RAVEN CHAPTER 23 GUIDED NOTES: SYSTEMATICS AND THE PHYLOGENETIC REVOLUTION

Raven 9th edition

1. Briefly explain the binomial nomenclature system developed by Carolus Linnaeus

   _____
   _____
   _____

2. What is taxonomy?

   _____
   _____

3. What is a taxon? Give an example.

   _____
   _____

4. List the eight levels of taxonomic categories in order from most inclusive to most specific.

   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____
   7. _____
   8. _____

5. What is systematics?

   _____
   _____

6. What is a phylogeny?

   _____

7. Why is similarity in appearance and structure not a sound way of building accurate family trees?

   _____
   _____
   _____

8. What is cladistics?

_____
_____
_____

9. What is a cladogram?

_____
_____

10. What is the difference between ancestral and derived characteristics?

_____
_____
_____
_____

11. Why is an outgroup necessary for building a cladogram?

_____
_____
_____

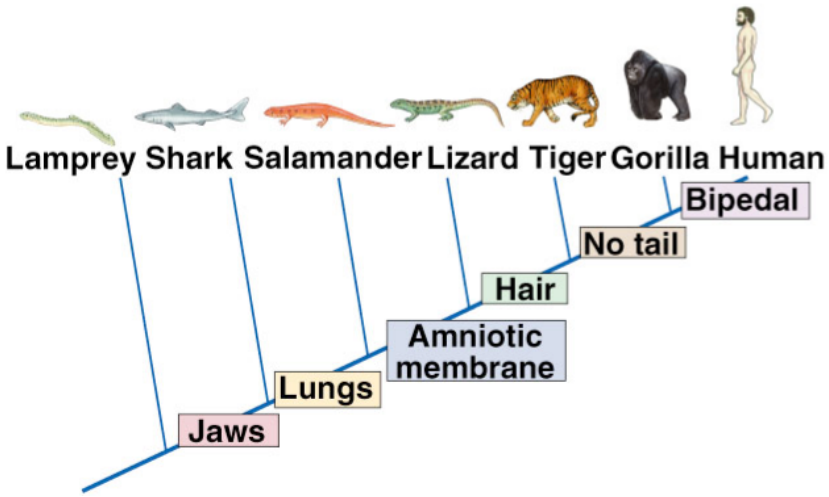
12. What is a clade?

_____

13. Explain how the chart below was used to build the cladogram that follows.

_____
_____
_____
_____

Traits: Organism	Jaws	Lungs	Amniotic membrane	Hair	No tail	Bipedal
Lamprey	0	0	0	0	0	0
Shark	1	0	0	0	0	0
Salamander	1	1	0	0	0	0
Lizard	1	1	1	0	0	0
Tiger	1	1	1	1	0	0
Gorilla	1	1	1	1	1	0
Human	1	1	1	1	1	1



14. What is the principle of parsimony and how is it used to help build cladograms?

_____
_____
_____

15. Distinguish between the following terms:

a. monophyletic:

_____
_____

b. paraphyletic:

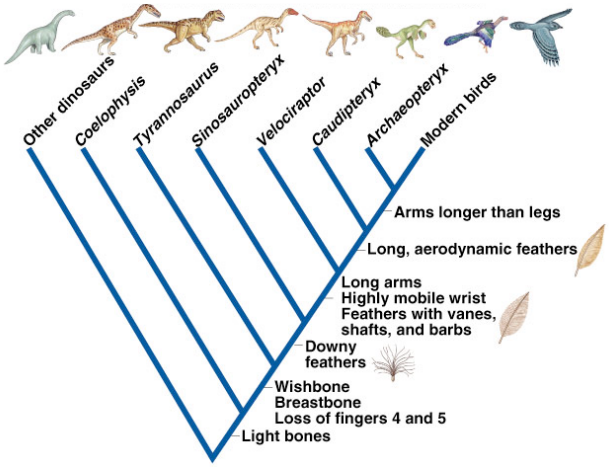
_____
_____

c. polyphyletic:

_____
_____

16. What was the main points of this illustration?

_____
_____
_____
_____
_____
_____



17. List the three domains in the classification of living organisms and briefly describe them.

a. _____
_____

b. _____
_____

c. _____
_____

List the six kingdoms in the classification of living organisms and briefly describe them.

1. _____
_____

2. _____
_____

3. _____
_____

4. _____
_____

5. _____
_____

6.

_____

_____

18. What is the issue with fitting viruses into this classification system?

_____

_____

_____

19. What is the problem with the kingdom Protista?

_____

_____

_____