

Standard 5 Objective 3 Classify organisms into a hierarchy of groups based on similarities that reflect their evolutionary relationships

29 Question(s)
Test ID: 2142483958

Name: _____

Date: _____

- 1) Redwood trees belong to a kingdom with what characteristics?
 - A. cells have a nucleus, cell wall, and is highly mobile
 - B. cannot make own food, cells with a nucleus, unicellular
 - C. photosynthetic, multicellular, cell walls
 - D. makes own food, cell walls, cells have no nucleus

- 2) Complete analogy by selecting the correct letter.

Felis concolor is to scientific name as mountain lion is to _____?

 - A. species name
 - B. Latin name
 - C. genus name
 - D. common name

- 3) Which of the following characteristics belong ONLY to members of kingdom Monera? They:
 - A. can make their own food using sunlight
 - B. have no nucleus in their cells
 - C. are single-celled
 - D. get food from other sources

- 4) Which would be the best example of organisms that have been grouped together by a similarity in structure?
 - A. dog, fox, coyote
 - B. bear, rabbit, coyote
 - C. cat, horse, dog
 - D. antelope, deer, rabbit
 - E. horse, antelope, bear

- 5) In the scientific name of a dog, *Canis familiaris*, the name *Canis* designates the dog's
 - A. family
 - B. genus
 - C. kingdom
 - D. species

- 6) Which classification grouping contains organisms with the most similarities?
 - A. Family
 - B. Genus
 - C. Order
 - D. Phylum

- 7) Which contains species that are most dissimilar from each other?
 - A. Kingdom
 - B. Genus
 - C. Class
 - D. Order
 - E. Phylum

- 8) Organisms that can produce their own food and have cells with a nucleus belong in which category?
 - A. Animalia
 - B. Plantae
 - C. Fungi
 - D. Viruses

- 9) Which scientific name is written correctly?
 - A. *Lynx Rufus*
 - B. *lynx rufus*

- C. *lynx Rufus*
- D. *Lynx rufus*

10) Which of the following is most clearly related to *Canis familiaris*?

- A. The order of primates
- B. The class mammalia
- C. *Prolyon loter*
- D. *Panthera leo*
- E. *Canis lupus*

11) Which two of these organisms are most closely related?

- 1. *Canis familiaris*
- 2. *Mephitis mephitis*
- 3. *Canis lupus*
- 4. *Panthera pardus*

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

12) In a group of 10 organisms, there are four obvious characteristics. They are as follows:

- 1. 8 have teeth adapted for grinding and chewing.
- 2. All 10 have four legs.
- 3. 8 of the 10 have long snouts.
- 4. 5 of the 10 have retractable claws.

Which characteristic is most likely the most important to classify all the organisms into one large group?

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

13) Use the following chart to answer the question below.

	Animal I	Animal II	Animal III	Animal IV	Animal V
Phylum	Chordata	Chordata	Chordata	Chordata	Chordata
Class	Mammalia	Mammalia	Mammalia	Mammalia	Amphibia
Order	Carnivora	Carnivora	Carnivora	Primates	Salielia
Family	Felidae	Felidae	Canidae	Hominidae	Ranidae
Genus	Felis	Felis	Canis	Homo	Rana
Species	leo	domesticus	familiaris	sapiens	clarnitans

The two animals showing the greatest structural similarities are

- A. animals I and II
- B. animals II and III
- C. animals III and IV
- D. animals III and V

14) Use the following chart to answer the question below.

	Animal I	Animal II	Animal III	Animal IV	Animal V
Phylum	Chordata	Chordata	Chordata	Chordata	Chordata
Class	Mammalia	Mammalia	Mammalia	Mammalia	Amphibia
Order	Carnivora	Carnivora	Carnivora	Primates	Salielia
Family	Felidae	Felidae	Canidae	Hominidae	Ranidae
Genus	Felis	Felis	Canis	Homo	Rana
Species	leo	domesticus	familiaris	sapiens	clarnitans

At which level of classification would you describe differences between animal I and animal V?

- A. Phylum
- B. Class
- C. Order
- D. Family

15) Use the following chart to answer the question below.

	Animal I	Animal II	Animal III	Animal IV	Animal V
Phylum	Chordata	Chordata	Chordata	Chordata	Chordata
Class	Mammalia	Mammalia	Mammalia	Mammalia	Amphibia
Order	Carnivora	Carnivora	Carnivora	Primates	Salieta
Family	Felidae	Felidae	Canidae	Hominidae	Ranidae
Genus	Felis	Felis	Canis	Homo	Rana
Species	leo	domesticus	familiaris	sapiens	clamitans

At which level of classification would you describe differences between animal II and animal III?

- A. Phylum
- B. Class
- C. Order
- D. Family

16) Members of the same phylum would also belong to the same

- A. class
- B. family
- C. kingdom
- D. species

17) In 1942, biologist Ernst Mayr proposed a definition of species as groups of natural populations that could interbreed and that are reproductively isolated from other such groups. What data supports this definition?

- A. Geographical isolation always results in the two different species.
- B. Mutations in body cells will result in different species.
- C. Individuals of different species may interbreed and produce infertile offspring.
- D. The study of homologous structures provides the support for this definition.

18) Which of the following is MOST likely to improve a person's life by treating genetic disorders of the lungs, such as cystic fibrosis?

- A. Cloning a person's lung cells to make new copies.
- B. Using genetic engineering to insert a good gene into a sick person.
- C. Replicating DNA to replace all the person's DNA.
- D. Quarantining the person to keep him from infecting other people with cystic fibrosis.

19) For most of the late 20th century, many biology students learned that organisms were classified into one of five kingdoms. Biology students now learn organisms may be classified into one of six kingdoms. Why was the five kingdom theory accepted and used for so long, but is not accepted now?

- A. Scientific ideas do not last more than 50 years and are replaced when they get too old.
- B. Current classification systems have been proven and finalized by scientists so there will be no more changes.
- C. Kingdoms are created using the best data available at the time, but technology has improved our knowledge of the structure of organisms.
- D. Organisms continue to increase in number which requires many more kingdoms for classification to be accurate.

20) Marko is moving a woodpile for his mother when he is bitten on the hand by the spider. He is unable to identify the spider but brings it in to show his mother. His mother looks up the spider in her field guide to insects and arachnids and finds out it is a hobo spider. She takes Marko to the doctor for treatment. Which of the following statements describes this scenario?

- A. Using a classification key is too difficult and the spider is not correctly identified.
- B. Classification keys contain all of the known information about spiders.
- C. Only a scientist should attempt to identify the spider.
- D. Using a classification key can help anyone, not just scientists.

- 21) For most of the late 20th century, many biology students learned that organisms were classified into one of five kingdoms. Biology students now learn organisms may be classified into one of six kingdoms. What is the contribution of technology to the recognition of a new kingdom?
- A. Transportation and communication has improved over the years so we could find new species.
 - B. New technology has made it possible for new discoveries about the cellular structure of organisms.
 - C. The use of radioactive resulted in new mutated species.
 - D. The use of moon probes has allowed scientists to bring back a new species of organisms.
- 22) For most of the late 20th century, many biology students learned organisms were classified into one of five kingdoms. Biology students now learn organisms may be classified into one of six kingdoms. Why was the five-kingdom theory accepted and used for so long, but is not accepted now?
- A. Scientific ideas do not last more than 50 years and are replaced when they get too old.
 - B. Current classification systems have been proven and finalized by scientists so there will be no more changes.
 - C. The kingdoms are created using the best data available at the time, but technology has improved our knowledge of the structure of organisms.
 - D. Organisms continue to increase in number and decrease in complexity which requires many more kingdoms for classification to be the most accurate.
- 23) Researchers continue to find new species, including tiny organisms, fish, birds, and mammals. When a new organism is found, it is compared to known categories and appearances of similar organisms. What do scientists do when a new type of organism doesn't fit into the current classification system?
- A. Nothing. There are many organisms that do not fit into the current classification system.
 - B. Nothing. They wait until they find at least 12 more new species and then make a new classification system to fit these new organisms.
 - C. Scientists will create a new classification system and discard the old, outdated classification system.
 - D. Scientists will modify current classification systems to make a place for the new organism.
- 24) Researchers continue to find new species, including microscopic organisms, fish, birds, and mammals. The organisms are often hard to find and require the use of scuba gear to explore ocean depths, helicopters to help explore tree tops and remote cameras for caves and small areas. Which of the following does this demonstrate?
- A. Past discoveries of organisms have no effect on the current research in science.
 - B. The use of technology is putting scientists into harm's way so scientists do not like using it.
 - C. New technology has made it possible for new discoveries in science.
 - D. Science is a separate field of study and is independent of advancements in technology.
- 25) One place to search for new species, including microscopic organisms, fish, birds, and mammals is in the canopy of tropical forests. (The canopy is the upper layer of the forest). Margaret Lowman, a canopy explorer, created a canopy walkway as her laboratory 75 feet above the forest floor with platforms for researchers to do work. Which of the following statements best describes this scenario?
- A. Women should not be scientists so Lowman's ideas should just be ignored.
 - B. Women scientists are as smart and dedicated as male scientists and their ideas should be studied.
 - C. A lot of research on microscopic organizations is being conducted in South America.
 - D. New species of microscopic organisms are being discovered daily in the rainforests of Africa.
- 26) To determine evolutionary relationships, organisms were first grouped together based on where they lived. Scientists grouped the organisms based on homologous structures, embryo similarities, and the presence of vestigial structures. Scientists are now able to use DNA sequencing to determine which organisms are more closely related than others. Which statement best describes the likely future of our knowledge about biological evolution and the grouping of organisms?
- A. Knowledge about classification will probably stay the same since scientists now have a very good map of classifying organisms.
 - B. Knowledge about classification will probably stay the same since scientists have classified all organisms on Earth.
 - C. Knowledge about classification will probably continue to change as more precise methods and technology become available.
 - D. Knowledge about classification will probably continue to change since scientists learn more about organisms' habitats every year.
- 27) For most of the late 20th century students learned that organisms could be classified into one of five kingdoms. Now organisms may be classified into six kingdoms with possibly more kingdoms coming as we learn more about individual organisms' DNA and chemical structure. Which statement explains why scientists increased the number of kingdoms from 5 to 6?
- A. By studying the embryos of many animals, scientists have been able to determine the presence of new species.

- B. Improvements in technology allow us to identify chemicals in organisms which show relationships.
- C. The study of homologous structures has allowed scientists to identify many new species.
- D. By measuring the number of kingdoms, scientists enable ordinary people to understand what they are doing.

28) Scientists have been able to identify approximately 1.5 million species of organisms. Researchers continue to find new species of fish, birds, mammals, and tiny organisms. New species are generally found in remote, hard-to-reach places. What makes studying these new organisms and identifying new species possible?

- A. New technology such as better scuba gear and internet for communication.
- B. Scientists are smarter now than they were 200 years ago.
- C. There are more species every day as more and more species evolve.
- D. Infrared technology makes it possible to find new organisms in dense rainforest.

29) Which is an example of how knowing about selective breeding helps people?

- A. People are prescribed antibiotics to fight against bacterial disease.
- B. People grow new plants by taking cuttings from existing plants.
- C. People can interbreed cattle to get cows that produce more milk.
- D. People can spray for mosquitoes to reduce the threat of West Nile Virus.

