

## Review Questions - Chapter 9

**Answer the following questions using your OWN WORDS!!!! DO NOT copy right out of the book!!! All answers should be hand-written!!**

1. What is population dynamics? Why are the populations of most species found in clumps or groups?
2. What four factors affect population change? Write an equation showing how population change is related to births, deaths, immigration, and emigration.
3. What is the biotic potential of a population?
4. What are environmental resistance and carrying capacity? How do biotic potential and environmental resistance interact to determine carrying capacity?
5. Distinguish between exponential and logistic growth of a population, and give an example of each type.
6. How can a population overshoot its carrying capacity, and what are the consequences of doing this?
7. Distinguish between density-dependent and density-independent factors that affect a population's size, and give an example of each.
8. Distinguish among stable, irruptive, irregular, and cyclic forms of population change.
9. Distinguish between top-down control and bottom-up control of a population's size.
10. Distinguish between asexual reproduction and sexual reproduction. What are the disadvantages and advantages of sexual reproduction?
11. List the characteristics of (a) r-selected or opportunist species and (b) K-selected or competitor species, and give two examples of each type. Under what environmental conditions are you most likely to find (a) r-selected species and (b) K-selected species?
12. What is a survivorship curve, and how is it used? List three general types of survivorship curves, and give an example of a species with each type.
13. How can genetic diversity affect the survival of small, isolated populations? Distinguish between the founder effect, demographic bottleneck, and genetic drift. What is a metapopulation?
14. List five potentially harmful ways in which humans modify natural ecosystems.
15. List two principles of sustainability observed in natural systems and describe how they can be adapted for developing more sustainable human societies.