

## CHAPTER 55: Community Ecology

1) How is co-evolution significant in community ecology?

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2) What is meant by the "trophic structure" of a community?

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3) What does a food web show that isn't indicated by a food chain?

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4) Define the following:

a) omnivore: \_\_\_\_\_

b) herbivore: \_\_\_\_\_

c) carnivore: \_\_\_\_\_

d) detritivore: \_\_\_\_\_

e) biomass: \_\_\_\_\_

f) primary producer: \_\_\_\_\_

g) trophic level: \_\_\_\_\_

5) Using **Figure 55.3**, explain why each environment has a slightly different energy flow characteristic.

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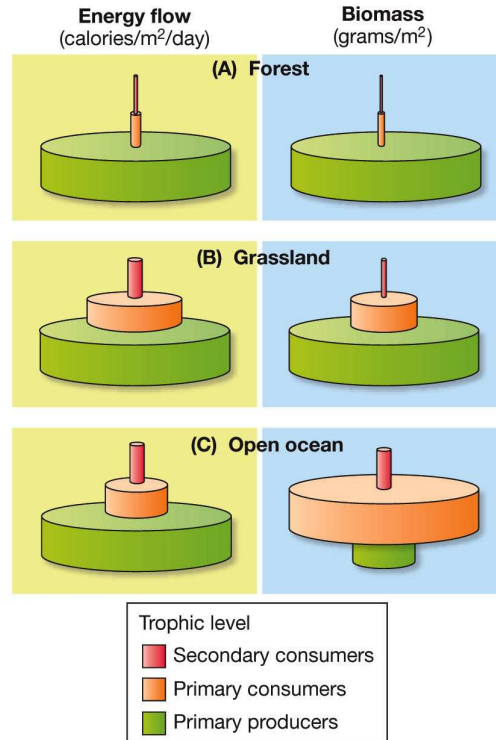
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6) What happens to the size of each level in the *idealized* pyramid as energy is transferred through the trophic levels?

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7) Fill in the chart of interspecific interactions.

Interaction	Effects of Population Densities	Example
Predation/Parasitism		
Competition		
Mutualism		
Commensalism		
Amensalism		

Name: \_\_\_\_\_

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8) What is the competitive exclusion principle?

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9) Define ecological niche.

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10) Define and give an example of resource partitioning.

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11) What is a trophic cascade? Give an example.

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12) Define a keystone species and why are they so important to a community?

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13) Define ecological succession.

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14) What is the difference between primary and secondary succession?

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15) What has happened to the wildfire rate and severity of fires in the last 100 years? Why?

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16) What is the significance of species richness/biodiversity?

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### END OF CHAPTER 55 MULTIPLE CHOICE

1. An ecological community is
  - A) all the species of organisms that live and interact with one another in an area.
  - B) all the species that live and interact with one another in an area together with the abiotic environment.
  - C) all the species in an area that belong to a particular trophic level.
  - D) all the species that are members of a local food web.
  - E) All of the above
2. A trophic level consists of the organisms
  - A) whose energy source has passed through the same number of steps to reach them.
  - B) that use similar foraging methods to obtain food.
  - C) that are eaten by a similar set of predators.
  - D) that eat both plants and other animals.
  - E) that compete with one another for food.
3. Two organisms that use the same resources when those resources are in short supply are said to be
  - A) predators.
  - B) competitors.
  - C) mutualists.
  - D) commensalists.
  - E) amensalists.
4. Damage caused to shrubs by branches falling from overhead trees is an example of
  - A) interference competition.
  - B) partial predation.
  - C) amensalism.
  - D) commensalism.
  - E) diffuse coevolution.

5. The diagrams of energy and biomass distribution for forests and grasslands differ because
  - A) forests are more productive than grasslands.
  - B) forests are less productive than grasslands.
  - C) large mammals avoid living in forests.
  - D) trees store much of their energy in difficult-to-digest wood, whereas grassland plants produce few difficult-to-digest tissues.
  - E) grasses grow faster than trees.
  
6. Keystone species
  - A) influence the communities in which they live more than expected on the basis of their abundance.
  - B) may influence the species richness of communities.
  - C) may influence the flow of energy and nutrients through ecosystems.
  - D) are not necessarily predators.
  - E) All of the above
  
7. What is the general relationship between species richness and disturbance?
  - A) Species richness peaks at low levels of disturbance.
  - B) Species richness peaks at high levels of disturbance.
  - C) Species richness peaks at intermediate levels of disturbance.
  - D) Species richness is less at intermediate levels of disturbance.
  - E) There is no general relationship between species richness and level of disturbance.
  
8. Ecological succession is
  - A) the changes in species over time.
  - B) the changes in community composition after a disturbance.
  - C) the changes in a forest as the trees grow larger.
  - D) the process by which a species becomes abundant.
  - E) the buildup of soil nutrients.
  
9. Primary succession begins
  - A) soon after a disturbance ends.
  - B) at varying times after a disturbance ends.
  - C) at sites where some organisms survived the disturbance.
  - D) at sites where no organisms survived the disturbance.
  - E) at sites where only primary producers survived the disturbance.
  
10. A latitudinal gradient in species richness
  - A) is found in North America but not in South America.
  - B) exists for birds, frogs, and mammals but not for plants.
  - C) exists because tropical regions are more mountainous than high-latitude regions.
  - D) exists because there are fewer peninsulas in the tropics.
  - E) exists on land, but not in the oceans.