Evolution Study Guide

Match the correct definition with the correct term.

A. Biological Evolution **B. Natural Selection** **C. Fitness**

D. Adaptation

1. **_____The change in the genetics characteristics of a population.**

2. **_____ This is a feature that is common in a population because it provides some improved function.**

3. **_____ A process in which some individuals have traits that improve survival or reproduction and thus have more offspring.**

4. **_____How good an organism is at passing its particular genes to the next generation relative to other organisms.**

5. **Imagine that a monkey has a mutation that causes it to have two noses. Can evolution occur if this mutation is not inheritable? Explain.**

6. **Explain in your own words what allele frequency means.**

7. **Given an example of how natural selection affects allele frequency.**

8. **What are the 3 main ways we get change in alleles (genetic change)**

9. **What are the different causes of a mutation?**

10. **How does sexual reproduction cause alleles to be altered or mixed up?**

11. **During natural selection do advantages or disadvantages traits get passed on? Why?**

12. **Organism A is really strong and really fast, but is not able to produce a lot of offspring compared to organism B (of the same species). Which organism has a higher fitness?**

13. **Are evolution and Natural selection "trying" to make a perfect animal, in other words do they have a goal they are trying to achieve?**

14. **Explain the relationship between natural selection and Fitness.**

15. **Give a real life example of Artificial Selection.**

16. **What are the 3 things an adaptation must have or do to qualify as an adaptation?**

17. **Imagine that a deer likes to eat a certain plant. Over time, the plant evolves so that it develops a toxin. At the same time, the deer evolves so that it is resistant to that toxin. What is this process called?**

18. **Can members of the same species look different?**

19. **What must organisms be able to do to be considered the same species**

20. **What are the 2 main causes of speciation?**

21. **Give an example for one of the two causes of speciation**

22. **A family tree that shows the relationship between organisms is called a what?**

23. Give the Phylogenetic tree below, do each of the following

a. Circle each speciation event
b. Shade in at least two clades
c. using the characteristics on the tree make a table that shows which animals have which adaptations (like the one we used in class)