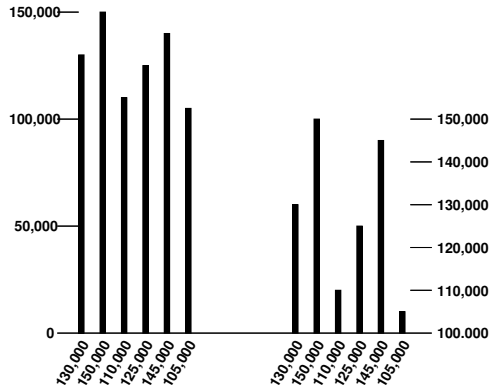
Chap 1, Sec. 4: Calculating, Estimating, and Reading Graphs

- You should be able to **use** a calculator to add, subtract, multiply, divide, and to know if the result is "in the ball park."
- You should be able to **estimate** answers without a calculator
- You should be able to **interpret** graphs such as pie charts, bar graphs, and line graphs.
- Don't forget the **Chapter Test** – it's useful for reviewing the chapter.

Caveat



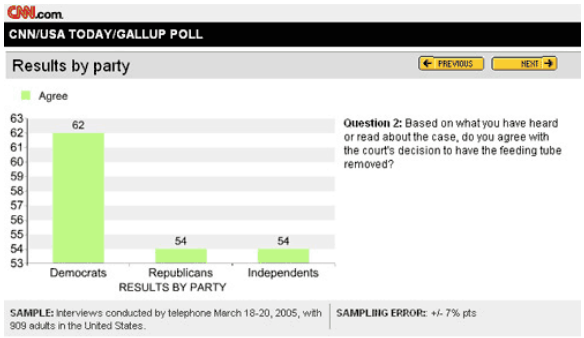
Exaggerated differences — same numbers, different scales

An Example of a Misleading Chart — from CNN

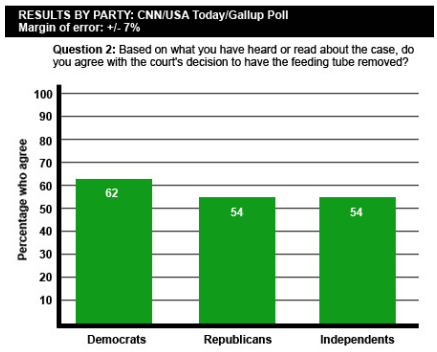
In the midst of the Terri Schiavo Media/Political Frenzy, 2005

"...[I]t wasn't just feckless pundits who were trying to turn this story into some kind of Republican vs. Democrat freak-fest — mainstream media outlets were desperate to get in on the act too.

CNN tried especially hard, even going so far as to produce some dubious graphics indicating that compared to Republicans and Independents, Democrats were overwhelmingly in favor of removing Terri Schiavo's feeding tube:"



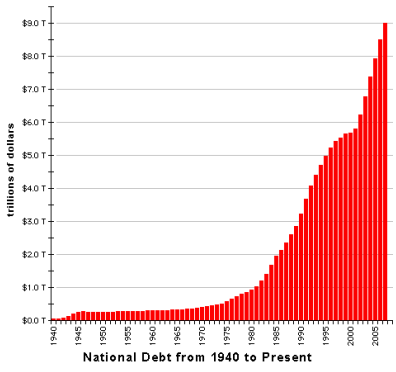
Note the scale on this graph. This is a classic example of how to "**lie with statistics**" - that is, to doctor a graph to make it produce an emotional, visual result. Thanks to Media Matters, here's the graph on a scale from 0 to 100:



"Wow... that doesn't have quite the same impact, does it? In fact, if you take into consideration that the margin of error in the poll is 7 percentage points, the results are pretty similar."

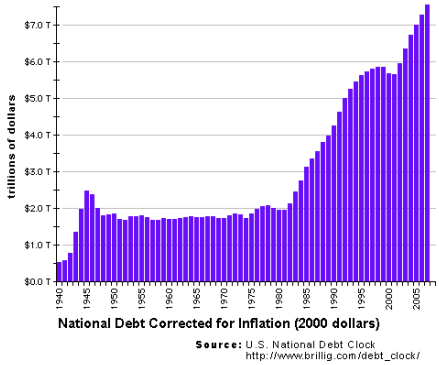
From: http://www.democraticunderground.com/top10/05/191.html

US National Debt, Chart I



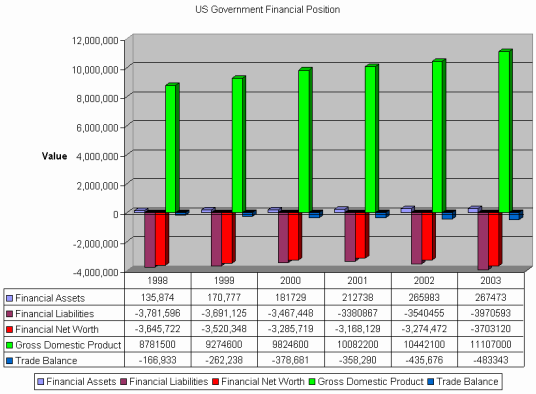
From: www.brillig.com/debt_clock/faq.html

US National Debt, Chart II



From: www.brillig.com/debt_clock/faq.html

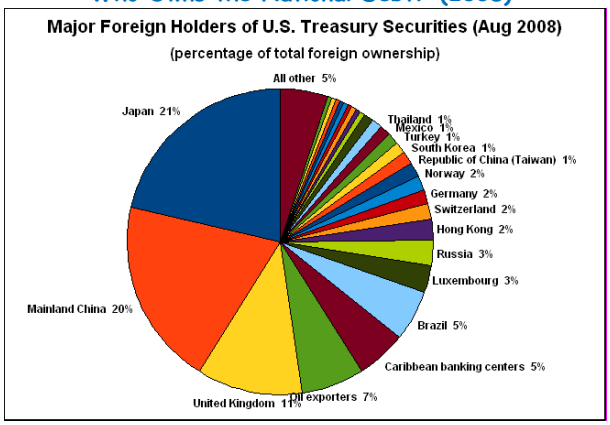
US Debt, Chart III



	1998	1999	2000	2001	2002	2003
Financial Assets	135,874	170,777	181729	212738	265983	267473
Financial Liabilities	-3,781,596	-3,691,125	-3,467,448	-3390867	-3540455	-3970593
Financial Net Worth	-3,645,722	-3,520,348	-3,285,719	-3,168,129	-3,274,472	-3703120
Gross Domestic Product	8781500	9274800	9824600	10082200	10442100	11107000
Trade Balance	-166,933	-262,238	-378,881	-358,290	-435,676	-483343

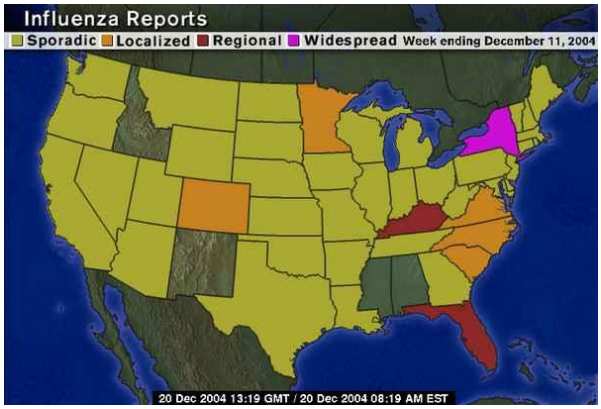
www.uwsa.com

Who Owns the National Debt? (2008)

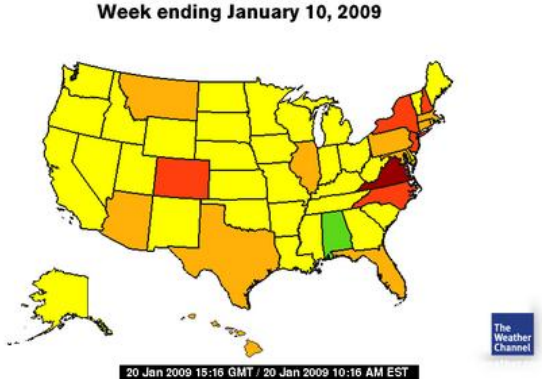


From: http://en.wikipedia.org/wiki/United_States_public_debt#Foreign_ownership

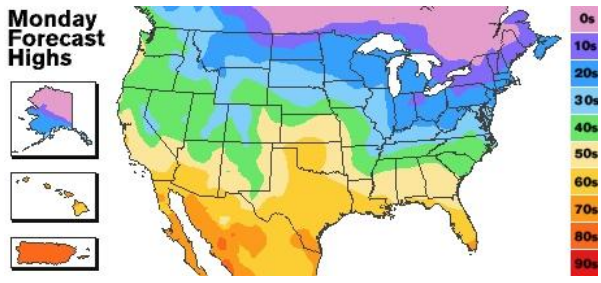
Influenza Reports — 12/27/04



Influenza Reports — 1/21/09

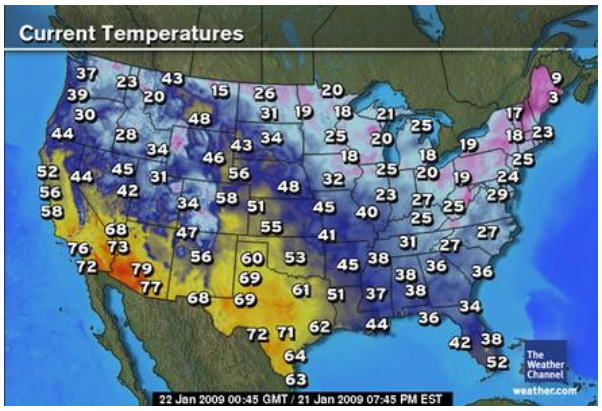


Weather Forecast — 12/27/04

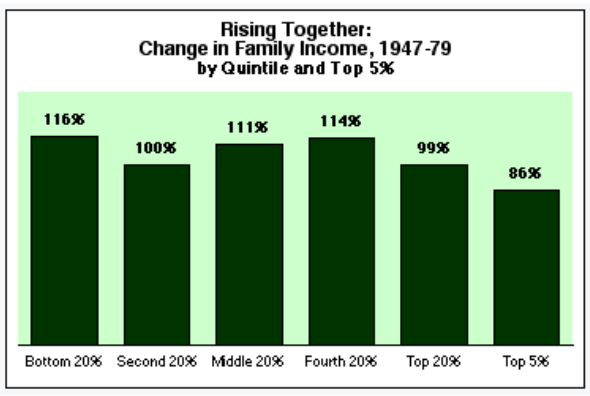


asp.usatoday.com/weather

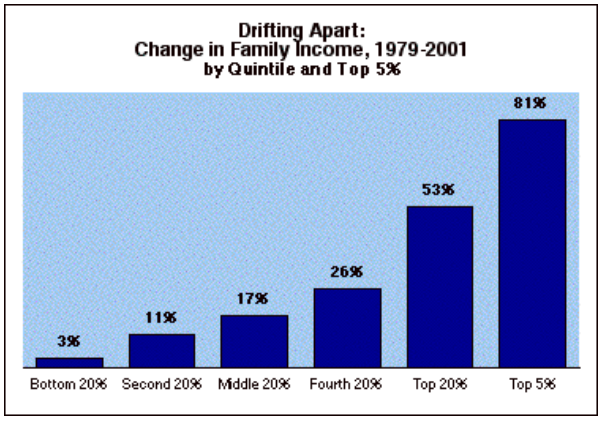
National Temperatures — 1/21/09



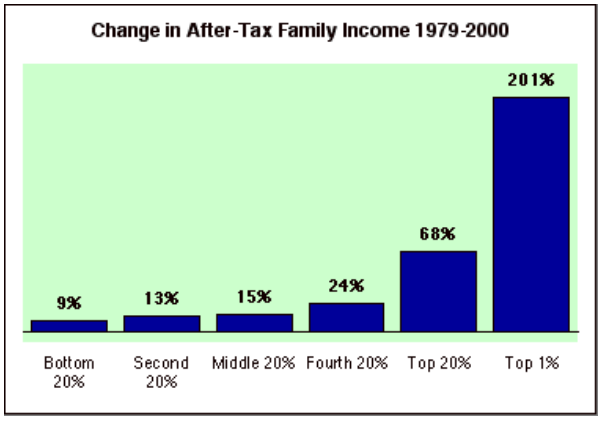
www.weather.com



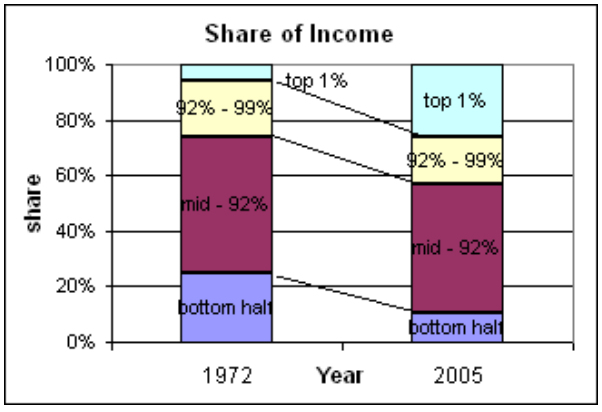
www.faireconomy.org/research/income_charts.html



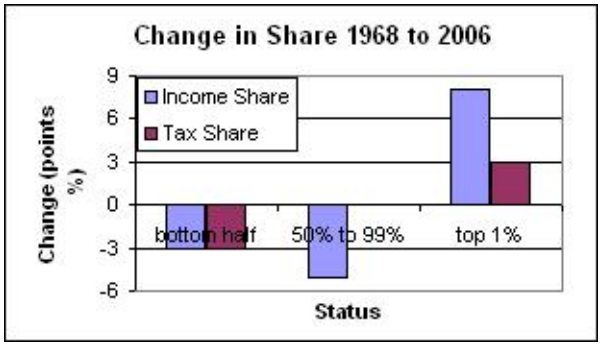
www.faireconomy.org/research/income_charts.html



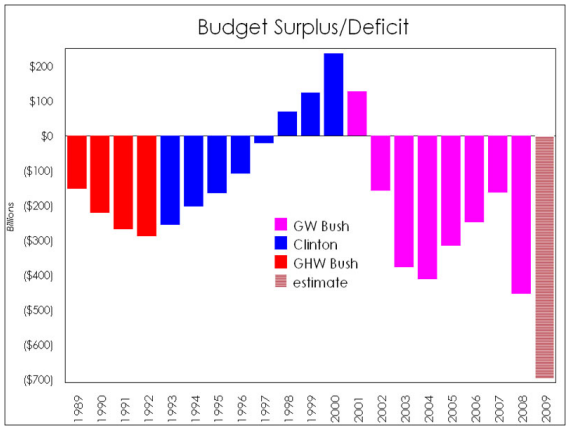
www.faireconomy.org/research/income_charts.html



geocities.com/gordonite32/philo/incomes.htm

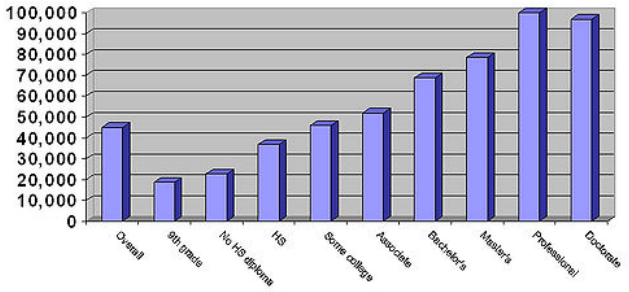


geocities.com/gordonite32/philo/incomes.htm

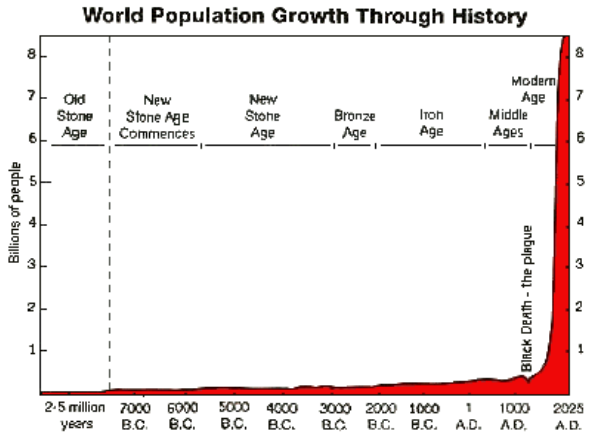


www.academycomputerservice.com/economics/charts.htm

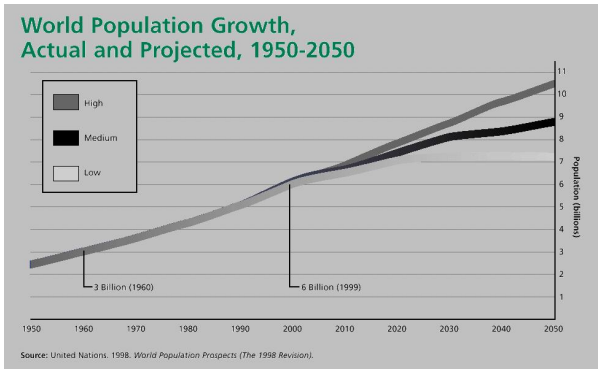
Income Based on Highest Education Attained



en.wikipedia.org/wiki/Household_income_in_the_United_States



www.susps.org/index/html



www.unfpa.org/6billion/pages/worldpopgrowth.htm