10.3 Displaying Data (part 2)

Types of Graphs:

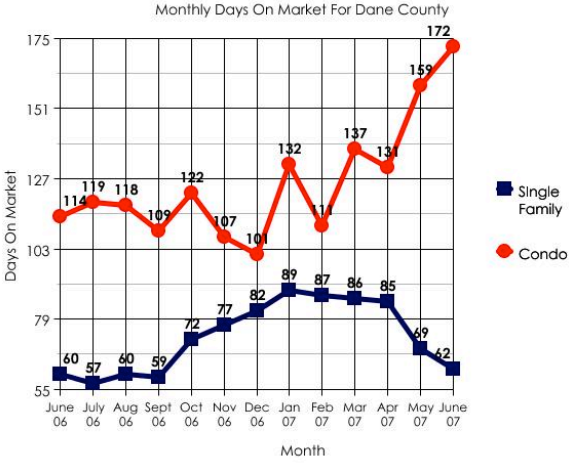
1. Pictographs
2. Line Plots
3. Stem and Leaf Plots
4. Histograms
5. Bar Graphs
6. Circle Graphs (a.k.a. Pie Charts)
7. Line Graphs
8. Scatter Plots

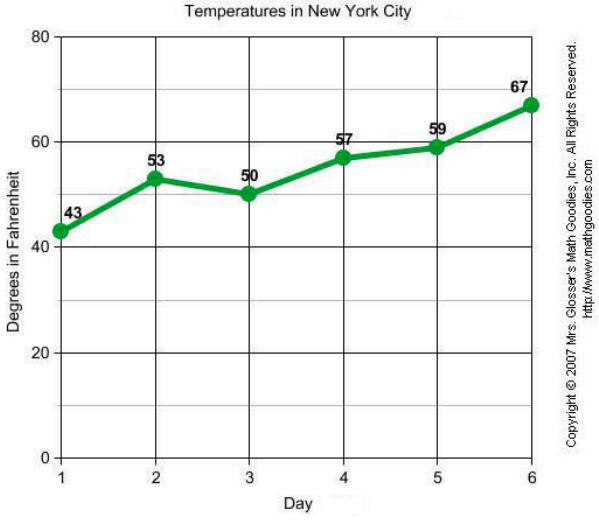
(Note: The first six in this list were covered in section 10.2.)

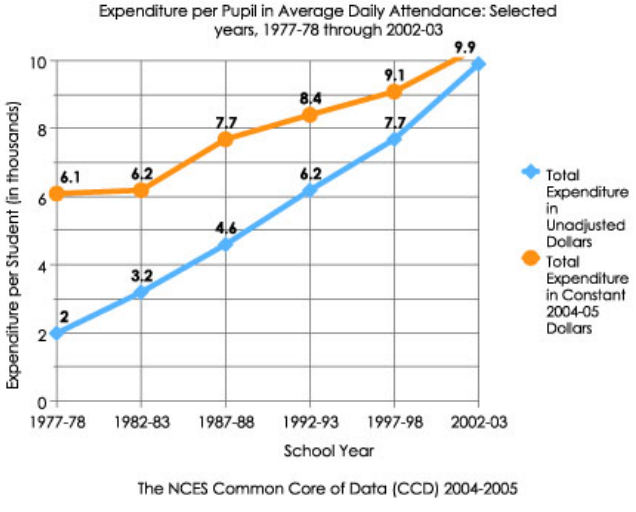
Ideas about when to use certain graphs:

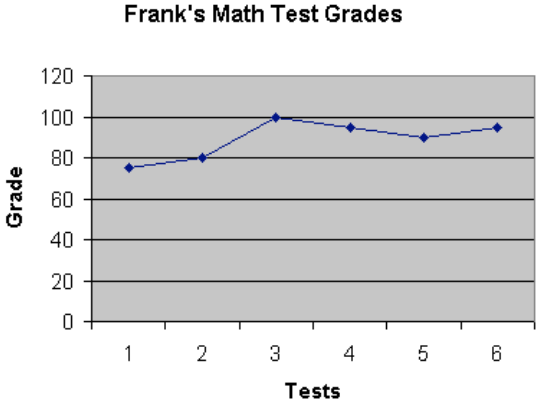
- Bar Graph (or pictograph or line plot)--use to compare numbers of data items in grouped categories; for discrete data; order of categories on horizontal axis doesn't matter (vertical axis is then the frequency) (Note: for a line plot, every data value is represented as a point/dot/circle/x.)
- Histogram--use to compare numbers of data items grouped in numerical intervals; for continuous data; order of intervals on horizontal axis matters (vertical axis is then the frequency)
- Stem and Leat Plot--use to show each and every data value and to group data into intervals visually
- Scatterplot--use to show relationship between two different variables (frequency of data is not on one axis here)
- Line Graph--use to show how data values change over time; usually used for continuous data (connect the dots)
- Circle Graph (a.k.a. Pie Chart)--use to show the division of the whole into its parts

7. **Line Graphs**--plots over a period of time; connect the dots; can use a line graph or bar graph for similar types of data.

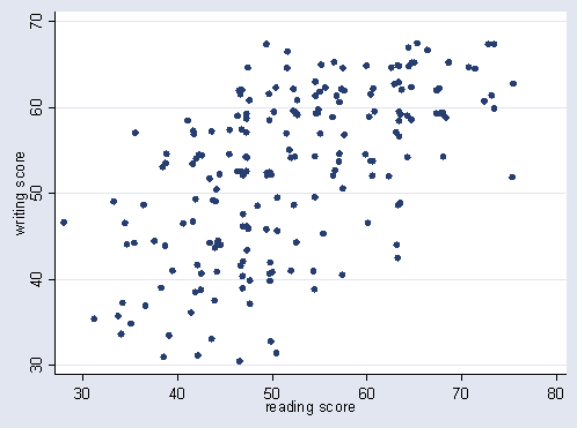


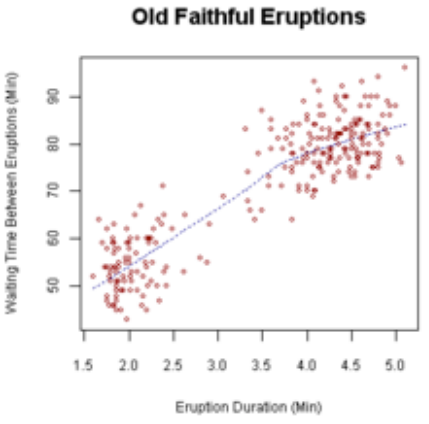


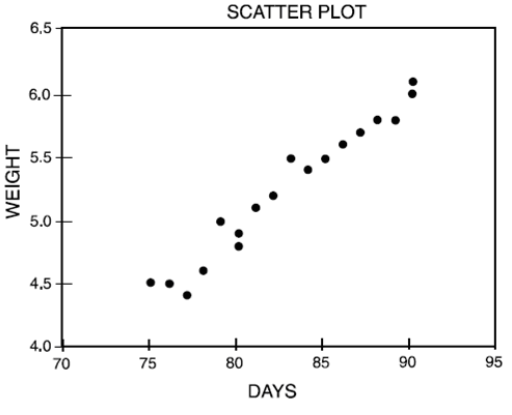


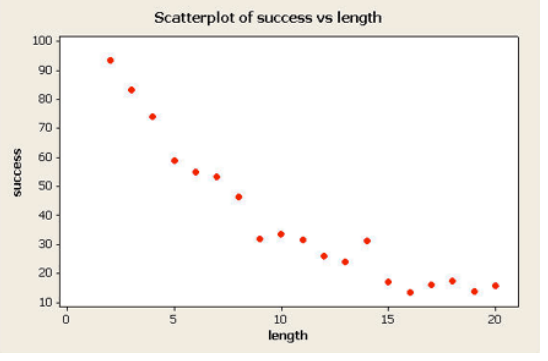


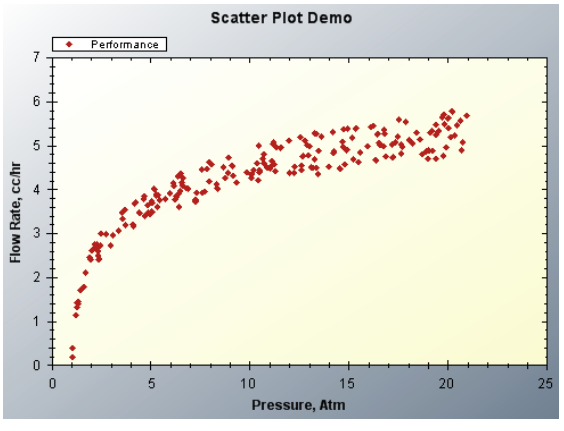
8. **Scatter Plot**--pairs of numbers plotted as 2-d points to see if there is a relationship between the two variables being represented; may try to find a "best fit" line or curve through the data.

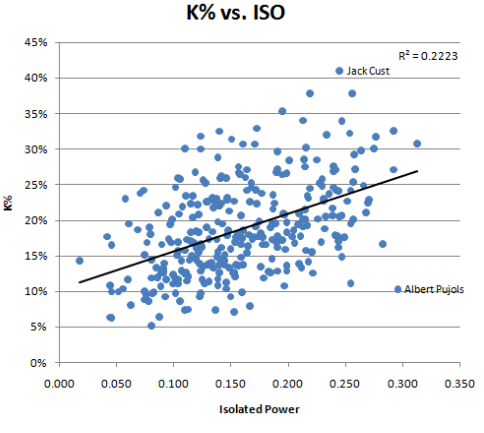












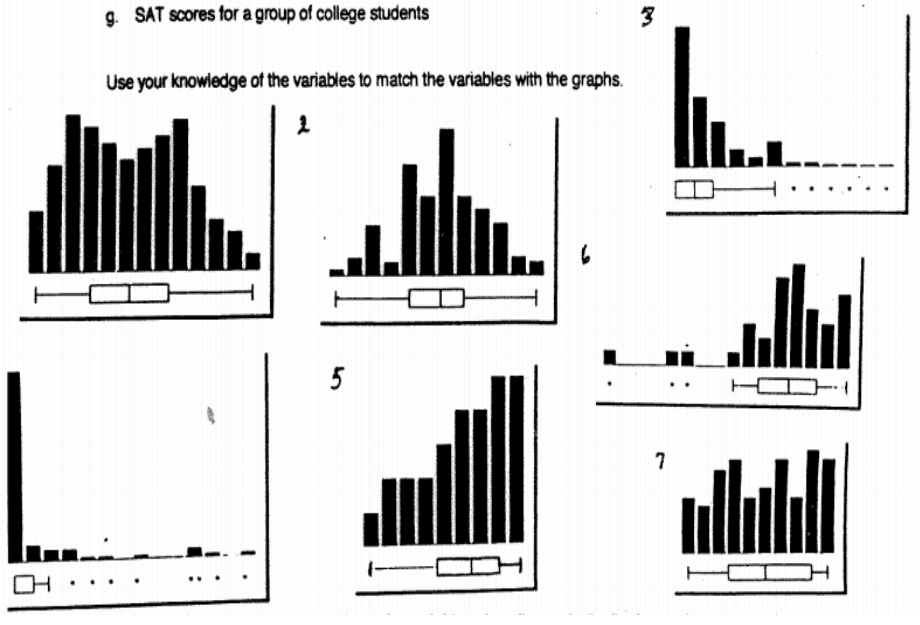
Matching graphs to variables.

1. Match these variables to their graphs.

Consider the following list of variables and graphs:

a. age at death of a sample of 34 people.
b. The last digit in the social security number of 40 students.
c. scores on a fairly easy examination in statistics
d. number of months after going off the pill it took to get pregnant
e. heights of a group of college students
f. number of medals won by medal-winning countries in the 1992 Winter Olympics
g. SAT scores for a group of college students

Use your knowledge of the variables to match the variables with the graphs.



Use the scattergrams A-F to answer all of the questions on this page.

Match the following to the scattergram which best fits the description.

_____5. Perfect positive correlation (r=1)

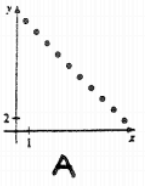
_____6. Strong positive correlation (r = .91)

_____7. Weak positive correlation (r = .3)

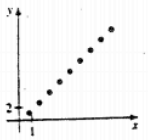
_____8. No correlation (r = 0)

_____9. Strong negative correlation (r = -.85)

_____10. Perfect negative correlation (r = -1)



A



B

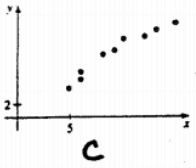
Match the following variables to a suitable scattergram.

_____11. x = infant age in days, y = length in inches

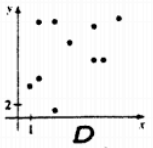
_____12. x = years smoked, y = years you will live

_____13. x = height in cm, y = GPA

_____14. x = weight in pounds, y = weight in kilograms

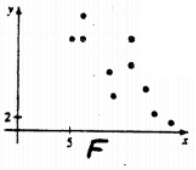


C



D

E



F