

[Myths and misconceptions about evolution - Alex Gendler](#)

Pupils think.....	
Only insects can be invertebrates	Worms are invertebrates as well as lots of other organisms
Snakes are invertebrates	Pupils think that because the snake does not have legs that it must be an invertebrate. This is not the case. They have a spine and ribs etc.
Evolution takes a long time in all organisms	This is mostly true; however, antibiotic resistant bacteria did not develop this over hundreds of millions of years it was decades.
Tortoises are turtles and vice versa.	A tortoise lives on land has a shell that it can retract into and four legs. A turtle lives in water and only goes on to land to lay eggs before returning to the water. They have flippers and cannot retract into their shell.
Platypuses are not real	Platypuses are unique organism that show features of 3 different vertebrate groups. Mammals because they lactate, Reptiles because they have venom spurs and birds because they lay eggs.
Dolphins and whales are fish	Dolphins and whales are the result of a tetrapod coming onto land evolving then returning to the sea. They must come up for air and require atmospheric oxygen. That is why they have blow holes.
Humans are not animals	Humans belong to the species Homo Sapiens. Homo is a short of hominid, which includes all extinct homo species. We are mammals as we live on the land, reproduce, have body hair, give birth to live young and breast feed.
Humans have stopped evolving	Babies are being born with extra arteries in their arms and no wisdom teeth. Humans have also continually got taller.
Humans are different breeds	Humans all belong to the same species homo sapiens. Just because humans have different skin tones and live in different geographical locations does not make them breeds.
Skin colour is black and white	Skin colour is a spectrum. There is no black and white. This is a man-made construct stemming from Carl Linneaus and Charles Darwin when they classified humans which eventually lead to the slave trade and other racist occurrences.
Black people can't have naturally blonde hair	Melanesian population, naturally occurring blonde hair that evolved separately to blonde hair in European populations
Skin colour is not an adaptive trait	Skin colour variation occurred due to our ancestors leaving Africa and moving into cooler climates. In cooler climates, there is a lower intensity of sunlight. This meant that our ancestors could not gain enough vitamin D due

	to their skin being darker. Over generations skin colour lightened in order to allow the conversion of VIT D to calcium.
Hair type and colour is always linked to skin tone	Hair type is determined by the positioning of the follicle. If it is straight the hair will be straight if it is slightly curved your hair will be curly, a large bend in the follicle will result in Kinky hair.
It is okay to say that peoples hair is like animal hair	This is racist and we should not compare human hair to animals.
Using the word coloured is okay	This word is not appropriate to use. A racial slur developed to make people feel less than human. Intrinsically linked to violence and hate.
Humans are at the top of the food chain	Humans are part of the food chain. Naturally humans are one of the weaker species. Without our intelligence we would not survive an encounter with a lion.
Humans have had no impact on other species	Humans are responsible for the majority of extinctions that have occurred since our industrialisation. The extinction rate is between 100- 1000x higher than what it would be if we were not here.
Animals can always adapt to their environment	If the environment changes quickly then an animal especially a mammal will not be able to adapt, prime example a polar bear, it is losing its habitat at a rapid rate it cannot adapt flippers to help it swim further or the ability to breathe underwater for long periods.