

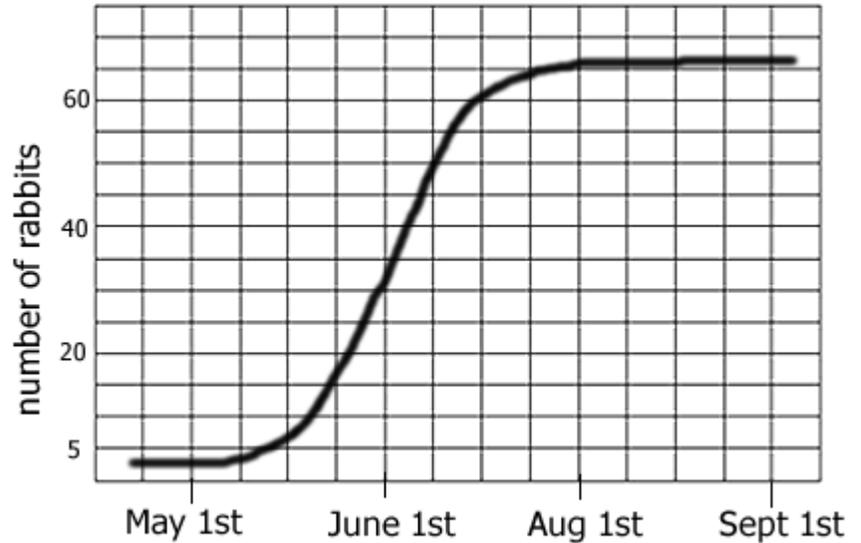
**BIOLOGY**

Name \_\_\_\_\_

**INTERPRETING ECOLOGICAL DATA**

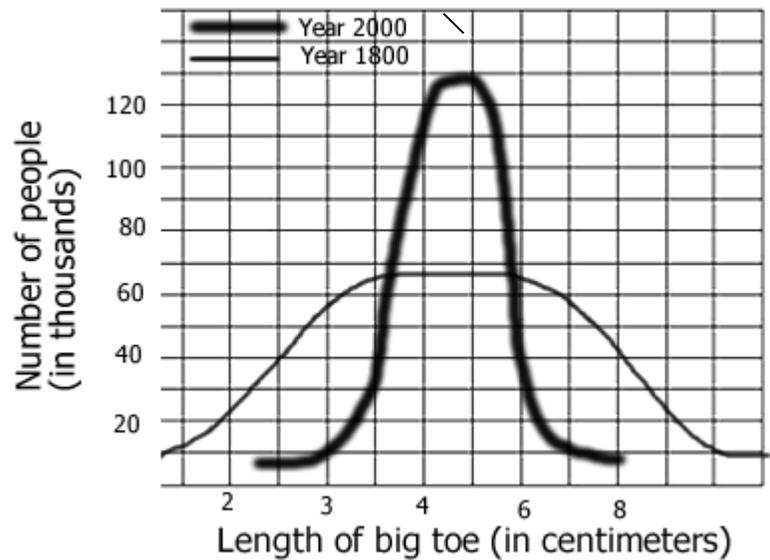
**Graph 1: Rabbits Over Time**

- a. The graph shows a \_\_\_\_\_ growth curve.
- b. The carrying capacity for rabbits is \_\_\_\_\_
- c. During which month were the rabbits in exponential growth?



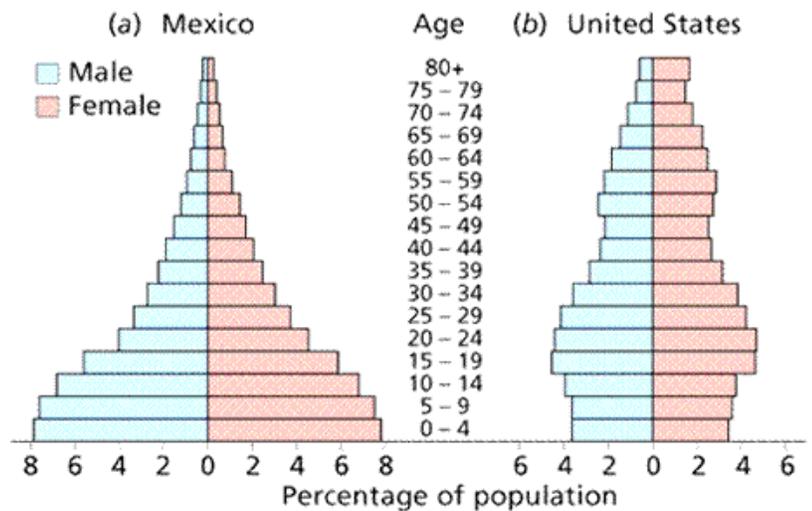
**Graph 2: Average Toe Length**

- a. In 1800, about how many people surveyed had a 3 cm toe? \_\_\_\_\_  
How many in 2000? \_\_\_\_\_
- b. The data shows the \_\_\_\_\_ selection has occurred?
- c. In 2000, what is the average toe length? \_\_\_\_\_  
What is the average toe length in 1800? \_\_\_\_\_



**Graph 3: Mexico and US**

- a. In Mexico, what percentage of the population is between 0-4 years of age? \_\_\_\_\_  
In the US? \_\_\_\_\_
- b. Which population is growing the fastest? \_\_\_\_\_
- c. Which age group has the smallest number in both countries? \_\_\_\_\_



### Chart 4: Trapping Geese

In order to estimate the population of geese in Northern Wisconsin, ecologists marked 10 geese and then released them back into the population. Over a 6 year period, geese were trapped and their numbers recorded.

Year	Geese Trapped	Number with Mark
1980	10	1
1981	15	1
1982	12	1
1983	8	0
1984	5	2
1985	10	1

- Use the formula to calculate the estimated number of geese in the area studied? \_\_\_\_\_
- This technique is called \_\_\_\_\_ & \_\_\_\_\_
- Supposing more of the geese found in the trap had the mark, would the estimated number of geese in the area be greater or lesser?

$$\frac{(\text{Total number captured}) \times (\text{number marked})}{(\text{total number recaptured with mark})}$$

### Chart 5: Mushroom Plots

Another ecologist uses a different method to estimate the number of mushrooms in a forest. She plots a 10x10 area and randomly chooses 5 spots, where she counts the number of mushrooms in the plots and records them on the grid.

			5						2
		3							
			2				3		

- Calculate the number of mushrooms in the forest based on the grid data: \_\_\_\_\_
- This technique is called \_\_\_\_\_

### Chart 6: Snakes & Mice

The data shows populations of snake and mice found in an experimental field.

- During which year was the mouse population at zero population growth? \_\_\_\_\_
- What is the carrying capacity for snakes ? \_\_\_\_\_
- What is the carrying capacity for mice? \_\_\_\_\_
- What is the rate of growth (r) for mice during 1970? \_\_\_\_\_ During 1980? \_\_\_\_\_

Year	Snakes	Mice born	Mice died
1960	2	1000	200
1970	10	800	300
1980	30	400	500
1990	15	600	550
2000	14	620	600
2001	15	640	580