

Chapter 1 Quiz

1. (TRUE OR FALSE) We've known for a long time exactly how many species there are on Earth.
2. All of the following are based on empirical observations which support evolution, except:
 - A. The Fossil Record
 - B. DNA and protein analysis
 - C. Comparative Embryology
 - D. All the shared traits between species.
 - E. One's personal religious faith.
3. Evolution is
 - A. the same thing as Natural Selection.
 - B. a theoretical fringe science of Biology.
 - C. kind of interesting, but not that useful.
 - D. the change in the genetic material of a population of organisms from one generation to the next.
 - E. adapting to your environment to become the superior organism.
4. (TRUE or FALSE) Evolution is "just a theory," and there are other theories out there which can explain the same biological phenomena.

Chapter 2 Quiz

1. Fossils are
 - A. randomly scattered in the Earth's surface.
 - B. in layers, with the newer fossils beneath the older fossils.
 - C. in layers, just like the rocks in the Earth's surface, with the newer fossils on top of the older fossils.
 - D. in layers of no chronological significance.
2. Which of these statements is true about the Earth's surface?
 - A. The older layers of sedimentary rock are generally under the newer layers.
 - B. The newer layers of sedimentary rock are generally under the older layers.
 - C. It's been disrupted by tectonic shifts so much that we cannot discern its history.
 - D. It's been disrupted by tectonic shifts, but geologists can still discern the pattern of rocks and their history.
 - E. Both A and D are true.
 - F. Both A and C are true.
 - G. Both B and C are true.
3. Radiometric dating
 - A. uses the compounds of radioactive atoms to prove the existence of fossils.
 - B. has shown that the Earth is about 4.5 billion years old
 - C. uses the rate of decay in certain radioactive atoms to determine the age of a rock sample.
 - D. Both A and B are true.
 - E. Both B and C are true.
 - F. Both A and C are true.
4. (TRUE or FALSE) In the fossil record, mammals can be found in any geological layer.
5. In the fossil record
 - A. organisms with heads are not found below a certain geological layer.
 - B. organisms with jaws are not found below a certain geological layer.
 - C. organisms with hair are not found below a certain geological layer.
 - D. All of the above are true.
 - E. None of the above are true.

6. (TRUE or FALSE) Some organisms without heads evolved after the first organisms with heads.
7. (TRUE or FALSE) Humans are the superior species on the planet because they are so intelligent. In a sense, they are the highest rung on the evolutionary ladder.
8. In the fossil record
 - A. creatures with hair evolved before the first creatures with jaws.
 - B. creatures with jaws evolved before the first creatures that walked on land.
 - C. creatures that walked on land evolved before the first creatures evolved with heads.
 - D. creatures with jaws evolved after the first creatures with heads.
 - E. B, C and D are correct.
 - F. B and D are correct.
 - G. None of the above are correct.

Chapter 3 Quiz (Part 1)

1. Evolution works on
 - A. individuals
 - B. communities
 - C. ecosystems
 - D. populations

2. A population is a localized group of individuals that
 - A. belong to the same species.
 - B. belong to different species.
 - C. can interbreed and produce fertile offspring.
 - D. do not migrate and are not part of any other group.
 - E. Both B and C are correct.
 - F. Both A and C are correct.
 - G. None of the above are correct.

3. Natural selection is the differential success in the _____ of different phenotypes resulting from the interaction of the organisms with their _____.
 - A. competition, species
 - B. attraction, sexual selection
 - C. avoidance of predators, population
 - D. reproduction, environment

4. Two rams butting heads for the female sheep (ewes) is an example of
 - A. intersexual selection.
 - B. intrasexual selection.
 - C. primitive male bonding.
 - D. true love.

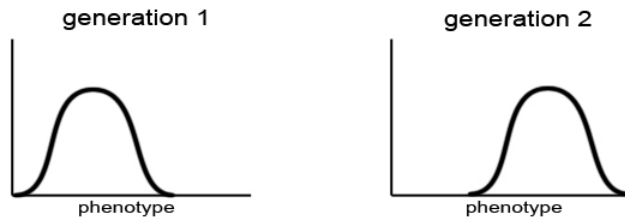
5. Sexual “choosiness” for members of the opposite sex is
 - A. intersexual selection.
 - B. intrasexual selection.
 - C. good fashion sense.
 - D. completely random.

6. Natural selection might involve all the following, except:
 - A. competition for food

- B. predation
 - C. sexual selection
 - D. genetic drift
7. A few fertile members of one population move to another population. This is an example of
- A. heterozygous advantage
 - B. genetic drift
 - C. gene flow
 - D. the founder effect
8. Genetic drift causes evolution strictly by
- A. meteor showers
 - B. random chance
 - C. surprise
 - D. adaptation
9. Which of these causes a population to adapt?
- A. genetic drift
 - B. natural selection
 - C. gene flow
 - D. all of the above
10. An example of artificial selection is
- A. humans breeding dogs from wolves.
 - B. bacteria having antibiotic resistance.
 - C. humans growing Gala apples to eat.
 - D. both A and C

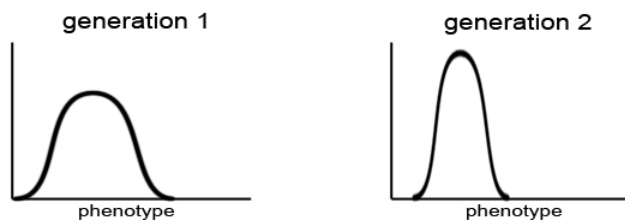
Chapter 3 Quiz (Part 2)

11. The mode of natural selection represented in the population distribution curves below is



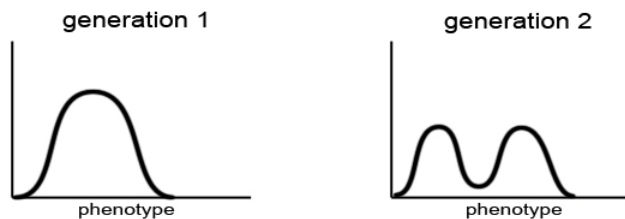
- A) directional selection
- B) stabilizing selection
- C) disruptive selection

12. The mode of natural selection represented in the population distribution curves below is



- A) directional selection
- B) stabilizing selection
- C) disruptive selection

13. The mode of natural selection represented in the population distribution curves below is



- A) directional selection
- B) stabilizing selection
- C) disruptive selection

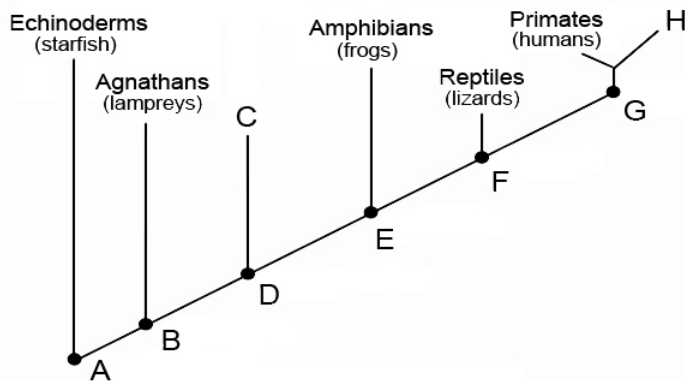
14. The mechanisms of natural selection, gene flow and genetic drift are dependent on a population's _____, to cause evolution.
- a. genetic substitution
 - b. genetic variation
 - c. dominant phenotype
 - d. adaptation
15. Genetic variation in a population is generated by
- a. mutation
 - b. sexual recombination
 - c. adaptation
 - d. natural selection
 - e. Both A and B are true.
 - f. None of the above are true.
16. For a new species to evolve, a population needs
- a. genetic drift
 - b. gene flow
 - c. adaptation
 - d. reproductive isolation

Chapter 4 Quiz

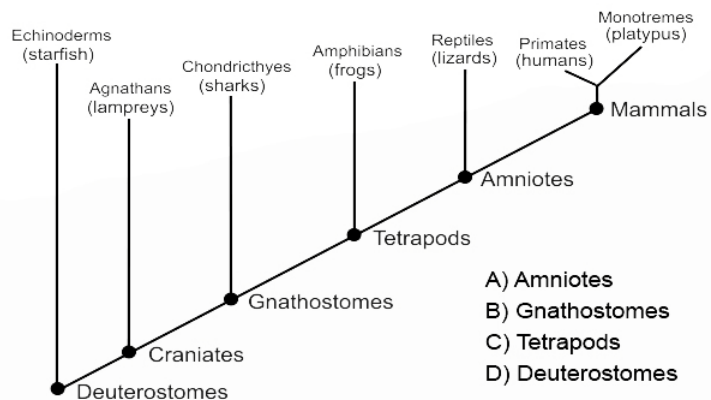
1. Mutations in the _____ cells change _____, which changes _____ in the adult organism .
 - A. somatic, morphology, development
 - B. germ, embryological development, morphology
 - C. stem, ontogeny, phylogeny
 - D. single, recombination, selection
2. (TRUE or FALSE) All vertebrates (mammals, reptiles, amphibians and fish) go through very similar stages of embryological development.
3. Species have similarities in development with other species because of the conservation of similar developmental
 - A. embryos.
 - B. cells.
 - C. genes.
 - D. patterns.
4. Developmental genes include all the following, except:
 - A. homeotic genes
 - B. egg polarity genes
 - C. segmentation genes
 - D. m-transcoder genes
5. Hox genes are very conserved among the species because
 - A. they are responsible for critical stages in embryological development.
 - B. they mutate more than other genes.
 - C. they are the “genetic blueprint” for all the higher species.
 - D. they determine where the single cell embryo will form a head and where it will form a tail.
6. Current research has shown that the evolution in dog skull morphology has occurred mostly because of
 - A. translocations in maternal effect genes.
 - B. duplications in segmentation genes.
 - C. tandem repeat mutations of triplet DNA code in cis-regulatory regions.
 - D. embryological conservation.

Chapter 5 Quiz

1. Where would you find the most recent common ancestor of Agnathans and Primates?

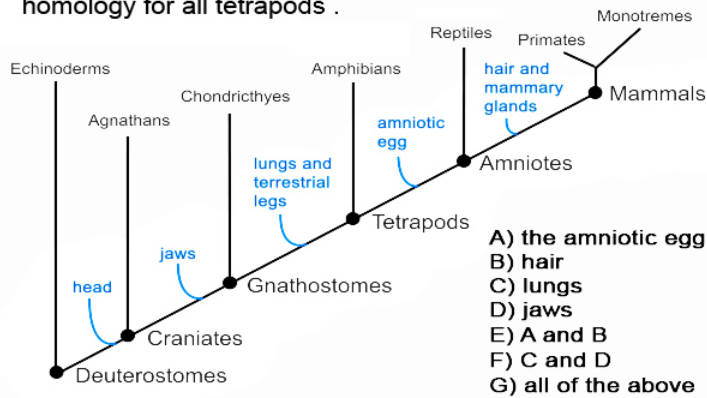


2. Amphibians are all of the following, except:



3. A homology is a _____ between species that is due to _____.
 A. branch, random chance
 B. relationship, natural selection
 C. shared trait, common ancestry
 D. convergence, environmental pressures

4. In this phylogenetic tree we can see that _____ is/are a homology for all tetrapods .



5. Your arms are homologous to the forelimbs of all _____.

- A. Reptiles
- B. Primates
- C. Mammals
- D. Amphibians
- E. All of the above
- F. None of the above

6. (TRUE or FALSE) Shark fins are homologous to our limbs.

7. Bird wings are analogous to _____.

- A. human arms
- B. bat wings
- C. vestigial snake limbs
- D. insect wings

8. The evolution of bat wings and insect wings is an example of _____.

- A. homologous evolution
- B. convergent evolution
- C. speciation
- D. divergent radiation

9. One example of a vestigial structure in your body is your _____.

- A. lungs
- B. limbs
- C. jaws
- D. tailbone
- E. ribs
- F. brain

10. (TRUE or FALSE) Your jaws, earbones, and various bones and cartilages in your neck are homologous to the fish gill arches.