What are Community Interactions and Competition?

Worksheet

Community interactions are the relationships (competition, predation, mutualism, commensalism, parasitism) between species sharing a habitat; competition specifically occurs when two or more organisms need the same limited resource, such as food, water, light, or space.

Questions

1. Competition between two individuals of the same species is called...

A) Interspecific competition
B) Intraspecific competition
C) Predation
D) Mutualism

2. According to the competitive exclusion principle, what happens when two species occupy the exact same niche?

A) They always coexist peacefully
B) One species will eventually outcompete and exclude the other
C) They merge into one species
D) Neither is affected

3. Two bird species avoid competing by feeding at different heights in the same tree. This is an example of...

A) Predation
B) Resource partitioning
C) Parasitism
D) Commensalism

4. Which resource is a typical object of competition among plants?

A) Sunlight
B) Predators
C) Mimicry
D) Migration routes

5. Two species of warbler feed in different parts of the same tree instead of the same branch. What ecological concept does this illustrate?

6. In a forest, seedlings of the same tree species growing close together show stunted growth compared to isolated seedlings. What type of interaction is this?

7. One species of barnacle is consistently outcompeted and pushed into a smaller habitat zone by a stronger competitor. What is this outcome called?

8. Define: What is competition in ecology?

9. Define: What's the difference between intraspecific and interspecific competition?

10. Define: What is the competitive exclusion principle?

Answer Key

1. B) Intraspecific competition - Intraspecific competition occurs within a single species.

2. B) One species will eventually outcompete and exclude the other - Identical niches cannot be shared indefinitely - the superior competitor excludes the other (Gause's principle).

3. B) Resource partitioning - Resource partitioning reduces competition by dividing use of a shared resource.

4. A) Sunlight - Plants commonly compete for light, water, nutrients, and space.

5. Both species need similar food (insects) from the same tree potential interspecific competition They avoid direct competition by feeding in different zones This is resource/niche partitioning, which reduces competitive exclusion

6. Competitors are the same species intraspecific competition They compete for light, water, and soil nutrients High density reduced resources per individual stunted growth (density-dependent effect)

7. Two species compete for the same rocky-shore space (identical niche) The stronger competitor excludes the weaker one from the best zone This is the competitive exclusion principle (Gause's principle) in action

8. An interaction where two or more organisms need the same limited resource, negatively affecting one or both.

9. Intraspecific is within the same species; interspecific is between different species.

10. Two species competing for the exact same niche cannot coexist indefinitely - one will outcompete and exclude the other.