

Data Analysis with Graphs

Circle Graph



Compare
Percentages

Bar Graph



Compare
Quantities

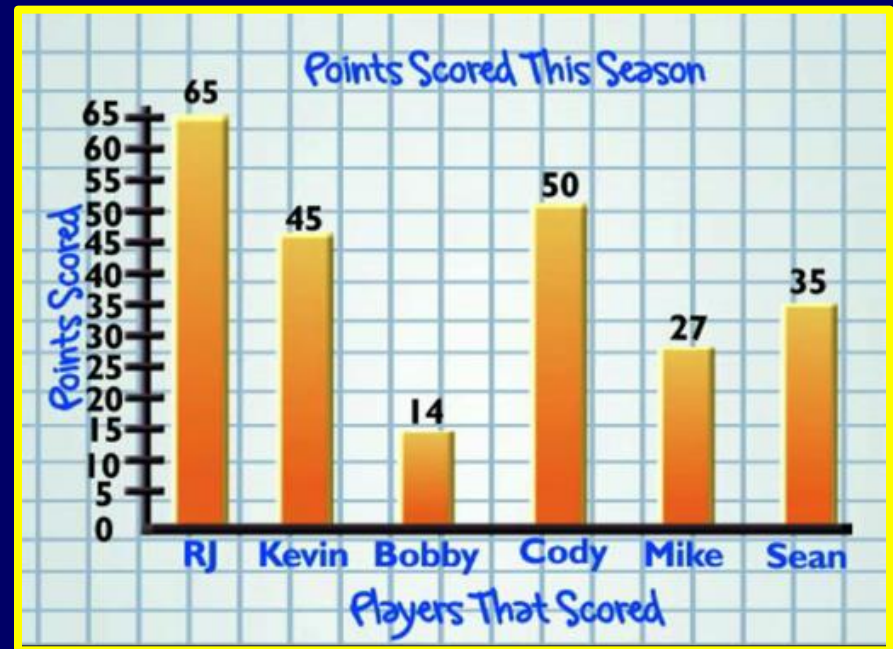
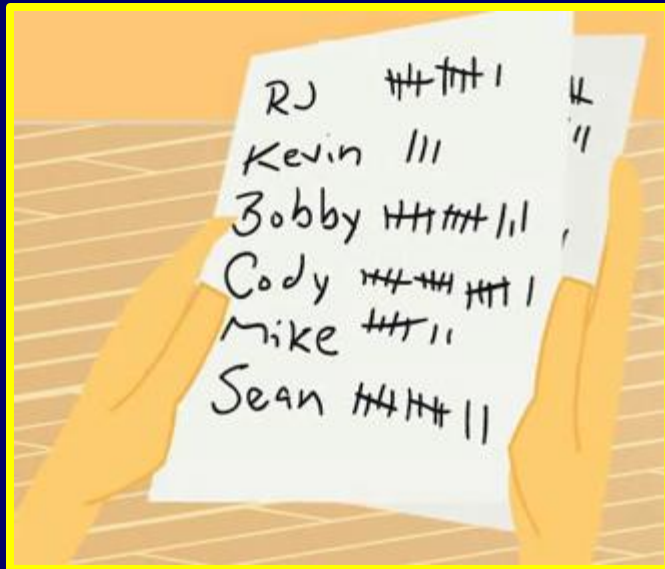
Line Graph



Change
Over Time

Analyzing Data

When analyzing data, it's often easier to find patterns or trends when the data is displayed in a graph.



Types of Graphs

There are three types of basic graphs: Circle Graphs, Bar Graphs, and Line Graphs.

Circle Graph



Compare Percentages

Bar Graph



Compare Quantities

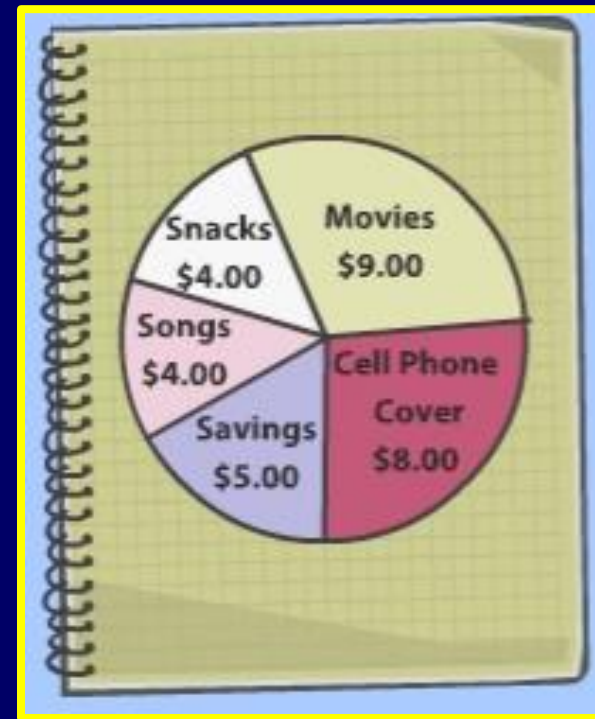
Line Graph



Change Over Time

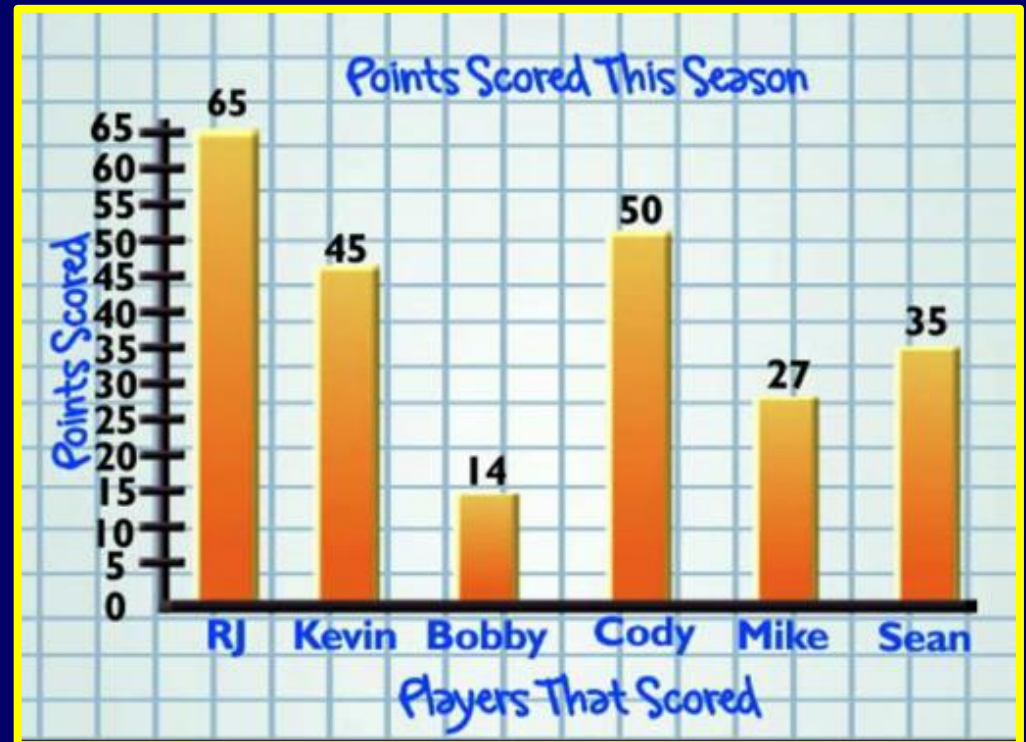
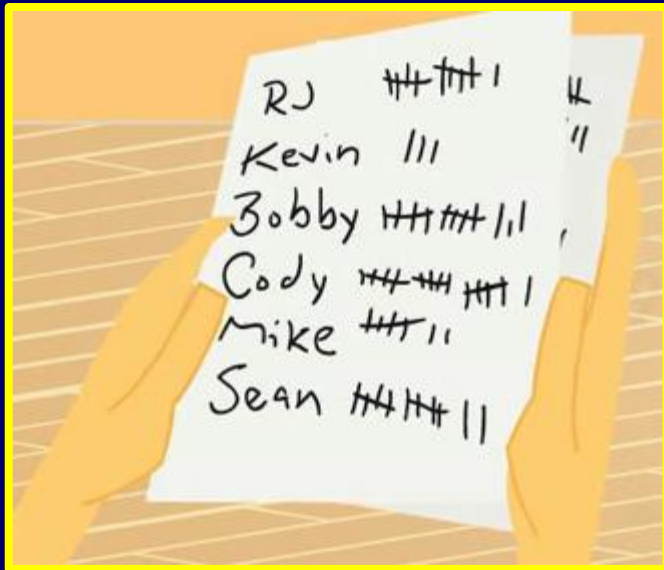
Circle Graphs

Circle graphs, also called pie charts are used for comparing parts of a whole or percentages.



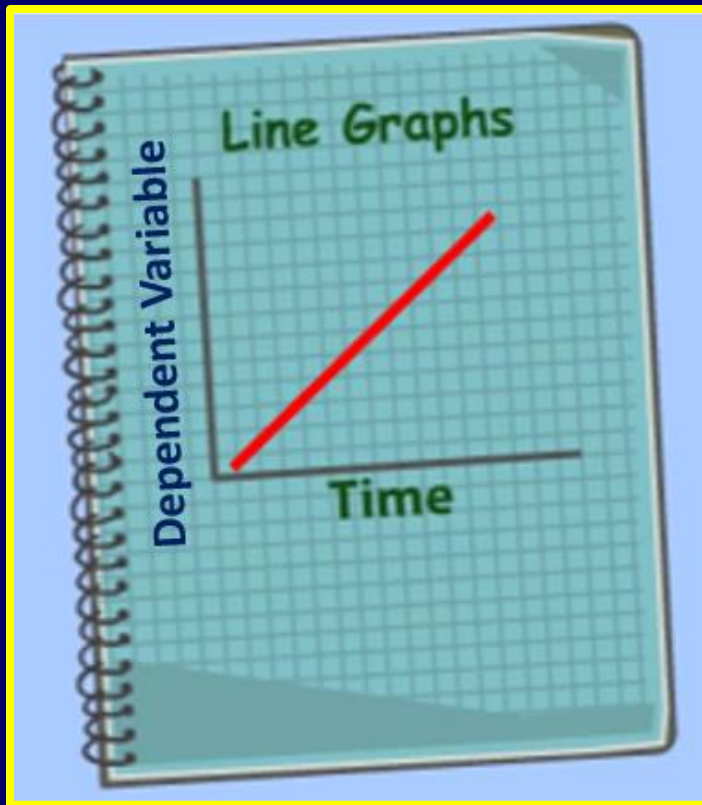
Bar Graphs

Bar graphs are used for comparing categories of measured quantities.



Line Graphs

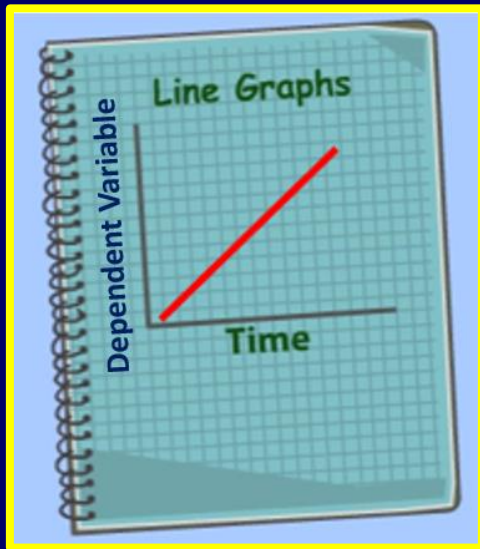
Line graphs are used to show changes over time.



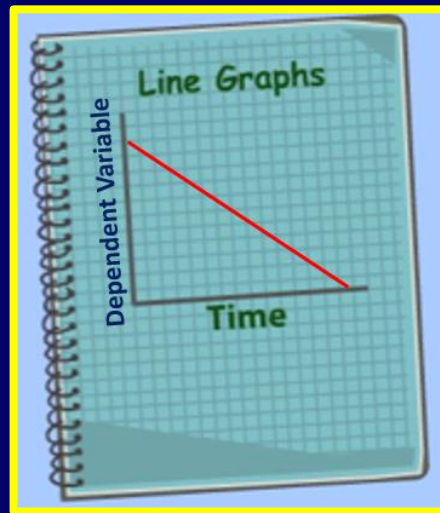
The dependent variable is always placed on the Y axis and time is placed on the X axis.

Line Graphs

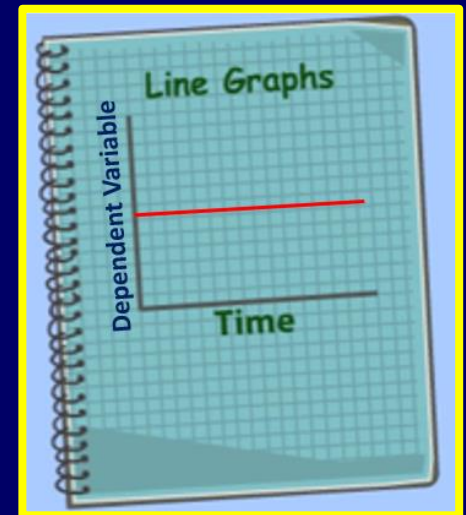
The slope of the line can tell you whether the dependent variable is increasing, decreasing, or not changing at all.



Increasing



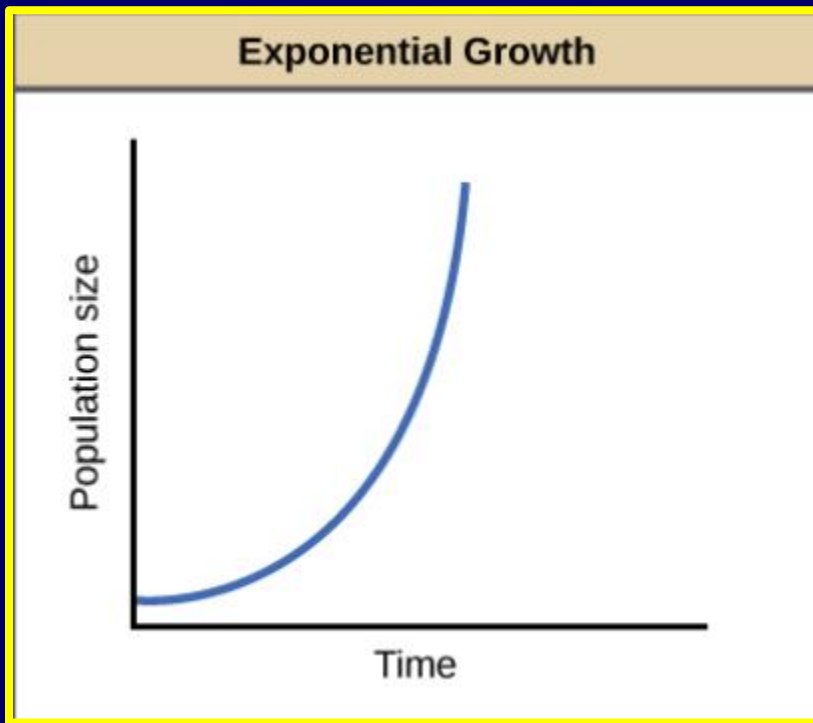
Decreasing



No Change

Line Graphs

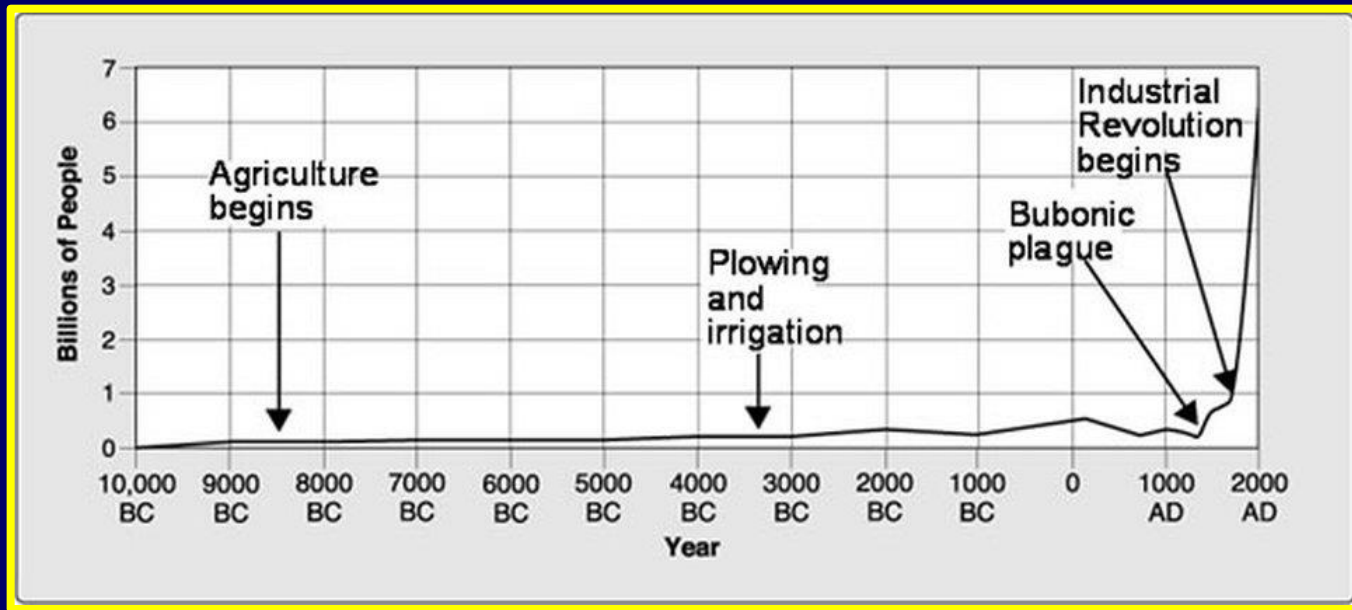
When the line curves, the change is occurring exponentially.



This means that the change is occurring at a faster rate, over time.

Line Graphs

The human population is growing exponentially.

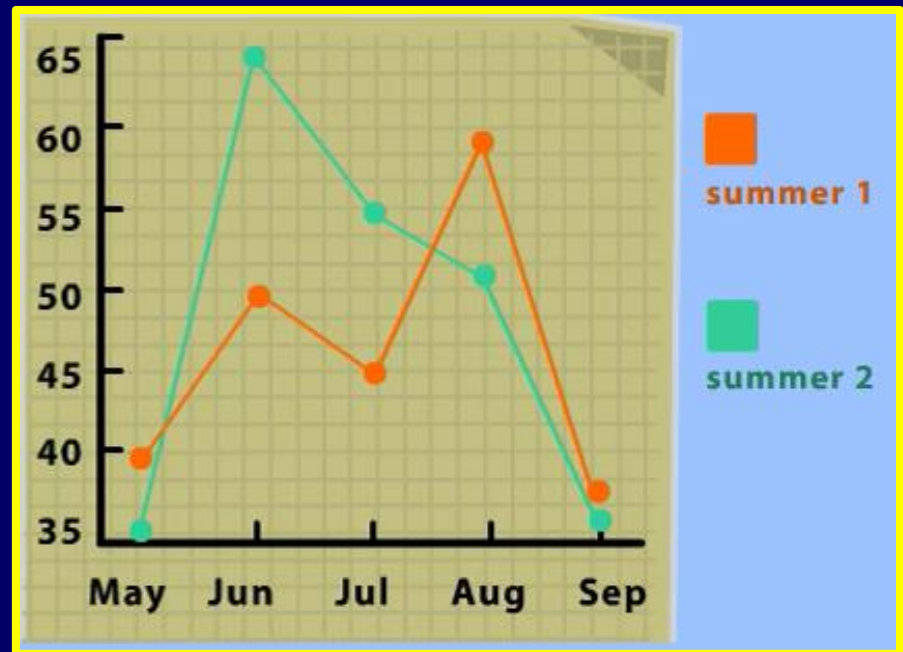


As the human population grew larger, it began increasing at a faster rate.

Line Graphs

Using different colors and a key, you can plot and compare two different sets of data on the same line graph.

months	summer	summer
	1	2
May	39	35
June	50	65
July	45	55
Aug	60	52
Sept	37	36



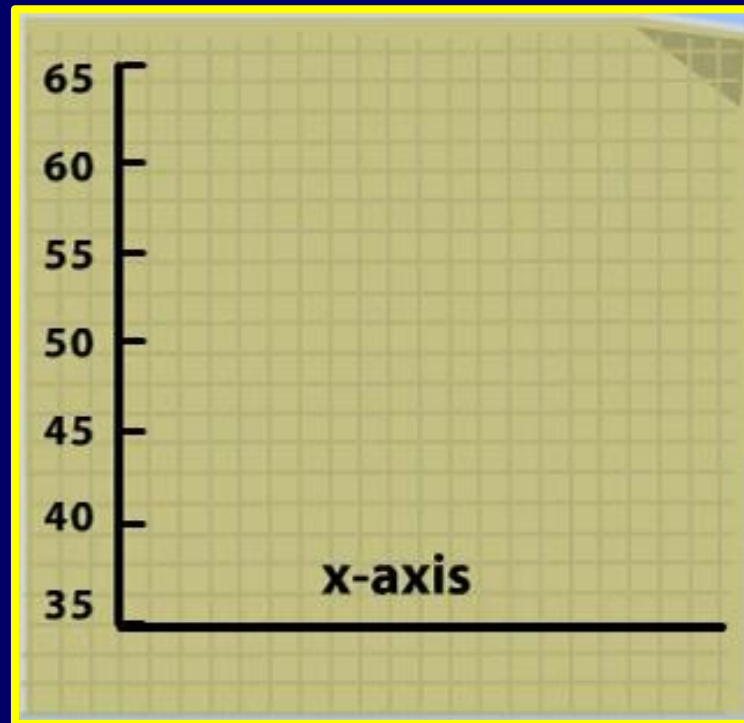
Graph Title

Every graph always needs a descriptive title so that anyone can tell quickly determine what is being graphed.



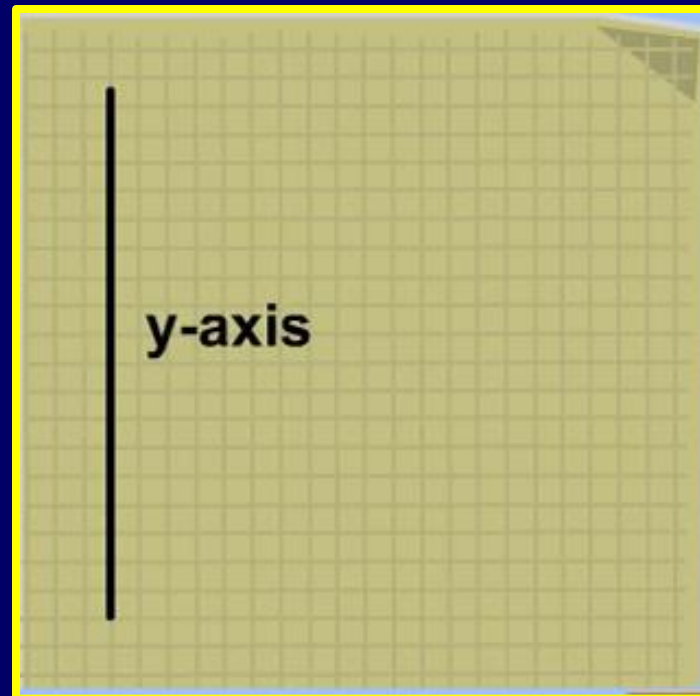
X Axis

The horizontal axis, on a graph, is called the X axis and always contains the independent variable.



Y Axis

The vertical axis, on a graph, is called the Y axis and always contains the dependent variable.



Title for Each Axis

The X and Y axis also always need to be given a descriptive title.

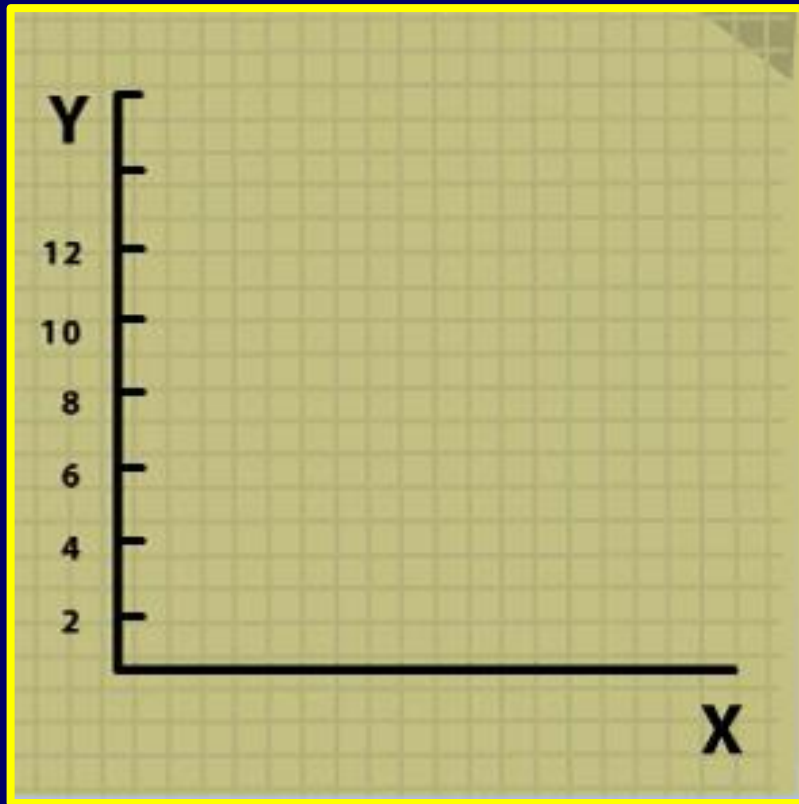
Y Axis



X Axis

Same Intervals

The intervals on each axis need to remain consistent.



If intervals change by 2's, then you need to stick with 2's and not change to 5's or 10's, on the same graph.

The End

