

## FOSSILIZATION (pg. 302)

"Fossil" comes from the Latin word for something that has been \_\_\_\_\_. In general, fossils are recognizable, \_\_\_\_\_ evidence of ancient life. The most common fossils are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, spore capsules, seeds and other \_\_\_\_\_ parts. Indirect evidence comes from \_\_\_\_\_ fossils, which includes imprints of \_\_\_\_\_ and stems, tracks, trails and burrows.

Fossilization begins with burial in \_\_\_\_\_ or \_\_\_\_\_ ash. Sooner or later, \_\_\_\_\_ infiltrates the organic remains, infusing them with dissolved \_\_\_\_\_ ions and other \_\_\_\_\_ compounds. Over great spans of time, the \_\_\_\_\_ changes and \_\_\_\_\_ transform them to stony hardness.

Preservation is favoured when organisms are buried in the absence of \_\_\_\_\_.

## INTERPRETING THE GEOLOGIC TOMBS (pg. 303)

You can find similar fossil-containing layers of \_\_\_\_\_ rock over vast areas. The layering of sedimentary deposits is called \_\_\_\_\_. The \_\_\_\_\_ layers originally were the first ones formed; layers closest to the \_\_\_\_\_ were formed last.

Understand how rock layers form, and you realize that fossils within a given layer are from a \_\_\_\_\_ age in earth history. Therefore, the older the layer, the \_\_\_\_\_ the fossils.

## EVIDENCE FROM COMPARATIVE EMBRYOLOGY (pg. 304)

Evidence of \_\_\_\_\_ evolution comes from anatomical comparisons of major lineages. This work is called comparative \_\_\_\_\_.

## DEVELOPMENTAL PROGRAMS AMONG THE VERTEBRATES (pg. 304)

Consider the vertebrates, which range from \_\_\_\_\_ to amphibians, reptiles, \_\_\_\_\_ and \_\_\_\_\_. These distinct lineages are spectacularly \_\_\_\_\_ however comparisons of the ways in which their \_\_\_\_\_ develop provide compelling evidence of their evolutionary connection to one another.

In each lineage, individuals start out life as a \_\_\_\_\_ egg. They proceed through various stages of \_\_\_\_\_ development before becoming an adult. Early in the developmental program, \_\_\_\_\_ of different lineages proceed through strikingly \_\_\_\_\_ stages (examine Fig. 20.4, pg. 304).

\_\_\_\_\_ embryos strongly resemble one another because they inherit the same ancient plan for development. Tissues form only when cells divide in certain patterns and interact in

prescribed ways. During vertebrate evolution, most \_\_\_\_\_ that disrupted an early stage of development would have had devastating effects. Embryos of different groups remained similar because mutations that altered steps in \_\_\_\_\_ development were selected \_\_\_\_\_.

How did the adults of vertebrate groups get so different? At least some differences must have resulted from \_\_\_\_\_ that affected the \_\_\_\_\_, rate or \_\_\_\_\_ of completion of certain developmental stages.

### EVIDENCE OF MORPHOLOGICAL DIVERGENCE (pg. 306-307)

Define Morphological Divergence (pg. 306) and give an example(s):

Define Morphological Convergence (pg. 307) and give an example(s):

List the 3 types of evidence from Comparative Biochemistry (pg. 308-309):

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_