Roland-Story Biology Class

Chapter 19 Study Guide
Introduction to the Kingdoms of Life

Name _____

Section: Introduction to Kingdoms and Domains

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.

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

4. Describe the cell walls of bacteria.

5. Describe gene structure and transcription in bacteria.

6. Where are bacteria found?

7. What impact do bacteria have on humans?

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

8. Archaebacteria [have / do not have] peptidoglycan in their cell walls.

9. Methanogens are found in [the mud of swamps / very salty lakes].

10. [Thermophiles / Halophiles] are species of archaebacteria that live in very hot water.

Short answer questions:

11. Identify the characteristics used to classify kingdoms.

12. Explain the differences between bacteria and arachaebacteria.

13. Justify the division of prokaryotes into two kingdoms.

Section: Advent of Multicellularity

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?

5. What distinguishes plants and animals from other organisms?

6. Distinguish between tissues and organs.

7. Distinguish between organs and organ systems.

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

8. algae, yeasts

9. hyphae, mushrooms

10. zygomycetes, basidiomycetes

Short answer questions:

11. Explain the difference between colony and aggregate.

12. List the characteristics of protests.

13. List the characteristics of fungi.

14. Defend the argument that insects and fungi are closely related because both have chitin covering their bodies.

Section: Complex Multicellularity

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

_____ 1. rose

_____ 2. grass

_____ 3. moss

_____ 4. oak

_____ 5. fern

_____ 6. pine

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

7. What are four characteristics of plants?

8. What are five products that plants provide to humans?

9. What are four characteristics of animals?

10. What ecological roles do animals fulfill?

Short answer questions.

11. List the levels of cellular organization that occur in plants and animals.

12. Name some of the characteristics of plants.

13. Identify the characteristics of animals.

14. Design a venn-diagram to compare plants to animals

15. Name the six kingdoms recognized by most biologists.

16. Differentiate among a colonial organism, a multicellular organism, and an aggregation.

17. How did the evolution of multicellularity affect the size of eukaryotes?

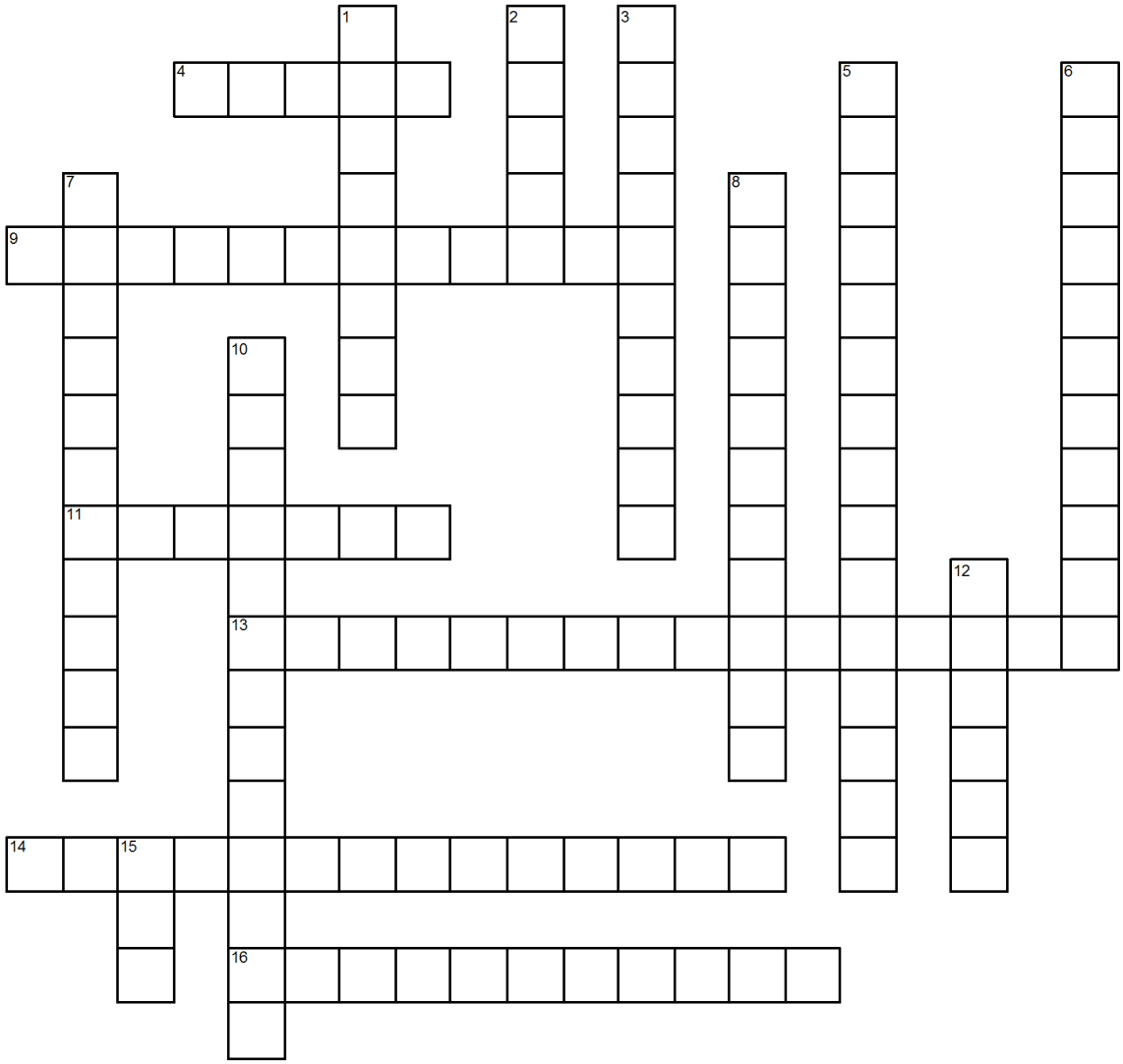
18. What is meant by "division of labor" in multicellular organisms, and how does it help them survive?

19. What are ciliates, and why do some biologists place them in a separate kingdom?

20. How do fungi obtain food?

21. Describe the characteristics of vertebrates.

Crossword Puzzle of Vocabulary words:



Clues are on the next page

ACROSS

4 a group of tissues that carry out a specialized body function
9 an animal that does not have a backbone
11 a living thing that belongs to the kingdom Protista
13 a collection of cells that have exactly the same genes and that are permanently associated but share little or no cell activities
14 the specialized cells (tissue) in higher plants that transports water and dissolved nutrients around the plant
16 a grouping of cells or other living things

DOWN

1 one of the three domains of life
2 a long string of cells that make up the body of a fungus (plural, hyphae)
3 an animal that has a backbone; examples include mammals, birds, reptiles, amphibians, and fish
5 the method in which the structure and function of the parts (cells) of a living thing change to allow those cells to develop into cells that do a certain job
6 a group of organs that work together to carry out body functions
7 plants that reproduce by use of seeds and they do flower
8 are vascular plants that reproduce by seeds but do not flower
10 describes a tissue, organ, or living thing that is made of many cells
12 a group of similar cells that carry out a common function
15 number of kingdoms