

Biology

Quiz 5: Evolution

Name _____ Date :

You will have the full period to complete this exam. Read each question carefully and choose the option that best answers the question. There are 25 multiple choice/matching, 2 short answer, and 1 essay.

Multiple Choice For each question, select the best answer write the letter of your choice before the number.

1. The change in populations over time
 - a. Evolution
 - b. Genetic Drift
 - c. Punctuated equilibrium
 - d. Natural Selection

2. A scientist who went on the *H.M.S. Beagle*. Formed Theory of Evolution:
 - a. Thomas Malthus
 - b. Alfred Russell Wallace
 - c. Charles Darwin
 - d. Jean Baptiste Lamarck

3. A group of small islands near the equator, about 1 000 km off the west coast of South America. Observations of the island fauna lead to the Theory of Evolution by Natural Selection
 - a. Fiji Islands
 - b. Falkland Islands
 - c. Galapagos Islands
 - d. Aleutian Islands

4. A body structure in a present day organism that no longer serves its original purpose
 - a. Vestigial organ
 - b. The human appendix is an example
 - c. Internal organ
 - d. All of the above
 - e. Only A & B

5. A British naturalist who proposed a similar theory of evolution but did not get much credit for his work.
 - a. Thomas Malthus
 - b. Alfred Russell Wallace
 - c. Charles Darwin
 - d. Jean Baptiste Lamarck

6. A mechanism for change in populations where an organism with a favorable quality survives, reproduces, and pass the favorable traits to the next generation. Organisms without the favorable traits are less likely to survive and reproduce
 - a. Directional Selection
 - b. Natural Selection
 - c. Artificial Selection
 - d. Structural Adaptation

7. A type of structural adaptation that enables a species to blend with their surroundings
 - a. Mimicry
 - b. Camouflage
 - c. Chameleons are lizards with an ability to do this
 - d. All of the above
 - e. Only B & C

8. A type of structural adaptation that enables one species to resemble another species
 - a. Mimicry
 - b. Camouflage
 - c. Non poisonous King snakes and poisonous Coral snakes are an example
 - d. All of the above
 - e. Only A & C

9. Body parts that do not have a common evolutionary origin but are similar in function
 - a. Analogous structures
 - b. Homologous structures
 - c. Vestigial structures

10. Evidence of Evolution
 - a. Fossil
 - b. Anatomical
 - c. Embryological
 - d. All of the above

11. Structural features with a common evolutionary origin
 - a. Bird, whale, and human forearms are examples
 - b. Homologous Structures
 - c. Analogous Structures
 - d. A & B

12. Pandas developed longer wrists to better eat bamboo over time and in turn increase their chance of survival. This is an example of:
 - a. Fitness
 - b. Comparative Anatomy
 - c. Artificial Selection
 - d. Adaptation

13. The struggle for existence refers to:
 - a. The hardships newborn offspring face due to predation

- b. The struggle for animals who cannot breathe
 - c. Members of each species compete regularly to obtain food and living space
 - d. The hardships between parents of raising offspring
14. What is the relationship between natural selection and fitness?
- a. Descent with modification
 - b. Changes in inherited characteristics of a population increase a species' fitness in its environment.
 - c. Natural selection selects for traits of the most fit animals to pass on genes to the next generation.
 - d. b & c
15. Farmer Joe only breeds the largest hogs, the fastest horses, or the cows that give the most milk. This is an example of:
- a. Natural selection
 - b. Fitness
 - c. Artificial selection
 - d. Survival of the fittest
16. The shape of sharks and whales, similar but not due to a common ancestor is an example of:
- a. Analogous traits
 - b. Homologous traits
 - c. Artificial selection
 - d. Fitness
17. The answer to the previous question is essential in evolution because:
- a. Those processes are not present across all species
 - b. All animals can breathe
 - c. All animals need lungs to breathe
 - d. Those processes are present across all species likely due to descent from a common ancestor.

Application: Based on your knowledge of adaptations. Write down the letter the best answers the question/statement.



18. A scorpion is an effective predator in its niche. What set of adaptations would help a scorpion ***catch and overcome*** its prey?
- a. claws and tail with a stinger
 - b. exoskeleton and tail with a stinger
 - c. powerful legs, tail with a stinger, and exoskeleton
 - d. claws, powerful legs, and exoskeleton



19. The Siberian tiger catches and kills most of its prey at night. Adaptive characteristics that help it obtain its food include-
- good eyesight, sharp teeth, a powerful jaw, fragile bones, and claws
 - good eyesight, muscular legs, a small stomach, and sharp teeth
 - eyes that see well at night, muscular legs, sharp claws, powerful jaw, and sharp teeth
 - eyes that see well at night, muscular legs, sharp teeth, and fragile bones.

20. Examine this lizard. Based on the features of this lizard what would best describe the animal's habitat?

- moist, damp ecosystem; often eaten by predators
- dry, desert-like ecosystem; often eaten by predators
- moist, damp ecosystem; not bothered by predators
- dry, desert-like ecosystem; not bothered by predators



Matching. Match the description on the left to the corresponding term on the right. Some choices may be used more than once and some may not be used at all.

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|---|--------------------------|
| 1. Characteristic that appears in recent parts of a lineage, and also to its older members _____ | A. Ancestral trait |
| 2. Resemble miniature legs, tails, or other structures that does not affect an organisms ability to survive and reproduce _____ | B. Derived trait |
| 3. Ability of individuals to survive and reproduce in its specific environment _____ | C. Homologous Structures |
| 4. Characteristic that appears in recent parts of a lineage, but not in its older members _____ | D. Adaptive Radiation |
| 5. Study of similarities in early development _____ | E. Fitness |
| | F. Vestigial Organs |
| | G. Embryology |