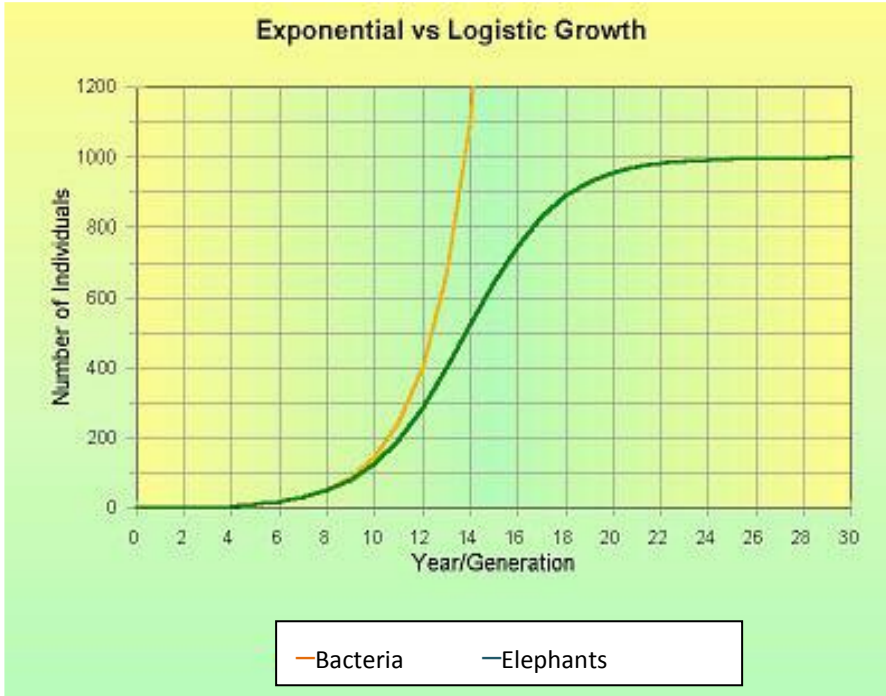
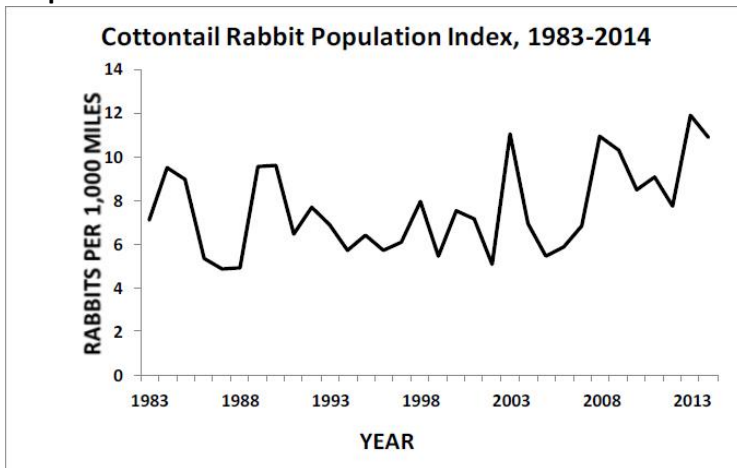


Directions: Look at the graphs below and answer the following questions.



1. Which of the two curves is an exponential growth curve? Which organism is it for?
2. Which graph is a logistic growth curve? Which organism does it show?
3. What is the carrying capacity of the ecosystem for the logistic growth curve?
4. In what year/generation does this population reach its carrying capacity?

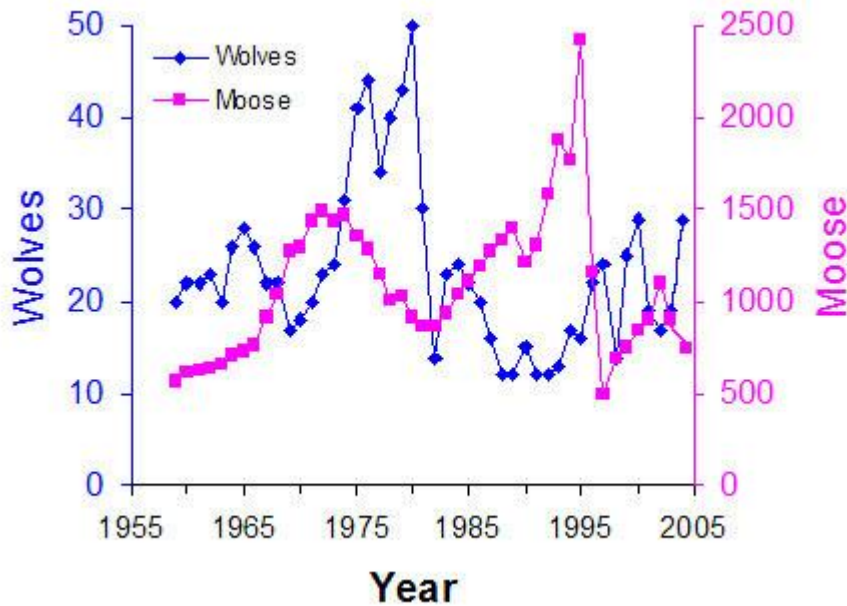
Graph 2



1. What type of growth curve does this graph show?
2. What is a possible explanation for why the population of rabbits goes up and down so much?
3. What is the approximate carrying capacity of this ecosystem for cottontail rabbits from 1983 to 2008?
4. What is one possible reason why the carrying capacity seems to be increasing from 2006 through 2015?

### Graph 3- Predator-Prey Graph

Isle Royale National Park on a remote island was established in 1940, and designated a wilderness area in 1976. Moose first arrived at Isle Royale around 1900. The moose population tends to increase in years with mild winters, early spring green-up, abundant winter forage, low wolf numbers and low levels of tick infestations. Wolves first arrived at the island on an ice bridge from Canada in 1940. Disease has also influenced the wolf population. Between 1980 and 1982, the wolf population declined from 50 to 14 due to canine parvovirus.



1. What was the greatest wolf population? What year did that occur?
2. What was the wolf population when the moose population was the greatest?
3. What would most likely happen to the wolf population if the moose population decreases?
4. What would most likely happen to the moose population if the wolf were all killed by humans?
5. Describe the pattern of the wolf (predator) population in relation to the moose (prey) population.
6. Identify a factor, other than moose population, that may have influenced wolf populations.
7. Identify two factors, other than the wolf population, that may influence the moose population.
8. Are predator-prey relationships density-dependent or density-independent limiting factors? Explain.