

# Linear vs Exponential

## **Petri Dish (Interactive Lab):**

- 1) Describe the growth of the population as a function of time, in one or more complete sentences. You might begin with something like this: "As time elapses, the growth of the population...".
- 2) What are the relationships between the input parameters (initial number of bacteria, growth parameter) and the growth of the population with time?
- 3) What is eventually the cause of the population growth slowing down and stopping? Are there corresponding factors at work in the rate of human population growth?
- 4) Can you illustrate the growth of the population graphically? Do you experience any difficulties in plotting this data using conventional techniques? Can you think of any techniques that might make graphing such data easier?

# Linear vs Exponential

## **Exponential Graphing (Graphing Activities):**

- 1) What relationship can you see between the starting parameters and the shape of these curves? To what parameters in a "linear" growth curve would these parameters correspond?
  
- 2) All of the curves "plateau" at about the same point, regardless of the initial population and growth parameter. What causes this plateauing? What factors might cause the plateau to lie in a different place? Are there similar factors at work in human populations.