Bio - Ch. 17 Taxonomy Worksheet

Name: _____ Period: _____

1. Define Taxonomy.

2. Who first developed the taxonomy system that we use today? What evidence did he use to classify organisms?

3. What has led to the reclassification of many organisms?

4. What is the difference between a species and a genus?

5. List the 8 taxons in order from largest to smallest. Write a pneumonic device to help you remember them (not the one in the notes).

Taxons	Pneumonic Device

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6. Choose your two favorite species. Write the common name for each followed by its complete taxonomy. Determine whether they are closely related or not.

Common Name		
D		
K		
P		
C		
O		
F		
G		
S		

7. What is the scientific name of each of your organisms?

8. What does binomial nomenclature mean in Latin?

Name: _____ Date: _____

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LESSON 1B

RULES, RULES, RULES

PART A:

INSTRUCTIONS: Use the rules of binomial nomenclature to write each scientific name in its formal form.

1. dasyatis Americana _____
2. carcharhinus leucas _____
3. amphiprion perideraion _____
4. carcharhinus melanopterus _____
5. epinephelus tauvina _____

PART B:

INSTRUCTIONS: Answer the following questions (#1-3) using the scientific names above. Then answer #4.

1. Which organisms are the most closely related? Why?

2. How many different genera are represented? _____

3. How many species are represented? _____

4. Why is binomial nomenclature important? List two reasons.

Name _____ Class _____ Date _____

Section 2: Classification Based on Evolutionary Relationships

Study Guide A

KEY CONCEPT

Modern classification is based on evolutionary relationships.

VOCABULARY

phylogeny	cladogram
cladistics	derived character

MAIN IDEA: Cladistics is classification based on common ancestry.

Choose the best answer for the question.

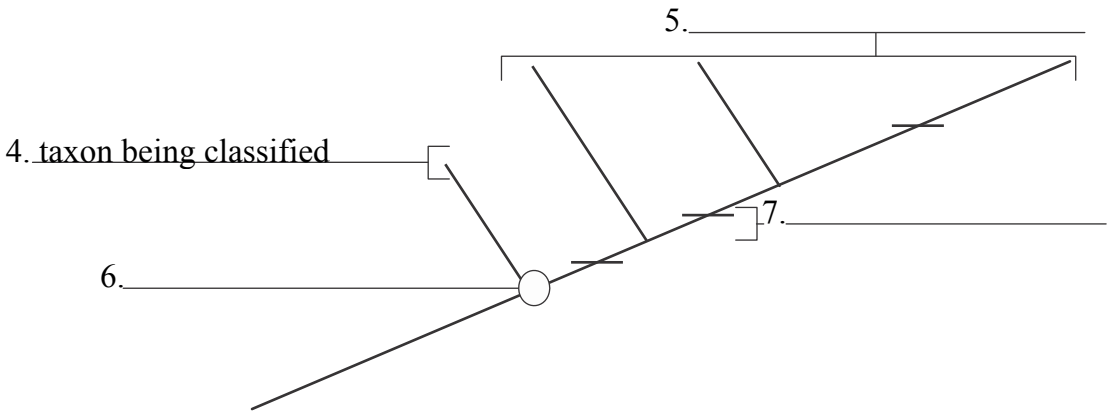
1. What is a phylogeny?
   a. similar traits that evolve in dissimilar species
   b. environmental conditions that cause traits to develop
   c. a classification based on common ancestry
   d. the evolutionary history for a group of species

2. How can a phylogeny be shown?
   a. as a branching tree diagram
   b. as a Venn diagram
   c. as a mind map
   d. as a bar graph or chart

3. What is the main goal of cladistics?
   a. to show how members of different families are related
   b. to show how members of different species are related
   c. to show how members of different genera are related
   d. to show how members of different kingdoms are related

Use the word box below, and refer to Figure 2.2, to label the main features of a cladogram. The first one is done for you.

clade	node	taxon being classified	derived character



Choose the best answer for the question.

8. What letter does a clade look like on a cladogram?
   a. the letter W
   b. the letter N
   c. the letter V
   d. the letter K

9. What do the hash marks for the derived characters in a cladogram indicate?
   a. that organisms below that hash mark all share that characteristic
   b. that none of the organisms below the hash mark share that characteristic
   c. that all of the organisms above and below the hash mark share that characteristic
   d. that none of the organisms anywhere on the cladogram have that characteristic

10. On a cladogram, what is a node?
    a. a part of the cladogram that is shaped like a letter of the alphabet
    b. a place where a branch splits off from the rest of the cladogram
    c. the topmost section of the cladogram
    d. the lowermost section of the cladogram

MAIN IDEA: Molecular evidence reveals species' relatedness.

Choose whether the statement is true or false.

11. *true / false* Molecular data always agree with the classification of species based on physical similarities.

12. *true / false* Once an evolutionary tree is established, it can never be changed.

13. *true / false* DNA evidence can help scientists to learn how two species are related to each other.

14. *true / false* The more similar the genes of two species are, the more closely related the species are likely to be.

Vocabulary Check

Choose the word or phrase that best completes the statement.

15. *Phylo-* comes from the Greek word meaning "class," and the suffix *-geny* means "origin." From this, it is possible to see that phylogeny refers to a species' *evolutionary history* / *molecular makeup*.

16. The words *cladistics* and *cladogram* are both related to the word *clade / climb*.

17. Traits that are shared by some species of a group being studied, which other species in that group do not have, are called *identifying / derived* characters.

18. Sketch a blank cladogram in the space below and label its parts.