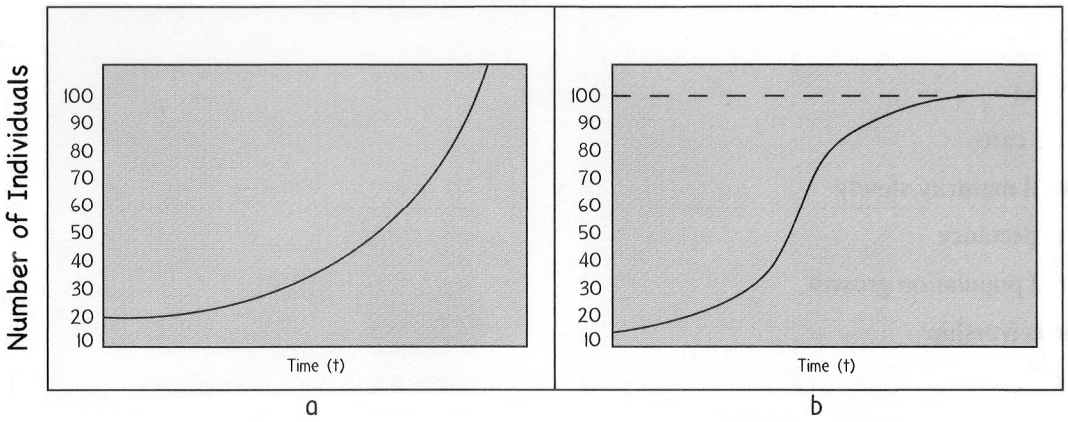
Name_____ Class_____ Date_____

Conceptual Biology

Chapter 16: Populations

Exponential Growth and Logistic Growth

1. Which of the following graphs shows exponential growth and which shows logistic growth?



_____ _____

Circle the correct answers:

2. The carrying capacity in the graph on the right is [10] [100] [more than 100] individuals.

Appendix D will help you with Questions 3 and 4.

3. Exponential growth is nicely illustrated with the children's story of a rapidly-growing beanstalk that doubles in height each day.

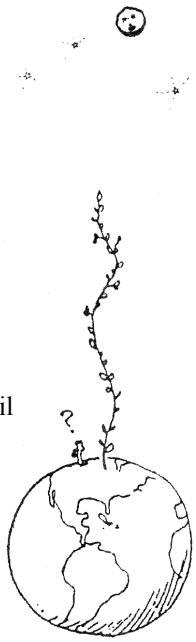
Suppose that one day after breaking ground the stalk is 1 centimeter high.

If growth is continual, at the end of the second day it will be [1] [2] [4] cm high.

At the end of the third day it will be [1] [2] [4] cm high.

Doubling each day results in exponential growth so that on the 36th day it reaches the Moon! Working backward, the height of the beanstalk on the 35th day was [one half] [one quarter] [one third] the distance from Earth to the Moon.

And on the 34th day the beanstalk was [one half] [one quarter] [one third] the distance from Earth to the Moon.



4. Then there is the story of a lily pond with a single leaf. Each day the number of leaves doubles, until on the 30th day the pond is completely full.

On what day was the pond half covered? [15 days] [28 days] [29 days]

On what day was it one-quarter covered? [15 days] [28 days] [29 days]

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