

Unit 5 Review

1. Number the eight major classification groups in order from the one containing the largest number of organisms to that containing the least

_____ Order	_____ Kingdom	_____ Phylum
_____ Family	_____ Genus	_____ Species
_____ Class	_____ Domain	

2. Why does each organism have a specific scientific name?

3. The following questions refer to the Latin name of the grey wolf, *canis lupus*.

a) Which name tells us the genus? _____

b) Which name tells us the species? _____

c) What is the common name of this animal? _____

d) What are two things wrong with the way I have written the Latin name

(and yes, this is the correct Latin name).

1) _____

2) _____

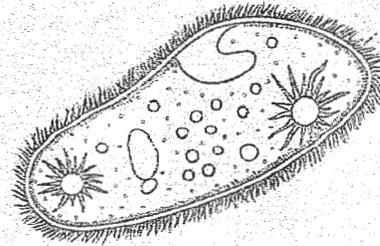
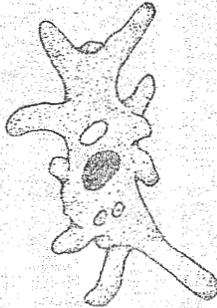
4. How is information about evolutionary relationships useful in classification?

5. Which plant adaptation does not discourage animals from eating the plant?

- (A) spines
- (B) chemicals that taste bad
- (C) lignin
- (D) thorns

6. What is a protist? _____

7. Protists move in several ways. Name the structure each organism below uses to move.



8. Slime molds and water molds obtain their food in a way similar to which group of organisms—plants, animals, or fungi? _____

9. Algae obtain their food in a way similar to which group of organisms—plants, animals, or fungi? _____

10. What is one important role fungi play in ecosystems?

- a. they are decomposers
- b. they are autotrophs
- c. they are photosynthetic
- d. they are prokaryotes

11. What is one similarity among animals, plants, protists, and fungi?

- a. they are all prokaryotes
- b. they are all heterotrophs
- c. they all include single-celled organisms
- d. they are all eukaryotes

12. Describe one example of a mutualistic relationship between a fungus and another organism. _____

13. Which of the following taxa would generally contain the most members?
a. order b. species c. phylum d. class

14. Which phrase best describes the Linnaean classification system?
a. Each genus contains one species. c. There is only one kingdom.
b. The taxa are interchangeable. d. Each level includes the more specific levels below.

15. Woese separated the kingdom Monera into the following two kingdoms:
a. Eukarya and Bacteria. c. Prokaryote and Eukaryote.
b. Archaea and Prokaryote. d. Bacteria and Archaea.

Chapter

17 Organizing Life's Diversity, continued**Reinforcement and Study Guide****Section 17.1 Classification, continued**

In your textbook, read about how living things are classified.

Examine the table showing the classification of four organisms. Then answer the questions.

Taxon	Green Frog	Mountain Lion	Domestic Dog	Human
Kingdom	Animalia	Animalia	Animalia	Animalia
Phylum	Chordata	Chordata	Chordata	Chordata
Class	Amphibia	Mammalia	Mammalia	Mammalia
Order	Anura	Carnivora	Carnivora	Primates
Family	Ranidae	Felidae	Canidae	Hominidae
Genus	<i>Rana</i>	<i>Felis</i>	<i>Canis</i>	<i>Homo</i>
Species	<i>Rana clamitans</i>	<i>Felis concolor</i>	<i>Canis familiaris</i>	<i>Homo sapiens</i>

16. Which taxon includes the most specific characteristics? _____
17. Which taxon includes the broadest characteristics? _____
18. Which taxon includes more species, an order or a family? _____
19. Which taxon includes only organisms that can successfully interbreed? _____
20. If two organisms belong to the same family, what other taxonomic groups do the organisms have in common.

21. Which two organisms in the chart are most closely related? Explain.

22. To which taxa do all four organisms belong?

23. Which class does not include animals that have hair or fur? _____
24. What is the order, family, and genus of a human?

25. Using the information in the chart, what can you conclude about the classification taxa of an organism with the scientific name *Rana temporaria*?

Write the correct word for each definition.

algae chlorophyll herbivore photosynthesis

1. _____ : process in which plants and some algae produce sugar
2. _____ : photosynthetic plantlike protists
3. _____ : light-absorbing pigment molecule
4. _____ : organism that eats only plants

Preview Biology Vocabulary

To see how many key terms you already know from this chapter, choose the word that makes sense in each sentence.

cone fruit pollen grain seed

5. A _____ contains a cell that will divide to form sperm, and may also contribute to seasonal allergies.
6. A tall tree can grow from a tiny _____
7. A _____ is the reproductive structure of most gymnosperms, such as pine trees.
8. The mature ovary of a flower, called a _____, can take many forms, such as a juicy peach.

9. Which is not an adaptive advantage of a seed plant?

- (A) pollen that allows a seed plant to reproduce without free-standing water
- (B) pollen that provides food for bees and other insects
- (C) seeds that nourish and protect the plant embryo
- (D) seeds that allow plants to disperse to new places

13. Which of the following is a characteristic of conifers?

- (A) fruits
- (B) needlelike leaves
- (C) flowers
- (D) rhizomes

10. Which plants lack a vascular system?

- (A) ferns
- (B) gymnosperms
- (C) angiosperms
- (D) mosses

14. What category of plants evolved directly from ferns?

- (A) flowering plants
- (B) mosses
- (C) charophyceans
- (D) cone-bearing plants

11. Which plants do not depend on free-standing water to carry sperm to eggs?

- (A) mosses
- (B) ferns
- (C) club mosses
- (D) seed plants

15. What adaptation prevents loss of moisture from a plant?

- (A) cuticle
- (B) vascular system
- (C) lignin
- (D) pollen

12. Which plant group produces fruits?

- (A) angiosperms
- (B) gymnosperms
- (C) cycads
- (D) conifers

16. What adaptations allow a plant to reproduce without water?

- (A) stems and leaves
- (B) pollen and seeds
- (C) vascular system and lignin
- (D) cuticle and stomata

1. Bacteria impart flavor to cheese through the process of
 - a. vitamin production.
 - b. nitrogen fixation.
 - c. fermentation.
 - d. bioremediation.
2. Legumes have a mutualistic relationship with bacteria that live in
 - a. human intestines.
 - b. their root nodules.
 - c. air trapped in the soil.
 - d. ammonia.
3. Slime molds are in the kingdom Protista. Because they decompose dead organisms, they used to be classified in the kingdom
 - a. Plantae.
 - b. Fungi.
 - c. Animalia.
 - d. Eukarya.
4. Animal-like protists eat other organisms, so they are
 - a. heterotrophic.
 - b. photosynthetic.
 - c. non-motile.
 - d. multicellular.
5. Protists are classified into the domain
 - a. Protista.
 - b. Eukarya.
 - c. Fungi.
 - d. Archaea.
6. The term generally used to describe animal-like protists is
 - a. amoebas.
 - b. parasites.
 - c. protozoa.
 - d. paramecia.
7. A temporary extension of cytoplasm and plasma membrane that helps an amoeba move is called a(n)
 - a. flagella.
 - b. cilia.
 - c. pseudopod.
 - d. oral groove.
8. Short, hair-like projections that cover the protist cell surface and help it swim and capture food are called
 - a. cilia.
 - b. flagella.
 - c. pseudopods.
 - d. vacuoles.
9. Algae are similar to plants because they have
 - a. stems, leaves, and roots.
 - b. chlorophyll for photosynthesis.
 - c. specialized tissues.
 - d. the same reproductive structures as plants.
10. A flexible coat-like covering on the cell surface of euglenoids is called a
 - a. flagellum.
 - b. contractile vacuole.
 - c. chloroplast.
 - d. pellicle.
11. Both plants and green algae have cell walls made of
 - a. silica.
 - b. calcium carbonate.
 - c. cellulose.
 - d. agar.
12. Which of the following protists can heavily populate the oceans when nutrients are ample and create what is known as a red tide?
 - a. dinoflagellates
 - b. euglenoids
 - c. diatoms
 - d. red algae

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12. Which of the following lists the three domains accepted by most scientists?
 - a. Bacteria, Protista, and Eukarya
 - b. Bacteria, Fungi, and Protista
 - c. Eukarya, Archaea, and Bacteria
 - d. Archaea, Prokaryote, and Eukaryote
 13. Which description distinguishes eukaryotes from prokaryotes?
 - a. Eukaryotes have a cell wall.
 - b. Eukaryotes are multicellular.
 - c. Eukaryotes are photosynthetic.
 - d. Eukaryotes have a nucleus.
 14. Single-celled prokaryotes that are classified by their ability to survive extreme conditions are
 - a. fungi.
 - b. archaea.
 - c. protists.
 - d. eukaryotes.
 15. In the Linnaean system of classification, which of the following is most commonly defined as a group of organisms that can breed and produce offspring?
 - a. phylum
 - b. species
 - c. genus
 - d. order

E. Situational Vocabulary Circle the letter of the situation that most closely relates to each vocabulary word.

1. **pseudopod:** a) a wooden stump of a leg; b) a temporary extension of cytoplasm
2. **lichen:** a) a relationship between an alga and a plant; b) a relationship between an alga and a fungus
3. **algae:** a) a plantlike fungus; b) a plantlike protist
4. **fruiting body:** a) a protist that produces fruit; b) a mushroom
5. **sporangia:** a) a protist that eats spores; b) a spore-producing structure
6. **protist:** a) any eukaryote that is not a plant, animal, or fungus; b) any single-celled organism that is not a plant, animal, or fungus
7. **protozoa:** a) an animal-like protist; b) a protist-like animal
8. **slime mold:** a) a decomposer; b) a producer
9. **cilia:** a) long whiplike structures used for movement; b) short hairlike structures used for movement
10. **water mold:** a) a type of protist; b) a type of fungus
11. **chitin:** a) a tough material found in protist cells; b) a tough material found in fungal cells
12. **hyphae:** a) long strands that absorb food for fungi; b) long strands that absorb food for slime molds
13. **mycorrhizae:** a) a relationship between fungi and algae; b) a relationship between fungi and plants
14. **mycelium:** a) a tangled mass of hyphae; b) a tangled mass of cilia

- 15 How many kingdoms are there in the most current tree of life?
a. two b. five c. three d. six
- 16 Which of the following types of evidence is considered the most accurate in classifying organisms, according to the majority of scientists?
a. anatomical b. Linnaean c. physiological d. molecular

17. What adaptation allows the movement of water, nutrients, and sugars to all parts of a plant?
- (A) cuticle
 - (B) vascular system
 - (C) roots
 - (D) lignin