

Advanced Ecology Concepts

Ecology · Answer Key · 10 Questions

1. Which term describes the process where nitrogen gas is converted into ammonia by bacteria in the soil or root nodules?

- A) Denitrification
- B) Nitrogen fixation**
- C) Nitrification
- D) Ammonification

2. In an energy pyramid, what percentage of energy is typically transferred from one trophic level to the next higher level?

- A) 1%
- B) 5%
- C) 10%**
- D) 25%

3. Which phenomenon occurs when nutrient runoff causes an excessive growth of algae, leading to oxygen depletion in aquatic ecosystems?

- A) Eutrophication**
- B) Biomagnification
- C) Bioaccumulation
- D) Acidification

4. What is the primary role of detritivores in an ecosystem?

- A) Producing glucose through photosynthesis
- B) Consuming primary producers
- C) Breaking down dead organic matter**
- D) Predating on tertiary consumers

5. Which type of species, if removed from an ecosystem, would cause a drastic change in the balance of the community?

- A) Invasive species
- B) Keystone species**
- C) Generalist species
- D) Endemic species

6. What is the definition of a population's 'carrying capacity'?

- A) The total number of species in an area
- B) The maximum number of individuals an environment can support**
- C) The rate of migration out of a habitat
- D) The birth rate of a specific organism

7. In the context of ecological succession, what are the first organisms to colonize a previously barren landscape known as?

- A) Climax species
- B) Secondary species
- C) Pioneer species**
- D) Intermediate species

8. What is the main driver of the greenhouse effect in the Earth's atmosphere?

- A) The depletion of the ozone layer
- B) The trapping of infrared radiation by gases**
- C) Increased solar flare activity
- D) The reflection of ultraviolet rays by clouds

9. Which term refers to the concentration of toxins in an organism as a result of its ingesting other plants or animals in which the toxins are more widely disbursed?

- A) Biomagnification**
- B) Mutualism
- C) Commensalism
- D) Trophic cascade

10. In a terrestrial biome, which factor is the primary determinant of the types of vegetation that can grow?

- A) Soil pH levels
- B) Latitude and longitude
- C) Climate (temperature and precipitation)**
- D) The presence of human interference