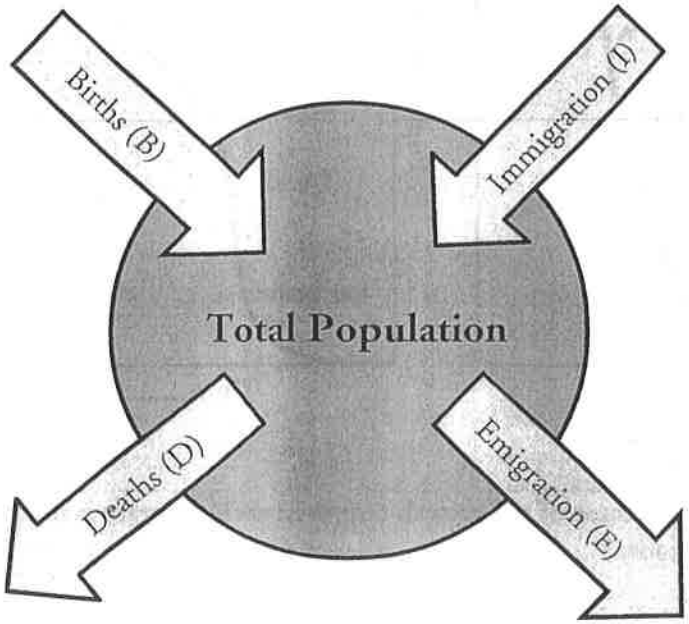
Population Growth

How is population growth naturally regulated?

Why?

The current world population is estimated to be over 7 billion. At present the number of births annually exceeds the number of deaths, which means that the population is increasing, and is estimated to reach 9 billion by 2040. In 1750 the world population was estimated at less than 800 million. How are growing populations such as ours controlled and supported, and can they continue to grow indefinitely?

Model 1 – Population Growth



1. Refer to Model 1.
   a. What is the term used for populations moving into an area?

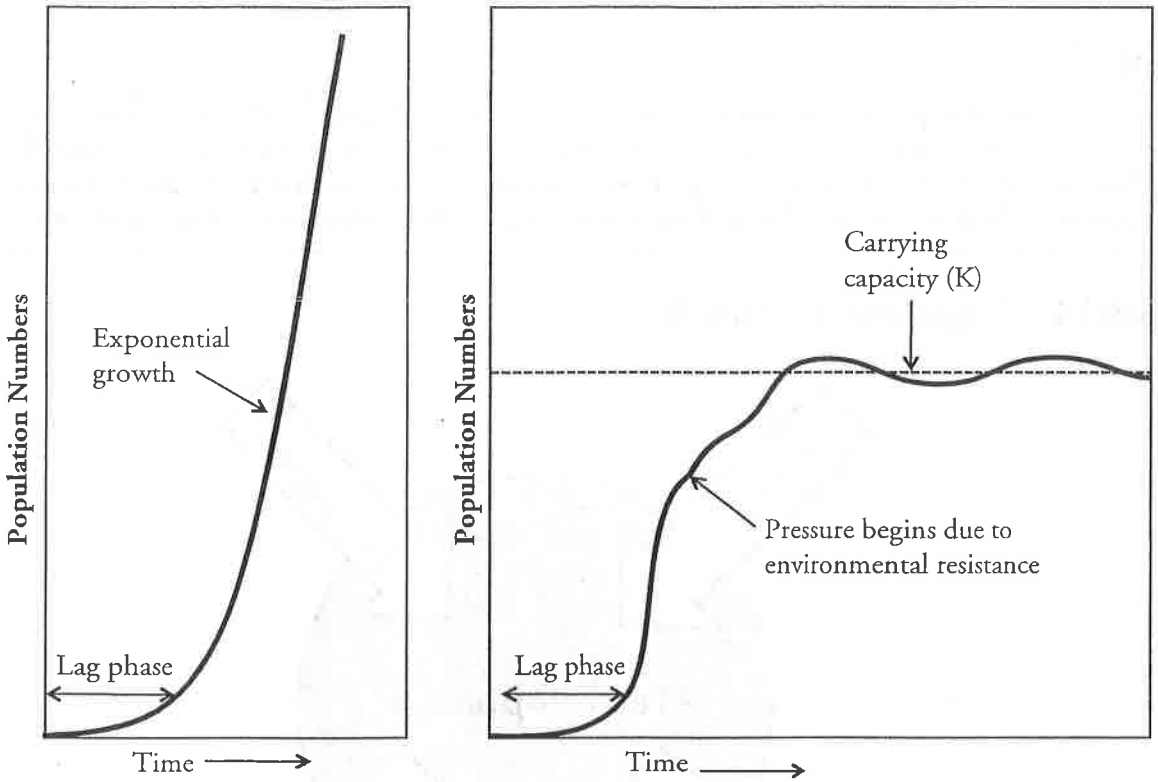
   b. What is the term used for populations leaving an area?

   c. Name two factors that cause an increase in the population size.

   d. Name two factors that cause a decrease in population size.

Model 3 – Growth Curves

Diagram A—Exponential Growth Curve **Diagram B—Logistic Growth Curve**



9. Refer to Model 3.

   a. During what phase of the growth curves in each diagram is the population just beginning to colonize an area?

   b. Which type of population growth appears to continue unchecked?

10. The growth curves in Model 3 are often referred to using the letters of the alphabet they resemble. The logistic growth curve is sometimes referred to as an S-curve. What letter would you use to describe the exponential growth curve?

11. What causes the population to slow down during logistic growth?

12. The maximum population an environment can sustain is affected by environmental factors that cause the population to level out or become stable. What term is used to describe this level of logistic growth?