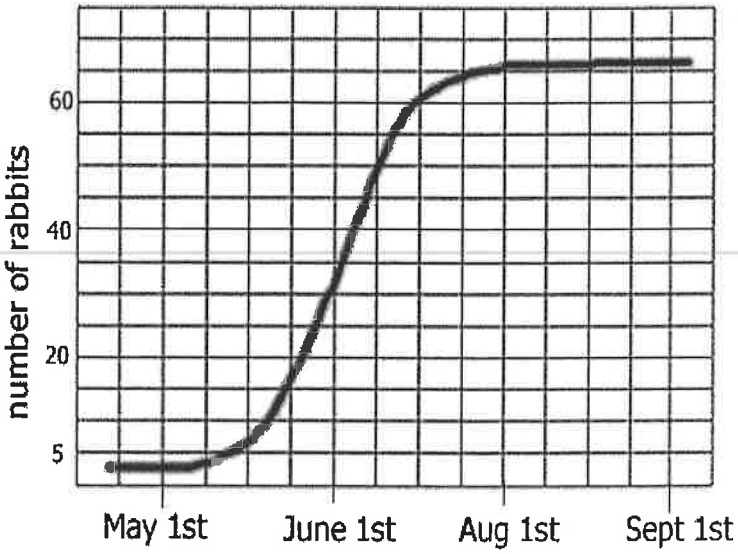
Name _____ Date _____ Period _____

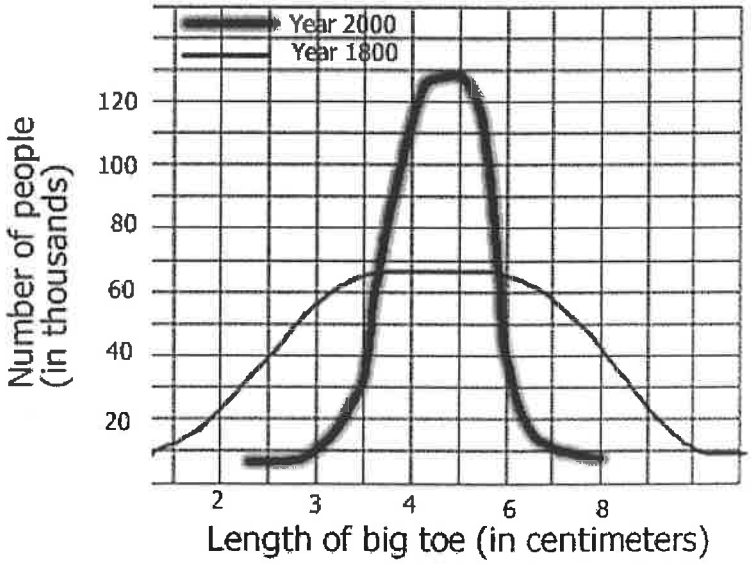
Understanding Graphs

Graph 1: Rabbits Over Time



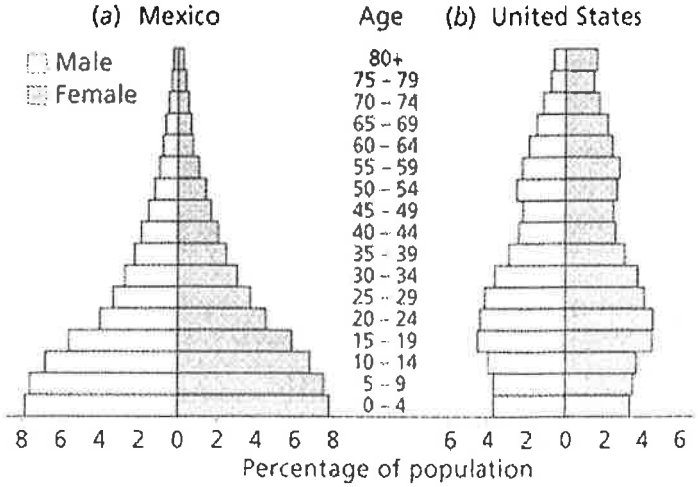
a. The graph shows a _____ growth curve.
b. The carrying capacity for rabbits is _____
c. During which month were the rabbits in exponential growth?

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? _____

Name _____ Date _____ Period _____

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.

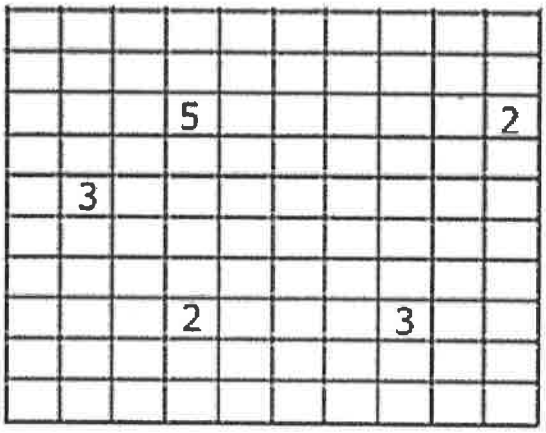
Year	Geese Trapped	Number with Mark
1980	10	1
1981	15	1
1982	12	1
1983	8	0
1984	5	2
1985	10	1

a. Use the formula to calculate the estimated number of geese in the area studied? _____
b. This technique is called _____ & _____.
c. 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? _____

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

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.



a. Calculate the number of mushrooms in the forest based on the grid data: _____
b. This technique is called _____

Chart 6: Snakes & Mice

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

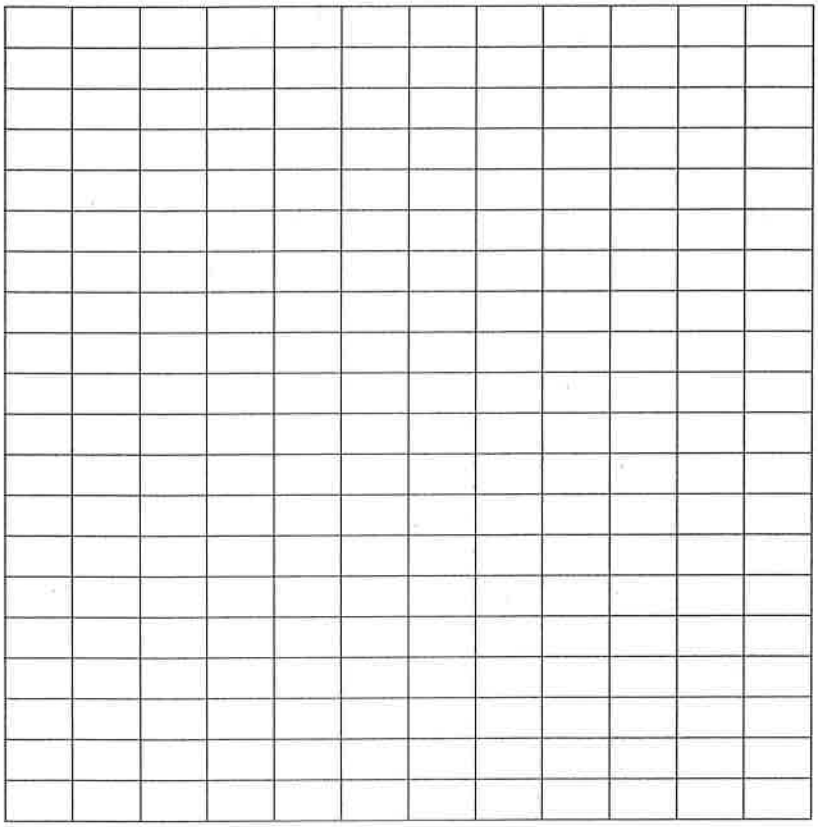
Year	Snakes	Mice born	Mice died
1960	2	1000	200
1970	10	800	300
1980	30	400	500
1990	15	600	550
2000	14	620	600
2001	15	640	580

a. During which year was the mouse population at zero population growth? _____
b. What is the carrying capacity for snakes ? _____
c. What is the carrying capacity for mice? _____
d. What is the rate of growth (r) for mice during 1970? _____ During 1980? _____

Graphing Practice Problem - Hookworms

When looking at data from an experiment, it is much easier to look at a graph sometimes than just to look at numbers. Please read the following information carefully, graph the data from the table, and then answer the following questions about the graph. Remember – the independent variable goes on the x-axis (the horizontal line) and the dependent variable goes on the y-axis (the vertical line).

Hookworms are parasites that like living in the human intestine. They feed off the human by drinking the blood it sucks from the intestinal wall. The chart below contains data on the number of hookworms and the amount of blood that was lost caused by those hookworms. Start off by making a graph of the data.



Graph Checklist:

Did You:

____ Label the independent and dependent variables?

____ Put all the values on your y-axis by 10's?

____ Put all your values by 10's on your x-axis?

____ Give your graph a name?

# of hookworms	Amount of blood lost (cm)
10	20
20	40
40	80
50	100
70	140
80	160

Discussion Questions:

What is the independent variable in this experiment? _____

What is the dependent variable in this experiment? _____

Look at your graph and estimate how much blood you would lose is you had 30 hookworms: _____

This table lists the weights of different dog breeds. Use the table to make a bar graph on the graph paper. Label the vertical axis and the horizontal axis. Then use the graph to answer the following questions.

1. What is the range of weights for dog breeds? _____
2. What is the minimum weight?_____ How many breeds have the minimum weight? _____
3. What is the maximum weight? _____ How many breeds have the maximum weight? _____
4. What is the mode (the weight in the middle)? _____
5. What is the average dog weight? _____

Weights of Various Dog Breeds

Breed	Weight (kg)	Breed	Weight (kg)
Airedale terrier	27	German shepherd	39
Beagle	14	Golden retriever	34
Bearded collie	23	Great Dane	68
Black and tan coonhound	27	Keeshond	18
Border terrier	7	Pekingese	5
Boxer	34	Pug	8
Chow chow	27	Saint Bernard	90
Cocker spaniel	13	Shetland sheepdog	11
Dalmation	23	Whippet	10
English setter	32	Wire fox terrier	9