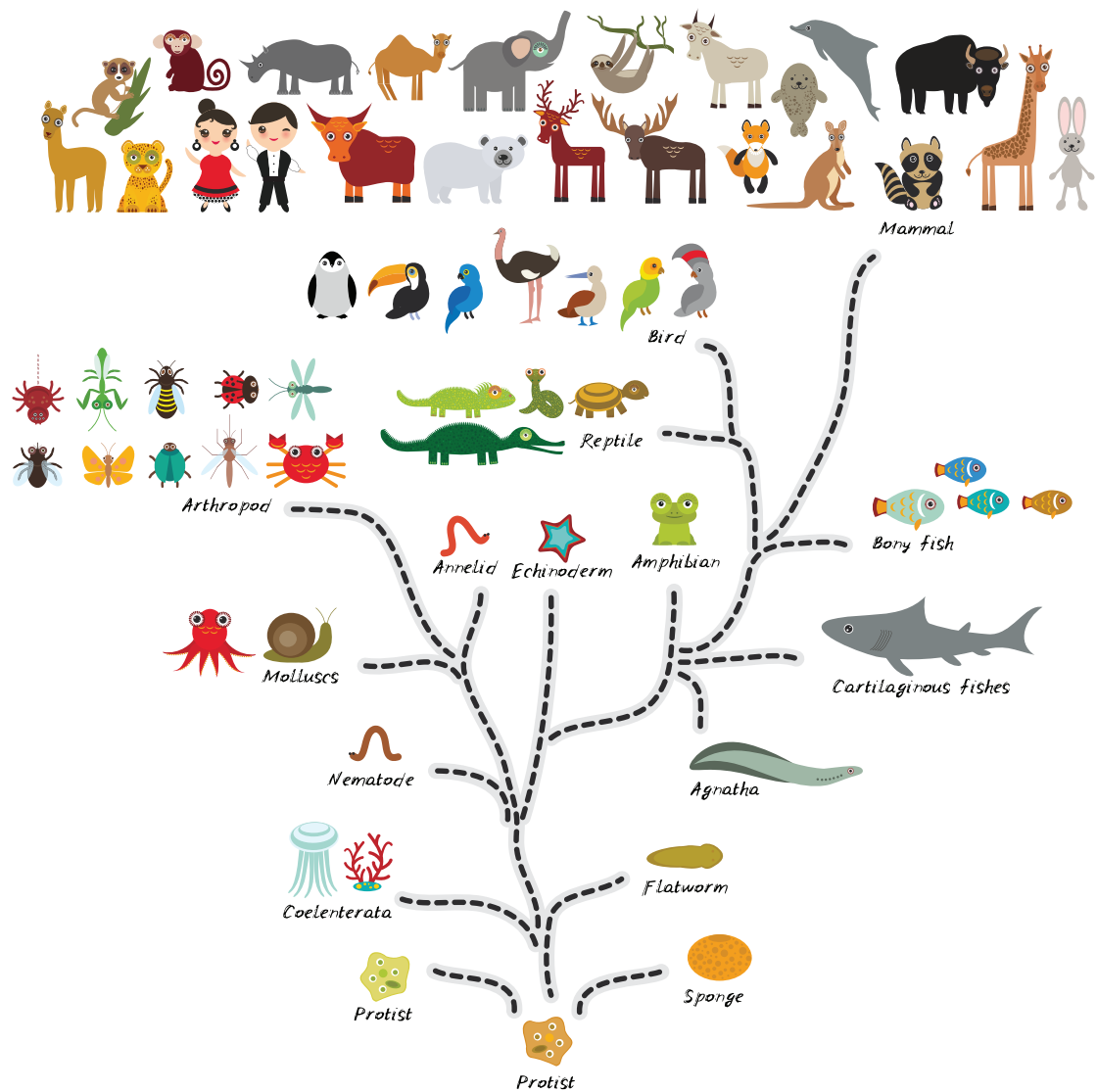
Within each class, living things are sorted into orders. These might be something like cetacea (whales and dolphins) or primates.

Family

This splits things even further within their category. So far, a cat and a dog would still be in the same group. At the family level, they would split into feline and canine groups.

Genus and species

This is the final grouping and is used to explain a specific species. For instance, the human genus is homo and the species is sapiens. That's why we refer to ourselves as homo sapiens.



RETRIEVAL FOCUS

1. How many different categories are there for living things?
2. What else split off at the same time as molluscs?
3. If a dog is a canine, which family would a cat be under?
4. When did animals and plants separate?
5. Who developed the naming system?

VIPERS QUESTIONS

V

Which word means that animals and plants went separate ways?

S

What is used to sort living things into their phylum?

E

What effect does the illustration have on the reader, in this text?

V

Find a word or phrase that is a synonym of "thought".

S

Why is it important to have a clear naming system for living things?

Answers:

1. 7
2. Annelids
3. Feline
4. 1.5 billion years ago
5. Charles Linnaeus

V: Diverged

S: Key physical characteristics

E: It helps to show visually how the different animals divide at different points

V: Speculated

S: So that scientists can share ideas and knowledge clearly and easily