

Chapter 42 & 43 Essential Knowledge

Write a detailed response to each of the following pieces of information. If numbers are given in parentheses, they refer to the pages of your text book.

Main Concept: Biological systems are affected by disruptions to their dynamic homeostasis. AND Interactions among living systems and with their environment result in the movement of matter and energy.

1. Discuss how human involvement in ecosystems disrupts the homeostasis or balance of the ecosystem.
2. Discuss how density independent factors, such as a flood or an earthquake disrupts the homeostasis or balance of the ecosystem.
3. Explain why energy flows but matter is recycled in the environment.
4. What is primary productivity and how is it affected by regional and global climates?
5. Contrast the interactions of organism if an ecologist is studying a food chain versus a food web.
6. Explain how a model can be used to demonstrate the effect of competition for resources in a logistic growth model. Think about your population dynamics model that we worked on in the computer lab.
7. How have humans impacted the ecosystems in the tropical rain forests? Give a specific example where humans have destroyed habitats.
8. How are cheetahs and polar bears adapted to utilize the energy resources in their environments? Focus on the contrast between the two species.
9. Describe the impact of the new species, small pox, on the ecosystem of the Native American population. Include both abiotic and biotic factors in your description. (pg 861 might be helpful)
10. Explain how bio geographical studies have allowed scientists to understand the impact of geological and meteorological events on ecosystems. Use the impact of the meteorite on the dinosaur population as your example; include iridium in your discussion.