Classification

Name: _____   **Date:** _____

1. Study the table below.

    Student's Obersvation of Characteristics

Organism	Characteristic 1	Characteristic 2
W	teeth	scales
X	reproduces	grows
Y	hair	moves
Z	feathers	eats

    A student records observed characteristics for four organisms. Based on this student's observations, which organism has two characteristics of *all* living things?

    A. organism W   B. organism X

    C. organism Y   D. organism Z

2. A teacher asks her students to classify four animals by completing the chart shown below.

    Classification of Four Animals

Animal	Outer Covering	Lays eggs	Classification
1	fur	no	?
2	scales	yes	?
3	smooth skin	yes	?
4	feathers	yes	?

    Which column correctly completes the chart?

    A.
Classification
amphibian
reptile
mammal
bird

    B.
Classification
amphibian
bird
reptile
mammal

    C.
Classification
mammal
amphibian
bird
reptile

    D.
Classification
mammal
reptile
amphibian
bird

3. The pictures below show animals separated into two groups.

Group 1 | **Group 2**
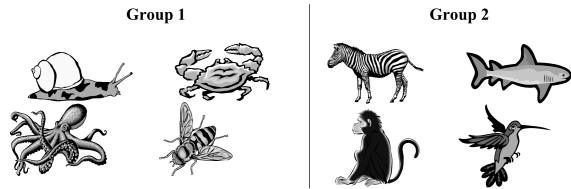
The animals are grouped by whether they have a backbone or not. Which of the following belongs in Group 1?

A.

B.

C.

D.

4. The following table lists characteristics of five different types of animals. Use the information in the table to answer the following question(s).

Characteristics	Type I	Type II	Type III	Type IV	Type V
Segments	fewer than 5 segments	5 or more segments	fewer than 5 segments	fewer than 5 segments	5 or more segments
Antennae	one pair of antennae	one pair of antennae	no antennae	two pairs of antennae	no antennae
Number of Legs	fewer than 10 legs	10 or more legs	fewer than 10 legs	10 or more legs	no legs
Mandibles	yes	yes	no	yes	no
Exoskeleton	yes	yes	yes	yes	no
Wings	yes	no	no	no	no

An animal has 20 body segments and has no mandibles. Which type of animal is it?

A. Type II   B. Type III

C. Type IV   D. Type V

5. A certain organism has many cells, each containing a nucleus. If the organism makes its own food, it would be classified as

A. a bacterium   B. a fungus

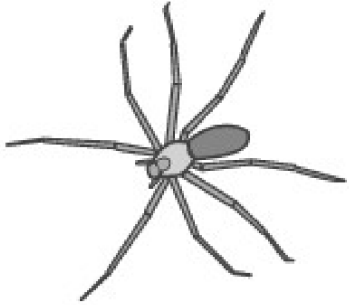C. a plant   D. an animal

Classification

6. The picture shows three insects that are very similar and are grouped together by scientists.

   Which of the following belongs in the same group as the insects shown in the picture?
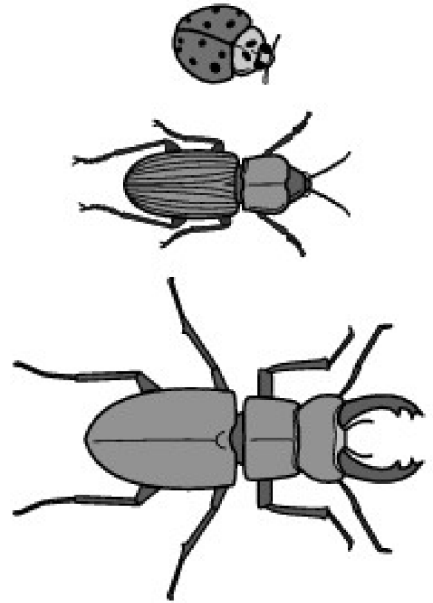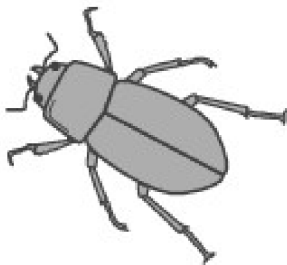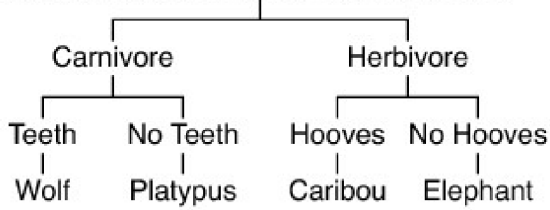
   A.

   B.

   C.

   D.

7. According to the classification key, what characteristic does a wolf have in common with a caribou?

Animals with Backbones (Vertebrates)

```
                Animals with Backbones (Vertebrates)
                  /                              \
            Carnivore                        Herbivore
            /        \                       /         \
        Teeth      No Teeth            Hooves        No Hooves
          |           |                  |              |
        Wolf       Platypus           Caribou       Elephant
```

A. Backbone
B. Flat tails
C. Hooves
D. Teeth

8. The table below shows the classifications of four animals.

Animal Classification

Animal	Q	R	S	T
Kingdom	Animalia	Animalia	Animalia	Animalia
Phylum	Chordata	Chordata	Chordata	Chordata
Class	Mammalia	Mammalia	Mammalia	Mammalia
Order	Carnivora	Rodentia	Rodentia	Carnivora
Family	Canidae	Muridae	Muridae	Felidae
Genus and Species	*Canis familiaris*	*Mus musculus*	*Mesocricetus auratus*	*Felis sylvestris*

According to their classification, which of the following animals are *most* closely related?

A. Q and R
B. S and T
C. Q and T
D. R and S

9. Use the tables below to answer the following question.

Group 1	Group 2
hawk	cow
shark	rabbit
polar bear	butterfly

The tables above show two different groups of animals. Which animal would *most* likely belong in Group 1?

A. deer
B. squirrel
C. earthworm
D. lion

10. A lynx, *Lynx canadensis*, has a short tail with a black tip running all the way around the tail. It also has highly visible tufts of hair on the ears. A bobcat, *Lynx rufus*, has a short tail with black only on top of the tail's tip. It also has inconspicuous ear tufts. From the descriptions and scientific names of both animals you can conclude that

A. the lynx and bobcat are the same species.
B. "lynx" and "bobcat" are two names for the same animal.
C. the lynx and bobcat are the same genus.
D. the lynx and bobcat are not from the same phylum.

11. **Use the list below to answer the following question.**

insects
flowers
birds

Which of these items below belongs *best* with the list of items in the box?

A. oil

B. rocks

C. grass

D. glaciers

12. On a field in a wooded area, you see a small, strange object. You wonder whether it is a live animal. The *best* way to find out is to observe the object to see if it

A. has an odor.

B. has separate parts.

C. can make a noise and has a lifelike color.

D. carries out basic life functions.

13. Use the picture below to answer the following question.
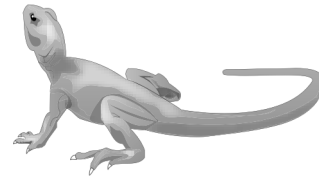
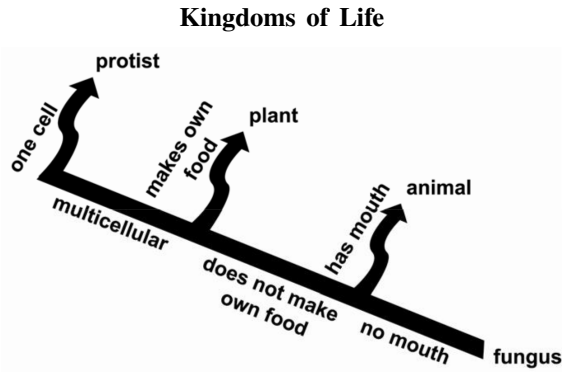Which animal belongs in the same category as the lizard?

A.

B.

C.

D.

14. Use this key to answer the question.

Kingdoms of Life

This key is used to classify certain kinds of living organisms into kingdoms.

According to the key, which kind of organism is multicellular, doesn't make its own food, and doesn't have a mouth?

A.   a protist

B.   a plant

C.   an animal

D.   a fungus

15. Use the data table below to answer the question.

Snail Coloring			
Sea Snail Species	Shell Color	Underside Color	Maximum Length
Red foot Snail	Brown	Red	150 mm
White Foot Snail	Brown	White	180 mm

A scientist studied two species of sea snail and recorded the physical characteristics in the data table. Which conclusion about the data is based on correct reasoning?

A.   If a snail she studied had a brown shell, then it was a red foot snail.

B.   If a snail she studied had a brown shell, then it had a white underside.

C.   If a snail she studied was 125 millimeters long, then it was red foot snail.

D.   If a snail she studied was 175 millimeters long, then it had a white underside.

16. Use this dichotomous key to answer the question.

Reptiles and Amphibians

1a.	Has external gills	Go to 6.
1b.	Does not have external gills	Go to 2.
2a.	Has scales	Go to 3.
2b.	Does not have scales	Go to 4.
3a.	Has a shell	turtle
3b.	Does no have a shell	Go to 5.
4a.	Has a tail as an adult	Go to 6.
4b.	Does not have a tail as an adult	frog
5a.	Has legs	lizard
5b.	Does not have legs	snake
6a.	Has coastal grooves along the side	salamander
6b.	Does not have coastal grooves along the side	newt

Trish constructed a dichotomous key to help identify the reptiles and amphibians living in a certain area. Which phrase describes a lizard?

A. an animal with scaly skin and a shell but no external gills

B. an animal with scaly skin and legs but no shell

C. an animal with legs and coastal grooves but no tail

D. an animal with external gills and a tail but no coastal grooves

17. The pictures below show animals separated into two different groups.
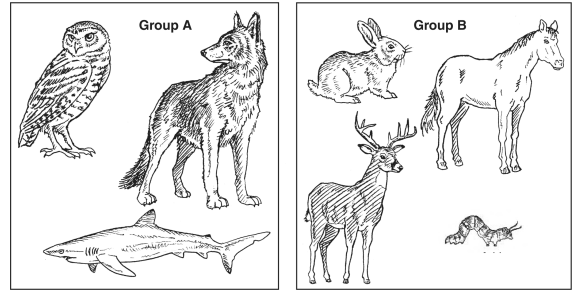
The animals above are grouped by eating habits. Which of the following animals belongs in Group A?

A. squirrel   B. sheep

C. hawk   D. goat

18. While on a walk, Samuel saw a tree he had not seen before. He used a key to help him identify the type of tree. A branch from the tree and the key he used are shown below.
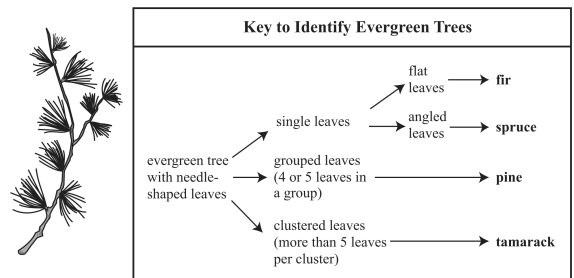
Based on the key, which type of tree did Samuel *most likely* see?

A. fir   B. spruce

C. pine   D. tamarack

19. The chart below lists the organisms that Tamara sorted into two groups based on one physical characteristic.

Group 1	Group 2
alligator	bat
goldfish	deer
snake	mouse
tuna	rabbit

Which of the following physical characteristics did Tamara *most likely* use to sort the organisms into the two groups?

A. number of legs

B. size of the body

C. shape of the feet

D. type of body covering

20. The pictures below show parts from four different plants.
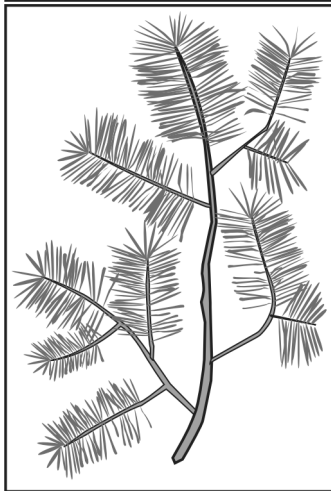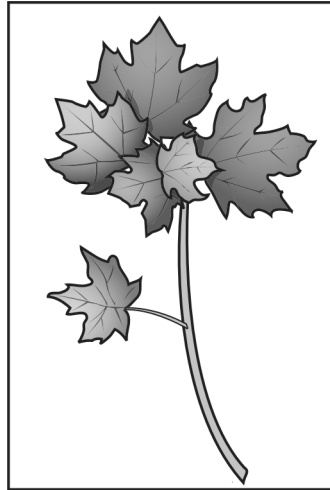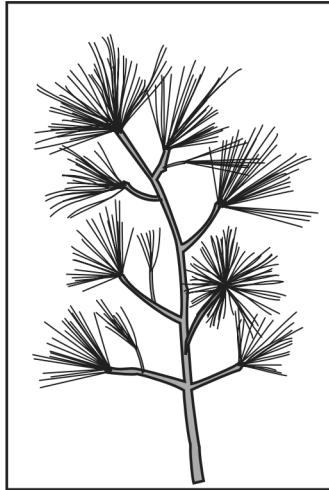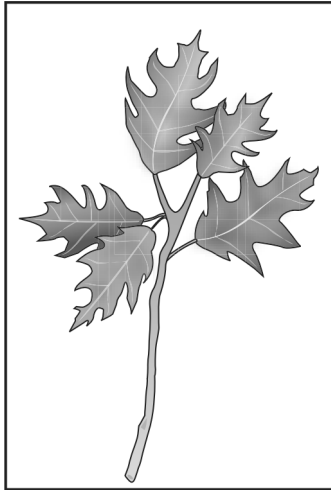
Based on the pictures, which of the following physical characteristics would be *best* to use to sort the plants into two groups?

A. the shape of the leaves

B. the length of the leaves

C. the length of the branches

D. the thickness of the branches

21. While hiking through Granville State Forest, a student finds an unusual plant-like organism that appears to lack chlorophyll. When the student examines a sample using a microscope, he sees many cells with cell walls and no chloroplasts.

This organism is *most likely* a member of what Kingdom?

A. Animalia   B. Eubacteria

C. Fungi   D. Protista

22. If a new organism were discovered, which of the following would most likely be used to classify it into the appropriate kingdom?

A. the color of the organism

B. the organism's natural habitat

C. the structure of the organism's anatomy

D. the location where the organism was found

23. The picture below shows a paramecium.
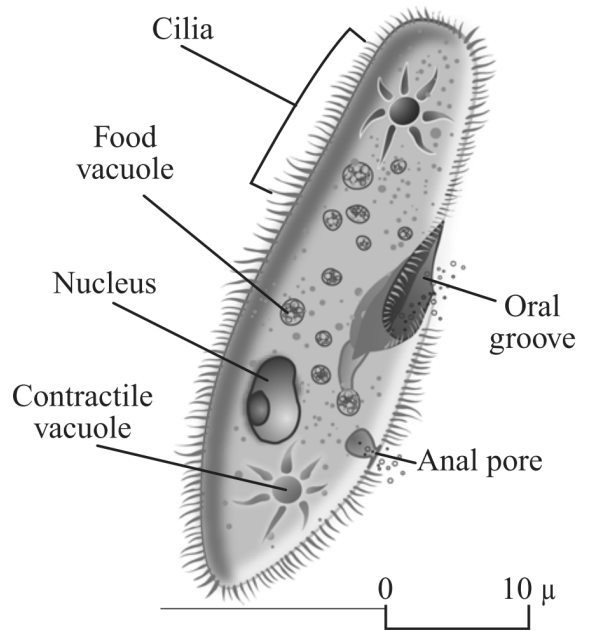
In which kingdom is the paramecium classified?

A. Animalia   B. Fungi

C. Plantae   D. Protista

24. An amoeba, an oak tree, a squirrel, and mildew are all classified in the same

A. domain.   B. kingdom.

C. genus.   D. species.

25. The diverse organisms shown in the diagram below belong to the same Kingdom.

To which Kingdom do these organisms belong?
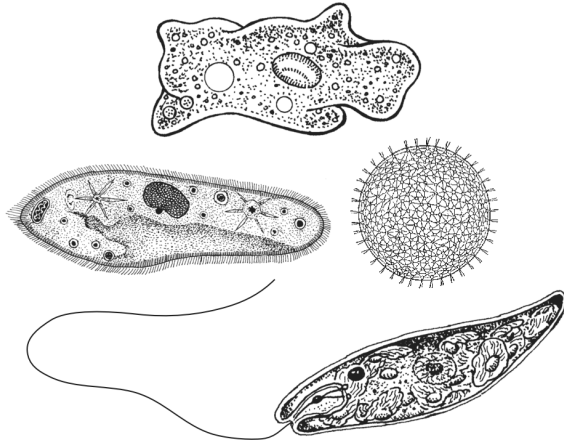
A. Animalia   B. Fungi

C. Plantae   D. Protista

26. Four students attempted to classify organisms into the Plant and Animal Kingdoms. Their classifications are shown in the table below.

	Plants	Animals
Student 1	Eukaryotic cell	Prokaryotic cell
Student 2	Multicellular	Unicellular
Student 3	Cells have cell walls	Cells do not have cell walls
Student 4	Heterotrophic by absorption	Heterotrophic by ingestion

Which student's classification correctly separates organisms into these two Kingdoms?

A. Student 1   B. Student 2

C. Student 3   D. Student 4
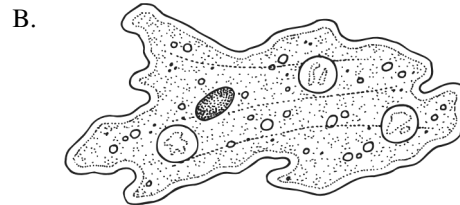
27. Which of the following is an example of a prokaryotic organism?

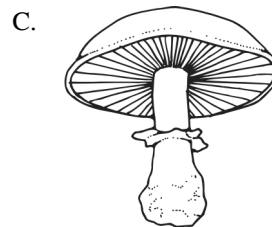A. bacterium   B. celery

C. horse   D. mushroom

28. Which of the organisms shown below is *not* correctly labeled with its kingdom?

A.

Eubacteria

B.

Protista

C.

Plantae

D.
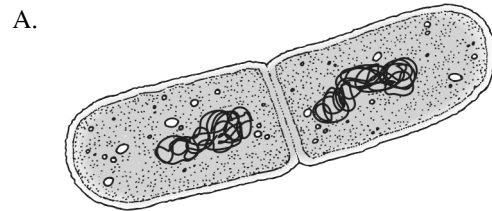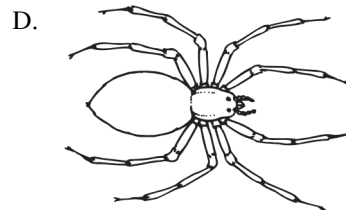
Animalia

29. All organisms classified in kingdom Animalia must also be classified as which of the following?

    A. Archaea   B. Eubacteria

    C. Eukaryota   D. Protista

30. Which of the following distinguishes the organisms in the kingdom Fungi from other eukaryotic organisms?

    A. Fungi are unicellular.

    B. Fungi reproduce sexually.

    C. Fungi obtain nutrients by absorption.

    D. Fungi make food through photosynthesis.

31. Blue jays and kingbirds are both classified in the order Passeriformes. In the current taxonomic system, this means that the two types of birds must also belong to the same

    A. family.   B. genus.

    C. phylum.   D. species.

32. Which of the following organisms is eukaryotic, multicellular, and autotrophic?

A.

B.

C.

D.
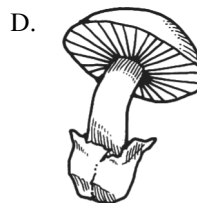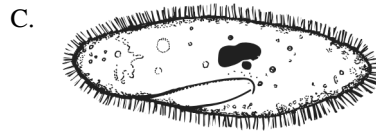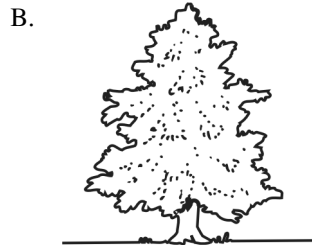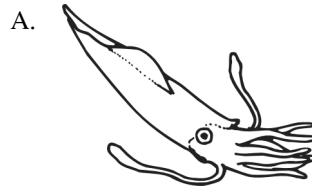
33. The table below provides classification information for four different mammals.

Scientific Classification of Four Mammals

Classification Level	Mammal 1	Mammal 2	Mammal 3	Mammal 4
Order	Rodentia	Lagomorpha	Rodentia	Rodentia
Family	Castoridae	Leporidae	Sciuridae	Sciuridae
Genus	*Castor*	*Sylvilagus*	*Sciurus*	*Sciurus*
Species	*canadensis*	*floridanus*	*niger*	*carolinensis*

Which of these mammals are most closely related to each other?

    A. 1 and 2   B. 1 and 3

    C. 2 and 4   D. 3 and 4

34. The answer to which of the following questions would be *most* useful in determining whether to classify an organism in kingdom Plantae or kingdom Animalia?

   A. Is the organism able to respond to stimuli?

   B. Is the organism able to make its own food?

   C. Is the organism unicellular or multicellular?

   D. Is the organism made of cells with or without nuclei?

35. Organism *A* is eukaryotic, is unicellular, and lacks a cell wall. Organism *B* is eukaryotic, is multicellular, has a cell wall, and contains chloroplasts.

   In which kingdoms should these organisms be classified?

   A. organism *A* in Protista and organism *B* in Fungi

   B. organism *A* in Protista and organism *B* in Plantae

   C. organism *A* in Animalia and organism *B* in Fungi

   D. organism *A* in Animalia and organism *B* in Plantae

36. Scientists have discovered a new type of organism. To assign the organism to a domain and kingdom, which of the following is *most* important for scientists to know?

   A. the organism's cell structure

   B. the organism's population size

   C. the organism's social behavior

   D. the organism's reproductive rate

37. *Danaus plexippus* and *Danaus gilippus* are two species of butterflies. Which of the following statements *best* explains why scientists classify them as two different species?

   A. Only one of the species migrates in winter.

   B. Only one of the species is found in North America.

   C. The two species are not eaten by the same predators.

   D. The two species cannot produce fertile offspring with each other.

38. A researcher is studying a particular disease-causing agent. The agent has a protein coat, but it lacks a nucleus, contains no other organelles, and can reproduce only when it is inside an animal cell.

   The researcher should classify the agent as which of the following?

   A. a bacterium   B. a fungus

   C. a protist   D. a virus

Classification

39. Prokaryotes are structurally simple organisms that have existed for over two billion years. Which of the following are prokaryotes?

   A. bacteria

   B. fungi

   C. plants

   D. protists

40. The table below provides information about nutrition and cellular structure for organisms in different kingdoms.

Kingdom	Nutrition	Nucleus	Unicellular or Multicellular
Fungi	heterotrophic	yes	unicellular and multicellular
Plantae	autotrophic	yes	multicellular
Animalia	?	?	?

What information *best* completes the table?

   A. autotrophic, no, unicellular

   B. autotrophic, yes, multicellular

   C. heterotrophic, no, unicellular

   D. heterotrophic, yes, multicellular

41. Two populations of fruit flies both belong to the genus Drosophila. The fruit flies are able to successfully mate within their own populations, but males from one population are unable to mate and produce offspring with females from the other population.

   Based on this information, which of the following statements could describe the fruit flies in the two populations?
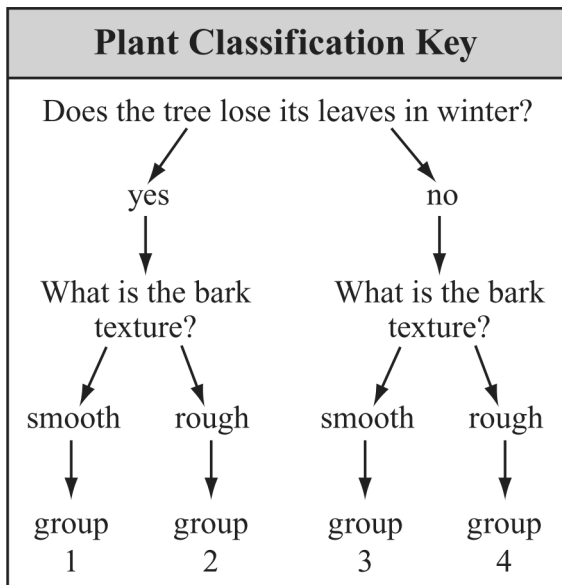
   A. They are classified as different orders.

   B. They are classified in different classes.

   C. They are classified as different species.

   D. They are classified in different kingdoms.

42. Lobsters and spiders are both classified in the phylum Arthropoda. Lobsters and spiders are therefore also classified in the same

   A. class.

   B. family.

   C. genus.

   D. kingdom.

43. The scientific name for the woodchuck is *Marmota monax*, and the scientific name for the long-tailed marmot is *Marmota caudata*. Which of the following statements describes the taxonomic relationship between the woodchuck and the long-tailed marmot?

A. They belong to different phyla.

B. They belong to the same genus.

C. They belong to the same species.

D. They belong to different families.

44. Kate is using the key shown below to classify a tree into one of four different groups.

Plant Classification Key

Does the tree lose its leaves in winter?

yes → What is the bark texture? → smooth → group 1

yes → What is the bark texture? → rough → group 2

no → What is the bark texture? → smooth → group 3

no → What is the bark texture? → rough → group 4

The tree loses its leaves in winter and has rough bark. According to the key, into which group should the tree be classified?

A. group 1   B. group 2

C. group 3   D. group 4

45. Which of the following statements is correct about the hierarchy of the taxonomic system currently used to classify organisms?

A. All organisms of a given order belong to the same species.

B. Many different classes of organisms belong to the same order.

C. All organisms of a given phylum belong to the same kingdom.

D. Many different families of organisms belong to the same genus.

46. Which of the following statements *best* explains why the chestnut-sided warbler, *Dendroica pensylvanica*, and the cerulean warbler, *Dendroica cerulea*, are classified as closely related species?

A. They eat the same types of insects.

B. They have similar DNA sequences.

C. They show similarities in their nesting behaviors.

D. They live in the same types of woodland habitats.

Classification

47. The scientific name for the cougar is *Puma concolor*. Which of the following organisms is most closely related to the cougar?

A. *Corythaixoides concolor*

B. *Lynx rufus*

C. *Panthera tigris*

D. *Puma yagouaroundi*

48. A scientist discovered a new organism in some caves in Pennsylvania. The organism has the following characteristics:

- It is multicellular.
- Its cells lack cell walls.
- It is motile.
- It is heterotrophic.

Based on this information, to which kingdom does the organism belong?

A. Animalia   B. Eubacteria

C. Fungi   D. Plantae

49. Anya is observing an organism in the laboratory. The table below shows her observations.

Question	Yes	No
Do the organism's cells have chlorophyll?	X	
Can the organism move?		X
Is the organism multi-cellular?	X	
Do the organism's cells have a cell wall?	X	

The organism Anya is observing *most likely* belongs to which kingdom?

A. Animalia   B. Eubacteria

C. Fungi   D. Plantae

50. The information below describes the most specific levels of classification that the mushroom sea squirt, *Sycozoa gaimardi*, shares with four other organisms.

- The mushroom sea squirt is in the same class as the common sea grape.
- The mushroom sea squirt is in the same family as the blue spot ascidian.
- The mushroom sea squirt is in the same order as the white speck tunicate.
- The mushroom sea squirt is in the same phylum as the starry skate.

To which of the four organisms is the mushroom sea squirt most closely related?

A. common sea grape

B. blue spot ascidian

C. white speck tunicate

D. starry skate

51. Each of the animals below belongs to a different group.

Group 1	Group 2	Group 3	Group 4
Great Blue Heron	Sunfish	Leopard Frog	Polar Bear

Which physical feature classifies all four animals into the same group?

A. the type of skin

B. the number of legs

C. the size of the eyes

D. the location of the mouth

52. Use the information below to answer the following question(s).

A scientist studied an estuary, the area where fresh water from a river empties into salty ocean water. The scientist classified nine estuary organisms into the three groups shown below.

Birds	Plants	Animals
Great Blue Heron	Salt Grass	Blue Crab
Laughing Gull	Eelgrass	Horseshoe Crab
Osprey	Sallow Sedge	Hard Clam

The physical features of an animal are described in the table below.

Physical Features
● Hard shell
● Hinged shell
● Fleshy inside

Which animal *best* fits this description?

A. blue crab

B. hard clam

C. laughing gull

D. sallow sedge

53. Use the information below to answer the following question(s).

The data table below shows information a student collected.

FEATURES OF FOUR ANIMALS

Animal 1	Animal 2	Animal 3	Animal 4
• Lives on land	• Lives on land	• Lives on land or in water	• Lives in water
• Has dry, scaly skin	• Has feathers	• Has moist skin	• Has scales
• Has lungs	• Has lungs	• Has lungs	• Has gills
• Lays eggs	• Lays eggs	• Lays eggs	• Lays eggs
• Cold-blooded	• Warm-blooded	• Cold-blooded	• Cold-blooded

Snakes, tortoises, and alligators are examples of reptiles. Most reptiles live on land and have scales. Reptiles were the first animals to develop the ability to lay hard-shelled eggs.

Based on this information and the data table, which animal is *most likely* a reptile?

A. Animal 1   B. Animal 2

C. Animal 3   D. Animal 4

54. Use the information below to answer the following question(s).

The data table below shows information a student collected.

FEATURES OF FOUR ANIMALS

Animal 1	Animal 2	Animal 3	Animal 4
• Lives on land	• Lives on land	• Lives on land or in water	• Lives in water
• Has dry, scaly skin	• Has feathers	• Has moist skin	• Has scales
• Has lungs	• Has lungs	• Has lungs	• Has gills
• Lays eggs	• Lays eggs	• Lays eggs	• Lays eggs
• Colld-blooded	• Warm-blooded	• Cold-blooded	• Cold-blooded

Most amphibians, such as frogs, live on land and reproduce in water.

Based on the information in the data table, which of these animals is *most likely* an amphibian?

A. Animal 1   B. Animal 2

C. Animal 3   D. Animal 4

55. The data table below compares three features of four plants.The four plants are in the same plant family.

Plant Name	Flower Color	Stem Shape	Height (centimeters)
Common sage	Purple	Square	60
Clary sage	White	Square	100
Russian sage	Purple	Square	120
Lampwick plant	White	Square	150

What feature must a plant have to be grouped into this plant family?

A. purple flowers

B. square stems

C. a height less than 90 centimeters

D. a height greater than 90 centimeters

56. Use the classification table below to answer the following question.

CLASSIFICATION TABLE

Group	Contains a Nucleus	Type of Cells	Makes Own Food	Has Cell Walls
1	Yes	Unicellular or multicellular	No	Yes
2	No	Unicellular	Some species	Yes
3	Yes	Multicellular	Yes	Yes
4	Yes	Unicellular or multicellular	Some species	Some species
5	Yes	Multicellular	No	No

Based on the information in the table, which group contains humans?

A. Group 1   B. Group 3

C. Group 4   D. Group 5

57. Two animals of different species would be *least likely* to

    A. produce fertile offspring

    B. have similar body structures

    C. consume the same food

    D. live successfully in the same habitat

58. A classification table is shown below.

CLASSIFICATION TABLE

Group	Contains a Nucleus	Type of Cells	Makes Own Food	Has Cell Walls
1	Yes	Unicellular or multicellular	No	Yes
2	No	Unicellular	Some species	Yes
3	Yes	Multicellular	Yes	Yes
4	Yes	Unicellular or multicellular	Some species	Some species
5	Yes	Multicellular	No	No

According to the table, which group contains oak trees?

    A. Group 1   B. Group 2

    C. Group 3   D. Group 5

59. Refer to the diagram below of the single-celled, eukaryotic organisms to answer the following question(s).
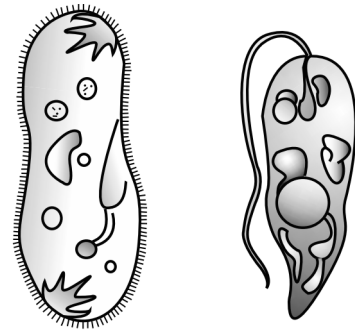
Paramecium   *Euglena*

Euglena and *Paramecium* are eukaryotes because they both

    A. have a nucleus

    B. have ribosomes

    C. reproduce by sexual reproduction

    D. reproduce by asexual reproduction

Classification

60. Use the information below to answer the following question(s).

A scientist is studying a group of related flowering plants. She set up a series of experiments to study relatedness, classification, and patterns of inheritance within this group of plants.

The scientist used the table below of four of the kingdoms of life to classify the group of plants.

CLASSIFICATION TABLE

Characteristic	Kingdom			
	1	2	3	4
Makes own food	no	yes	sometimes	sometimes
Cell nucleus present	yes	yes	no	yes
Multicellular organism	yes	yes	no	sometimes

To which kingdom do flowering plants belong?

A. 1 B. 2 C. 3 D. 4

61. Use the information below to answer the following question(s).

Scientists have recently discovered a new species that lives attached to the side of a tree. An organism from this new species

- is multicellular
- has cell walls
- has vascular tissues
- makes its own food
- has structures that absorb moisture from the air

Which of these terms *best* describes this new organism?

A. omnivore   B. eukaryote

C. herbivore   D. prokaryote

62. Scientists classify humans as omnivores, based on their teeth. As omnivores, humans eat

A. only fungi

B. mostly plants and animals

C. only animals

D. mostly bacteria and fungi

63. Use the information and the chart below to answer the following question.

A student designed the chart below to classify different organisms into four groups.

CLASSIFICATION CHART

I.	Wings	Go to II
	No wings	Group A
II.	Feathers	Group B
	No feathers	Go to III
III.	Two legs...............	Group C
	Six legs	Group D

According to the student's classification chart, an organism with no wings and four legs would belong to which group?

A. Group A   B. Group B

C. Group C   D. Group D

64. Which statement is true of *all* living things?

A. They make their own food.

B. They need carbon dioxide to survive.

C. They are made of basic units called cells.

D. They are able to move from place to place.

65. Which animal feeds *mostly* on plants?

A. gray wolf   B. bald eagle

C. mountain lion   D. white-tailed deer

66. An organism is green and gets energy from the Sun. Which of the following is *most* similar to this organism?

A. mold   B. frog

C. grass   D. mushroom

67. The table shown below describes an organism.

Process	Description of Organism
Food/Energy	Organism uses photosynthesis
Movement	Offspring cannot move itself and floats on water

Which organism is described in the table?

A. algae   B. fish

C. human   D. mushroom

68. A scientist discovers a new organism that has the characteristics listed below.

- It is multicellular.
- It can make its own food.
- Each cell contains a nucleus.
- A cell wall made of cellulose surrounds each cell.

Into which group should this organism be classified?

A. animals   B. plants

C. fungi   D. bacteria

69. Look at the graph below.

Animal Kingdom
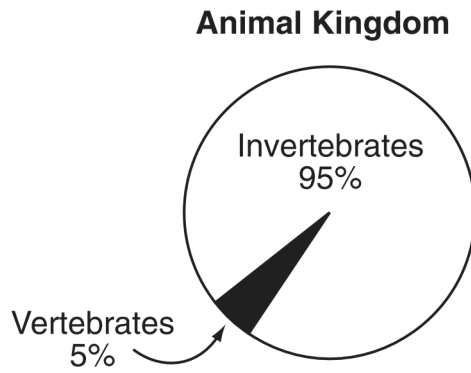
Which of the following animals belongs in the larger group shown on the graph?

A. Ant

B. Owl

C. Lizard

D. Goldfish

70. A scientist has discovered a new plant, Plant X. After comparing it to known carnivorous plants, she made the hypothesis that Plant X is a carnivorous plant. Study the chart below showing characteristics of two carnivorous plants and Plant X.

Plant Characteristics

Venus Flytrap	Pitcher Plant	Plant X
Grows in bogs lacking nitrogen in soil	Grows in bogs lacking nitrogen in soil	Grows in bogs lacking nitrogen in soil
White blossoms attract insects	Honey smell attracts insects	Pink blossoms attract insects
Leaves make digestive fluid	Leaves make digestive fluid	Leaves make digestive fluid
Traps insect by closing leaves	Drowns insects in water in leaves	

Which of the following facts noted by the scientist would complete the chart to prove her hypothesis?

A. Many kinds of insects are in the area.

B. Insects like to eat the plant's pink blossom.

C. The plant has chlorophyll for photosynthesis.

D. An insect is caught in the blossom's sticky fluid.

Classification

71.

Characteristics	Organism 1	Organism 2
Vertebral Column	No	No
Antennae	No	Yes
Body segments	2	3
Wings	No	Yes

1a. Vertebral column present — vertebrate
1b. Vertebral column absent go to (2)

2a. 3 or more body segments go to (3)
2b. 2 body segments go to (4)

3a. wings possible — insect
3b. no wings — millipede

4a. antennae absent — arachnid
4b. antennae present — crustacean

According to the table and dichotomous key shown above, which of the following conclusions can be drawn about the organisms?

A. Organism 2 is a millipede.

B. Organism 1 is an arachnid.

C. Organism 2 is a crustacean.

D. Organism 1 is an insect.

72. Which of the following biological classification groups has the *most* organisms?

A. Phylum   B. Order

C. Kingdom   D. Class

73. Reptile is to amphibian as lizard is to—

A. turtle.   B. frog.

C. alligator.   D. snake.

74. If two organisms are in the same class, they *must* also be in the same—

A. kingdom and family.

B. kingdom and phylum.

C. phylum and genus.

D. genus and species.

75. The scientific name for bay live oaks that grow along the coast is *Quercus virginiana var. maritima (Mill)*. Which of the following is *most* closely related to bay live oaks?

A. *Batis maritima*

B. *Carpinus carolinia var. virginiana*

C. *Clematis virginiana L.*

D. *Quercus falcata var. pagodaefolia (Ell.)*

76. The classification levels of three organisms are listed in the following chart.

Classification of Cats

House Cat	Lion	Tiger
Animalia	Animalia	Animalia
Chordata	Chordata	Chordata
Mammalia	Mammalia	Mammalia
Carnivora	Carnivora	Carnivora
Felidae	Felidae	Felidae
Felis	*Felis*	*Felis*
domesticus	*leo*	*tigris*

Which statement describes the relationship among the organisms in the chart?

A. House cats and lions belong to the same species.

B. House cats are more closely related to lions than to tigers.

C. House cats, lions, and tigers belong to the same class and family.

D. House cats and tigers belong to the same genus but to different orders.

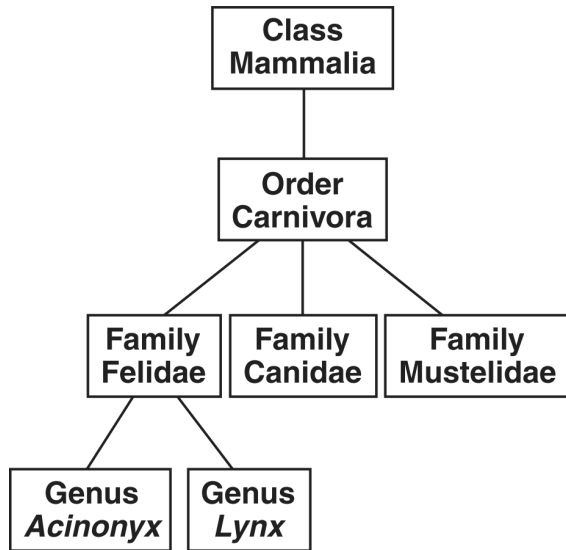77. Some characteristics of a recently discovered organism are listed in the following table.

Organism Characteristics
Eukaryotic
Multicellular
Produces spores
Can reproduce sexually and asexually
Lacks chlorophyll
Non-motile

Based on the given characteristics, this organism would be classified in which kingdom?

A. Eubacteria

B. Fungi

C. Plantae

D. Protista

78. The diagram shows the relationship within a classification system.

```
          ┌─────────────┐
          │   Class     │
          │  Mammalia   │
          └─────────────┘
                 │
          ┌─────────────┐
          │   Order     │
          │  Carnivora  │
          └─────────────┘
           /      │      \
 ┌────────┐ ┌────────┐ ┌──────────┐
 │ Family │ │ Family │ │  Family  │
 │Felidae │ │Canidae │ │Mustelidae│
 └────────┘ └────────┘ └──────────┘
    /    \
┌────────┐ ┌────────┐
│ Genus  │ │ Genus  │
│Acinonyx│ │  Lynx  │
└────────┘ └────────┘
```

According to the current classification system, which group shown in the diagram above contains the greatest diversity of animals?

A. Class Mammalia   B. Order Carnivora

C. Family Felidae   D. Genus Acinonyx

79. Which information would a scientist use to classify the genus and species of a plant?

A. The type of insect that is attracted to the flowers on the plant

B. The physical traits this plant shares with other plants

C. The time of year flowers bloom on the plant

D. The location where this plant grows best

80. Scientists' decisions on which kingdoms to classify organisms in are based on which of the following?

A. The color of the organism

B. The diet of the organism

C. The size of the organism

D. The structure of the organism

81. Using the key provided, drawing III can be identified as which bird?

(90. cm)   (69. cm)   (50. cm)
I   II   III

(31. cm)   (20. cm)   (7.5 cm)
IV   V   VI
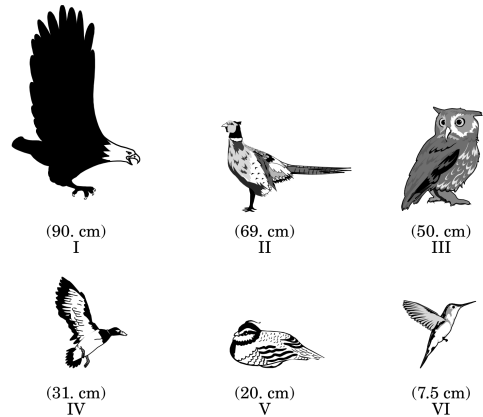
Taxonomic Key to North American Birds

1.a. Larger than 40. cm 2
1.b. Not larger than 40. cm 4

2.a. Hooked beak 3
2.b. Beak not hooked .... *Phasianus colchicus*

3.a. Feathers over eyes that look like ear .... *Bubo virginianus*
3.b. No Feathers that look like ears .... *Haliaeetus leucocephalus*

4.a. Head one solid color of feathers 5
4.b. Head not solid color of feathers .... *Colinus virginianus*

5.a. Bill flat.. *Anas platyrhynchos*
5.b. Bill pointed .... *Archilochus colubris*

A. *Bubo virginianus*

B. *Haliaeetus leucocephalus*

C. *Colinus virginianus*

D. *Anas platyrhynchos*

82. Which kingdoms have photosynthetic organisms?

    A. fungi and plants   B. fungi and protists

    C. protists and plants   D. plants and animals

83. What is the difference between the full classification of organisms and their scientific names?

    A. The full classification of organisms and their scientific names vary in different countries.

    B. The scientific names of organisms include the order and family of the organisms, but the full classification includes only the species name.

    C. The full classification of organisms will include more categories of organisms than their scientific names.

    D. The scientific names of organisms include a single nomenclature, but the full classification includes various nomenclatures.

84. What is the *best* explanation for the continual changes in the classification system of organisms?

    A. All organisms struggle for existence and become extinct.

    B. All organisms compete to be at the top of the food chain.

    C. Technological advances have allowed scientists to better compare organisms.

    D. More species have been discovered, but scientists have not analyzed all the data.

85. This is a dichotomous key for birds' feet and a diagram of a bird's foot.

Dichotomous Key for Birds' Feet

1a	two toes	*Struthio camelus*
1b	four toes	go to 2
2a	two toes forward and two toes back	*Dryocopus pileatus*
2b	three toes forward and one toe back	go to 3
3a	toes webbed	*Anas platyrhynchos*
3b	toes not webbed	go to 4
4a	toes in curled position	*Vermivora chrysoptera*
4b	toes flat	go to 5
5a	toes long and narrow	*Ardea herodias*
5b	toes thick and feathered	*Lagopus mutus*
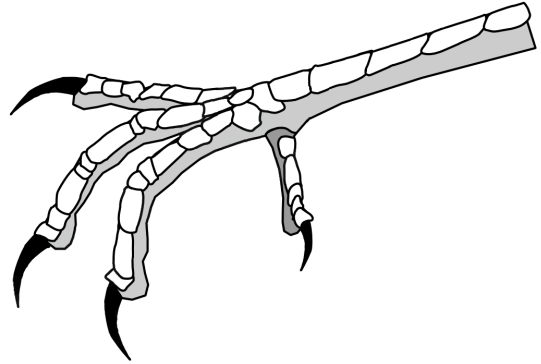
What is the name of this bird?

    A. *Dryocopus pileatus*

    B. *Vermivora chrysoptera*

    C. *Ardea herodias*

86. The table below shows features of four different organisms.

Comparison of Four Organisms

Feature	Organism W	Organism X	Organism Y	Organism Z
Number of cells	Many	One	One	Many
Cells have nuclei	Yes	No	Yes	Yes
Cells have walls	Absent	Present	Absent	Present
Does photosynthesis	No	No	No	No
Does respiration	Yes	Yes	Yes	Yes
Type of reproduction	Sexual	Asexual	Asexual	Sexual
Can move about	Yes	Yes	Yes	No

Which organism is *least* related to the others?

A. Organism W

B. Organism X

C. Organism Y

D. Organism Z

87. The table below shows some of the characteristics of four groups of organisms.

Characteristics of Four Groups of Organisms

Group	Has Organ Systems	Has a Backbone	Is Warm Blooded	Produces Milk
1	No	No	No	No
2	Yes	No	No	No
3	Yes	Yes	No	No
4	Yes	Yes	Yes	Yes

Based on the characteristics shown, which group could include reptiles?

A. group 1

B. group 2

C. group 3

D. group 4

Classification

A group of students is working on a project to identify and classify different types of animals. Each student examined the characteristics of a single type of animal. The students then compiled a table of some traits that could be useful for classification of the animals (see the table below).

	Skeleton type	Adult appendages	Temperature regulation	Adult respiration	Fertilization
Bony Fish	bone	unpaired dorsal fins, paired ventral fins	cold-blooded	gills	external
Amphibians	bone	most adults–2 pairs of legs	cold-blooded	usually lungs	usually external
Reptiles	bone	2 pairs of legs (except snakes)	cold-blooded	lungs	internal
Birds	bone	1 pair of wings, 1 pair of legs	warm-blooded	lungs	internal
Mammals	bone	2 pairs of legs or 1 pair of legs and 1 pair of arms	warm-blooded	lungs	internal

The students must now develop flowchart classification schemes to make it easier to classify animals. Use the information in the table to answer the following questions.

Classification

88. One student's flowchart classification uses the characteristic "fins" versus "no fins" for the first branch of the chart. This separates the animals as follows:

| fins present in adults	no fins present in adults
bony fish	reptiles
	amphibians
	birds
	mammals

Which successive classification step (branchpoint with two alternatives) would lead to the placement of the animals without fins into two separate categories?

A. skeleton type

B. temperature regulation

C. adult respiration

D. number of adult appendages

89. The chart below is a taxonomic key for the fictitious insect genus *Problematica*.

Characteristics of the Genus *Problematica*

1	Thorax and abdomen entirely black	*Problematica alva*
	Thorax striped and abdomen black	Go to 2
2	Antennae curled	*Problematica brancus*
	Antennae straight	Go to 3
3	Wings longer than body	*Problematica cantrellis*
	Wings shorter than body	Go to 4
4	Wings white	*Problematica differensis*
	Wings black	*Problematica fortunatas*

A student has been asked to identify the following insect.
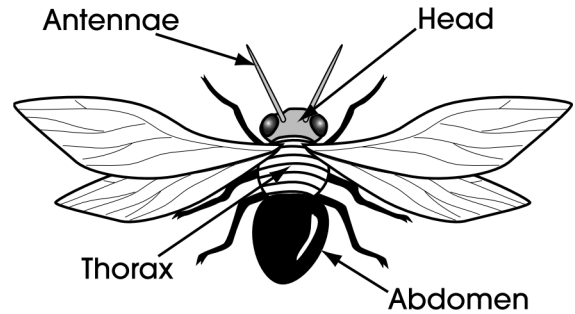
To which species does the insect belong?

A. *Problematica alva*

B. *Problematica brancus*

C. *Problematica cantrellis*

D. *Problematica differensis*

Use the information to answer the following question(s).

In 1859, European rabbits were introduced into Australia. The rabbits ate agricultural crops and native plants. The wild rabbit population expanded rapidly, numbering in the hundreds of millions. To control the rabbit population, the Australian government introduced the myxoma virus. Transmitted by a mosquito, this virus caused disease in the European rabbits. Each exposure to the virus led to an epidemic, and the following mortality rates were observed in the wild rabbit population.

Chart 1

Epidemic	Wild Rabbit Mortality Rate
1st	99.8%
2nd	90%
3rd	40 – 60%

Australian scientists kept laboratory populations of the original virus and rabbits that were never exposed to the virus. They also maintained populations of rabbits and strains of the virus collected from the wild at different times after the original introduction of the virus. The scientists then exposed each group of rabbits to a different strain of the virus. The diagram below summarizes their data.

Diagram 1
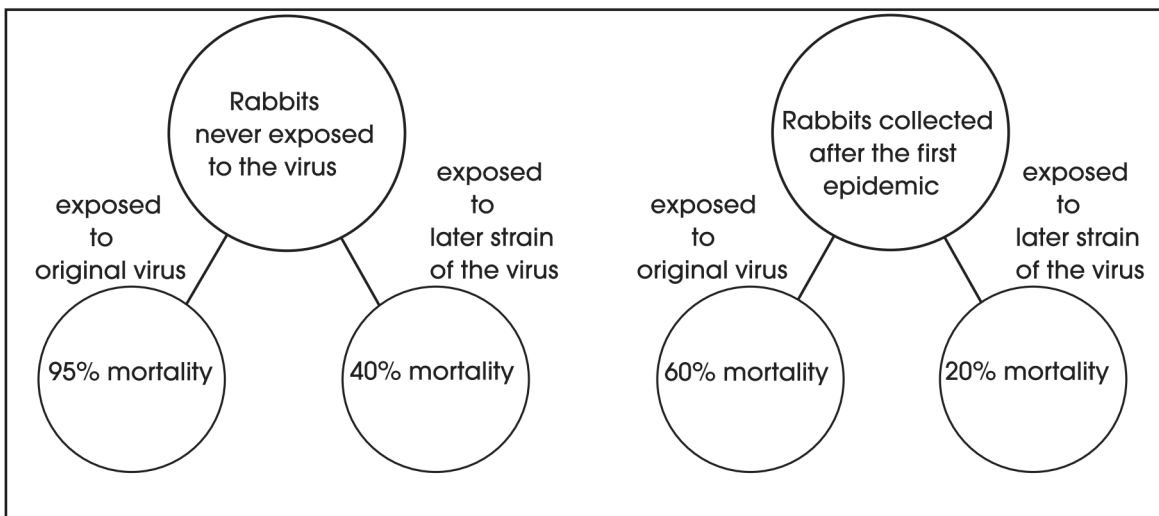
Classification

90. This classification system shows genetic relationships between five species of rabbits.
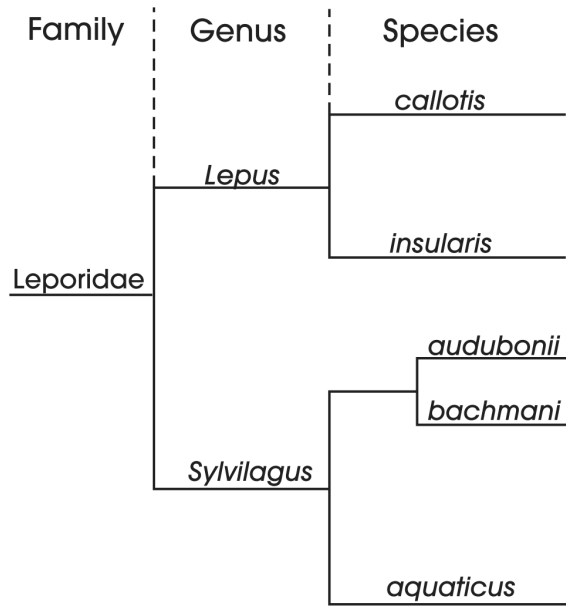
Which species likely harbors the virus infecting *Sylvilagus bachmani*?

A. *Lepus callotis*

B. *Lepus insularis*

C. *Sylvilagus aquaticus*

D. *Sylvilagus audubonii*

91. **Use the relationship diagram below to answer the question.**

Relationship Diagram
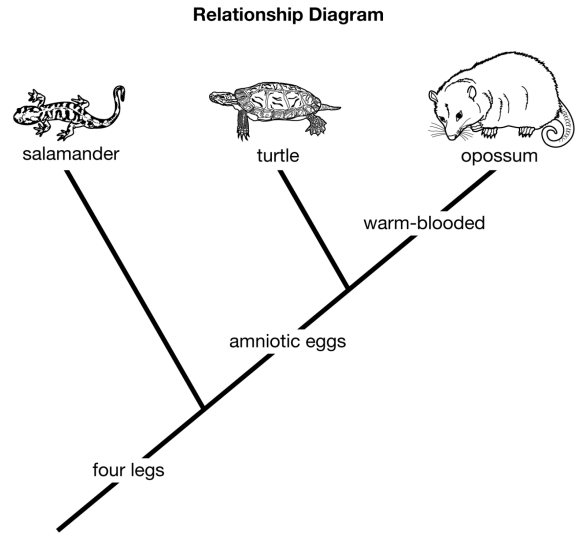
Which statement most accurately describes a relationship between two animals in the relationship diagram?

A. The turtle and opossum have amniotic eggs.

B. The turtle and salamander have amniotic eggs.

C. The turtle and opossum are warm-blooded.

D. The turtle and salamander are warm-blooded.

92. In the diagram shown of alga *Chlamydomonas*, structure *A* functions mainly in the process of

A. ingestion

B. digestion

C. photosynthesis

D. locomotion
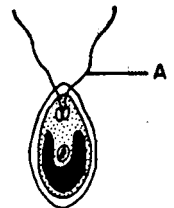
93. The diagram below represents a unicellular green alga known as chlamydomonas. Structure *X* helps chlamydomonas move through the pond in which it lives.
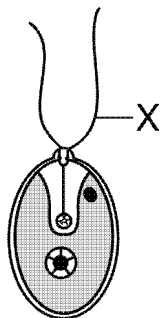
Structure *X* represents

A. a seta

B. an antenna

C. a tentacle

D. a flagellum

Classification   8/19/2019

1.
Answer: B
Points: 1

2.
Answer: D
Points: 1

3.
Answer: B
Points: 1

4.
Answer:
Points: 1

5.
Answer:
Points: 1

6.
Answer: D
Points: 1

7.
Answer: A
Points: 1

8.
Answer: D
Points: 1

9.
Answer: D
Points: 1

10.
Answer: C
Points: 1

11.
Answer: C
Points: 1

12.
Answer: D
Points: 1

13.
Answer: D
Points: 1

14.
Answer: D
Points: 1

15.
Answer: D
Points: 1

16.
Answer: B
Points: 1

17.
Answer: C
Points: 1

18.
Answer: D
Points: 1

19.
Answer: D
Points: 1

20.
Answer: A
Points: 1

21.
Answer: C
Points: 1

22.
Answer: C
Points: 1

23.
Answer: D
Points: 1

24.
Answer: A
Points: 1

25.
Answer: D
Points: 1

26.
Answer: C
Objective: B.08C
Points: 1

27.
Answer: A
Points: 1

28.
Answer: C
Points: 1

29.
Answer: C
Points: 1

30.
Answer: C
Points: 1

31.
Answer: C
Objective: B.08B
Points: 1

32.
Answer: B
Points: 1

33.
Answer: D
Objective: B.08B
Points: 1

34.
Answer: B
Points: 1

35.
Answer: B
Objective: B.08C
Points: 1

36.
Answer: A
Points: 1

37.
Answer: D
Points: 1

38.
Answer: D
Points: 1

39.
Answer: A
Points: 1

40.
Answer: D
Objective: B.08C
Points: 1

41.
Answer: C
Points: 1

42.
Answer: D
Points: 1

43.
Answer: B
Points: 1

44.
Answer: B
Points: 1

45.
Answer: C
Points: 1

46.
Answer: B
Points: 1

47.
Answer: D
Points: 1

48.
Answer: A
Points: 1

49.
Answer: D
Points: 1

50.
Answer: B
Points: 1

51.
Answer: D
Points: 1

52.
Answer: B
Points: 1

53.
Answer: A
Points: 1

54.
Answer: C
Points: 1

55.
Answer: B
Points: 1

56.
Answer:
Points: 1

57.
Answer:
Points: 1

58.
Answer:
Points: 1

59.
Answer: A
Points: 1

60.
Answer: B
Points: 1

61.
Answer: B
Points: 1

62.
Answer: B
Points: 1

63.
Answer: A
Points: 1

64.
Answer: C
Points: 1

65.
Answer: D
Points: 1

66.
Answer: C
Points: 1

67.
Answer: A
Points: 1

68.
Answer: B
Points: 1

69.
Answer: A
Points: 1

70.
Answer: D
Points: 1

71.
Answer: B
Points: 1

72.
Answer: C
Points: 1

73.
Answer: B
Points: 1

74.
Answer: B
Points: 1

75.
Answer: D
Points: 1

76.
Answer: C
Points: 1

77.
Answer: B
Points: 1

78.
Answer: A
Points: 1

79.
Answer: B
Points: 1

80.
Answer: D
Points: 1

81.
Answer: A
Objective: B.08B
Points: 1

82.
Answer: C
Points: 1

83.
Answer: C
Points: 1

84.
Answer: C
Points: 1

85.
Answer: B
Points: 1

86.
Answer: B
Points: 1

87.
Answer: C
Points: 1

88.
Answer: B
Points: 1

89.
Answer: C
Points: 1

90.
Answer: D
Points: 1

91.
Answer: A
Points: 1

92.
Answer: D
Points: 1

93.
Answer: D
Points: 1