

HONORS BIOLOGY – FINAL EXAM STUDY GUIDE

1. List the 13 levels of organization in order with examples and definitions.
2. Be familiar with at least six examples of STRUCTURE-FUNCTION RELATIONSHIP and/or LOCK AND KEY FIT.
3. Be familiar with at least six examples of SURFACE AREA TO VOLUME RATIO.
4. Compare and contrast the theories of Darwin and LaMarck.
5. Be familiar with the various natural selection stories we have studied. Be able to explain them using Darwin's 5 steps.
6. Be able to solve Hardy-Weinberg problems.
7. Know the levels of taxonomy as well as the descriptions and evolutionary order of the six kingdoms.
8. Be able to draw and explain the phases of mitosis and meiosis and the lytic cycle of a virus.
9. Be able to solve basic (monohybrid) genetics problems and draw pedigrees.
10. Be able to solve dihybrid and sex-linked genetics problems. Be able to solve genetics problems using probability (multiplying fractions).
11. Know how to manipulate DNA, mRNA, tRNA, and amino acids. Know how point and frame-shift mutations affect a strand of DNA or RNA.
12. Be able to draw DNA replication, transcription, and translation.
13. Know a lot of the ecological terms, such as: exponential/logistic growth, parasitism/mutualism/commensalism, R-selected/K-selected, abiotic/biotic factors, and fundamental/realized niche.
14. Be able to answer some thought questions regarding changes to the environment based on things we have discussed.
15. Be able to read and interpret a food web.
16. Answer thought questions about photosynthesis and cellular respiration. Know the chemical equations for each process.



!!!!!!! ALWAYS REMEMBER THAT BIO IS LIFE !!!!!!!

