

Ch 18. Classification. Biology. Landis

Moniker _____

Section 18–1 Finding Order in Diversity (pages 447–450)

This section explains how living things are organized for study.

Why Classify? (page 447)

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

Assigning Scientific Names (page 448)

3. Why is it confusing to refer to organisms by common names?
4. 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.
5. The two-word naming system developed by Linnaeus is called
6. 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.

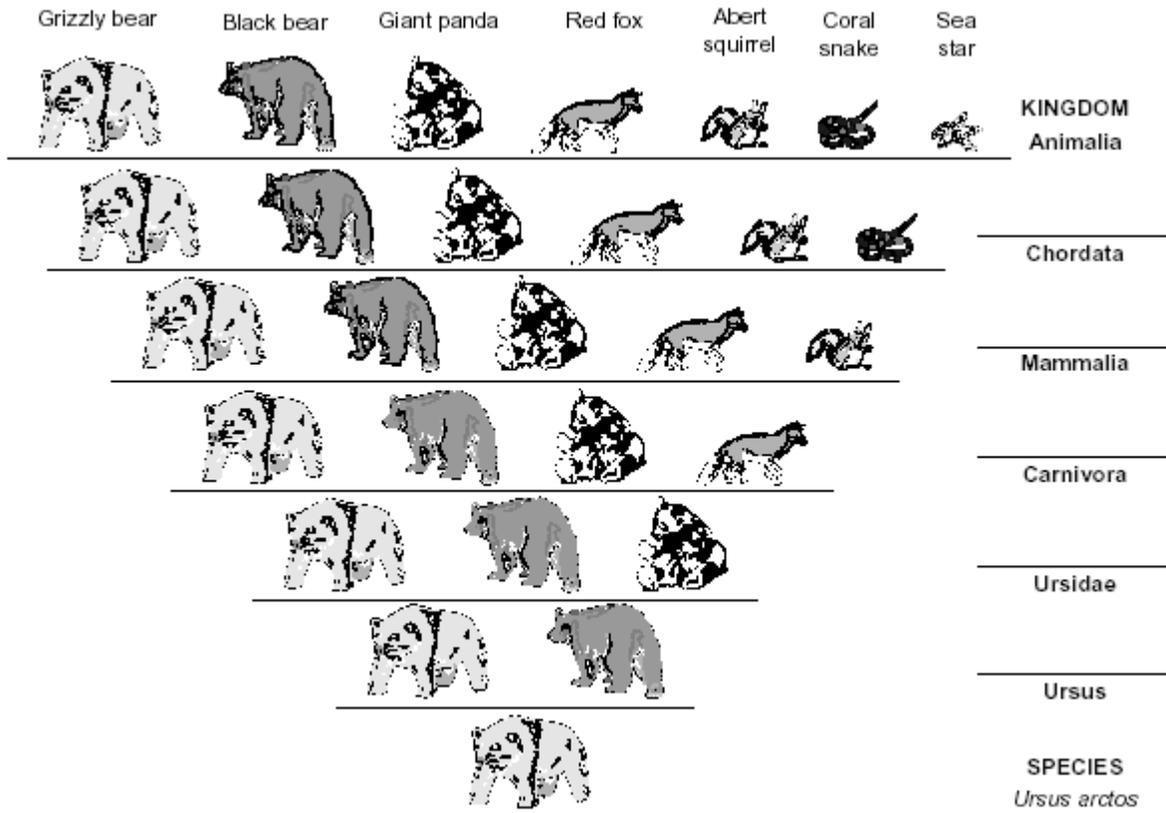
7. What is the genus of the grizzly bear, *Ursus arctos*?

Linnaeus's System of Classification (pages 449–450)

9. A group or level of organization in taxonomy is called a taxonomic category, or
8. What two kingdoms did Linnaeus name?

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



Section 18–2 Modern Evolutionary Classification (pages 451-455)

This section explains how evolutionary relationships are important in classification. It also describes how DNA and RNA can help scientists determine evolutionary relationships.

Introduction (page 451)

10. What traits did Linnaeus consider when classifying organisms?

Problems With Traditional Classification (page 451)

11. What problems are faced by taxonomists who rely on body structure comparisons?

Evolutionary Classification (page 452)

12. How do biologists now group organisms into categories?

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13. The strategy of grouping organisms together based on their evolutionary history is called

Classification Using Cladograms (page 453)

14. Circle the letter of each sentence that is true about cladistic analysis.

- a. It considers only traits that are evolutionary innovations.
- b. It considers all traits that can be measured.
- c. It considers only similarities in body structure.
- d. It is a method of evolutionary classification.

15. Characteristics that appear in recent parts of a lineage, but not in its older members, are called

16. A diagram that shows the evolutionary relationships among a group of organisms is called a(an)

Similarities in DNA and RNA (page 454)

17. How do similarities in genes show that humans and yeasts share a common ancestry?

Section 18–3 Kingdoms and Domains (pages 457–461)

This section describes the six kingdoms of life as they are now identified. It also describes the three-domain system of classification.

The Tree of Life Evolves (pages 457–458)

18. What fundamental traits did Linnaeus use to separate plants from animals?

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

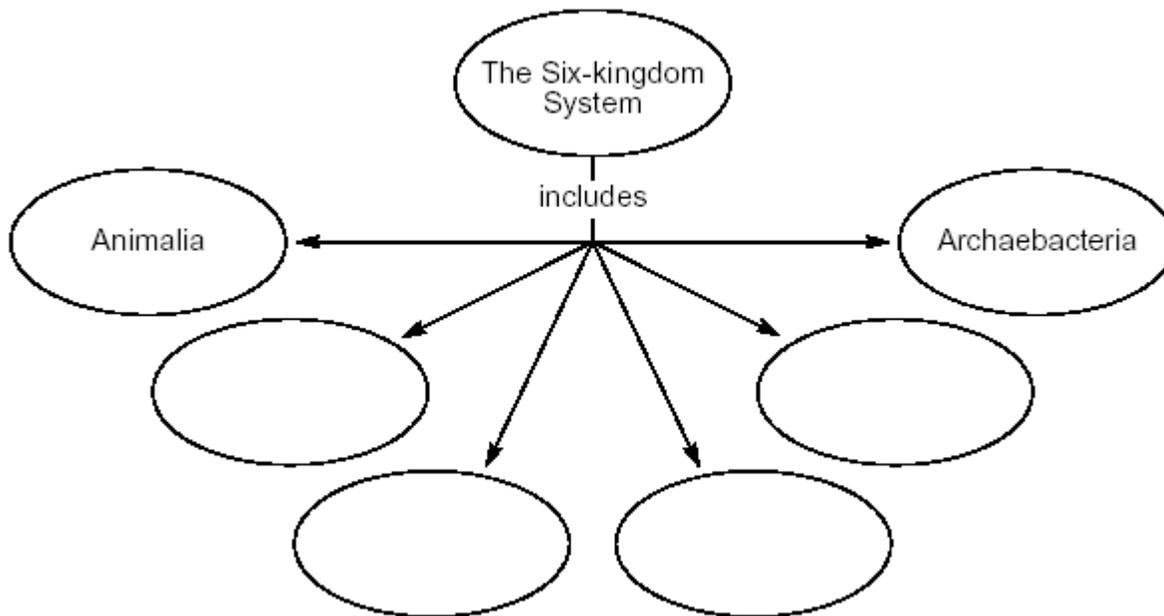
20. Mushrooms, yeast, and molds have been placed in their own kingdom, which is called

21. Why did scientists place bacteria in their own kingdom, the Monera?

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22. List the two groups into which the Monera have been separated.

23. Complete the concept map.



The Three-Domain System (page 458)

24. What type of analyses have scientists used to group modern organisms into domains?

25. List the three domains.

26. Complete the chart below.

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CLASSIFICATION OF LIVING THINGS

Domain	Kingdom	Examples
	Eubacteria	<i>Streptococcus, Escherichia coli</i>
Archaea		
	Protist	
		Mushrooms, yeasts
	Plantae	
		Sponges, worms, insects, fishes, mammals

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

Kingdom	Description
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- | | |
|----------|---|
| Protista | a. They have cell walls of chitin. |
| Fungi | b. They have no cell walls or chloroplasts. |
| Plantae | c. They include slime molds and giant kelp. |
| Animalia | d. They include mosses and ferns. |