Homework on classification 330 2022. Turn in questions in red for homework.

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**Evolutionary systematics**

1. Taxonomy should reflect phylogeny means?

2. Distinguish between the terms, homologous and analogous.

3. Why is evolutionary systematics considered lacking in limits and hypothesis testing?

**Phylogenetics or cladistics**

4. What is a clade?

5. What is the difference between a shared derived homology (synapomorphy) and ancestral homology?

6. In the first tree depicting vertebrate relationships, which groups are included in the Amniotes?

7. What are synapsids and diapsids?

8. From the exercise on the evolution of flight.

a. Describe the different types of feathers. (from 3)

b. When did the arms become as long or longer than legs? What ancestors show an out, flexible shoulder? What bird ancestors show a semilunate bone? (From 4)

c. What is *Archaeopteryx* and what structures does it share with extant reptiles and birds? What features do birds share with Saurischians, theropods and maniraptorans? When did feathers appear in the dinosaur line? (From 5—Do not do activity.)

9. Why is phylogenetics considered more scientific than evolutionary systematics? Use the differences in classification between birds and dinosaurs proposed by the two approaches in your answer.

10. What is an outgroup?

13. What is parsimony?

14. How can we use phylogenetic trees?

15. On the tree of life, click on the, the frog, then Amniota. You link to a tree that divides into the Reptilia and a line leading to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_