Name: _____

Due Date: _____ **Per:** _____

Unit 4.1 Study Guide

Directions: Complete all sections to the best of your ability. On the day of the Quiz (the due date for this assignment) turn this in with all of your Unit 4 notes attached. Please remember to study the concepts, not just the correct answer.

Vocabulary: Fill in the definition for each word.

Adaptation: _____

_____

Analogous Structures: _____

_____

Artificial Selection: _____

_____

Extinction: _____

_____

Fitness: _____

_____

Gene Pool: _____

_____

Heritability: _____

_____

Homologous Structures: _____

_____

Natural Selection: _____

_____

Overproduction: _____

_____

Population: _____

_____

Species: _____

_____

Variation: _____

_____

Vestigial Structures: _____

_____

Multiple Choice:

___ 1. The Russian Silver Fox Experiment proves that…
   A. Dogs came from wolves
   B. Natural Selection is much faster than artificial selection
   C. Behavior is a trait that can be selected for and that has heritability
   D. Wild animals can make excellent pets

___ 2. A moth's wing compared to an eagle's wing is an example of
   A. Vestigial organs
   B. Vestigial structures
   C. Analgous structures
   D. Homologous structures

___ 3. The earliest forms of life lived
   A. on land
   B. in freshwater lakes in the US
   C. in the ocean
   D. in the air

___ 4. Lemurs evolved and speciated on Madagascar, and not in Africa, due to
   A. variations
   B. heritability
   C. fitness
   D. isolation

___ 5. Periods during Earth's history when huge numbers of species suddenly disappeared are called
   A. variations
   B. mass extinctions
   C. period conclusions
   D. isolations

___ 6. No two zebras have the exact same pattern of stripes. This is an example of
   A. variation
   B. adaptation
   C. evolution
   D. speciation

___ 7. An inherited trait that gives an organism an advantage in its particular environment is
   A. a speciation
   B. a unicellular organism
   C. an adaptation
   D. a vestigial structure

___ 8. Many organisms in the Galápagos have evolved to become new species with the help of
   A. isolation
   B. observation
   C. vestigial structures
   D. artificial selection

___ 9. If a population of organisms are able to survive and thrive in its environment, they will
   A. Adapt and change
   B. Variations and speciation
   C. Isolate and overproduce
   D. Achieve stasis

___ 10. The ancestors of snakes used legs to walk on land. The small leg bones that are still in the bodies of snakes are
   A. similarities in development
   B. vestigial structures
   C. Analogous structures
   D. Homologous structures

___ 11. Life began on Earth about 3.8 billion years ago. Then, 1.2 billion years ago, ____ evolved.

A. fossils
B. unicellular organisms
C. multicellular organisms
D. ancestors

___ 12. Among the first animals to live on land were

A. dinosaurs
B. mammals
C. reptiles
D. birds

___ 13. Primate Evolution is proven by...

A. The "missing link" fossil
B. The second human chromosome
C. The second ape chromosome
D. Prosimian fossils

___ 14. The fossil record indicates that after a mass extinction,

A. huge numbers of new species die out at once
B. huge numbers of new species stop evolving
C. decreasing numbers of new species develop
D. increasing numbers of new species develop

___ 15. What is the process by which organisms best suited for their environments survive and reproduce at a higher rate than others?

A. Variation
B. Isolation
C. Natural Selection
D. Overpopulation

___ 16. Which of the following supports the theory of natural selection?

A. variation and adaptation
B. adaptation and absolute age
C. absolute age and radioactive dating
D. radioactive dating and variation

___ 17. Of the several thousand eggs that a fish lays, only several dozen will live to adulthood. This is an example of

A. adaptation
B. overproduction
C. variation
D. isolation

___ 18. The genes of two closely related organisms will

A. be 100% the same
B. be very similar
C. be very different
D. not share any sequences

___ 19. Finches on one of the Galápagos Islands have thin beaks for capturing insects. Finches on another island have short, heavy beaks for pecking trees. This is a result of

A. sexual reproduction
B. natural selection
C. artificial selection
D. acquired characteristics

___ 20. Which is the correct order in which these organisms appeared on land?

A. reptiles, plants, mammals
B. plants, reptiles, mammals
C. plants, mammals, reptiles
D. mammals, reptiles, plants

___ 21. The first multicellular organisms to live on land appeared about ____ years ago.

A. 500 million
B. 1.2 billion
C. 1.2 million
D. 3.8 billion

___ 22. Natural Selection Acts on…

A. Heritable variation in populations
B. Genetic variation in an individual
C. Homologous structures
D. Limited resources

___ 23. A lizard and a bat have similar forelimbs, but they are used in different ways. This is evidence that supports the theory of evolution by

A. natural selection
B. acquired characteristics
C. artificial selection
D. similarity of structure

___ 24. Most ____ will become more common from one generation to the next.

A. variations
B. mutations
C. speciations
D. adaptations

___ 25. A river caused one population of giraffes to become separated into two populations. Members of these two populations were later brought together but were not able to breed. This is an example of

A. variation
B. evolution
C. speciation
D. adaptation

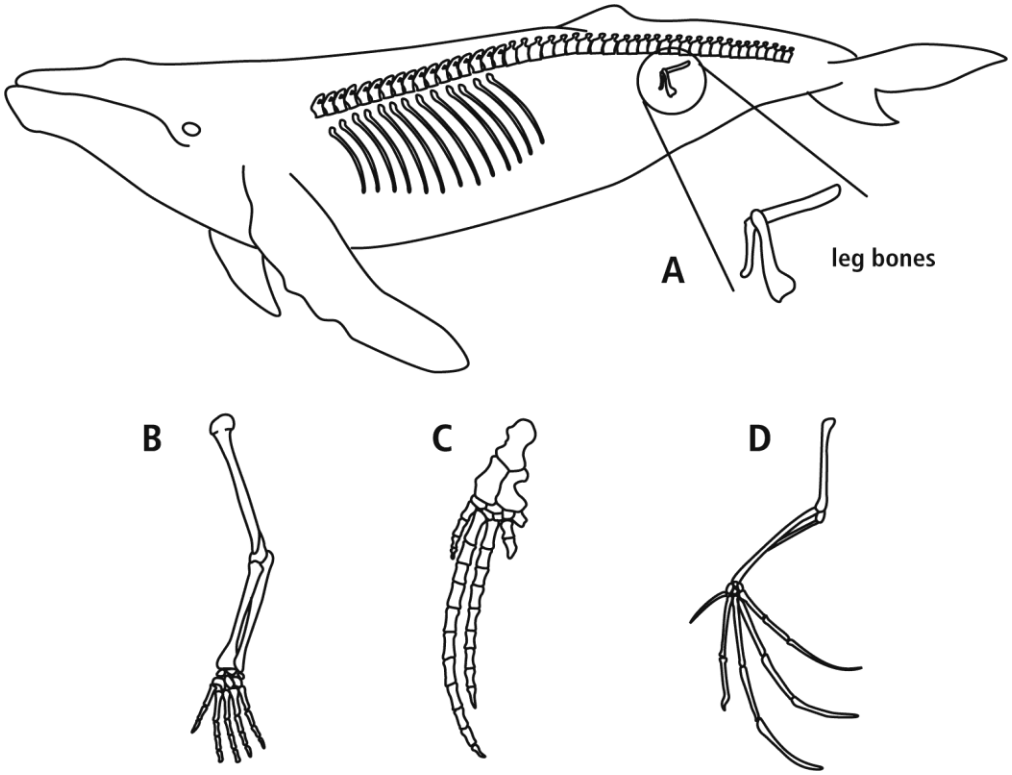
___ 26. Which of the following pairs of organisms will have the most similar genes?

A. a tree and a flower
B. a flower and a bacterium
C. a bacterium and a human
D. a human and a tree

___ 27. A reduced and unused physical structure in an organism, which was more developed in an earlier group of organisms, is called

A. a vestigial structure
B. a mutation
C. An analogous structure
D. an adaptation

Short Answer: Using the drawings, answer the following questions.



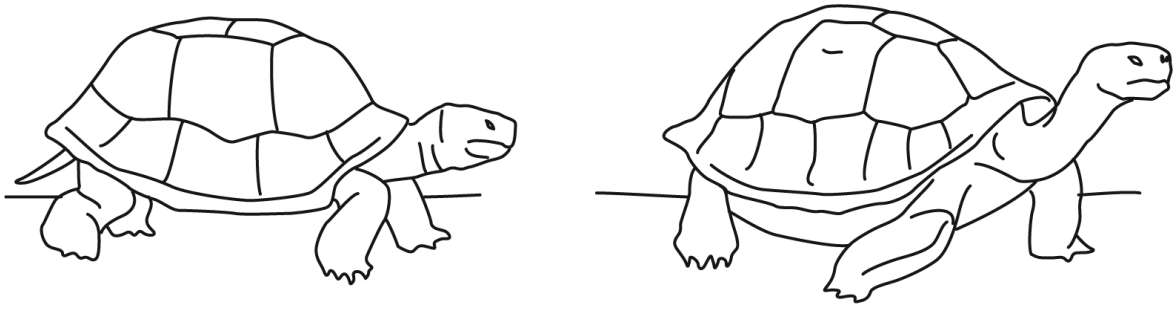
28. Whales evolved from an ancestor that had legs. What is structure A an example of?

    _____ _____

29. Structures B, C, and D are examples of what kind of structure?

    _____ _____

Leaf-Eating Tortoises on Two Different Galápagos Islands



Albemarle Island **Abingdon Island**

30. On which island is the vegetation most likely high and difficult for the tortoise to reach?

    _____ island