

1. The difference between a hypothesis and a theory is that a _____.

(A) hypothesis is a possible explanation for some event, while a theory is a probable explanation for some event

(B) hypothesis explains one event, while a theory explains a large series of events

(C) hypothesis requires objective corroboration while a theory, being theoretical, rarely does

(D) hypothesis is testable, while a theory is not

2. Darwin's theory of evolution predicts that _____.

(A) genetic changes occur to improve an animal's chances at survival

(B) the rate of genetic changes rises when the environment changes

(C) how the environment changes determines which genetic changes occur

(D) genetic changes remain independent of the environmental changes

3. Larmarck believed that _____.

1. An offspring's genetic makeup changes through generations.

2. An animal's offspring would not change its appearance without some change in its parent's behavior.

3. A change in an animal's behavior could be passed along to an animal's offspring so long as it benefitted the offspring.

4. An animal's genes could be altered by a change in its parent's behavior.

(A) 1 and 4

(B) 2 only

(C) 2 and 3

(D) 2, 3, and 4

4. Genetic diversity _____.

A. benefits the genetically changed plant or animal

B. benefits the species even if it harms the individual plant or animal

C. harms the genetically changed plant or animal

D. lessens the chances of the species as a whole from surviving environmental changes

5. Sickle cell anemia _____.

- (A) is an example of natural selection because people homozygous for sickle cell are protected from malaria
- (B) is an example of genetic drift that began in an isolated group of humans in Africa
- (C) is an example of natural selection because people heterozygous for sickle cell are protected from malaria**
- (D) is not an example of natural selection because it makes people homozygous and heterozygous more vulnerable to sickle cell anemia

6. Populations become better adapted to their environment when _____.

- (A) the population undergoes genetic mutations
- (B) the adaptations are accompanied by improved ability to reproduce**
- (C) the population is allowed to mate with close relatives
- (D) there is no competition for food

7. Saltwater fish have improved their ability to survive with the following adaptation:

- (A) a countercurrent vascular system in their gills**
- (B) the ability to excrete excess salt through nasal glands
- (C) the ability to absorb extra water through the kidneys
- (D) the ability to absorb extra salt through their kidneys

8. The absence of genetic diversity is good when _____.

- (A) the environment is waxing and waning
- (B) the environment is unchanging and the parents have not adapted well
- (C) the environment is unchanging and the parents have adapted well**
- (D) the environment is changing for the worse

9. Genetic diversity occurs as a result of _____.

- 1. fertilization of eggs by random sperm
 - 2. crossing over
 - 3. random separation of parental chromosomes during meiosis
 - 4. deleting different Introns from messenger RNA
- (A) 1, 2, and 3
 - (B) 2, 3, and 4
 - (C) 1, 2, 3, and 4**
 - (D) 2 and 4

10. Eukaryotes include _____.

- (A) protists, fungi, plants, animals**
- (B) bacteria, fungi, plants, animals
- (C) archebacteria, bacteria, fungi
- (D) protists, bacteria, fungi

11. Bacteria mix up their own DNA in the following ways:

1. by transduction, when a virus snatches a bit of bacterial DNA from one bacterium and deposits it into another bacterium
2. by conjugation: when two bacteria exchange DNA through a tunnel connecting the two bacteria
3. by transpositions, where certain genes in the bacteria DNA jump around within the bacterial DNA
4. by mutations

- (A) 1 and 4
(B) 2 and 4
(C) 2, 3, and 4
(D) 1, 2, 3 and 4

12. The genetic information for antibacterial resistance is transferred among bacteria by bits of extra DNA inside the bacteria called _____.

- (A) reverse DNA
(B) exons
(C) plasmids
(D) telomeres

13. Changes in the genetic makeup of a population can occur without improving a population's chances for survival and reproduction. Changes in the genetic makeup can occur simply because a small population of animals became isolated from the rest of the world. This is called _____.

- (A) genetic transformation
(B) genetic drift
(C) speciation
(D) genetic isolation

14. The main factor that marks a population of plants or animals as a species is the ability members of the population to _____.

- (A) live side by side.
(B) resist common predators.
(C) remain in a common environment
(D) interbreed

15. The place where an animal lives is its _____.

- (A) community
(B) niche
(C) habitat
(D) ecology

16. The place where an animal lives, what it eats, where it obtains food, how it obtains food, what climactic factors it can tolerate, the nature of its parasites and predators, and where and when it reproduces is its _____.

- (A) community
(B) niche
(C) habitat
(D) ecology

17. Commensalism, mutualism, and parasitism are the three types of symbiotic relationships in which two organisms live closely together. Which statement is true?

- (A) In a symbiotic relationship, both animals benefit.
- (B) In mutualism, both animal benefit.**
- (C) In parasitism, one animal benefits and the other is neither hurt nor helped.
- (D) In commensalism one animal suffers and the other is neither hurt nor helped.

18. Which of the following statements is or are true?

1. In a predator-prey relationship, both animals are alive when one eats the other.
2. In a scavenger relationship, one animal eats a dead animal.
3. In a saprophytic relationship, a bacterium or a fungus eats a live organism.

- (A) 1
- (B) 1 and 2**
- (C) 1 and 3
- (D) 1, 2, and 3

19. Large, flat teeth, small mouths, long necks, long legs, hooves, long intestines, and horns are typical features of _____.

- (A) carnivores
- (B) herbivores**
- (C) omnivores
- (D) allovores