Bimodal Histograms
A histogram with two "peaks" is called \textit{bimodal}.

Example 1: 200 people who saw "The Passion" were asked to rate it on a scale of one to ten. The data is stored in the accompanying worksheet. Construct a rough histogram of this data. What do you observe? How do you explain what you observe?

Relative frequency histograms
• When we construct a histogram of data, we partition the data into classes.
• Each class has a corresponding bar, whose height equals the number of observations in that class.
• We can also make the height of the bar the \textit{fraction} of the observations that fall into that class.
• The resulting histogram is called a \textit{relative frequency histogram}.
Example 2: Construct a relative frequency histogram of the data

1, 2, 3, 3, 4, 4, 5, 5, 5, 5.
**Example 3:** Use Minitab to construct a relative frequency histogram for the viewer ratings of *The Passion*.

**Time Plots**

Many variables change over time. Although the change is often erratic, a trend can sometimes be observed in the data. One way to spot this trend is to draw a *time plot* of the data.

**Definition:** A *time plot* of a set of observations is a plot of the value of the observation against the time at which it was measured. Time is always placed on the horizontal axis and the variable you are measuring is placed on the vertical axis. Usually the data points are connected by straight lines.

**Example 4:** The data on the rate of deaths from cancer (deaths per 100,000 people) in the United States over the 50-year period from 1945 to 1995 is given in the accompanying Minitab worksheet. Construct a time plot of this data. What trend do you observe?
Example 5: Yields of money market funds (from The Basic Practice of Statistics, by Moore). Many people invest in "money market funds." These are mutual funds that attempt to maintain a constant price of $1 per share while paying monthly interest. The accompanying Minitab worksheet contains the average annual interest rates (in percent) paid by all taxable money market funds since 1973, the first year in which such funds were available.

(a) Make a time plot of the interest paid by money market funds for these years.  
(b) Interest rates, like many economic variables, show cycles, clear but irregular up-and-down movements. In which years did the interest rate cycle reach temporary peaks?
(c) A time plot may show a consistent trend underneath cycles. When did interest rates reach their overall peak during these years? Has there been a general trend downward since that year?