**CH. 4: POPULATION ECOLOGY RFC # 2**

* Read the following questions, **then** read from Population growth rate (p 97) to Section 1 Assessment (p99), **then** answer the following questions on your own paper in **COMPLETE SENTENCES**
  1. Contrast emigration and immigration.
  2. Contrast the natality and mortality of a population.
  3. What does the population growth rate explain?
  4. Why are natality and mortality more important in determining the PGR than emigration and immigration?
  5. Of what is an S-shaped curved typical?
  6. Until when will all populations grow exponentially?
  7. What are the two mathematical models for population growth?
  8. What does a J-shaped curve illustrate?
  9. When does a population stop increasing?
  10. When does exponential growth occur?
  11. When does logistic growth occur?
  12. Using Figure 7…
      1. Approximately how long is the lag phase? Is growth occurring quickly or slowly during this phase?
      2. For approximately how long does exponential growth occur?
      3. Approximately how long did it take for the mice population to reach 1 million?
      4. Approximately how long did it take for the mice population to increase from 1 million to 2 million?
      5. By approximately how much did the mice population grow between 21 months and 23 months?
  13. What is the carrying capacity of a population?
  14. What happens as a population nears the carrying capacity?
  15. What happens if a population exceeds the carrying capacity and why?
  16. When will a population reach or pass the carrying capacity and why?
  17. What is the concept of carrying capacity used to explain?
  18. Using Figure 8…
      1. Between what time periods is exponential growth occurring?
      2. What is the carrying capacity of this population?
      3. Approximately how long did it take for this population to reach the carrying capacity?
      4. At approximately what population size did exponential growth stop?
  19. What is the r-strategy (include what it stands for)?
  20. **Type II Writing**: Contrast an r-strategist and a k-strategist. Include an example of each kind of organism,

the type of environment in which each lives, the reproductive strategy of each, the amount of energy each expends in raising their young, and the type of factors that control each.