

CHAPTER

20

DIRECTED READING

Introduction to the Kingdoms of Life

► Section 20-1: Simple Unicellular Organisms

Organisms Are Grouped According to Their Similarities

Complete each statement by writing the correct term or phrase in the space provided.

1. Organisms in the kingdom _____ are eukaryotic and have cell walls made of chitin.
2. Organisms in the kingdom _____ have no peptidoglycan in their cell walls and are prokaryotes.
3. Animals have no cells walls, are multicellular and heterotrophic, and are of the cell type _____.

Kingdom Eubacteria Includes a Diverse Group of Prokaryotes

Read each question, and write your answer in the space provided.

4. Describe the cell walls of eubacteria.

5. Describe the gene structure and gene translation apparatus of eubacteria.

6. Where are eubacteria found?

7. What impact do eubacteria have on humans?

Unusual Prokaryotes Are Found in Kingdom Archaeobacteria

Complete each statement by underlining the correct term or phrase in the brackets.

8. Archaeobacteria [have / do not have] peptidoglycan in their cell walls.
9. Archaeobacteria are found [on the skin and hair / in the digestive systems] of many animals.
10. [Thermophiles / Bacilli] are species of archaeobacteria that live in very hot water.

► Section 20-2: Advent of Multicellularity

Multicellularity Has Many Forms

Read each question, and write your answer in the space provided.

1. What is a colonial organism?

2. What is an aggregation?

3. Why are colonies not considered multicellular organisms?

4. What is differentiation?

Multicellularity Occurs in Protists

Mark each statement below T if it is true or F if it is false.

- _____ 5. All protists are unicellular.
- _____ 6. All protists are autotrophs.
- _____ 7. Protists do not form spores.
- _____ 8. Algae in the oceans are protists.
- _____ 9. Biologists recognize six general groups of protists based on their physical or nutritional characteristics.

Fungi Are Mostly Multicellular

In the space provided, explain how the terms in each pair differ in meaning.

10. hyphae, mushrooms

11. septa, cell walls

12. zygomycetes, basidiomycetes

► Section 20-3: Kingdoms of Plants and Animals

Complex Multicellularity Defines Plants and Animals

Read each question, and write your answer in the space provided.

1. What distinguishes plants and animals from the other four kingdoms?

2. Distinguish between tissues and organs.

3. Distinguish between organs and organ systems.

Autotrophs with Tissues Are in the Plant Kingdom

Read each question, and write your answer in the space provided.

4. What are four characteristics of plants?

5. What are five products that plants provide to humans and other animals?

In the space provided, write the name of the group—nonvascular, seedless vascular, gymnosperm, or angiosperm—to which each of the following plants belongs:

_____ 6. rose

_____ 7. grass

_____ 8. moss

_____ 9. oak tree

_____ 10. fern

_____ 11. pine tree

The Animal Kingdom Contains Complex Heterotrophs

Read each question, and write your answer in the space provided.

12. What are four characteristics of animals?

13. What ecological roles do animals fulfill?
