



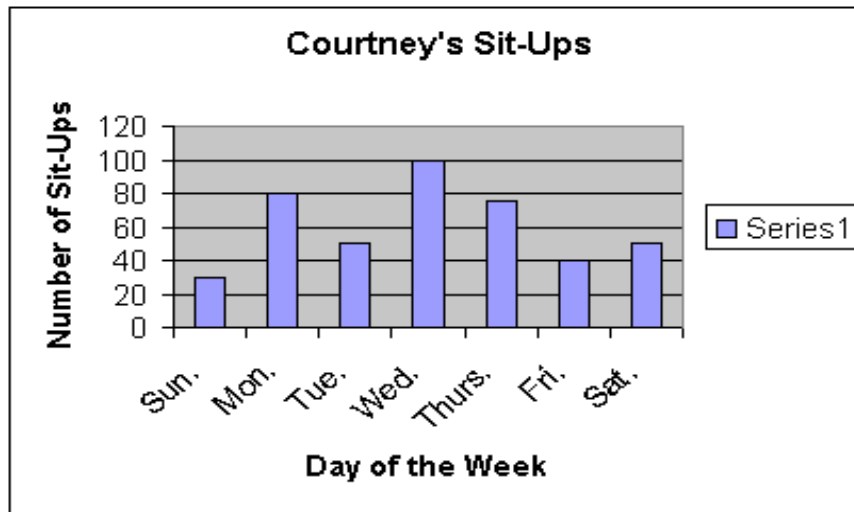
Communication - Graphing

- Must be neat and easily able to be understood. (Use graph paper.)
- Plan ahead! **Note the largest value number** to be plotted on each axis and **make sure that your scale is large enough**. You should **use up about a third of the paper** in both
- **Label the X and Y axes** if applicable and **give** units when needed to those labels in parenthesis: LABEL (UNITS) as in Distance (cm).
- All graphs should **have a good title**. A good title that always works is “y” as a function of “x”. The **independent variable** is usually plotted on the horizontal (x) axis.



Communication - Graphing

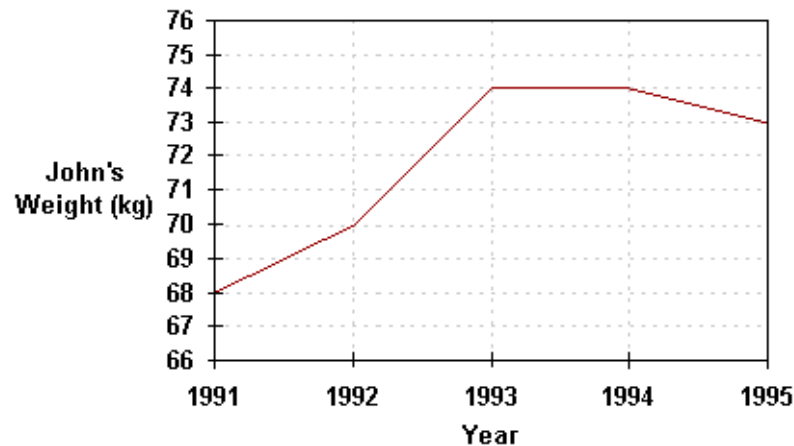
- Bar graphs: These are best used to show numeric data that represent discrete items or experiments. Bars imply that there are no intermediate values, and in many cases (but not all), the order of the bars along the x-axis will not matter.





Communication - Graphing

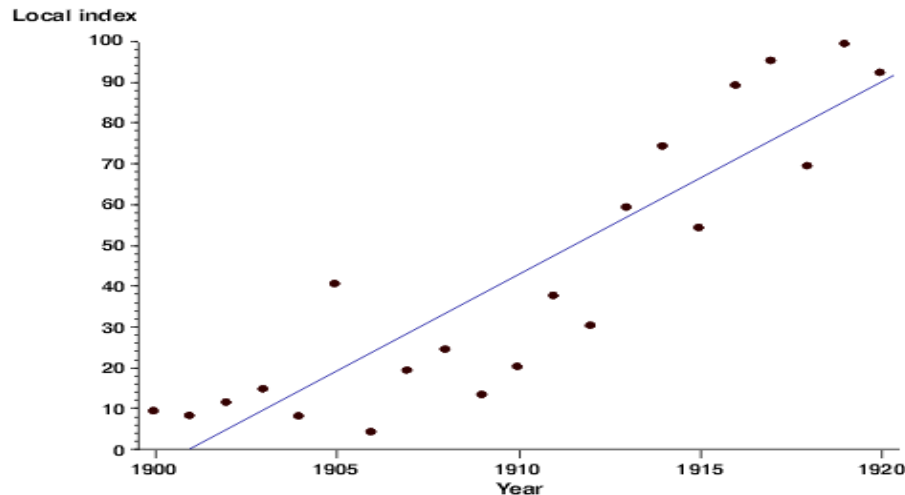
- Line graphs: These are used to best represent data that are samples from continuous phenomena. The visual implication of the line is that intermediate points exist, but may not be sampled. The order of the data along the x-axis is important. The data points are also connected by straight lines.





Communication - Graphing

- Scatter plot: These graphs show the relationship between two measured variables as a scatter of individual points, each representing an item with its position determined along the X and Y axes by its values for the two variables. The points of a scatter plot are never connected, but a regression line (a “best fit” line) is often plotted, showing how one measurement varies in relation to the other.





Communication - Graphing

- Pie Chart: Unlike other charts, such as a bar graph or line graph, the pie chart relies on percentages rather than raw data. You need to convert the data to percentages for a pie chart. Since the circle has 360 degrees, multiply the percentage for each category by 360 to determine how big to make each slice. For example, multiply 40 percent by 360 degrees to get 144 degrees for the slice of the pie chart. (Divide part/whole then multiply by 360).

