

Living Things ▪ *Guided Reading and Study*

Classifying Organisms

This section tells how scientists divide living things into groups. It also describes how living things are named.

*Use Target Reading Skills

Before you read, preview the red headings. In the graphic organizer below, ask a what, why, or how question for each heading. As you read, write the answers to your questions.

Classifying Organisms

Question	Answer
Why do scientists classify?	Scientists classify because...

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Classifying Organisms *(continued)*

***Why Do Scientists Classify?**

1. The process of grouping things based on their similarities is _____.
2. Why do biologists use classification?

3. The scientific study of how living things are classified is called _____.
4. Is the following sentence true or false? Once an organism is classified, a scientist knows a lot about that organism. _____

***The Naming System of Linnaeus**

5. Is the following sentence true or false? Linnaeus placed organisms into groups based on their features that he could observe.

6. In Linnaeus's naming system, called _____, each organism is given a two-part name.
7. Is the following sentence true or false? A species is a group of similar organisms that can mate with each other and produce offspring that can also mate and reproduce. _____
8. *Felis concolor* is the scientific name for mountain lions. To which genus do mountain lions belong? What is the species?
Genus: _____ Species: _____
9. Circle the letter of each sentence that is true about binomial nomenclature.
 - a. A scientific name is written in italics.
 - b. Many scientific names are in Latin because Latin was the language of scientists during Linnaeus's time.
 - c. The genus name begins with a small letter.
 - d. Binomial nomenclature makes it easy for scientists to talk about an organism.

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***Levels of Classification**

10. List the eight levels of classification used by modern biologists in order from the broadest level to the most specific level.

11. Is the following sentence true or false? The more classification levels that two organisms share, the more characteristics they have in common.

12. Look carefully at the figure *Classifying an Owl* in your textbook. What order does the great horned owl belong to?

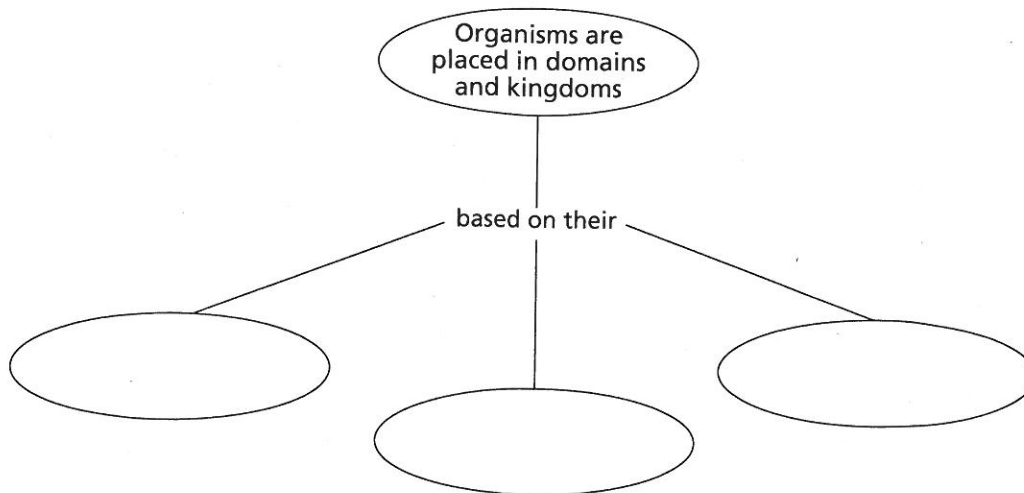
***Domains and Kingdoms**

13. List the three domains of living things.

a. _____ b. _____

c. _____

14. Complete the concept map to show how organisms are placed into domains and kingdoms.



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Classifying Organisms *(continued)*

15. Circle the letter of each sentence that is true about bacteria.
- a. Bacteria can be either autotrophic or heterotrophic.
 - b. Bacteria are prokaryotes.
 - c. Bacteria have a cell nucleus.
 - d. Bacteria do not have nucleic acids.
16. A dense area in a cell that contains nucleic acids is a(n) _____.
17. Is the following sentence true or false? Archaea have a similar chemical makeup to bacteria. _____
18. Why are members of this domain called archaea, which comes from the Greek word for "ancient"?
- _____
- _____
- _____

Domain Eukarya

19. Is the following sentence true or false? Protists can be either unicellular or multicellular. _____
20. How do protists differ from bacteria and archaea?
- _____
- _____
- _____
21. Is the following sentence true or false? Mushrooms, molds, mildew, and yeast are all fungi. _____
22. Circle the letter of each characteristic of fungi.
- a. eukaryotes
 - b. prokaryotes
 - c. autotrophs
 - d. heterotrophs
23. Plants are _____; they can make their own food.
24. Is the following true or false? Plants provide food for every heterotroph on Earth.
- _____
25. Circle the letter of each characteristic of animals.
- a. unicellular
 - b. heterotrophs
 - c. eukaryotes
 - d. autotrophs
26. Is the following sentence true or false? All animals are multicellular.
- _____