

Scope 2: Evolutionary History and Relationships Vocabulary

- 8.LS4.2 - Construct an explanation addressing similarities and differences of the anatomical structures and genetic information between extinct and extant organisms using evidence of common ancestry and patterns between taxa.
1. **evolution** - the process by which populations of organisms change over time
 2. **theory of evolution** - the idea that organisms will gradually develop and make changes over many generations to create the diversity of living things we currently have from previous organisms (both extinct and extant organisms) and these changes happen by natural processes
 3. **common ancestor** - the shared ancestry of new, different species that arose from one population
 4. **phylogenetic tree** - tree of life; a proposal of how organisms are related by their evolutionary history based on the evidence from paleontology, comparative anatomy, and DNA sequence analysis that all living things are related by common descent
 5. **homologous structures** - similar physical features in organisms that share a common ancestor, but the features can serve completely different functions; for example, the limbs of humans, cats, whales, and bats all have similar bones that are arranged in a similar manner
 6. **analogous structures** - trait which serves the same or similar functions between separate organisms, but have different structures; for example, wings and the ability to fly evolved independently in insects, bats, and birds
 7. **vestigial structures** - structures that seem to serve little to no function for an organism but resemble structures with functional roles in related organisms; for example, the tiny vestigial leg bones found in some snakes reflect that snakes had a four-legged ancestor