

Name _____

AP Biology

Chapter 54 - Community Ecology

Guided Reading Assignment Campbell's 10th Edition

Essential Knowledge

4.B.3 Interactions between and within populations influence patterns of species distribution and abundance

2.D.1 All biological systems from cells and organisms to populations, communities, and ecosystems are affected by complex biotic and abiotic interactions involving exchange of matter and free energy

2.E.3 Timing and coordination of behavior are regulated by various mechanisms and are important in natural selection

4.A.5 Communities are composed of populations of organisms that interact in complex ways

4.A.6 Interactions among living systems and with their environment result in the movement of matter and energy

4.C.4 The diversity of species within an ecosystem may influence the stability of the ecosystem

LO 1.5 The student is able to connect evolutionary changes in a population over time to a change in the environment.

LO 4.11 The student is able to justify the selection of the kind of data needed to answer scientific questions about the interaction of populations within communities

LO 4.12 The student is able to apply mathematical routines to quantities that describe communities composed of populations of organisms that interact in complex ways.

LO 4.13 The student is able to predict the effects of a change in the community's populations on the community.

LO 4.18 The student is able to use representations and models to analyze how cooperative interactions within organisms promote efficiency in the use of energy and matter.

LO 4.27 The student is able to make scientific claims and predictions about how species diversity within an ecosystem influences ecosystem stability.

1. Define interspecific interactions.
2. What is the relationship between interspecific competition and The Competitive Exclusion Principle?

3. Contrast the following terms: ecological niche, fundamental niche, realized niche and resource partitioning.
4. Give an example of character displacement.
5. Define and give an example of the following physiological defense adaptations.
 - a. Cryptic coloration
 - b. Aposematic coloring
 - c. Batesian Mimicry
 - d. Müllerian mimicry
6. Give an example of a plant defense against herbivory.
7. Contrast the following terms:
 - a. Endoparasites
 - b. Ectoparasites
 - c. Parasitoids
8. Define and give two examples of mutualism.
9. Define and give two examples of commensalism
10. Is the evolution of Batesian mimicry an example of coevolution, support your answer?
11. Provide an example that correctly uses the terms species diversity, species richness and relative abundance correctly.

12. What is the difference between a food chain and a food web? Which provides a more “full” ecological picture and why?
13. Write the terms and explain the two hypotheses that address the question as to why food chains are relatively short.
14. How do you characterize the dominant species? How is this different from the keystone species?
15. Compare and contrast the bottom-up model with the top-down model?
16. What is the relationship between the term disturbance and the intermediate disturbance hypothesis?
17. Compare and contrast primary and secondary succession.
18. Define evapotranspiration.

19. What is the Island Equilibrium Model and how does it help us better understand ecological changes?

20. What is the integrated hypothesis and how does it relate to the individualistic hypothesis?