

MISCONCEPTIONS ABOUT EVOLUTION

VOCABULARY – You may need to google some of these terms or use previous lessons (they should be “review”).

- 1) SCIENTIFIC THEORY – *a well-tested and well-supported explanation of a natural phenomenon*
- 2) MISCONCEPTION – *an incorrect understanding of a topic*
- 3) EVOLUTION – *change over time*
- 4) NATURAL SELECTION – *individuals who are more fit for their environment have a better chance to survive and reproduce, passing on their DNA to the next generation*

SHORT RESPONSE – Provide a short answer (a few sentences or less) in response to each prompt.

- 5) Have you heard someone say any of the misconceptions identified in the PowerPoint? If so, which ones have you heard? If not, which one do you think most people believe incorrectly?
Answers will vary. The most common one I’ve encountered is that people evolved from monkeys.
- 6) Slide 6 discusses the misconception that individual organisms evolve over their life span and pass these genetic changes on to their offspring, resulting in changes to the species. How does the picture of the Padaung woman with the neck coils “disprove” this misconception?
If physical changes to an individual were passed on to the next generation, then the woman’s baby would have a long neck. Similarly, if someone has an arm or leg amputated, that doesn’t mean their baby will be born without an arm or leg...
- 7) Slide 7 addresses the misconception that evolution arises from a species’ NEED to adapt. How do the examples of the Tasmanian Wolf or the Dodo Bird illustrate why this is an incorrect understanding of evolution?
If species could adapt because they needed to, nothing would ever go extinct.
- 8) If someone says in a conversation with you that they don’t believe in evolution because “Man didn’t come from no monkey!”, how can you respond to them so you might correct their misconception?
The theory of evolution does not say that man comes from monkeys, it says that we shared a common ancestor in the far-distant past. Based on the phylogenetic tree on slide 12, hominids (the human line) broke off from the ape line (chimpanzees and bonobos) about 7 million years ago. This means that 7 million years ago, there was some kind of primate that would one day evolve into both apes and hominids.
- 9) Look at the highlighted green box in the phylogenetic tree of life on slide 11. What do you think this illustration trying to communicate?
This illustrates how all life forms share a common ancestor at some point in the past. Since animals, plants, and fungi are so close on the “tree”, it says that those organisms are more closely related (their common ancestor was more recent) than the other organisms listed. Think about this for a moment...it’s saying that at some point in the past, Mr. Hanna shared a common ancestor with a potato...
- 10) If you could “zoom in” on the phylogenetic tree from slide 11 where it branches off to say, “animals,” you might see something similar to the phylogenetic tree on slide 12. Zooming in on the bottom of that tree, we see a primate phylogenetic tree. Based on this illustration, do humans share a more-recent common ancestor with homo-erectus, chimpanzees, gorillas, or monkeys? How can you tell?
Humans share a more recent common ancestor with chimpanzees. Humans and chimps share a more recent common ancestor with gorillas than with monkeys.