Request to Retest for Mastery of Graphing TEKS

Read the information below then complete the following graphs. All graphs must be completely labeled, titled and in correct format.

Graphing and Analyzing Scientific Data

Graphing is an important procedure used by scientist to display the data that is collected during a controlled experiment. There are three main types of graphs:

Pie/circle graphs: Used to show parts of a whole.

Bar graphs: Used to compare amounts.

Line graphs: Use to show the change of one piece of information as it relates to another change.

Both bar and line graphs have an "X" axis (horizontal) and a "Y" axis (vertical).

Parts of a Graph:

Title: Summarizes information being represented in ANY graph.

Independent Variable: The variable that is controlled by the experimenter, such as, time, dates, depth, and temperature. This is placed on the **X** axis.

Dependent Variable: The variable that is directly affected by the I.V. It is the result of what happens as time, dates, depth and temperature are changed. This is placed on the **Y** axis.

Scales for each Variable: In constructing a graph, one needs to know where to plot the points representing the data. In order to do this a scale must be employed to include all the data points. This must also take up a conservative amount of space. It is not suggested to have a run on scale making the graph too hard to manage. The scales should start with 0 and climb in intervals such as, multiples of 2, 5, 10, 20, 25, etc...the scale of numbers will be determined by your data values.

Key: Color or pattern differences if graphing more than one result. It should be placed near the graph.

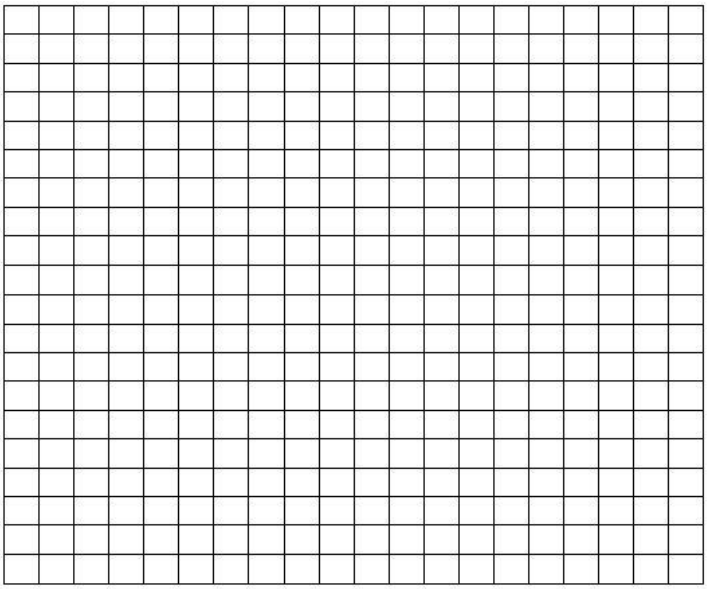
Extrapolate: extending the graph, along the same slope, above or below data to make a prediction.

Interpolate: predicting data between two measured points on the graph

Graph Worksheet **Name:**_____

A. Graph the following information. *Which type of graph should be used?* _____ *Label and number the x and y-axis appropriately.*

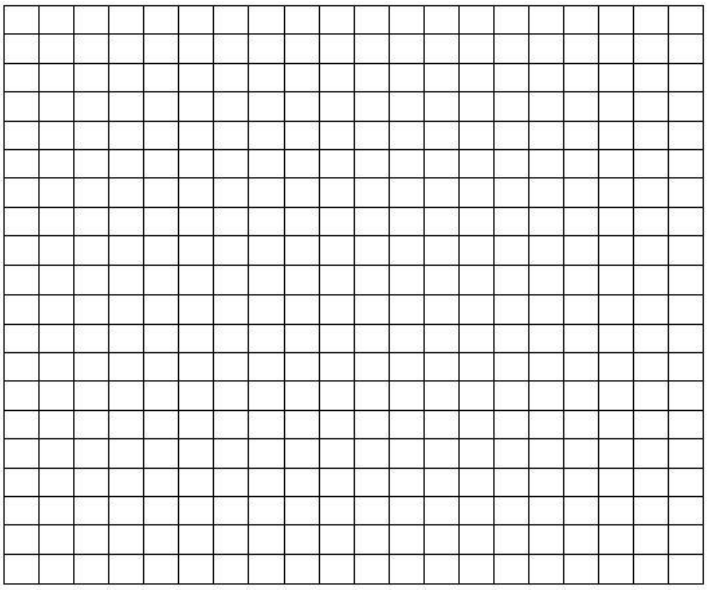
Month	# of deer
Sept	38
Oct	32
Nov	26
Dec	20
Jan	15
Feb	12



1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What is an appropriate title? _____
4. What is the average number of deer per month? _____
5. What is the population in March likely to be if this trend continues? _____

B. Graph the following information. Label and number the x and y-axis appropriately.

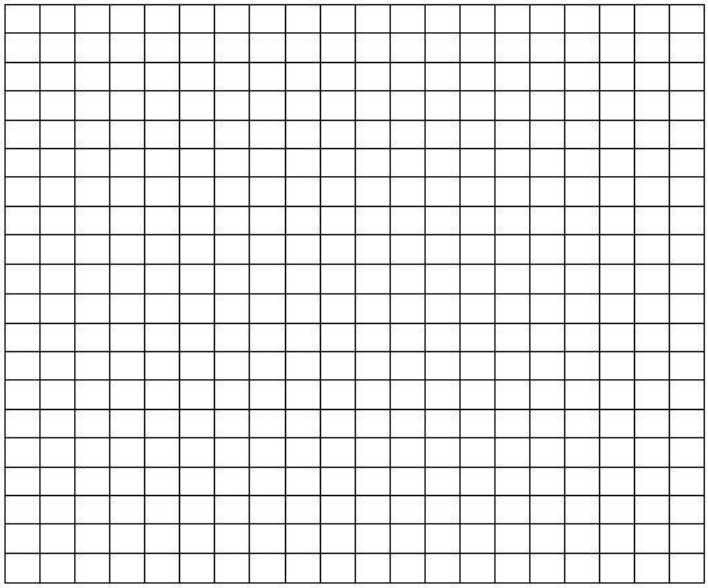
# of Days	# of Bacteria
1	4
2	16
3	40
4	80
5	100
6	200



1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What is an appropriate title? _____

C. Graph the following information. Label and number the x and y-axis appropriately.

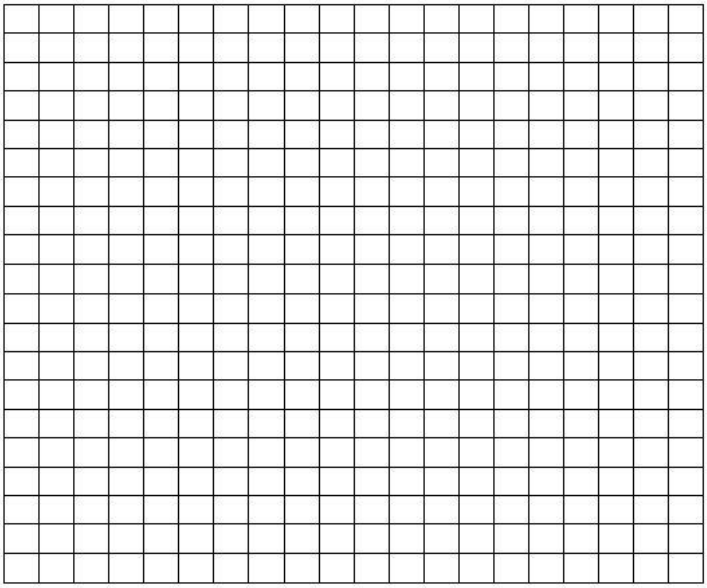
Type of automobile	miles per gallon
Jeep Wrangler	12
Ford F150	16
Dodge Caravan	26
Toyota Corolla	22
Mercedes Benz	18
Nissan Altima	30



1. What is the independent variable? _____
2. What is the dependent variable? _____
3. What is an appropriate title? _____
4. What vehicle had the optimum miles per gallon? _____

D. Graph the following information. Label and number the x and y-axis appropriately.

Temperature	Enzyme Activity
0	0
20	10
30	15
40	20
50	8
60	5
70	0



1. What is the independent variable? _____
2. What are the dependent variables? _____
3. How do Enzymes react to Temperature? _____