

## CHAPTER 22: Evidence for Evolution and Phylogeny

1. For each of the following, indicate how it is used as evidence of evolution by natural selection or shown as an evolutionary trend:

a. Paleontology - \_\_\_\_\_

\_\_\_\_\_

b. Homologous structures - \_\_\_\_\_

\_\_\_\_\_

c. Analogous structures - \_\_\_\_\_

\_\_\_\_\_

d. Convergent evolution - \_\_\_\_\_

\_\_\_\_\_

e. Parallel evolution - \_\_\_\_\_

\_\_\_\_\_

f. Vestigial organs - \_\_\_\_\_

\_\_\_\_\_

g. Embryology - \_\_\_\_\_

\_\_\_\_\_

h. Biochemical (DNA and amino acid sequence )similarities - \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. What does the comparison of the cytochrome c gene over many species show?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name: \_\_\_\_\_

Question Set 41

3. What is a phylogenetic tree?

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4. What is significant about nodes on a phylogenetic tree?

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5. What is a synapomorphy?

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6. How does the "tree analogy" represent the evolutionary relationships of creatures?

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7. What is a clade?

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