

# EQ: What evidence supports the theory of evolution?

What are the kinds of evidence used to support the theory of evolution

\_\_\_\_\_

\_\_\_\_\_

What are fossils?

1. **Fossils** - the \_\_\_\_\_ or imprints of once \_\_\_\_\_ organisms

They can form in \_\_\_\_\_, sedimentary \_\_\_\_\_ or in \_\_\_\_\_

Fossil record—\_\_\_\_\_ fossils that have been \_\_\_\_\_

It gives evidence about the \_\_\_\_\_ in which \_\_\_\_\_ have existed through \_\_\_\_\_.

Upper layers =

Lower layers =

Label the oldest and newest fossils



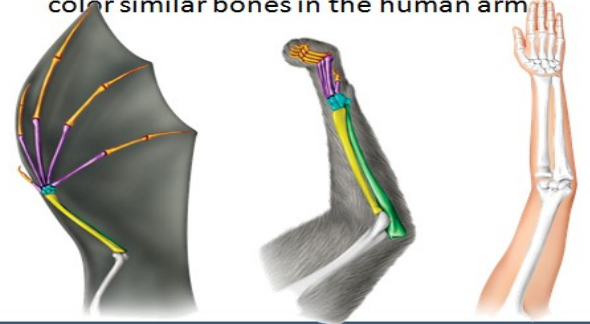
## 2. **Comparative Anatomy (Structural Evidence)** - the study of

\_\_\_\_\_ and \_\_\_\_\_ among \_\_\_\_\_ of living things.

- **Homologous Structures**— \_\_\_\_\_ or organisms with \_\_\_\_\_ structure but may have a different \_\_\_\_\_

- The more \_\_\_\_\_ 2 structures are the more \_\_\_\_\_ they are to have a \_\_\_\_\_

Use the colors of the bat and cat bones to color similar bones in the human arm



- **Vestigial Structures**— \_\_\_\_\_ parts that have \_\_\_\_\_ their \_\_\_\_\_ . They may have been useful in a \_\_\_\_\_ .

Ex:

- **Analogous Structures**—have \_\_\_\_\_ but different \_\_\_\_\_ .

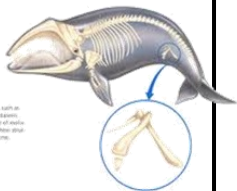


Figure 15.8  
Vestigial structures, such as the pectoral fin of the coelacanth, are evidence of evolution. They are structures that have lost their original function over time.



The wings of butterflies and birds are analogous structures

How does Molecular evidence (DNA) support evolution?

**3. Molecular Biology**—the study of \_\_\_\_\_ structure and \_\_\_\_\_.

- The greater the number of \_\_\_\_\_ in 2 \_\_\_\_\_ DNA, the more \_\_\_\_\_ the 2 species may have had a \_\_\_\_\_.
- *Put the species in order*

Species Comparison	# of differences
Human—chimp	0
Human—fruit fly	29
Human—horse	12
Human—pigeon	12
Human—rattlesnake	14
Human—red bread mold	48
Human—rhesus monkey	1
Human—screwworm fly	27
Human—snapping turtle	15
Human—tuna	21
Human—wheat	43

Species Comparison	# of differences

**4. Developmental Evidence** - \_\_\_\_\_ —the study of \_\_\_\_\_ from fertilization to \_\_\_\_\_.



If organisms develop in a \_\_\_\_\_, they may share \_\_\_\_\_.

**Summary**

1. use the diagram at right, is a reptile more closely related to an amphibian or bird? Explain.
2. distinguish between an analogous structure and a homologous structure
3. Explain why the vestigial structures in whale fossils support the theory of evolution

Scientists use the combined evidence of fossils, patterns of development body structures, and DNA sequences to construct branching trees. A **branching tree** is a diagram that shows how scientists think different groups of organisms are related.

