Name_____Date_____Period_____

Evidence of Evolution

http://tiny.cc/evidenceofevolution

1. The Theory of Evolution
    a. In everyday language, a theory means:

    b. However, in science, a scientific theory means:

2. Fossils
    a. Organisms from the past were somewhat _____ to ones from today.
    b. How do scientists know whales evolved from 4 legged animals?

    c. What organisms do scientists believe cetaceans (whales, dolphins, porpoises) evolved from?

    d. What does vestigial mean? (may require some research)

3. Homologous structures
    a. What is a homologous structure?

    b. Why is the forelimb structure similar in all vertebrates?

    c. What molecule do scientists look for in extraterrestrial life? Why?
    d. By sequencing the DNA of any living creature, we can see precisely how alike we are. The more closely related species are, the more of the same _____ they have.

e. What percent of the human genome is identical to chimpanzees? Why?

f. What percent of our genome is identical to a mouse?

g. What percent of our genes are similar to a fruit fly?

h. How long ago did life begin in earth?

4. Biogeography
   a. What is biogeography?

   b. Animals that are the most similar and the most closely related tend to be found in _____. Evolutionary change is driven, in part, by _____.
   c. List some geographical barriers.

   d. Where are the highest concentrations of marsupials found?

   e. Why are they mainly found on that island?

   f. What is continental drift?

   g. Briefly describe Darwin's finches and how they are related to biogeography.

5. Direct Observation
   a. In what year did India use DDT to kill mosquitoes? Was it successful at first?

b. What happened after subsequent applications of the chemical?

c. What was the selective pressure for the mosquitoes?

d. Explain what happened to the lizards that were transplanted from one island to another off the coast of Croatia.

6. Compare and contrast the processes of microevolution and macroevolution.