

Focus Questions and Key Terms
Chapters 34-38
Ecology
Honors Biology

Focus Questions

Chapter 34

- Explain the difference between a biotic and abiotic factor and provide examples of each. (34.1)
- Who is Rachel Carson and what ecological problem did she alert the public to with her book? (34.2)
- Describe the main physical and chemical factors that impact life. (34.3)
- Describe how a pronghorn has adapted to its environment. (34.4)
- Explain how seasons are caused. (34.5)
- Explain Figure 34.5C in your own words. (34.5)
- Explain how organisms in the aphotic zone survive. (34.6)
- Explain the problems that are caused by fertilizers and sewage getting into freshwater systems. (34.7)
- Describe two ways humans impact the water cycle. (34.17)

Chapter 35

- Explain how the behaviors of Prairie voles and Meadow voles are different. What do we think accounts for this difference? (pg. 701)
- Describe two examples of a fixed action pattern. (35.2)
- Explain how behaviors can be both genetic and environmental using fruit flies and rats as examples. (35.3)
- Describe Konrad Lorenz's research. (35.5)
- How do biologists handle organisms to avoid the young imprinting on humans? (35.6)
- Explain how animals use cognitive maps for migration. (35.8)
- Describe an example of social learning behaviors seen in animals. (35.10)
- Describe examples of cognition in animals. (35.11)
- Describe two ways animals communicate. (35.13)
- Provide examples of how chemical pollutants can cause abnormal behavior. (35.16)
- Explain why animals use agonistic behavior instead of violent fighting. (35.19)
- What are examples of altruistic behavior in animals? Why do they do this? (35.22)

Chapter 36

- What different ways can organisms be dispersed? What are the advantages and disadvantages of each? (36.2)
- Explain the difference between Type I, Type II, and Type III survivorship curves using example organisms. (36.3)
- Explain what causes some populations to have an exponential growth pattern and some to have a logistic growth pattern. (36.4)
- Provide four examples of limiting factors of population growth. (36.5)
- Describe the differences between an r-selected species and a K-selected species. (36.7)

Chapter 37

- Explain what causes organisms to be in competition with each other and why the interaction is negative for both species. (37.3)
- Explain the following types of interspecific interactions and provide example organisms: mutualism, predation, herbivory, parasites/pathogens. (37.4-37.7)
- Draw an **original** food web that includes: producers as well as all four levels of consumers. (37.8-37.9)
- Examine Figures 37.10A and 37.10B and select the one with greater species diversity and explain why. (37.10)
- Explain why keystone species are so crucial to their environments. (37.11)
- Explain how disturbances can be both positive and negative for ecosystems. (37.12)

- Provide examples of invasive species and explain how they impacted an ecosystem. (37.13)
- Which ecosystems are the most productive and least productive? Explain why. (37.15)
- Explain why a food chain will not usually have more than four levels of consumers. (37.16)
- Explain the Hubbard Brook experiment and what information it provides. (37.22-37.23)

Chapter 38

- Why should we care about losing biodiversity? (38.1)
- Describe the three main threats to biodiversity and provide examples of each. (38.3)
- Explain how the ozone layer has been impacted by human generated pollution. (38.2)
- Explain how the pollutants DDT and PCBs impact ecosystems. (38.2)
- What are the main greenhouse gases and how do they contribute to climate change? (38.5-38.6)
- Describe the impacts climate change has on biological systems. (38.7)
- Explain how climate change impacts natural selection. (38.8)
- Explain how protected areas and zoned reserves can slow the loss of biodiversity. (38.11-38.13)

Key Terms

Chapter 34

abiotic factor
aphotic zone
benthic
biome
biosphere
biotic factor
community
continental shelf
desertification

doldrums
ecology
ecosystem
estuary
habitat
intertidal zone
landscape
ocean current
organism

permafrost
photic zone
phytoplankton
population
prevailing winds
trade winds
westerlies
wetland
zooplankton

Chapter 35

promiscuous
polygamous
monogamous
behavior
behavioral ecology
innate behavior
fixed action patterns (FAPs)
habituation
imprinting

kinesis
taxis
spatial learning
cognitive map
migration
associative learning
trial-and-error learning
social learning
cognition

foraging
social behavior
territory
agonistic behavior
dominance hierarchy
altruism
kin selection
courtship rituals

Chapter 36

population ecology
population
population density
dispersion pattern
life tables
survivorship curves

per capita rate of increase
exponential growth model
limiting factors
logistic growth model
carrying capacity
density-dependent

r-selection
K-selection
demographic transition
ecological footprint

Chapter 37

community
interspecific interactions
interspecific competition
mutualism
predation
herbivory
ecological niche
coevolution
parasites
pathogens
food chain

producers
consumers
detritivores
decomposers
detritus
decomposition
food web
species diversity
keystone species
disturbance
ecological succession

primary succession
secondary succession
invasive species
ecosystem
energy flow
biomass
primary production
biogeochemical cycles
abiotic reservoir

Chapter 38

biodiversity
conservation biology
endangered species
threatened species
ozone layer

biological magnification
landscape ecology
movement corridor
biodiversity hot spots

endemic species
zoned reserve
sustainable development
restoration ecology