DO NOT WRITE ON!!! (1)

Name_____ Class_____ Date _____

Chapter 18 Classification

Finding Order in Diversity

Key Concepts
- How are living things organized for study?
- What is binomial nomenclature?
- What is Linnaeus's system of classification?

Why Classify?

1. Why do biologists use a classification system to study the diversity of life?

_____

_____

2. The science of classifying organisms and assigning them universally accepted names is known as _____.

3. Is the following sentence true or false? In a good system of classification, organisms placed into a particular group are less similar to each other than they are to organisms in other groups. _____

Assigning Scientific Names

4. Why is it confusing to refer to organisms by common names? _____

_____

_____

_____

_____

5. Circle the letter of each sentence that is true about early efforts at naming organisms.
   a. Names were usually in English.
   b. Names often described detailed physical characteristics of a species.
   c. Names could be very long.
   d. It was difficult to standardize the names.

6. The two-word naming system developed by Linnaeus is called _____

_____.

7. Circle the letter of each sentence that is true about binomial nomenclature.
   a. The system is no longer in use today.
   b. Each species is assigned a two-part scientific name.
   c. The scientific name is always written in italics.
   d. The second part of the scientific name is capitalized.

8. What is the genus of the grizzly bear, *Ursus arctos*? _____

_____

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Linnaeus's System of Classification

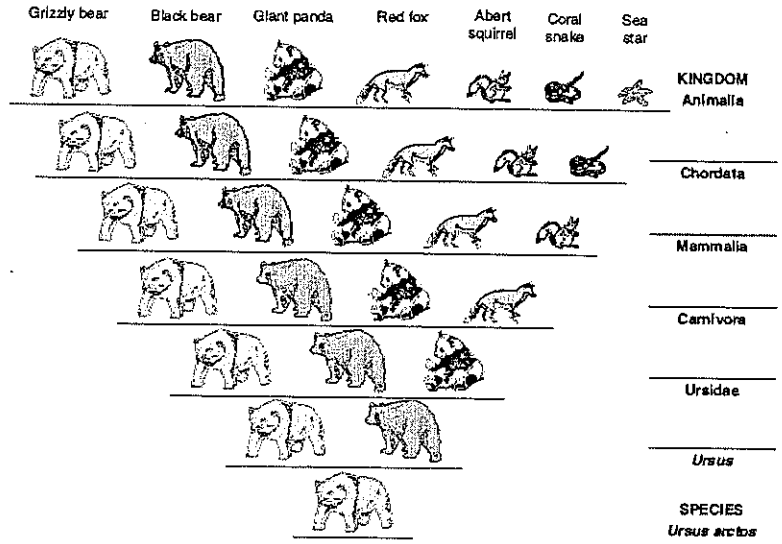
9. A group or level of organization in taxonomy is called a taxonomic category, or _____.

10. The largest taxonomic category in Linnaeus's system of classification is the _____, and the smallest is the _____.

11. What two kingdoms did Linnaeus name? _____

_____

12. Fill in the name of each missing taxonomic category in the chart below.



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Kingdoms and Domains

Key Concepts

- What are the six kingdoms of life as they are now identified?
- What is the three-domain system of classification?

The Tree of Life Evolves

1. Is the following sentence true or false? The scientific view of life was more complex in Linnaeus's time. _____
2. What fundamental traits did Linnaeus use to separate plants from animals?

_____

_____

_____

3. What type of organisms were later placed in the kingdom Protista?

_____

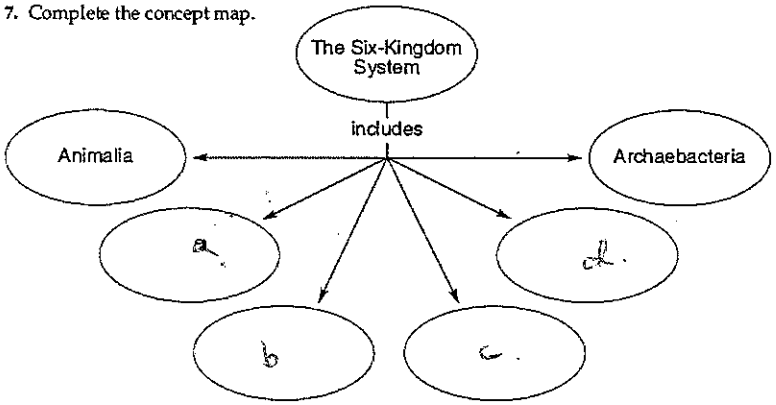
_____

4. Mushrooms, yeast, and molds have been placed in their own kingdom, which is called_____.
5. Why did scientists place bacteria in their own kingdom, the Monera? _____

_____

_____

6. List the two groups into which the Monera have been separated.
   a. _____
   b. _____
7. Complete the concept map.



Name_____ Class_____ Date _____

The Three-Domain System

8. A more inclusive category than any other, including the kingdom, is the _____.
9. What type of analyses have scientists used to group modern organisms into domains? _____
10. List the three domains.
    a. _____
    b. _____
    c. _____
11. Complete the chart below.

CLASSIFICATION OF LIVING THINGS

Domain	Kingdom	Examples
a	Eubacteria	*Streptococcus, Escherichia coli*
Archaea	b	c
d	Protist	e
	f	Mushrooms, yeasts
	Plantae	g
	h.	Sponges, worms, insects, fishes, mammals

Domain Bacteria

12. Circle the letter of each sentence that is true about members of the domain Bacteria.
    a. They are multicellular.
    b. They are prokaryotes.
    c. They have rigid cell walls.
    d. The cell walls contain peptidoglycans.
13. Is the following sentence true or false? All members of the domain Bacteria are parasites. _____

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Name_____ Class_____ Date _____

Domain Archaea

14. Circle the letter of each sentence that is true about members of the domain Archaea.
    a. They are unicellular.
    b. They are eukaryotes.
    c. They lack cell walls.
    d. They lack cell membranes.
15. Is the following sentence true or false? Many members of the domain Archaea can survive only in the absence of oxygen. _____

Domain Eukarya

16. Circle the letter of each sentence that is true about all the members of the domain Eukarya.
    a. They have a nucleus.
    b. They are multicellular.
    c. They are heterotrophs.
    d. They have cell walls and chloroplasts.

Match each kingdom with the description that applies to members of that kingdom.

	Kingdom	Description
_____	17. Protista	a. They have cell walls of chitin.
_____	18. ~~Fungi~~	b. They have no cell walls or chloroplasts.
_____	19. ~~Plantae~~	c. They include slime molds and giant kelp.
_____	20. Animalia	d. They include mosses and ferns.

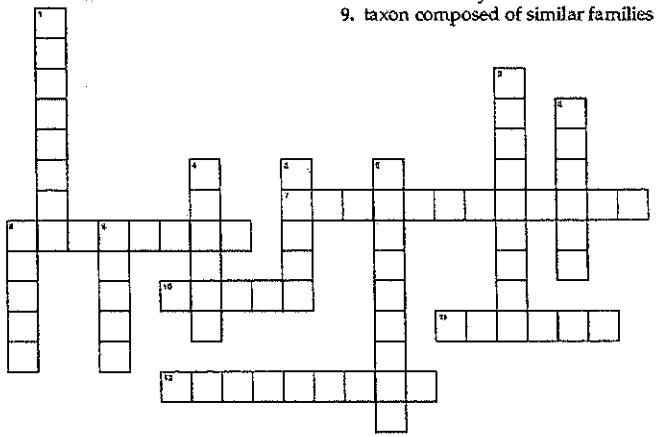
Name_____ Class_____ Date _____

Vocabulary Review

Crossword Puzzle *Complete the puzzle by entering the term that matches each numbered description.*

Across
7. type of classification that is based on evolutionary history
8. discipline of classifying and naming organisms
10. taxon composed of similar orders
11. taxon composed of similar classes
12. type of clock that estimates how long species have been evolving independently

Down
1. kingdom in the Eukarya domain that includes unicellular autotrophs
2. study of evolutionary relationships among organisms
3. new taxon that is higher than the kingdom
4. taxon composed of similar genera
5. taxon composed of closely related species
6. diagram based on derived characters
8. general term for any level, or category, in a taxonomic system
9. taxon composed of similar families



Answering Questions *Write one or more sentences to answer each question.*

13. In what ways are members of the domain Bacteria and the domain Archaea similar?
    _____
    _____
14. Which domain includes only organisms with a nucleus in their cells? _____
    _____
15. What are two ways that most members of the kingdom Plantae and the kingdom Animalia differ? _____
    _____