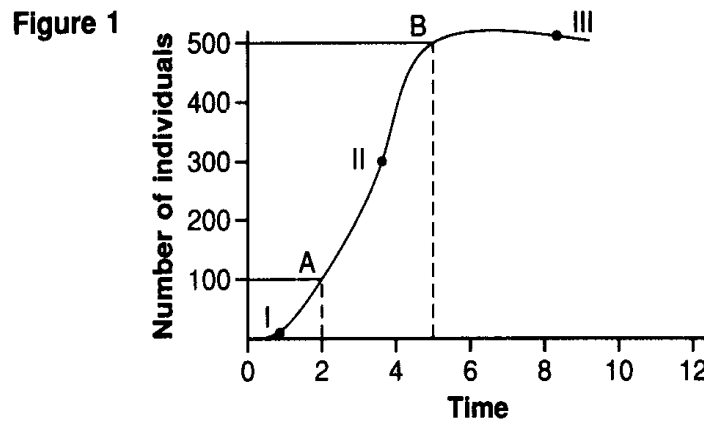


Predator-Prey Relationship

Name: _____

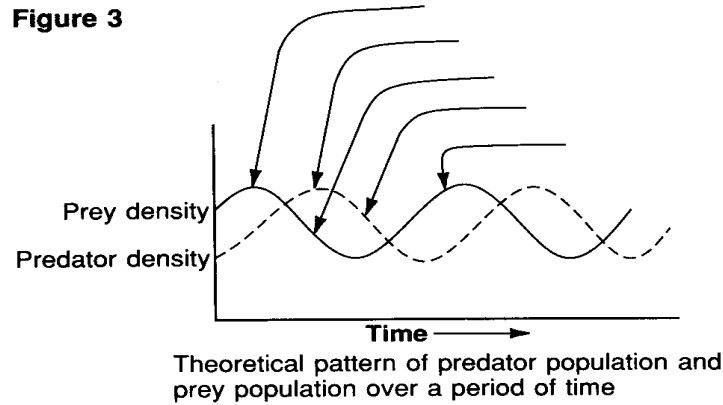
Ecologists gather data about population densities of different organisms in order to understand how these organisms interact with their environments. The graph in Figure 1 represents a growth curve for the population of a single species. This type of curve is called a **logistic growth curve**. From this curve, you can read the carrying capacity of the population. **Carrying capacity** is the number of individuals that can be supported in an environment with the resources available. When the population has reached carrying capacity, the curve will level off.



1. Time is represented on the _____-axis.
2. The number of individuals is represented on the _____-axis.
3. At which point on the curve (I, II, III) is the population increasing at the fastest rate? _____
4. At which point on the curve (I, II, III) is the population leveling off?

5. At which point on the curve (A or B) has the population reached the carrying capacity or the maximum population density for its environment?

Predation is not necessarily harmful to the prey population. Predation might act as an important means of keeping the prey population within the limits of its food supply. The graph shown in Figure 3 represents a theoretical cycle that evolves in a predator–prey relationship.



6. Read the following lettered descriptions. Use the letters to **label the graph** in order to show what is happening to the populations of predators and prey at each point marked on the curve.

- a. Prey population rises due to decline in predator population.
- b. Predator population rises due to increase in prey population.
- c. Prey population falls due to increase in predation.
- d. Predator population falls due to decline in prey population.
- e. Prey population rises.

7. Could these growth curves for predators and prey actually represent what happens in nature?

Explain your answer. _____
