Evolution Study Guide

**Chapter 22**

1. Explain Darwin’s Theory of Evolution….Essay!!!
2. How was the theory of evolution different than the prevailing theories of the time?
3. Understand Lamarck’s theory and why it was wrong.
4. What were Cuvier’s beliefs on extinction and evolution.
5. Where would closely related species be located with respect to layers in sedimentary rock
6. What is artificial selection? Give examples.
7. What must be true for evolution to occur? (at least 2 things)
8. What did Malthus contribute to the theory of evolution?
9. What are homologous structures? Know examples.
10. What are analogous structures? Know examples.
11. What is one of the strongest pieces of evidence for a common origin of all life on Earth?

**Chapter 23**

1. Read a phylogenic tree and make conclusions:
2. Figure out allele frequencies using Hardy-Weinberg
3. What is the difference between genetic bottleneck and founder effect? What effects do they have on the genetics of a population?

**Chapter 24**

1. Know the difference between allopatric and sympatric speciation.
2. Know the different types of selection and know examples of each.
3. Know the different types of isolation and examples of each.
4. Understand why many hybrids do not become a species.
5. What is the difference between gradualism and punctuated equilibrium?

**Chapter 25**

1. What do all cells including the first have in common?
2. What was the first genetic material on Earth?
3. What was the condition of Earth’s atmosphere 3 billion years ago?
4. Use carbon dating to find the age of a fossil.
5. Know the role of ancient cyanobacteria
6. Sequence of development from bacteria to multicellular life.
7. What is the importance of Hox genes?
8. What is adaptive radiation?

**Chapter 26**

1. Draw conclusions based on these trees
2. What is the difference between phylogeny and taxonomy?
3. And this trees



1. What is convergent evolution? Give examples.
2. What would it mean to apply parsimony to a phylogenic tree?
3. What is an outgroup in terms of building a phylogenic tree? (much easier than you think, think of sesame street)
4. What is endosymbiosis?