

Text reading assignments and study questions

Chapter 17 Food Webs

pp. 393-394 (stop at "Strong Interactions...")
pp. 397-402 (stop at "Fish as Keystone Species...")

- Be able to infer feeding relationships from a food web diagram.
- Be able to predict the effects on community structure if the top predator prefers to eat species that are competitively superior. Does the outcome change if the predator prefers competitively inferior species?
- Explain the similarity between the intermediate disturbance hypothesis (Chapter 16) and Jane Lubchenko's findings on the effect of the snail *Littorina littorea* on algal species richness.
- Be able to answer review questions 3, 4, 6 on page 410-411.

Chapter 18 Primary Production and Energy Flow

pp. 413-414 (stop at "Case Histories")
pp. 423-426 (start at "Case Histories", stop at "Applications and Tools")

- Be able to use the following terms: ecosystem, primary production.
- Explain how energy flow limits the number of trophic levels in an ecosystem.
- Be able to answer review questions 1, 6, 8 on page 429-430.

Chapter 13 Competition

pp. 303-304 (stop at "Self-Thinning...")
p. 307 (stop at "The Feeding Niches...")
p. 312 (stop at "Experiments with Flour Beetles")
pp. 314-320 (stop at "Evidence for Competition...")

- Explain why resource limitation is essential for competition.
- Compare and contrast the concepts of "fundamental" and "realized" niches. Include how these ideas relate to the biotic and abiotic environment.
- Design an experiment to determine the fundamental and realized niche of a species and be able to interpret data from this sort of experiment.
- Explain why species differences in sympatry have to be greater than species differences in allopatry in order to support the hypothesis of character displacement.
- Be able to answer review questions 5 and 7 on pages 322-323.

Chapter 20 Succession and Stability

pp. 453-458 (stop at "Case Histories")

- Compare and contrast primary and secondary succession.
- Explain how competition may play a role in succession. Explain how succession may affect biodiversity (consider the intermediate disturbance hypothesis).
- Be able to answer review questions 2, 3, 10 on page 474-475.

Chapter 16 Species Abundance and Diversity

pp. 378-380 (start at "Case Histories"; stop at "Complexity in Plant Environments")
pp. 383-385 (start at "Case Histories"; stop at "Disturbance and Diversity in Temperate...")

- Explain how environmental heterogeneity can affect species diversity.
- Explain how disturbance can affect species diversity.
- Be able to answer review questions 5 and 7 on page 390.

Chapter 22 Geographic Ecology

pp. 504-510 (start at "Case Histories"; stop at "Experimental Island Biogeography")

- Explain how and why island area and isolation affect biodiversity.
- Compare and contrast actual islands with so-called "habitat islands" like mountains and lakes.
- Be able to answer review questions 1, 3, 5, 6 on page 523.