

8-GY7 DNA and common descent

So I think it was like bacteria, loads of different ones with different type of DNA and stuff in their bacteria. And then it came like bugs and critters and reptiles and fish. There was like, reptiles and amphibians and birds, bears and foxes and apes. I think some of the birds died out. Before the birds there were dinosaurs. All those different birds had different types of DNA so they all looked different. Like two types of different bird had a child and that became another type of bird.

Claim(s)

Evolutionary theory holds that different species emerge through a process of splitting and branching from common ancestors.

Amphibians, reptiles, birds and mammals have a common ancestor.

Any challenges to the expressed claim?

Anything to disagree with?

Any clarification needed?

Question(s).

What is meant by 'common ancestor' in evolutionary theory?

What is the definition of a 'species'?

Can cross-breeding produce a new species?

Note: See the Primary Science article on [Variation](#).

The response highlights the need to be clear about how new species emerge. It is possible that the response assumes that cross-breeding produces a new species, but that is not the case. A species is defined as a group of living things that are capable of interbreeding to produce fertile offspring.

There are examples of breeding between different species – for example, a lion and a tiger can produce offspring, but their progeny will not be fertile. Similarly, a male donkey known as a jack and a female horse, a mare, can produce offspring known as mules. Horses and donkeys are different species, with different numbers of chromosomes.

Some species have many different forms that show a great deal of variation but are nonetheless a single species. Dogs are a good example.

The species is the basic category of biological classification and the principal natural taxonomic unit, ranking below a genus and denoted by a Latin binomial, developed originally by Linnaeus.