

Test: Natural Selection, Genetic Drift, & Gene Flow

Part I: Fill-in-the-Blank

Directions: Use the words from the word bank to complete the sentences. Each word may be used only once.

Word Bank

adaptation	gene flow	population	natural selection	mutation
migration	survival	alleles	variation	genetic drift

- _____ is the process by which organisms with favorable traits are more likely to survive and reproduce.
- Differences among individuals in a population are called _____.
- The movement of genes from one population to another is known as _____.
- A group of individuals of the same species living in the same area is called a _____.
- Random changes in allele frequencies due to chance are called _____.
- The different forms of a gene are called _____.
- The movement of individuals into or out of a population is called _____.
- A trait that helps an organism survive and reproduce is an _____.
- The passing on of favorable traits increases an organism's chances of _____.
- A change in DNA that can introduce new genetic variation is called a _____.

Part II: Matching

Directions: Match each term in Column A with the correct definition in Column B.

Column A

- Natural Selection
- Genetic Drift
- Gene Flow
- Adaptation
- Population
- Allele

Column B

- Random change in allele frequencies
- Trait that improves survival and reproduction
- Movement of genes between populations
- Process where beneficial traits become more common
- Group of individuals of the same species in one area
- Different form of a gene

Part III: Multiple Choice

1. Which process is responsible for organisms becoming better suited to their environment over time?
 - A. Gene flow
 - B. Natural selection
 - C. Genetic drift
 - D. Migration
2. Genetic drift has the greatest effect in:
 - A. Large populations
 - B. Medium populations
 - C. Small populations
 - D. All populations equally
3. Gene flow occurs when:
 - A. Organisms become extinct
 - B. DNA mutates
 - C. Individuals move between populations and reproduce
 - D. Natural disasters occur
4. Which of the following is an example of an adaptation?
 - A. A random mutation with no effect
 - B. Thick fur that helps an animal survive in cold climates
 - C. A population shrinking after a flood
 - D. Animals moving to a new area
5. What is the main source of new genetic variation?
 - A. Migration
 - B. Natural selection
 - C. Mutation
 - D. Competition
6. Which process is considered random?
 - A. Natural selection
 - B. Adaptation
 - C. Genetic drift
 - D. Evolution by selection
7. Gene flow generally:
 - A. Increases genetic differences between populations
 - B. Decreases genetic differences between populations
 - C. Causes extinction
 - D. Stops evolution
8. Which statement best describes natural selection?
 - A. All individuals survive equally.
 - B. Organisms choose their traits.
 - C. Individuals with advantageous traits are more likely to reproduce.
 - D. Traits change because organisms need them.
9. A hurricane randomly kills many individuals in a population. This is most closely associated with:
 - A. Genetic drift
 - B. Gene flow
 - C. Adaptation
 - D. Mutation
10. Which process directly moves alleles from one population to another?
 - A. Natural selection
 - B. Genetic drift
 - C. Gene flow
 - D. Adaptation