

Review for Midterm 3

1. Be sure you know the following people and their contributions:
Linnaeus – devised the currently accepted naming system for organisms
Darwin – first to explain evolution by natural selection
2. Industrial melanism is a form of directional selection where light colored moths were selected against due to pollution. The plants that once protected them (light colored lichens or light colored trees) were increasingly covered with soot and thus looked dark. Darkly colored moths survived and thrived because they could hide from predators on the dark trees.
3. Be sure to know the difference between homologous – they have similar embryonic origin (they may not look alike) and analogous – they have similar form or function, BUT DO NOT HAVE SIMILAR EMBRYONIC ORIGIN.
4. Always know that the ENVIRONMENT always determines who is best suited to survive and produce the most offspring.
5. You must briefly read the first page of the lab called biogeography. Know what biogeography is!
6. Know what p^2 , $2pq$ and q^2 each represent in the Hardy Weinberg formula.
7. Be able to compute Hardy Weinberg type I and III problems and know which is which
8. Population density is the number of a certain type of organism per unit area.
9. Biotic potential is the maximum rate of reproduction of an organism under IDEAL circumstances.
10. Know that genetic drift is caused by CHANCE.
11. Be able to do a couple of Hardy Weinberg problems
12. Know the difference between divergent and convergent evolution.
13. Know the order: Kingdom, Phylum, Class, Order, Family, Genus and species
14. Remember that the species name is always in LOWER CASE and both genus and species are usually *Italicized*.
15. Be sure you can draw the three kinds of mortality curves (Type I, II and III)
16. Sympatric, parapatric and allopatric speciation – 2 questions – KNOW THE DIAGRAMS and the words
17. Carrying capacity is the size of population the environment will support
18. Read about Darwin's finches – know how they are different.
19. What for of life (which kingdom) probably is the most primitive?
20. Adaptive radiation is a rapid change or diversification of many species from one parent species
21. Be able to define or know the definition of microevolution and macroevolution
22. What is biological fitness (think - Darwin)
23. Darwin's ideal of natural selection helps us understand antibiotic resistance – know how!
24. What are plate tectonics?
25. Know the difference between natural and artificial selection.
26. Disruptive and stabilizing selection are very different – HOW?
27. Be able to compute G and r and N after one time period has elapsed ($G + N$)
28. Baby boom?
29. Why is the human population so large now? (not just we have sex a lot)
30. Know the graph about population changes over time
31. Know population distribution diagrams and examples
32. World population ? US population?
33. India vs USA
34. Malthus' theory
35. Pangea
36. Factors that cause changes in a population

