Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Sorting It All Out

1. What is classification?

_____

_____

WHY CLASSIFY?

_____ **2.** Putting plants and animals into orderly groups based on similar characteristics is called
- **a.** arrangement.
- **b.** classification.
- **c.** identification.
- **d.** biology.

_____ **3.** Classifying living things helps human beings
- **a.** improve the world.
- **b.** make sense of the world.
- **c.** destroy the world.
- **d.** make sense of the useful plants only.

HOW DO SCIENTISTS CLASSIFY ORGANISMS?

_____ **4.** Taxonomy is the science of
- **a.** naming plants and animals.
- **b.** describing, classifying, and naming organisms.
- **c.** naming and describing living things.
- **d.** describing organisms.

_____ **5.** Carolus Linnaeus' seven-level system of classification
- **a.** included only plants.
- **b.** is no longer used.
- **c.** is still used today.
- **d.** does not include plants.

_____ **6.** The more closely related living things are to each other, the more
- **a.** characteristics they share.
- **b.** food they share.
- **c.** space they share.
- **d.** water they will share.

_____ **7.** Organisms are thought to be closely related when they have
- **a.** almost no characteristics in common.
- **b.** no characteristics in common.
- **c.** few characteristics in common.
- **d.** many characteristics in common.

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_____ **8.** Lions and house cats can both retract their claws, but brown bears and platypuses can not. Which two are most clearly related?
- **a.** lions and house cats.
- **b.** lions and platypuses.
- **c.** house cats and platypuses.
- **d.** house cats and brown bears.

9. Early scientists divided organisms into two groups. What were the two groups?

_____

_____

10. What Swedish botanist and physician created the first organized, modern taxonomy?

_____

11. How many levels of classification do scientists use today?

_____

12. Why are the platypus, brown bear, lion, and house cat thought to be related to each other?

_____

_____

_____

13. What characteristics do the bear, lion, and house cat have that the platypus does not have?

_____

_____

LEVELS OF CLASSIFICATION

_____**14.** All organisms are classified into
- **a.** one of six kingdoms.
- **b.** one of six phyla.
- **c.** plants or animals.
- **d.** living or nonliving things.

_____**15.** Each kingdom of organisms is divided into several
- **a.** genera.
- **b.** classes.
- **c.** orders.
- **d.** phyla.

_____**16.** The smallest, most specific classification level is
- **a.** phylum.
- **b.** species.
- **c.** class.
- **d.** order.

17. The plural form of the word phylum is _____.

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Directed Reading A *continued*

18. The singular form of the word *genera* is _____.

19. In order from largest to smallest, what are the seven levels of classification?

_____

_____

_____

_____

_____

_____

_____

SCIENTIFIC NAMES

20. No matter how many common names an organism might have, it only has one

_____ _____.

21. How was the naming of organisms different before Carolus Linnaeus, and how was the system difficult for scientists?

_____

_____

_____

_____

22. Who simplified the naming of living things by giving each species a two-part scientific name?

_____

23. In the scientific name for the Asian elephant, *Elephas maximus*, the word *Elephas* indicates the animal's _____.

24. All genus names begin with a(n) _____.

25. All species names begin with a(n) _____

_____.

26. Scientific names contain information about a(n) _____.

27. Scientific names are usually in one of these two languages,

_____ or _____.

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28. In the scientific name *Tyrannosaurus rex*, rex, the Latin word for "King," is the _____ name.

29. What abbreviation do scientists sometimes use when referring to *Tyrannosaurus rex*?

_____

30. What is the scientific name for the common house cat?

_____

DICHOTOMOUS KEYS

_____**31.** Scientists use dichotomous keys to

a. name organisms.
b. count organisms.
c. identify organisms.
d. catch organisms.

32. What kind of identification aid are scientists using when they work through a series of paired, descriptive statements?

_____

33. In your own words, describe how a dichotomous key is used to identify an organism.

_____

_____

A GROWING SYSTEM

_____**34.** All the organisms on the Earth have

a. been discovered.
b. been classified.
c. not been discovered or classified.
d. been given scientific names.

_____**35.** What do scientists do when a newly-discovered organism does not fit any existing category?

a. leave the organism alone
b. try to change the organism
c. destroy the organism
d. create a new category

_____**36.** What newly-discovered organism, first found in 1995 on lobster lips, did not fit in any existing phyla?

a. *Symbion pandora*
b. *Felis domesticus*
c. *Elephas maximus*
d. *Tyrannosaurus rex*

Answer Key

Directed Reading A

SECTION: SORTING IT ALL OUT

1. Classification is the division of organisms into groups, or classes, based on specific characteristics.
2. B
3. B
4. B
5. C
6. A
7. D
8. A
9. plants and animals
10. Carolus Linnaeus
11. seven
12. They all have hair and mammary glands.
13. They give birth to live young.
14. A
15. D
16. B
17. phyla
18. genus
19. kingdom, phylum, class, order, family, genus, species
20. scientific name
21. Before Linnaeus, scholars used names that had as many as 12 words to identify species. The system was difficult because scientists didn't always refer to organisms using the same names.
22. Carolus Linnaeus
23. genus
24. capital letter
25. lowercase letter
26. organism
27. Latin, Greek
28. species
29. *T. rex*
30. Felis domesticus
31. C
32. dichotomous key
33. Answers will vary. Sample answer: A dichotomous key uses paired statements to help someone find the identity of a mystery organism. The two paired statements are different from each other, such as "this mammal has wings and flies" and "this mammal does not fly and has no wings." The person would choose the statement which fits the organism. Beside each statement is a direction that will take the person to another set of statements. The person chooses the best statement from this pair, is given directions to go to another set, and so on. Soon, there are no more statements, and the person can then see the identify of the organism.
34. C
35. D
36. A

SECTION: THE SIX KINGDOMS

1. plants, animals
2. D
3. B
4. C
5. A
6. protista
7. Answers will vary. Sample answer: I don't think there will always be six kingdoms for classifying organisms because scientists haven't found all the organisms that exist, and some might not fit into the present kingdoms.
8. prokaryotes
9. archaebacteria, eubacteria
10. Eubacteria
11. Eubacteria
12. Archaebacteria
13. Archaebacteria
14. Eubacteria
15. C
16. protozoans
17. algae
18. slime mold
19. A
20. B
21. B
22. molds and mushrooms
23. Members of kingdom Plantae are green, multicellular, have cell walls, and make their own food using the sun's energy.
24. light
25. land, water