

Evolutionary History

UNIT QUESTION:

Why do species, both living and extinct, share similarities and also have differences?

Chapter Questions:

1. *Where in the museum does the Mystery fossil belong?*
2. *How did wolves, whales, and the Mystery Fossil become so different from their common ancestor population?*
3. *How can we tell if the Mystery Fossil is more closely related to wolves or to whales?*
4. *Is the Tometti fossil more closely related to ostriches or to crocodiles?*

Key Concepts:

1. Species inherit their body structures from their ancestor populations.
2. Body structures that are shared between two species are evidence that these two species inherited the shared structures from a common ancestor population.
3. In populations separated into different environments, natural selection causes different changes to happen to each population. This causes descendant species to end up with differences in their shared structures.
4. When the environment is mostly the same over time, body structures stay stable. When the environment changes over time, body structures may change due to natural selection.
5. Over many generations and very long periods of time, many small changes can build up to large differences in body structures.
6. Among any three species, the two species that separated most recently are the most closely related to each other.
7. When two species share a structure that is not shared with a third species, this can be evidence that the first two species are more closely related to each other than to the third species.