*Section 11.1 Characteristics of a Population*

*ISP*

*Read pg. 498-507 and answer the questions below.*

1. Why do ecologists estimate populations rather than count individual members of a population? (K)
2. Describe what quantitative measures ecologists might use to represent changes in a population over time? (K)
3. What is the population size if 60 birds are originally marked, 100 birds are recaptured and 40 birds are marked in recapture? (K)
4. In order to estimate the number of flowering dogwood in a 50 000 m2 nature park, a researcher randomly packed six 10 m by 10 m quadrats in the park. The researcher counted the number of flowering dogwood in each quadrat as follows: 12, 8, 16, 14, 15 and 19. What are the best estimates for the density and the population of flowering dogwood in that nature park? (T)
5. Wolves travel in packs and are territorial. Make a hypothesis concerning the distribution patterns you would expect to find during the rainy season and during the dry season. (A)
6. A part of the human life cycle includes childhood, adolescence, adulthood and old age. At which of these stages would the highest fecundity rate occur in humans? Explain your answer. (A)

ANSWER KEY

1. It is impractical to count individuals in ever-changing populations because of time, money, and human resources; therefore, ecologists estimate populations.
2. Population size, density, distribution, and life history
3. 150
4. 0.14 flowering dogwood per square metre, population about 7000
5. Wolves travel in packs, a clumped distribution pattern, to increase efficiency in hunting and for protection. They are territorial, with packs being uniformly distributed to defend their food, shelter, and mating habits
6. Humans have the highest fecundity during late adolescence/young adulthood when females are best able to reproduce.