

Keystone Ecology Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2025 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain from reliable sources accurate, complete, and timely information about this product.

SAMPLE

Questions

- 1. What are limiting factors that depend on population size called?**
 - A. Density dependent factors**
 - B. Density independent factors**
 - C. Environmental factors**
 - D. Resource competition**
- 2. What is the role of conservation programs in relation to threatened species?**
 - A. To promote hunting**
 - B. To increase urban development**
 - C. To preserve and restore their habitats**
 - D. To reduce biodiversity**
- 3. What ecological relationship is exemplified by a predator and its prey?**
 - A. Symbiosis**
 - B. Predation**
 - C. Mutualism**
 - D. Parasitism**
- 4. What is the main factor contributing to global warming?**
 - A. Ozone Depletion**
 - B. Deforestation**
 - C. CO2 Emissions**
 - D. Soil Degradation**
- 5. Which type of consumer exclusively eats other animals?**
 - A. Herbivore**
 - B. Scavenger**
 - C. Carnivore**
 - D. Omnivore**

- 6. What is defined as the average weather conditions in an area over a long period of time?**
- A. Climate**
 - B. Weather**
 - C. Biomass**
 - D. Nutrient**
- 7. What term is used for an animal that consumes both plants and animals?**
- A. Carnivore**
 - B. Herbivore**
 - C. Omnivore**
 - D. Scavenger**
- 8. What is a single organism referred to in ecological terms?**
- A. Specimen**
 - B. Individual**
 - C. Entity**
 - D. Specie**
- 9. Which term refers to each step in a food chain or food web?**
- A. Trophic level**
 - B. Nutrient**
 - C. Biomass**
 - D. Limiting factor**
- 10. Which relationship describes one organism benefiting at the cost of another organism?**
- A. Mutualism**
 - B. Commensalism**
 - C. Parasitism**
 - D. Competition**

Answers

SAMPLE

1. A
2. C
3. B
4. C
5. C
6. A
7. C
8. B
9. A
10. C

SAMPLE

Explanations

SAMPLE

1. What are limiting factors that depend on population size called?

- A. Density dependent factors**
- B. Density independent factors**
- C. Environmental factors**
- D. Resource competition**

Limiting factors that depend on population size are referred to as density dependent factors. These factors have an impact on the population's growth as the population becomes denser. Examples include disease spread, competition for resources, and predation. As a population's density increases, these factors can lead to higher mortality rates or lower birth rates, ultimately regulating population size. In contrast, density independent factors affect population sizes regardless of their density. These include natural disasters, environmental changes, or human activities that can cause population declines without consideration of how many individuals are present. Understanding the distinction between these two categories is crucial in ecological studies, as it reflects how populations interact with their environment and the challenges they face.

2. What is the role of conservation programs in relation to threatened species?

- A. To promote hunting**
- B. To increase urban development**
- C. To preserve and restore their habitats**
- D. To reduce biodiversity**

Conservation programs play a crucial role in preserving and restoring the habitats of threatened species because they focus on protecting ecosystems that are essential for the survival of these organisms. Healthy habitats provide the necessary resources, such as food, shelter, and breeding grounds, that species need to thrive. By working to restore degraded environments, reduce habitat fragmentation, and enhance connectivity between habitats, these programs help ensure that populations can grow and maintain genetic diversity, which is vital for their resilience against environmental changes and other stressors. Promoting responsible land use, reforestation, and the establishment of protected areas are important strategies employed in conservation programs that specifically benefit threatened species. Moreover, these initiatives often involve collaborative efforts with local communities to create sustainable practices that support both biodiversity and human livelihoods. Ultimately, conservation programs are fundamental to achieving the long-term survival of threatened species by maintaining the integrity of their natural ecosystems.

3. What ecological relationship is exemplified by a predator and its prey?

- A. Symbiosis**
- B. Predation**
- C. Mutualism**
- D. Parasitism**

The ecological relationship between a predator and its prey is best exemplified by the concept of predation. In this relationship, one organism, the predator, hunts, kills, and consumes another organism, the prey, as a source of food. This interaction is crucial in regulating populations within ecosystems, maintaining balance and contributing to ecological dynamics. Predation is characterized by the direct consumption of one organism by another, which impacts both the prey's population and the predator's population. For example, if there are many prey available, the predator may thrive and reproduce successfully, leading to an increase in the predator population. Conversely, as the predator population grows and hunts more prey, the prey population may decrease, which can eventually lead to a decline in the predator population due to a lack of resources. This cyclical relationship demonstrates the dynamic interdependence between predators and their prey in an ecosystem. In contrast, the other relationships listed—symbiosis (which often refers to mutually beneficial interactions), mutualism (a type of symbiosis where both parties benefit), and parasitism (where one organism benefits at the expense of another)—do not accurately capture the nature of the predator-prey interaction, which is inherently one organism feeding on another. Thus, predation

4. What is the main factor contributing to global warming?

- A. Ozone Depletion**
- B. Deforestation**
- C. CO2 Emissions**
- D. Soil Degradation**

The main factor contributing to global warming is CO2 emissions. Carbon dioxide is a greenhouse gas that traps heat in the atmosphere, leading to an increase in Earth's average temperature. The primary source of CO2 emissions comes from the burning of fossil fuels for energy production, transportation, and industrial processes. Other activities, such as land-use changes and certain agricultural practices, also contribute to CO2 emissions by releasing carbon stored in vegetation and soils. While ozone depletion, deforestation, and soil degradation are all significant environmental issues, they play different roles in the context of global warming. Ozone depletion primarily affects the stratosphere and is related to increased UV radiation exposure, while deforestation contributes to CO2 emissions by reducing the number of trees that can absorb carbon dioxide from the atmosphere. Soil degradation, although it can impact carbon storage in soils, does not have the direct and immediate effect on atmospheric CO2 levels that emissions from fossil fuels do. Therefore, focusing on reducing CO2 emissions is key to addressing global warming effectively.

5. Which type of consumer exclusively eats other animals?

- A. Herbivore**
- B. Scavenger**
- C. Carnivore**
- D. Omnivore**

The type of consumer that exclusively eats other animals is a carnivore. Carnivores are organisms that have adapted to primarily consume meat, which includes various strategies for hunting or scavenging for their prey. This dietary specialization allows them to play a critical role in maintaining the balance of ecosystems by controlling prey populations, competing with herbivores, and facilitating nutrient cycling. In contrast, herbivores are consumers that specialize in eating plants, while omnivores have a mixed diet that includes both plant and animal matter. Scavengers, on the other hand, are a subset of carnivores that feed on the remains of dead animals rather than actively hunting them. Thus, the definition of a carnivore emphasizes their unique role as dedicated meat-eaters within the ecological food web.

6. What is defined as the average weather conditions in an area over a long period of time?

- A. Climate**
- B. Weather**
- C. Biomass**
- D. Nutrient**

The correct answer is climate, which refers to the long-term average of weather conditions in a specific area, typically calculated over a period of 30 years or more. Climate encompasses patterns in temperature, precipitation, humidity, wind, and atmospheric pressure, providing a broader understanding of regional environmental conditions compared to short-term variations. Weather, in contrast, describes the short-term atmospheric conditions at a particular time and place, such as the temperature or precipitation on a specific day. Biomass refers to the total mass of living matter in a given area and is not related to weather or climate directly. Nutrient pertains to substances required for growth and development, particularly in ecological contexts, but does not describe weather patterns over time. Understanding the distinction between climate and weather is essential in ecology, as it influences biodiversity, ecosystem processes, and species distributions.

7. What term is used for an animal that consumes both plants and animals?

- A. Carnivore**
- B. Herbivore**
- C. Omnivore**
- D. Scavenger**

The term for an animal that consumes both plants and animals is "omnivore." Omnivores have a varied diet that includes not only meat and fish but also fruits, vegetables, grains, and nuts. This dietary adaptability allows them to thrive in different environments and can offer advantages during food shortages, as they can switch between different food sources based on availability. Carnivores primarily eat other animals, while herbivores focus solely on plant material. Scavengers, although they consume both plant and animal material, specifically feed on dead or decaying organisms rather than actively hunting or gathering live food sources. Thus, "omnivore" aptly describes an animal that engages in both eating strategies, distinguishing it from the other types of consumers in the ecosystem.

8. What is a single organism referred to in ecological terms?

- A. Specimen**
- B. Individual**
- C. Entity**
- D. Specie**

In ecological terms, a single organism is referred to as an "individual." This term emphasizes the uniqueness of each living organism within a particular species. In ecology, understanding each individual is crucial because studies often focus on population dynamics, individual behaviors, and interactions within ecosystems. While the term "specimen" can refer to a single example of an organism, it is typically used in the context of a sample that has been collected for study, which may not accurately convey the concept of an organism living in its natural environment. "Entity" is a more general term that may refer to any defined unit or thing, lacking the specificity that "individual" provides in the context of biology. The term "specie," while it may seem close, is actually a misspelling of "species," which refers to a group of similar organisms capable of interbreeding, rather than a single organism. Therefore, "individual" is the most appropriate term for describing a single organism in ecological contexts.

9. Which term refers to each step in a food chain or food web?

- A. Trophic level**
- B. Nutrient**
- C. Biomass**
- D. Limiting factor**

The term that refers to each step in a food chain or food web is "trophic level." In ecological terms, trophic levels represent the hierarchical positions of organisms in an ecosystem based on their feeding relationships and energy transfer. At the base of the food chain, we find producers, such as plants that convert sunlight into energy through photosynthesis. These organisms occupy the first trophic level. As we move up to herbivores, which consume these producers, and then to carnivores that eat herbivores, we encounter higher trophic levels. Each level signifies a different layer in the energy flow and ecological interactions within that system. Understanding trophic levels is essential for studying ecosystem dynamics, as they help in analyzing energy transfer efficiency and the impact of changes within the ecosystem, such as population dynamics and resource availability. Other terms like nutrients, biomass, and limiting factors pertain to different ecological concepts and do not specifically denote the steps within food chains or webs.

10. Which relationship describes one organism benefiting at the cost of another organism?

- A. Mutualism**
- B. Commensalism**
- C. Parasitism**
- D. Competition**

The relationship that describes one organism benefiting at the cost of another organism is parasitism. In parasitism, one organism, the parasite, derives benefits such as nutrients and shelter from another organism, known as the host, which is harmed in the process. This harm can manifest in various ways, including the depletion of resources, disease, or overall weakening of the host. Parasitism is a specific type of interaction that differs from other ecological relationships. For instance, mutualism involves both organisms benefiting from the interaction, whereas commensalism describes a scenario where one organism benefits while the other is neither helped nor harmed. Competition refers to the struggle between organisms for limited resources, which does not fit the description of one benefiting at the expense of another. Therefore, understanding parasitism is crucial in ecology as it highlights the complex interdependencies within ecosystems and the impact of these interactions on both individual species and the community as a whole.