

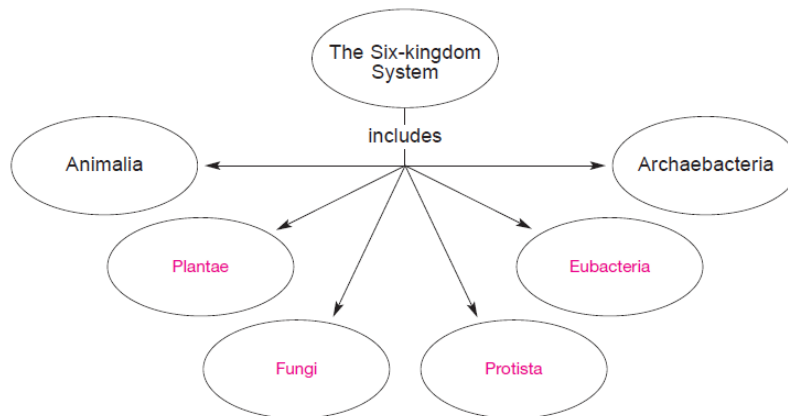
Section 18–3 Kingdoms and Domains (pages 457–461)

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)

1. Is the following sentence true or false? The scientific view of life was more complex in Linnaeus's time. false
2. What fundamental traits did Linnaeus use to separate plants from animals? Animals were mobile organisms that used food for energy. Plants were green, photosynthetic organisms that used energy from the sun.
3. What type of organisms were later placed in the kingdom Protista? Microorganisms were later placed in this kingdom.
4. Mushrooms, yeast, and molds have been placed in their own kingdom, which is called Fungi.
5. Why did scientists place bacteria in their own kingdom, the Monera? Bacteria lack the nuclei, mitochondria, and chloroplasts found in other forms of life.
6. List the two groups into which the Monera have been separated.
 - a. Eubacteria
 - b. Archaeobacteria

7. Complete the concept map.



The Three-Domain System (page 458)

8. A more inclusive category than any other, including the kingdom, is the domain.
9. What type of analyses have scientists used to group modern organisms into domains? They have used molecular analyses.
10. List the three domains.
 - a. Bacteria
 - b. Archaea
 - c. Eukarya

11. Complete the chart below.

CLASSIFICATION OF LIVING THINGS

Domain	Kingdom	Examples
Bacteria	Eubacteria	<i>Streptococcus, Escherichia coli</i>
Archaea	Archaeobacteria	Methanogens, halophiles
Eukarya	Protist	Amoeba, paramecium, slime molds, giant kelp
	Fungi	Mushrooms, yeasts
	Plantae	Mosses, ferns, flowering plants
	Animalia	Sponges, worms, insects, fishes, mammals

Domain Bacteria (page 459)

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. false

Domain Archaea (page 459)

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.
 true

Domain Eukarya (pages 460–461)

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.

Chapter 18, Classification (continued)

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

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

Reviewing Key Concepts

Matching On the line provided, write the letter of the kingdom that best matches each description.

- | | | |
|--------------|--|--------------------|
| <u> E </u> | 1. heterotrophs whose cell walls contain chitin | a. Eubacteria |
| <u> A </u> | 2. prokaryotes whose cell walls contain peptidoglycan | b. Archaeobacteria |
| <u> D </u> | 3. multicellular autotrophs whose cell walls contain cellulose | c. Protista |
| <u> B </u> | 4. prokaryotes whose cell walls lack peptidoglycan | d. Plantae |
| <u> F </u> | 5. multicellular eukaryotes without cell walls or chloroplasts | e. Fungi |
| <u> C </u> | 6. unicellular, colonial, or multicellular eukaryotes that show a variety of characteristics | f. Animalia |

Short Answer On the lines provided, answer the following questions.

7. In the discipline of taxonomy, what is a domain?
largest and most inclusive taxonomic category
8. What are the three domains into which organisms can be grouped?
Archae, Bacteria and Eukarya
9. What characteristic is shared by all members of the domain Eukarya?
All are eukaryotes - have a nucleus
10. What must you find out about a prokaryote to know which domain it belongs to?
Whether or not its cells contain peptidoglycan

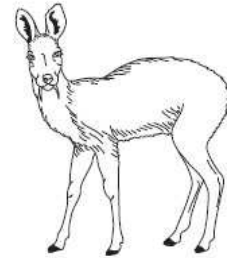
Classifying On the line provided, label each organism with the kingdom and domain to which it belongs.



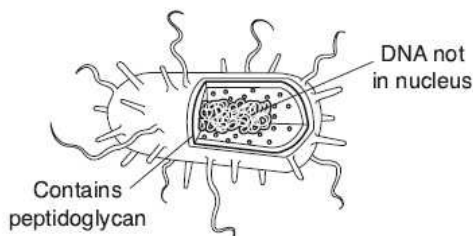
11. Eukarya, Plantae



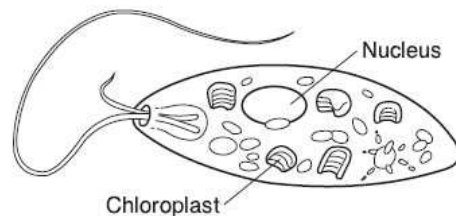
12. Eukarya, Fungi



13. Eukarya, Animalia



14. Bacteria, Eubacteria



15. Eukarya, Protista

Six Kingdoms Sheet

1. Archaeobacteria
2. Fungi
3. Plantae
4. Animalia
5. Protista
6. Eubacteria

Classification of living things Crossword Answers

Across

3. Taxon
5. Domain
7. Plantae
9. Animalia
12. Bacteria
15. Archaeobacteria
17. autotroph
18. Species
19. Phylum

Down

1. Eukarya
2. Taxonomy
4. Fungi
6. Genus
8. Linnaeus
10. nomenclature
11. heterotrophs
13. dichotomous
14. Protista
16. chitin

Answers

pg 465 # 1,3,4,5,8,9,10,12,13,14,22,23,24,25,30

- 1. B
- 3. C
- 4. A
- 5. A
- 8. C
- 9. B
- 10. C

12. Evolutionary Relationships are used as well as structural similarities of the organisms.

13. Binomial nomenclature is useful to all scientists because each name is only assigned to one species, so different species are not confused.

14. From smallest to largest species, genus, family, order, class, phylum, kingdom.

22. Members of the domain bacteria are all unicellular and prokaryotic. Cell walls contain peptidoglycan.

23. They are placed in the kingdom Archae.

24. The four kingdoms making up the domain Eukarya are fungi, protista, animalia and plantae.

25. Unlike members of the Plantae kingdom, members of the Animalia kingdom are heterotrophic, do not have cell walls and are motile.

- 30. Organism A: Plantae
- Organism B: Archaeobacteria
- Organism C: Protista