

AP Biology

Name: _____ Score: _____

1. Natural selection needs **variation** in a population, which means...
 - ☐ individuals differ from one another
 - ☐ there is only one individual
 - ☐ every individual is identical
 - ☐ no one reproduces
2. In biology, an organism's **fitness** measures its...
 - ☐ reproductive success – how many offspring it leaves
 - ☐ physical strength only
 - ☐ running speed
 - ☐ body size
3. In **artificial selection**, who decides which individuals reproduce?
 - ☐ predators
 - ☐ no one
 - ☐ the environment
 - ☐ humans
4. A **gene pool** is...
 - ☐ a type of cell
 - ☐ all the alleles present in a population
 - ☐ a single gene
 - ☐ a pool of water
5. A population in **Hardy-Weinberg equilibrium** is one that is...
 - ☐ made of one individual
 - ☐ about to go extinct
 - ☐ not evolving – its allele frequencies stay constant
 - ☐ evolving very quickly
6. Species that share a more distant common ancestor are more closely related.
 - ☐ True ☐ False

7. Overusing antibiotics makes bacteria less likely to become resistant.

☐ True ☐ False

8. The system of naming and classifying organisms into ranks is called _____.

9. Speciation caused by a geographic barrier splitting a population is called _____ speciation.

10. Life is thought to have built up gradually: small molecules, then polymers, then cells.

☐ True ☐ False

AP Biology

1. **individuals differ from one another**

Variation means individuals differ; selection can only act if there are differences to choose between.

2. **reproductive success – how many offspring it leaves**

Fitness is reproductive success – leaving more surviving offspring – not just physical strength.

3. **humans**

In **artificial selection**, humans choose which individuals breed – also called **selective breeding**.

4. **all the alleles present in a population**

A **gene pool** is the whole collection of alleles in a **population** at a given time.

5. **not evolving – its allele frequencies stay constant**

In **Hardy-Weinberg equilibrium**, allele frequencies do not change – the population is *not* evolving.

6. **False**

False. The more recent the common ancestor, the closer the relationship.

7. **False**

False. Each use kills susceptible bacteria and leaves resistant ones to multiply, so overuse speeds up the evolution of resistance.

8. **taxonomy**

Taxonomy classifies life into nested ranks, from domain down to species.

9. **allopatric**

Allopatric speciation happens when a physical barrier – like a river – separates a population.

10. **True**

The steps build up: simple molecules, then larger polymers, then membrane-enclosed self-copying cells.