Graphing

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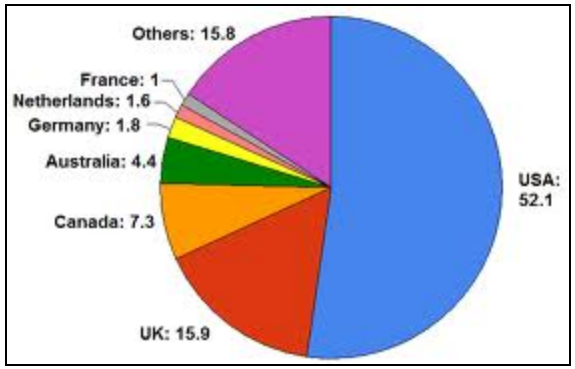
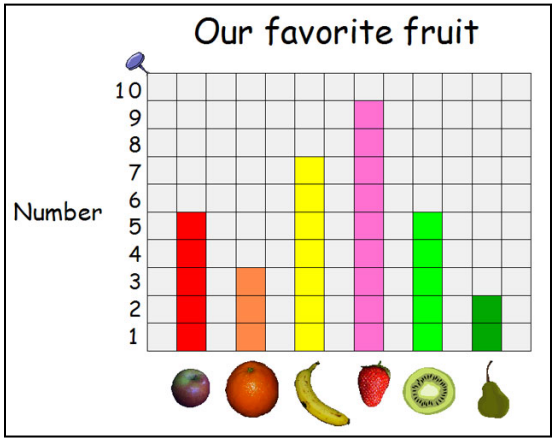
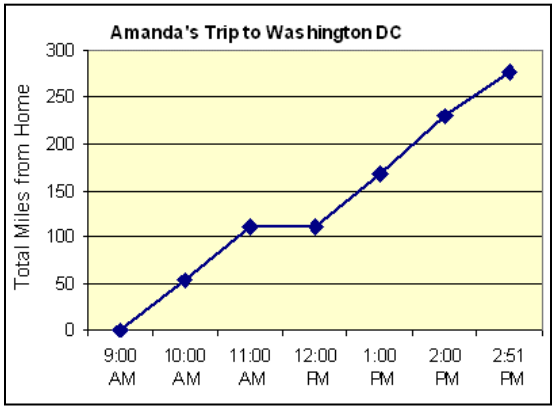
- Graphing is an important procedure used by scientist to display the data that is collected during a controlled experiment. There are three main types of graphs:

  - 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



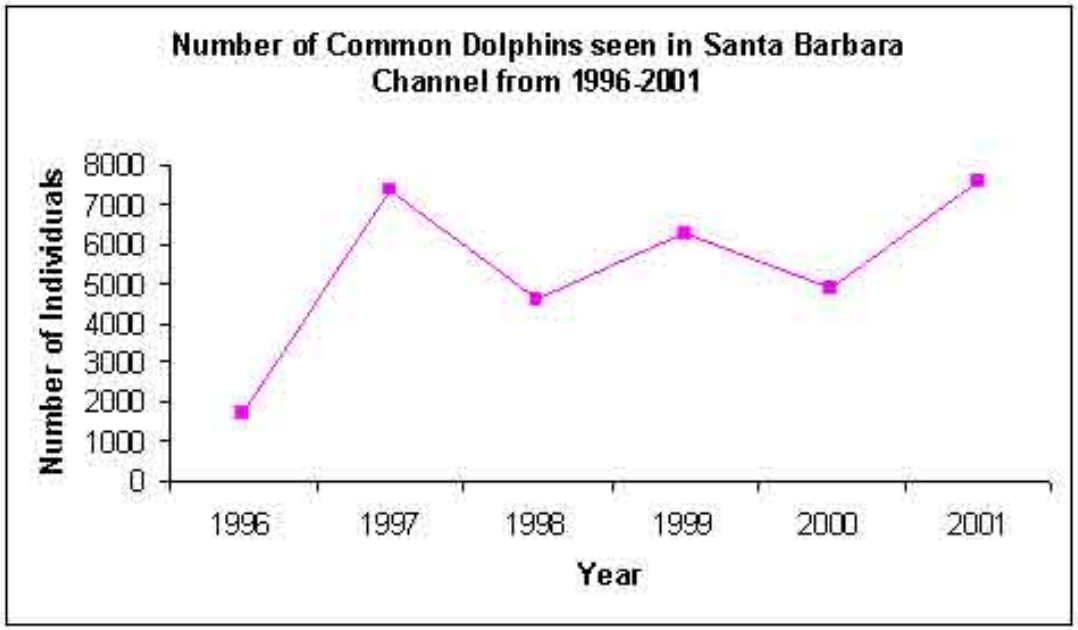




Parts of a Graph

- **Title:** Summarizes information being represented in ANY graph.
- **Manipulated Variable:** The variable that is tested by the experimenter, such as, time, dates, depth, and temperature. This is placed on the **X** axis.
- **Responding Variable:** The variable that is measured in an experiment. It is the result of what happens as time, dates, depth and temperature are changed. This is placed on the **Y** axis.

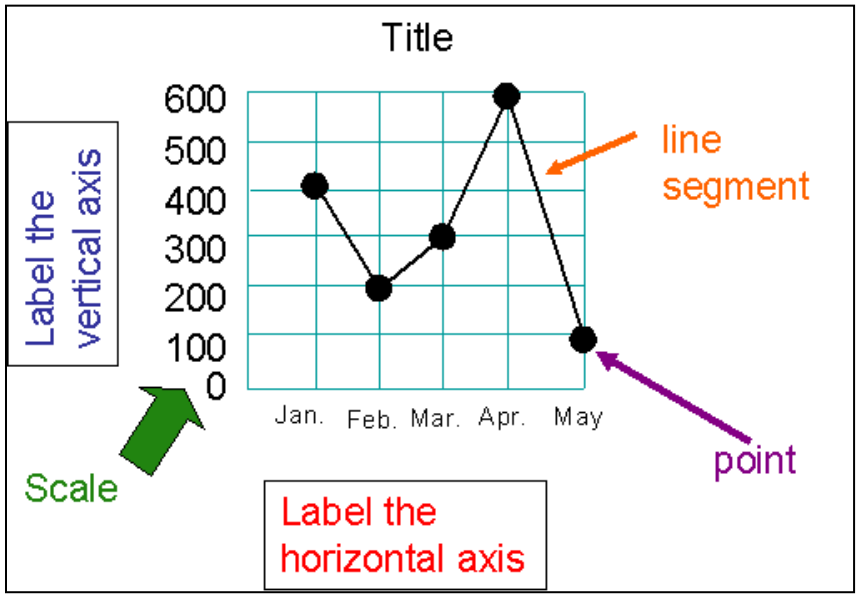
Y-axis

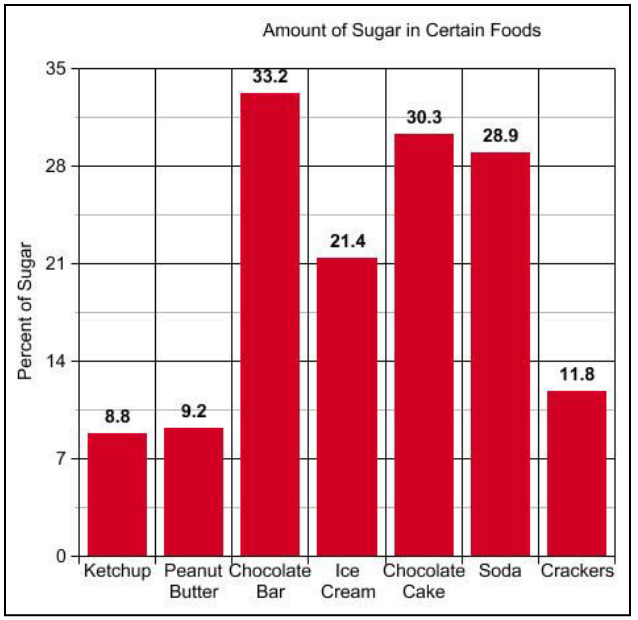


X-axis

Scales for each Variable

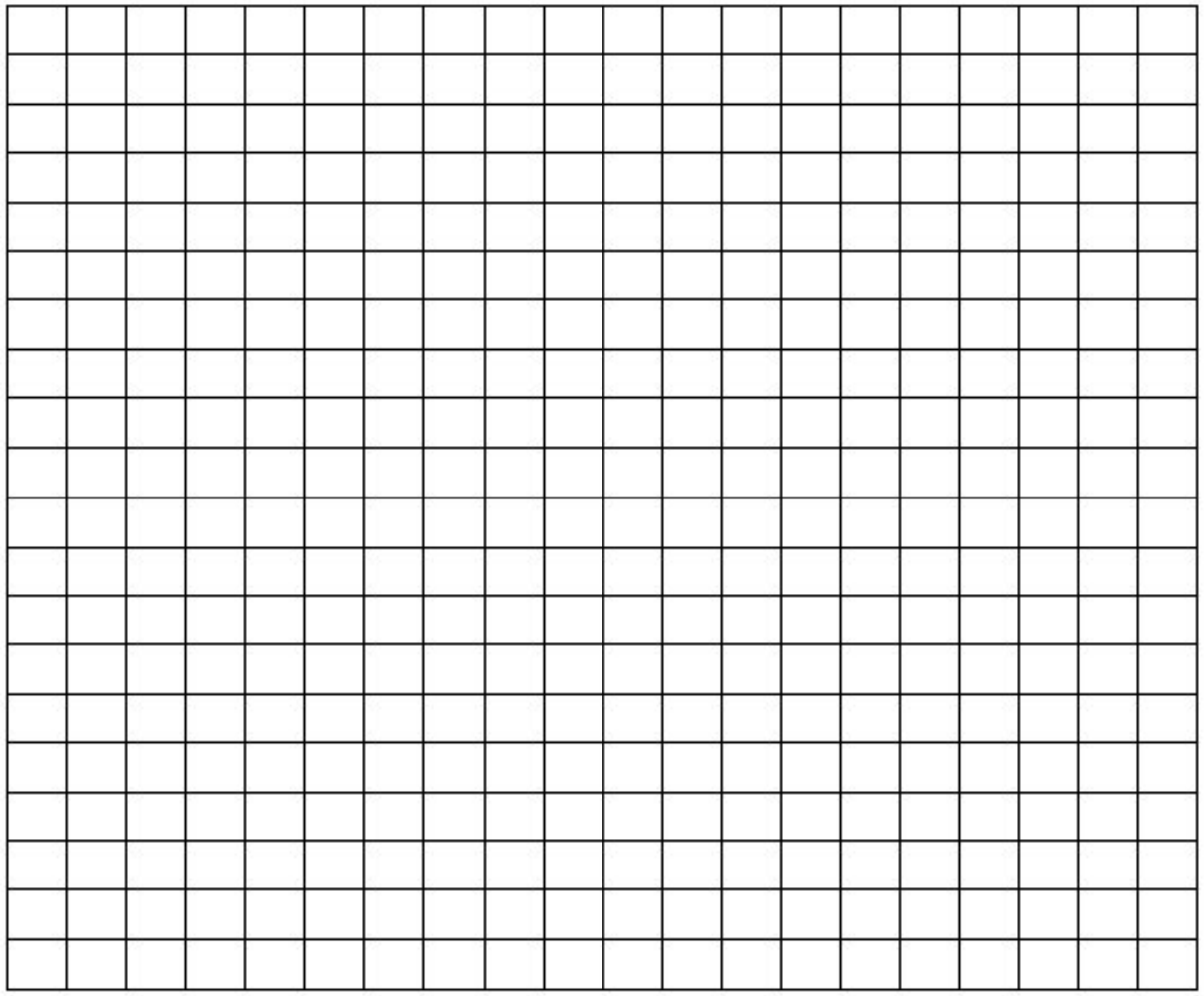
- In constructing a graph, one needs to know where to plot the points representing the data.
- In order to do this a scale must be employed to include all the data points.
- The scales should start with 0 and climb in intervals such as, multiples of 2, 5, 10, 20, 25, etc
- You determine what your intervals are by looking at your data





Making A Graph Example

Using the data below about the growth of bacteria at different temperatures; determine what intervals you want to use.



Temperature (°C)	# of Bacteria
0	0
10	3
20	7
30	15
40	20
50	8
60	5
70	0