**Chapter 6 Vocabulary and Questions**

* The levels of complexity from individual to biosphere are: individual, population, community, ecosystem, and biosphere.
* Basic population characteristic include size, density, distribution, sex ratio, and age structure.
* The three types of population distributions are random, uniform and clumped.
* Density – dependent and density – independent factors can influence population size.
* The different growth models used to explain changes in population size are exponential and logistic.
* Some populations experience cycles of overshoots and die-offs that oscillate around the carrying capacity.
* Predators play an important role in limiting population growth.
* The two reproductive strategies an organism has are classified as K-selected and R-selected.
* Species interact together in four ways- completion, predation, mutualism, and commensalism.
* Sometimes the loss of one species can have a major effect on the entire community.
* As communities change over time, they undergo either primary or secondary succession.
* Latitude, time, habitat size, and distance from other communities help determine the number and types of species present in a biome.

**Vocabulary**

1. Population ecology
2. Population size
3. Population density
4. Population distribution
5. Sex ratio
6. Age structure
7. Density dependent factors
8. Limiting resource
9. Carrying capacity
10. Density independent factors
11. Growth rate
12. Intrinsic growth rate
13. Exponential growth rate
14. J-shaped curve
15. Logistic growth model
16. S-shaped curve
17. Overshoot
18. Die-off
19. K-selected species
20. R-selected species
21. Survivorship curves
22. Corridors
23. Metapopulation
24. Community ecology
25. Competition
26. Competitive exclusion principle
27. Resource partitioning
28. Predation
29. True predators
30. Herbivores
31. Parasites
32. Pathogen
33. Parasitoids
34. Mutualism
35. Commensalism
36. Symbiotic
37. Keystone species
38. Predator-mediated competition
39. Ecosystem engineers

**Questions**

1. What levels of complexity make up the biosphere?
2. What do scientists study at each level of complexity?
3. How do populations and communities differ?
4. What factors regulator the size of a population?
5. What did Gause discover in his classic experiments?
6. What is the difference between density- dependent and density independent factors that influence population’s size? Give an example of each.
7. What happens if you alter the r or K terms in the logistic growth model?
8. What did scientists learn from the records of the Hudson’s bay Company?
9. What is metapopulation? How do metapopulations contribute to the preservation of biodiversity?
10. What are the various ways in which species interact with one another?
11. What are the four types of predators?
12. What roles might a keystone species paly in an ecosystem?
13. What is the difference between primary succession and secondary succession?
14. Why is dispersal ability important in succession?
15. How does succession happen in aquatic environments?
16. How are species distributed globally, and what processes are responsible for these patterns?
17. What are the four factors that determine the number of species found in a community?
18. What does the theory of island biogeography describe?