

Name \_\_\_\_\_ Date \_\_\_\_\_ Bell \_\_\_\_\_

## Unit 4: Lesson 1- Classification of Living Things

### Vocabulary

1. Species (page 280)-

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2. genus (page 280)-

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3. Domain (page 282)-

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4. Bacteria (page 282)-

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5. Archaea (page 282)-

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6. Eukarya (page 283)-

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7. Protista (page 284)-

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8. Fungi (page 285)-

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9. Plantae (page 284)-

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10. Animalia (page 285)-

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## Why do we Classify Living Things? Page 278

1. Why do we classify living things?

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2. How do scientists classify organisms?

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3. What characteristic do yellow pansy butterflies have in common with the American Goldfinches? How do they differ?

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## How Do We Know That Living Things are Related? Page 279

4. How do scientists know living things are related?

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5. What are some physical characteristics that scientists look at to see if living things are related?

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6. What are some chemical characteristics that scientists look at to see if living things are related?

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7. How does DNA lead scientists to better classify organisms?

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8. What are some benefits of a classification system?

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## How are Living Things Named? Page 280

9. What was the name of the scientists who came up with the naming system of organisms?

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10. Why did he have to come up with a two part scientific name?

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11. What is a scientific name?

\_\_\_\_\_

12. What is a species?

\_\_\_\_\_

13. What is a genus?

\_\_\_\_\_

14. What is the scientific name for a Mountain Lion?

\_\_\_\_\_

15. Can two different species have the same scientific name? \_\_\_\_\_

16. What are the rules on how to write a scientific name?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

17. What is the scientific name for a Red Maple Tree? (Make sure to write it following the rules)

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## What are the Levels of Classification? Page 281

18. What is taxonomy?

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19. Before the eight levels of classification, how did scientists classify living organisms?

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20. What are the eight levels used to classify living things?

\_\_\_\_\_

21. What is a sentence to help you memorize the order of classification?

\_\_\_\_\_

22. What is true about the number of organisms as they are classified closer to the species level?

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## What are the Three Domains? Pages 282-283

23. What used to be the highest level of classification until recent years? \_\_\_\_\_

24. What is the highest level of classification? \_\_\_\_\_

25. Why did scientists add a new classification level: Domain?  
\_\_\_\_\_  
\_\_\_\_\_

26. What is Domain?  
\_\_\_\_\_  
\_\_\_\_\_

27. What are the three domains?  
\_\_\_\_\_

28. What are some characteristics that all cells share that are in domain bacteria?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

29. What are some characteristics that all cells share that are in domain Archaea?  
\_\_\_\_\_  
\_\_\_\_\_

30. What are some characteristics that all cells share that are in domain Eukarya?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

31. What is the difference between the domain Bacteria and domain Eukarya?  
\_\_\_\_\_  
\_\_\_\_\_

32. How are members of Domain Eukarya different from members of domain archaea and domain bacteria?  
\_\_\_\_\_  
\_\_\_\_\_

33. Which two domains are made up of organisms with prokaryotic cells?  
\_\_\_\_\_

34. How many kingdoms are in the domain Bacteria? What is it?  
\_\_\_\_\_

35. How many kingdoms are in the domain Archaea? What is it?  
\_\_\_\_\_

36. Which domain is made up of organisms with eukaryotic cells? \_\_\_\_\_

37. How many kingdoms are in the domain Eukarya? What are they?  
\_\_\_\_\_  
\_\_\_\_\_

## What are the Four Kingdoms in Eukarya? Pages 284-285

38. What are the four kingdoms in Eukarya?

39. What kinds of questions do scientists ask to help them decide which kingdom they should classify an organism by?

40. List characteristics of Kingdom Protista?

41. List characteristics of Kingdom Plantae?

42. List characteristics of Kingdom Fungi?

43. List characteristics of kingdom Animalia?

44. What do all these organisms on these pages have in common?

45. Does scientific knowledge stay the same? How do you know?

46. Name one example organism from each kingdom (be specific):

47. **16 Classify** Place a check mark in the box for the characteristic that each kingdom displays.

| Kingdom  | Cells       |               | Nutrients   |               | Reproduction |         |
|----------|-------------|---------------|-------------|---------------|--------------|---------|
|          | Unicellular | Multicellular | Autotrophic | Heterotrophic | Sexual       | Asexual |
| Protista |             |               |             |               |              |         |
| Plantae  |             |               |             |               |              |         |
| Fungi    |             |               |             |               |              |         |
| Animalia |             |               |             |               |              |         |

## How Do Classification Systems Change Over Time? Page 286

48. Why do classification systems change over time?

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49. How might the classification of protists change in the future?

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## How do Branching Diagrams Show Classification Relationships? Pg 286

50. What is a cladogram?

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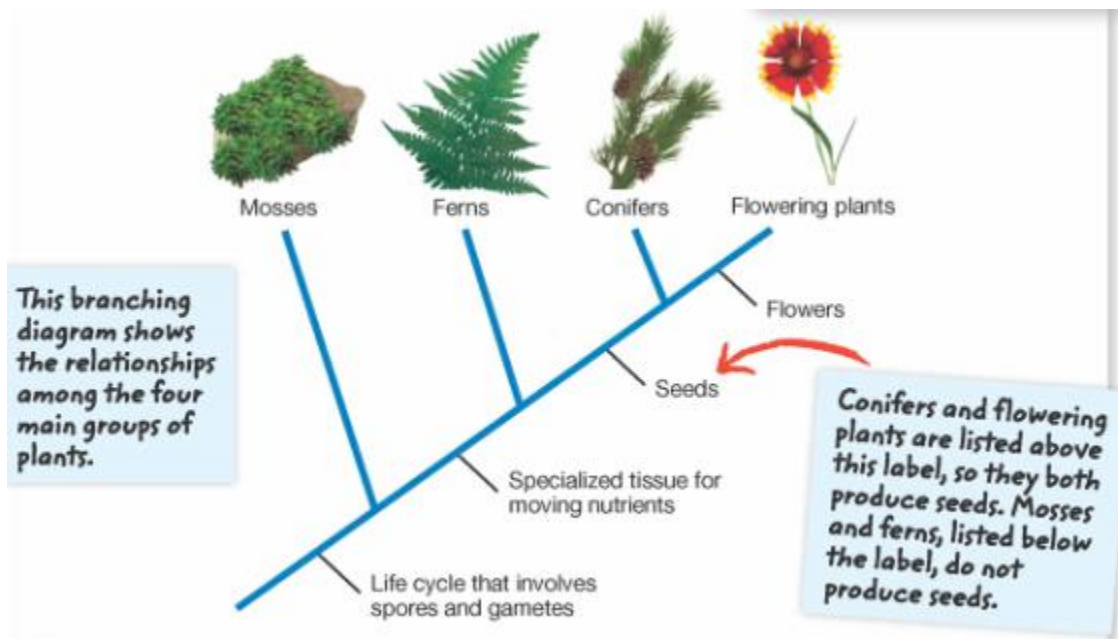
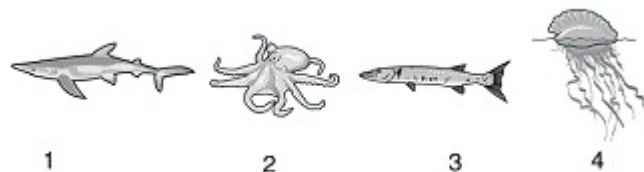
51. How can you use the branching diagram below to tell which plants produce seeds?

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52. Which two of these organisms (the shark, the octopus, the fish, or the jellyfish) below are more closely related to one another than the others?

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## How Can Organisms Be Identified? Pages 288-289

53. What is a dichotomous key?

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54. How does a dichotomous key work?

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55. Complete the dichotomous key below, identify the unknown plants:



### Dichotomous Key For Leaves

|   |           |
|---|-----------|
| 1. a. Needle leaves                         | go to 2   |
| b. Non-needle leaves                        | go to 3   |
| 2. a. Needles are clustered                 | Pine      |
| b. Needles are in singlets                  | Spruce    |
| 3. a. Simple leaves (single leaf)           | go to 4   |
| b. Compound leaves (made of "leaflets")     | go to 7   |
| 4. a. Smooth edged                          | go to 5   |
| b. Jagged edge                              | go to 6   |
| 5. a. Leaf edge is smooth                   | Magnolia  |
| b. Leaf edge is lobed                       | White Oak |
| 6. a. Leaf edge is small and tooth-like     | Elm       |
| b. Leaf edge is large and thorny            | Holly     |
| 7. a. Leaflets attached at one single point | Chestnut  |
| b. Leaflets attached at multiple points     | Walnut    |

