

Name: _____ Date: _____ Period: _____

Final Review: Evolution

1. In Darwin's "Origin of Species by Means of Natural Selection" he proposed two main points. These are:

a. _____

b. _____

2. In the space below describe how Darwin's finches are an example of natural selection and, specifically, adaptive radiation.

3. The English peppered moth is normally light colored and blends well with the background bark of the native trees. The use of coal for heating left a black sooty dust on just about everything, including the trees. It was noticed that before long the light colored moths had been replaced by dark colored moths. Explain what probably happened in terms of natural selection.

4. DDT is a pesticide that was used to kill mosquitoes (and other insect pests) that can serve as hosts for pathogenic organisms such as those causing malaria or yellow fever. In this scenario DDT is used for the first time in a mosquito-infested area. The population of mosquitoes dwindles markedly but a few survive. In fact, the few that survive multiply rapidly so that more and more DDT needs to be used. What is the probable cause behind this increase in mosquito population?

Note: DDT has been banned in much of the world. It is known to cause the thinning of egg shells in many birds including the Bald Eagle. The eggs would break when the parent bird sat on it.

5. Penicillin is an antibiotic used to cure many bacteria related diseases. The effects of the AIDS virus is significantly slowed down (NOT cured!) with a combination of drugs often referred to as a “cocktail”. In both cases there is a major concern that these drugs of choice (penicillin and the “cocktail”) will loose their effectiveness in the coming years. All ready there is evidence that the dosage of penicillin, for example, has to be increased for it to be effective against a variety of bacterial related diseases. In the space provided describe a possible cause for the decreasing effectiveness of these medical treatments.

6. Describe what is meant by “artificial selection”: _____

7. How do each of the following provide evidence for evolution:

a. Homologous structures: _____

b. The fossil record: _____

c. Geographical distribution (biogeography): _____

d. Comparative embryology: _____

e. DNA evidence: _____

8. Define:

a. Population: _____

b. Species: _____

b. Gene pool: _____

9. Describe how a flood, earthquake or other major natural disaster can result in the formation of a new species:

11. Describe the following three examples of pre-zygotic barriers to reproduction:

a. Temporal isolation: _____

b. Habitat isolation: _____

b. Behavioral isolation: _____

12. Describe the following three examples of pre-zygotic barriers to reproduction:

a. Hybrid inevitability: _____

b. Hybrid sterility: _____

13. The following terms refer to various methods by which a new species can be formed (speciation). Describe and give a possible example of each.

a. Reproductive isolation _____

b. Allopatric speciation _____

c. Sympatric speciation _____

