


Science

A way of investigating your surroundings

Scientific Method

- 1. Problem—what you're trying to find out; usually a question
- 2. Observations—what you notice or observe about the situation 
- 3. Hypothesis—educated guess
- 4. Experiment—how you test the hypotheses
- 5. Conclusion—your results

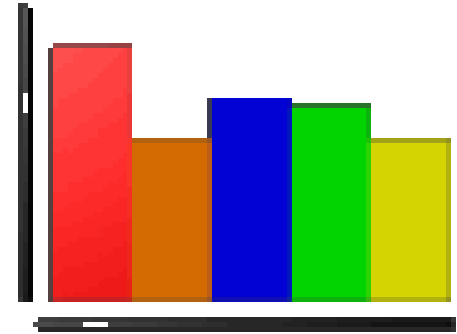


Types of Variables

- 1. independent variable—what is **CHANGING** (what is tested)
- 2. dependent variable—what is **MEASURED** at the end of the experiment
- 3. control (or constant)—everything that **STAYS THE SAME**



Graphs



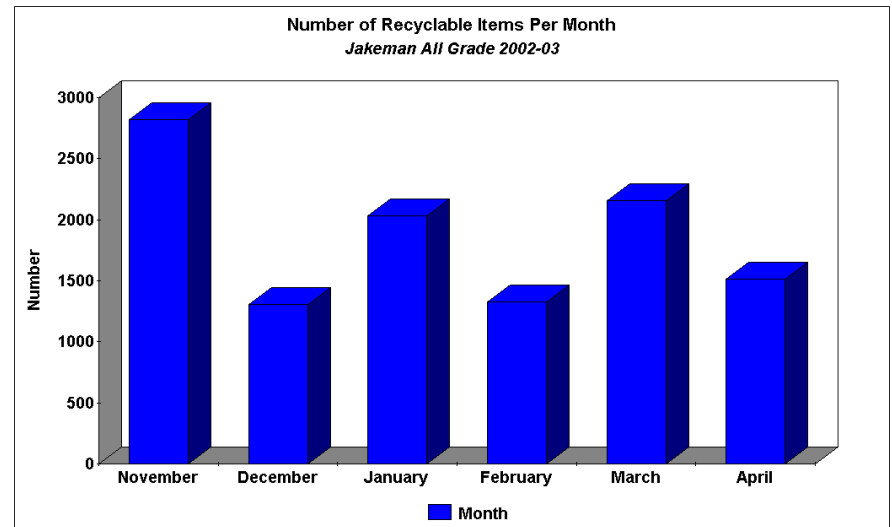
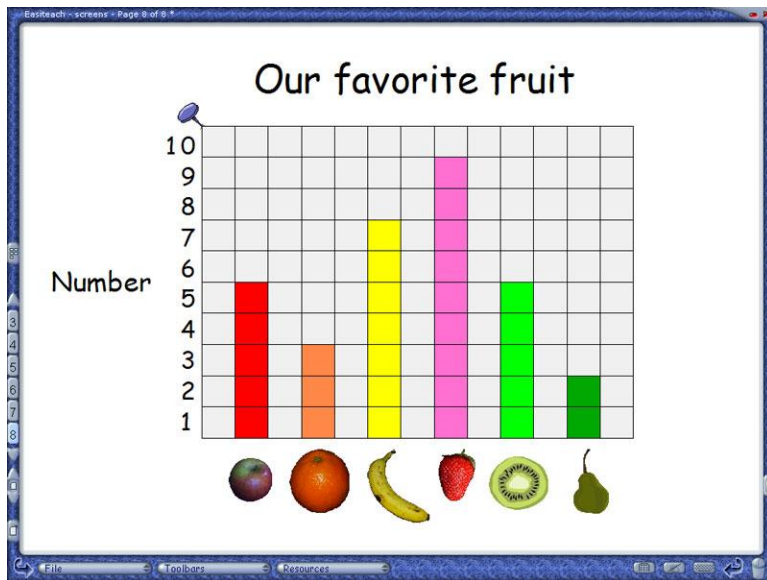
3 Basic Types of Graphs

1. Line
2. Bar
3. Circle

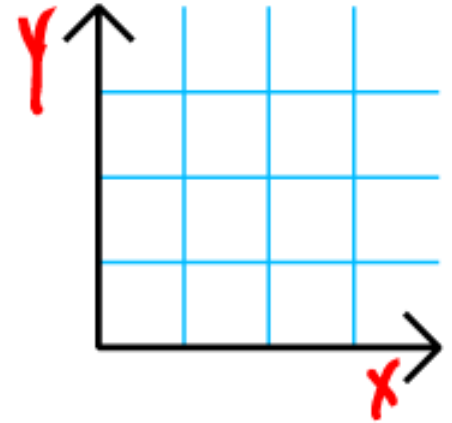


Bar Graphs

Usually created when your data consists of words & numbers



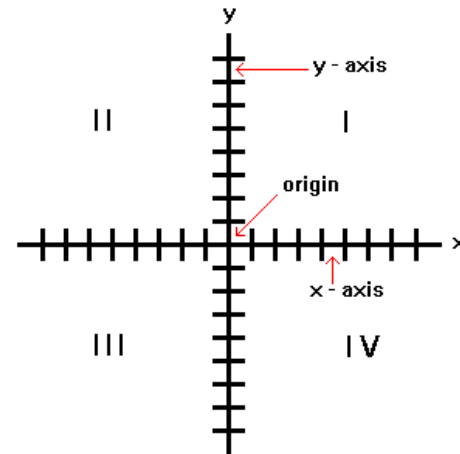
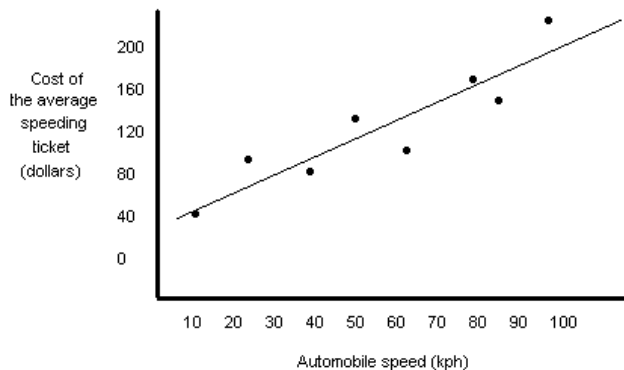
Line Graphs



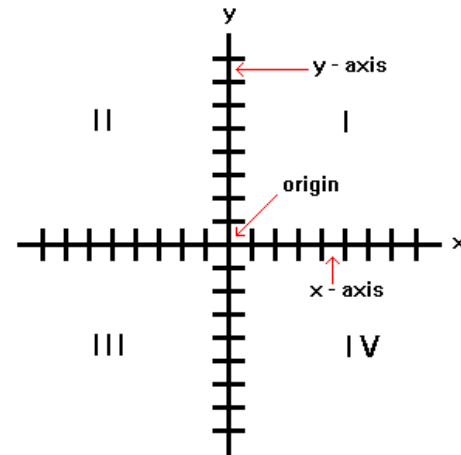
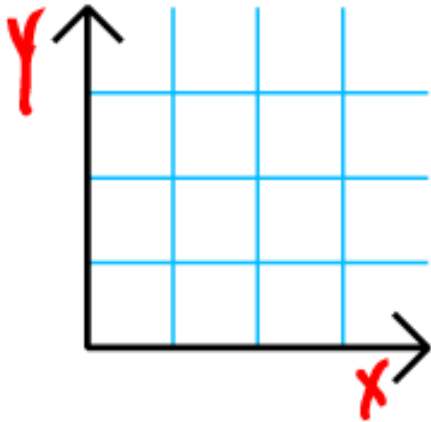
Usually created when your data consists of numbers & numbers

Scatter plot—type of line graph in which the best line possible is drawn through the plots

The Dependence of Traffic Ticket Cost on Automobile Speed

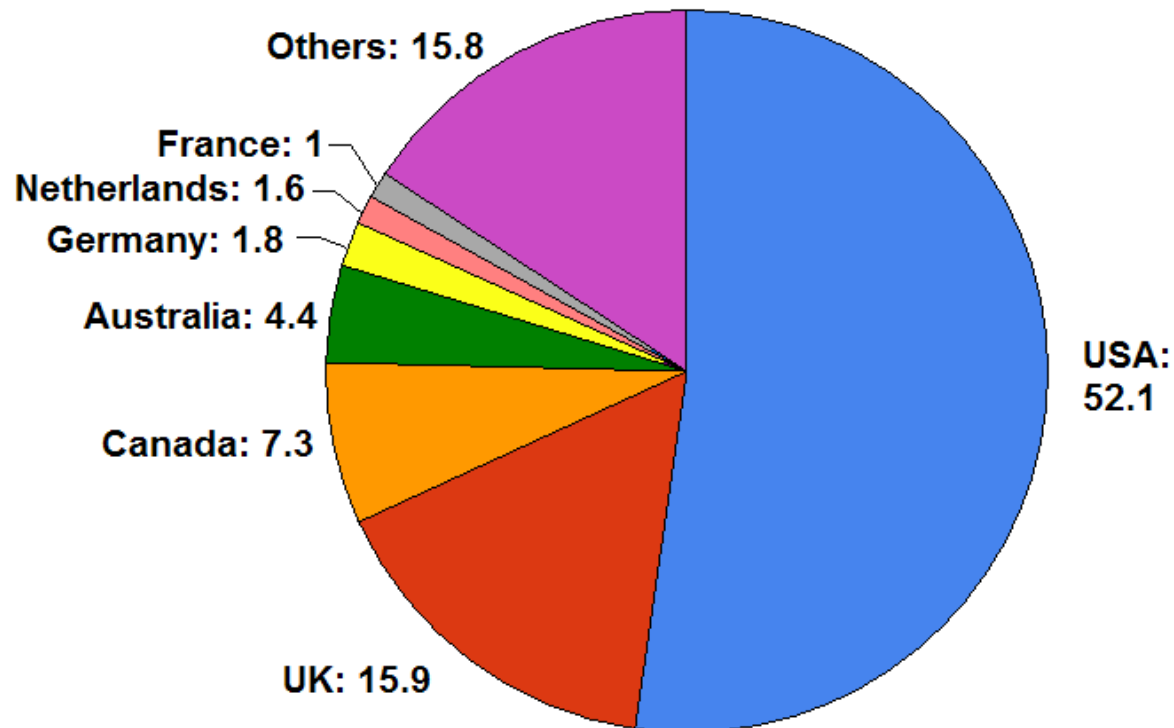


- Graphs have an x & y axis
 - Place independent variable on the x-axis
 - Place dependent variable on the y-axis



Circle Graph

Shows percentages



Interpreting Graphs

3 Types of relationships or correlations:

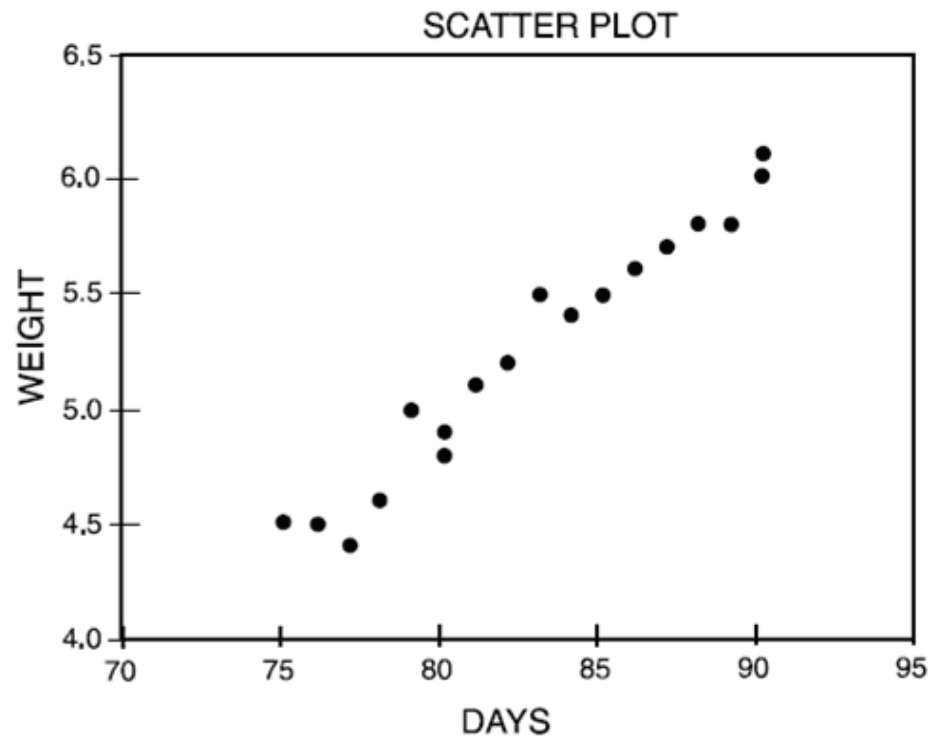
1. Direct (positive slope)
2. Inverse (negative slope)
3. No correlation

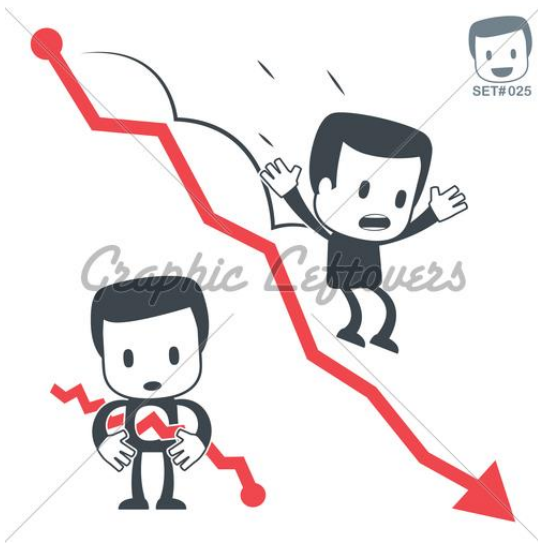


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Direct Correlation

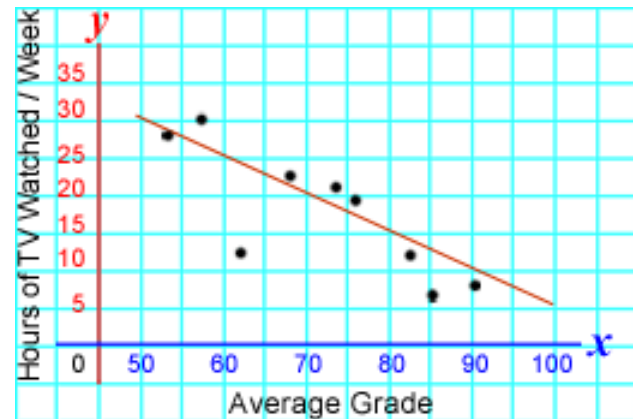
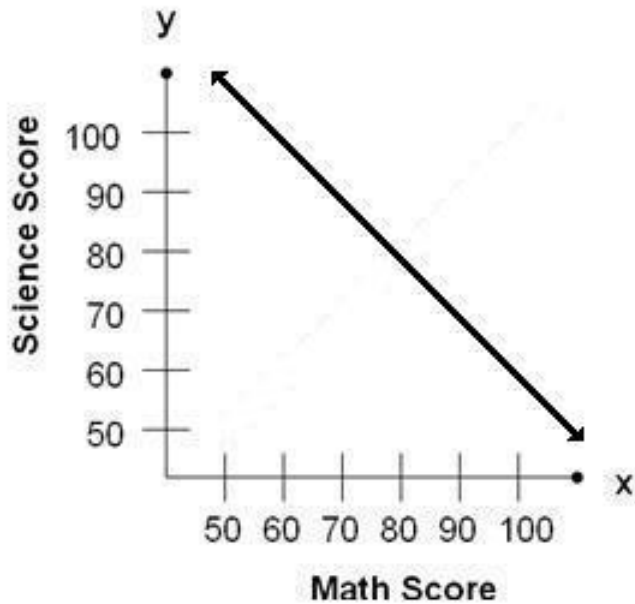
Both variables *increase at the same time* or *decrease at the same time*





Inverse Correlation

As one variable *increases*,
the other *decreases*

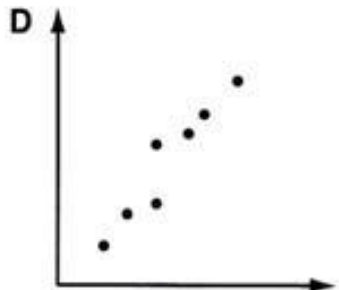
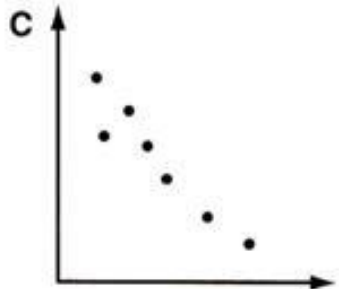
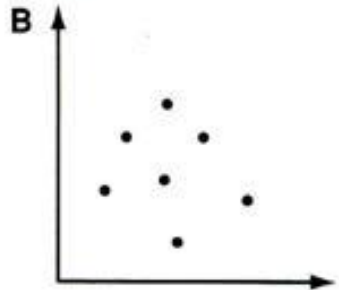
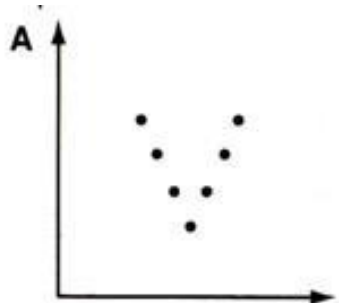


No Correlation

No correlation may be observed between 2 variables



Describe the correlation of each



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Graph the following data:

Favorite Cookie

Cookie	Tally	Number
Chocolate Chip		2
Oatmeal		7
Peanut Butter		4
Animal Crackers		8
Ginger Snaps		6

|



Graph the following data:

Time in minutes	Temperature (in °C)
0	5
10	26
20	45
30	61
40	74
50	80
60	85

Solution:

a.

