**HSPVA Biology Evolution Test-Review sheet**

Evolution:

Natural Selection:

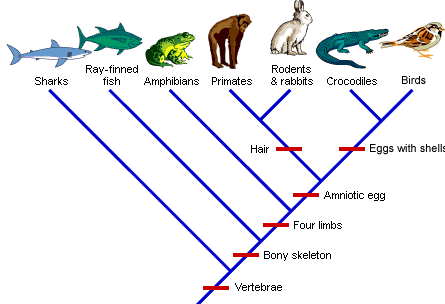
1. What are the FOUR steps of natural selection?
2. Who is the scientist credited with the theory of biological evolution by means of natural selection?
3. What is meant by the term “fitness”?
4. How does natural selection produce changes in populations, and not individuals?
5. What are two main sources of genetic variation?
6. How do mutations and meiosis increase genetic variation?
7. How does the development of antibiotic resistant bacteria relate to evolution?

Evidence of Evolution:

1. How do the following provide evidence of change in species?
   * 1. DNA sequences
     2. anatomical and physiological similarities
     3. embryology
     4. vestigial structures
2. What is artificial selection, and how does it provide evidence of evolution?
3. How does the fossil record provide evidence of common ancestry among groups of organisms?
4. Provide one definition of evolution.
5. Why is the study of evolution important?
6. How do mechanisms of evolution change diversity of populations?
7. Why do some populations undergo a dramatic increase or decrease in size?

Cladograms:

1. What is cladogram and how is it related to evolution?



1. In the cladogram above, what characteristic is found in ALL species?
2. In the cladogram above, what characteristic is ONLY found in crocodiles and birds?
3. Based on the cladogram above, which 2 groups are most closely related: sharks and ray-finned fish or crocodiles and birds?

Other Mechanisms of Evolution:

1. What is a gene pool?
2. What is genetic drift?
3. How is genetic drift different from natural selection?
4. Genetic drift can occur via a bottleneck or the founder effect. Describe the difference between the two.