

## Natural Selection Study Guide Answer Key

1. This evidence comes out of the Earth's crust. It is the timeline of past life, organized by estimated ages and classified by similarities in form. What is it?
  - a. genus
  - b. fossil record**
  - c. branching diagram
  - d. natural selection
2. Species producing more offspring than can survive.
  - a. Population
  - b. Variation
  - c. Overproduction**
  - d. Adaptation
3. \_\_\_\_\_ was the key to developing new species based on what Darwin observed on the Galapagos Islands.
  - a. Reproduction
  - b. Transcription
  - c. Artificial selection
  - d. Reproductive Isolation**
4. The ability of an organism to survive and reproduce in its environment based on the traits they have.
  - a. Evolution
  - b. Natural Selection
  - c. Fitness**
  - d. Survival of the Fittest
5. A characteristic that allows a species to live successfully in its environment is called a \_\_\_\_\_.
  - a. natural selection
  - b. adaptation**
  - c. niche
6. Organisms that are most fit to their environment will have the best chance of survival.
  - a. Natural Selection
  - b. Evolution
  - c. Survival of the Fittest**
  - d. Extinction
7. The finches on the Galapagos island were similar in form except for variations of their beaks. Darwin observed that these variations were useful for:
  - a. attracting a mate
  - b. defending territory
  - c. building nests
  - d. gathering food**

8. All members of a species that live in an area.
- Overproduction
  - Variation
  - Population**
  - Adaptation
9. The idea that creatures will pass along traits to help them survive, because those that don't have the traits will die sooner, is called
- evolution
  - inheritance
  - variation
  - natural selection**
10. In 1809, \_\_\_\_\_ suggested that characteristics or traits developed during a parent organism's lifetime are inherited by its offspring.
- Jean Baptiste de Lamarck**
  - Charles Darwin
  - Rudolf Hess
  - Thomas Key
11. \_\_\_\_\_ is an adaptation where one species evolves to resemble another species for protection or other advantages.
- mutation
  - camouflage
  - mimicry**
  - fitness
12. When the last individual organism of a species dies.
- Survival of the Fittest
  - Natural Selection
  - Extinction**
  - Evolution
13. Many Savannah elephant populations migrate during the dry season to find water sources. This is an example of which type of adaptation?
- Instinctual Adaptation
  - Structural Adaptation
  - Physiological Adaptation
  - Behavioral Adaptation**
14. Darwin was inspired by Malthus' ideas on population growth.
- True**
  - False

15. Which of the following describes camouflage?
- A Viceroy Butterfly looks like a Monarch, so Blue Jays are less likely to eat them.
  - A Snowshoe Hare changes its fur color from brown to white to blend in with the snow during the winter.**
  - The Blue-footed bird does a dance to attract mates.
  - A Spotted Salamander has bright yellow spots to warn predators that it is toxic.
16. This occurs when a species dies out.
- genotype
  - evolution
  - heredity
  - extinction**
17. A/an \_\_\_\_\_ is a (heritable) change in the genetic material (DNA).
- adaptation
  - gene
  - phenotype
  - mutation**
  - none of the above
18. In December 1831, the \_\_\_\_\_ sailed from England to explore the South American coast with Charles Darwin aboard.
- RMS Titanic
  - HMS Beagle**
  - USS Eisenhower
  - HMS Bloodhound
19. During the Industrial Revolution in Britain, many new factories were built which released dark clouds of smoke into the air. Dark grey moths survived attacks by birds more often than their light grey neighbors. Over time, light grey moths disappeared from the area. This change in population is an example of:
- Selective breeding
  - Natural selection**
  - Genetic engineering
  - Cloning
20. Mutations within a DNA sequence are
- natural processes that produce genetic diversity.**
  - natural processes that always affect the phenotype.
  - unnatural processes that always affect the phenotype.
  - unnatural processes that are harmful to genetic diversity.
21. Differences in traits between individuals of the same species.
- Mutation
  - Adaptation
  - Variation**
  - Extinction

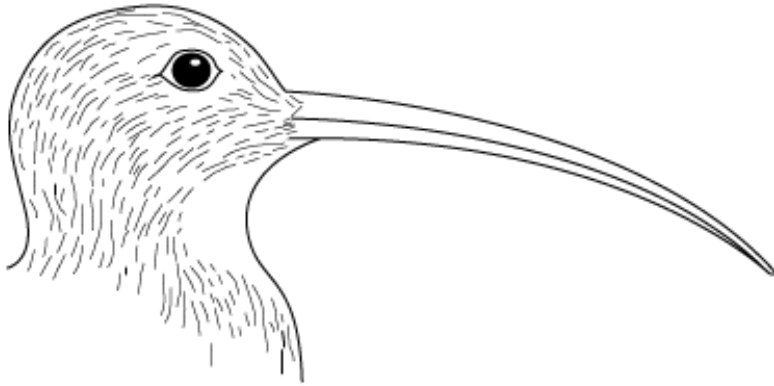
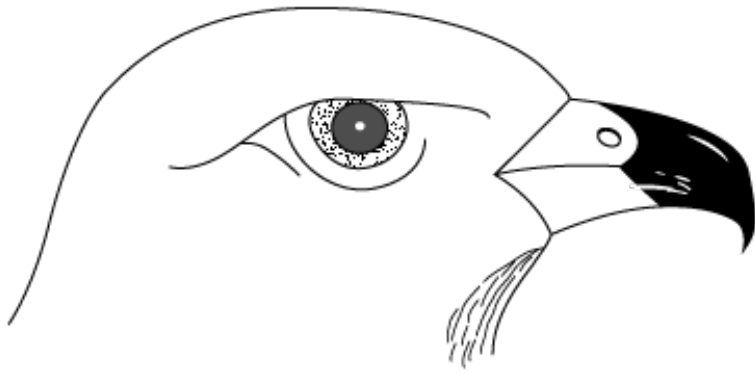
22. Darwin gathered his early evidence of evolution from \_\_\_\_\_ and especially noticed the remarkable differences in \_\_\_\_\_
- Galapagos Islands; Monkeys
  - Galapagos Islands; Finches**
  - Galapagos Islands; Fish
  - Hawaiian Islands; Fish
23. According to Darwin's theory of natural selection, individuals who survive are the ones best adapted for their environment. Their survival is due to the?
- Possession of inherited adaptations that maximize fitness**
  - Competing with other species
  - Adaptation to their habitat
  - Darwin's theory of natural selection
24. Evolution is a change in the \_\_\_\_\_ not the \_\_\_\_\_.
- individual, population
  - population, genes
  - population, individual**
  - Individual, gene
25. What did Darwin observe about the Galapagos Tortoises?
- They were lazy animals.
  - They had different shaped shells which seemed to be based on the available food found on each island.**
  - Predators were killing them by the thousands.
  - They would dive into the ocean to find food.
26. When organisms of the same species compete for limited food and other resources.
- Evolution
  - Natural Selection
  - Competition**
  - Survival of the Fittest
27. Before Darwin, what did most people in England believe about the natural world?
- Humans were related only to advanced primates such as chimpanzees, but were separate from other animals.
  - All species shared a common ancestor.
  - Each species was unchanged since the moment of its creation.**
  - The first species appeared on Earth about six million years ago.
28. All information about past life that can provide evidence about the history of life on Earth.
- Evolution
  - Survival of the Fittest
  - Fossil Record**
  - Mutation

29. When farmers select the largest hogs, the fastest horses, or the cows that produce the most milk for breeding, it is called \_\_\_\_\_.
- a. homologous variation
  - b. survival of the fittest
  - c. natural selection
  - d. artificial selection**
30. During the heat of the day in the desert, many lizards burrow underground to keep cooler. This is an example of a
- a. physiological adaptation
  - b. structural adaptation
  - c. behavioural adaptation**
31. The process in which a species becomes better suited to its environment is called \_\_\_\_\_.
- a. natural selection**
  - b. adaptation
  - c. niche
32. On the Galapagos Islands, Darwin observed that the characteristics of many animals and plants \_\_\_\_\_.
- a. were acquired through use
  - b. varied from island to island**
  - c. all looked alike
  - d. were inherited from humans.
33. The Galapagos Islands are a province of:
- a. Brazil
  - b. California
  - c. France
  - d. Ecuador**
34. A population of termites initially consists of darkly colored and brightly colored members. After several generations, the termite population consists almost entirely of darkly colored members because the brightly colored termites are easier for a predatory species of insectivores to locate. This situation is an example of
- a. the evolution of a new species.
  - b. natural selection.**
  - c. artificial selection.
  - d. variation.
35. Structures that have different mature forms, but develop from the same embryonic structure are called \_\_\_\_\_ structures.
- a. homologous structures**
  - b. fossils
  - c. natural selection
  - d. vegetable structures

36. Which of the following is not a principle that Darwin identified to affect Natural Selection?
- Overproduction
  - Adaptation
  - Variation
  - d. Replication**
37. What was the name of the island chain that Darwin visited?
- Tortugas
  - b. Galapagos**
  - Caymen
  - Caribbean
38. The book written by Charles Darwin proposing his theory of evolution is called \_\_\_\_\_.
- Evolution by Natural Selection
  - b. On the Origin of Species by Natural Selection**
  - Origins of Evolution
  - The Selfish Gene
39. A structure that seems to serve no purpose in an organism is called:
- homologous
  - b. vestigial**
  - dichotomous
  - fossilized
40. Which of the following is an example of homologous structures?
- Whale hip bones
  - Embryos of fish and birds both make gill slits
  - Mice and chicken differ by only 25 amino acids when they make hemoglobin protein
  - d. Rabbits and birds have the same bones in the same order in their forelimbs, even though they use them for different purposes**
41. When your color/skin blends in with your environment, this is called...
- Mimicry
  - b. Camouflage**
  - Adaptation
  - Natural Selection
42. What was the main idea that Thomas Malthus's work gave to Darwin?
- a. His belief in a constant struggle for survival**
  - His belief we evolved from fish
  - His belief in similar evolution
  - His belief in evolution

43. What is an example of Natural Selection?
- a. a black lab for hunting
  - b. a siamese cat with unusual coloring
  - c. a horse bred for racing
  - d. bacteria resistant to antibiotics**
44. Evolution occurs in \_\_\_\_\_.
- a. individuals
  - b. populations**
  - c. individuals and populations
  - d. none of these
45. Individuals that have physical or behavioral traits that better suit their environment are more likely to survive and will reproduce more successfully than those that do not have such traits.
- a. Competition
  - b. Evolution
  - c. Natural Selection**
  - d. Survival of the Fittest
46. In Origin of Species, Darwin explained that new species must occur by means of
- a. Selective Breeding
  - b. Intelligent Design
  - c. Natural Selection**
  - d. Evolution
47. In the theory natural selection, species are most likely to survive if they:
- a. inherit acquired traits
  - b. have variations that make them adapted to their environment**
  - c. overproduce
  - d. are isolated
48. No two zebras have exactly the same pattern of stripes. This is an example of \_\_\_\_\_.
- a. variation**
  - b. adaptation
  - c. evolution
  - d. speciation
49. Which of these best illustrates natural selection?
- a. An organism with favorable genetic variations will tend to survive and breed successfully.**
  - b. A population monopolizes all of the resources in its habitat, forcing other species to migrate.
  - c. A community whose members work together utilizes all existing resources and migratory routes.
  - d. The largest organisms in a species receive the only breeding opportunities.

50. The images below show two types of bird beaks.



Different types of bird beaks are an example of \_\_\_\_\_.

- a. food webs
  - b. weathering
  - c. learned behaviors
  - d. physical adaptations**
51. Gradual change over a long period of time leading to new species.
- a. Evolution
  - b. Gradualism**
  - c. Mutation
  - d. Natural Selection
52. A species of finch has been studied on one of the geographically isolated Galapagos Islands for many years. Since the island is small, the lineage of every bird for several generations is known. This allows a family tree of each bird to be developed. Some family groups have survived and others have died out. The groups that survive probably have
- a. interbred with other species.
  - b. inherited some advantageous variations.**
  - c. found new places on the island to live.
  - d. been attacked by more predators.