

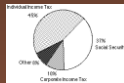
Communicating with Graphs

Why Graph?

A graph is a visual display of information or data. It is used to analyze data.

3 Types of Graphs

- ① **1) Circle Graph**
used for show percentages, proportions, or parts
- ② **2) Bar Graph**
used for comparing quantities or information collected by counting
- ③ **3) Line Graph**
used for comparing 2 sets of data or showing trends over time.



Variables on a line graph

a **VARIABLE** is any factor, or thing that can change during your experiment

- > INDEPENDENT VARIABLES
- > DEPENDANT VARIABLES

INDEPENDENT VARIABLE

- ① This is the variable we can control in an experiment.
- ② In a "T" table, or data table, this variable is on the left side.
- ③ On a graph, this variable goes on the X axis

x	y



INDEPENDENT VARIABLE

- ① Some books calls the independent variable the **MANIPULATED** variable, because we manipulate or set it to our specifications

DEPENDENT VARIABLE

- ⦿ This is the variable we have to observe in an experiment.
- ⦿ Dependent variables are measured during the experiment, after you start following your procedures

DEPENDENT VARIABLE

- ⦿ In a "T" table, or data table, this variable is on the right side.
- ⦿ On a graph, this variable goes on the Y axis

x	y



DEPENDENT VARIABLE

- ⦿ Some books call the dependent variable the **RESPONDING** variable, because it responds to the procedure you are following. We can't choose what the data will be.

RULES OF GRAPHING

- ⦿ Follow these simple rules for GREAT GRAPHS

RULE # 1.

- ⦿ 1. Always draw neat lines with a straight edge or ruler (sometimes you will need to draw a "best fit" line)

RULE # 2.

- ⦿ Make your graph 1/2 page or 1 full page in size.
- ⦿ Small graphs are too difficult to read patterns or results of your experiment.

RULE # 3.

- Label three places on your graph.
 1. TITLE
 2. label the x-axis with the independent variable
 3. label the y-axis with the dependent variable

RULE # 4.

- Number the x and y axis with a regular numerical sequence or pattern starting with 0 to space out your data so it fills the entire graph
 - > examples: 0, 5, 10, 15 . . .
 - > 0, 2, 4, 6, . . ., 0, 0.5, 1.0, 1.5, 2.0

RULE # 5.

- Number the x and y axis on the lines of the graph, not the spaces between the lines



RULE # 6.

- If your graph shows more than one trial of data, or has more than 1 line, USE A KEY
- A key can be different colored lines, lines with different textures or patterns.

The End

Good Luck and Happy
Graph Drawing!