

Keys to Graphing (The “D” of C.O.D.A → Display)

What is a Scatter Plot:

A scatter diagram or scatter graph is used: _____

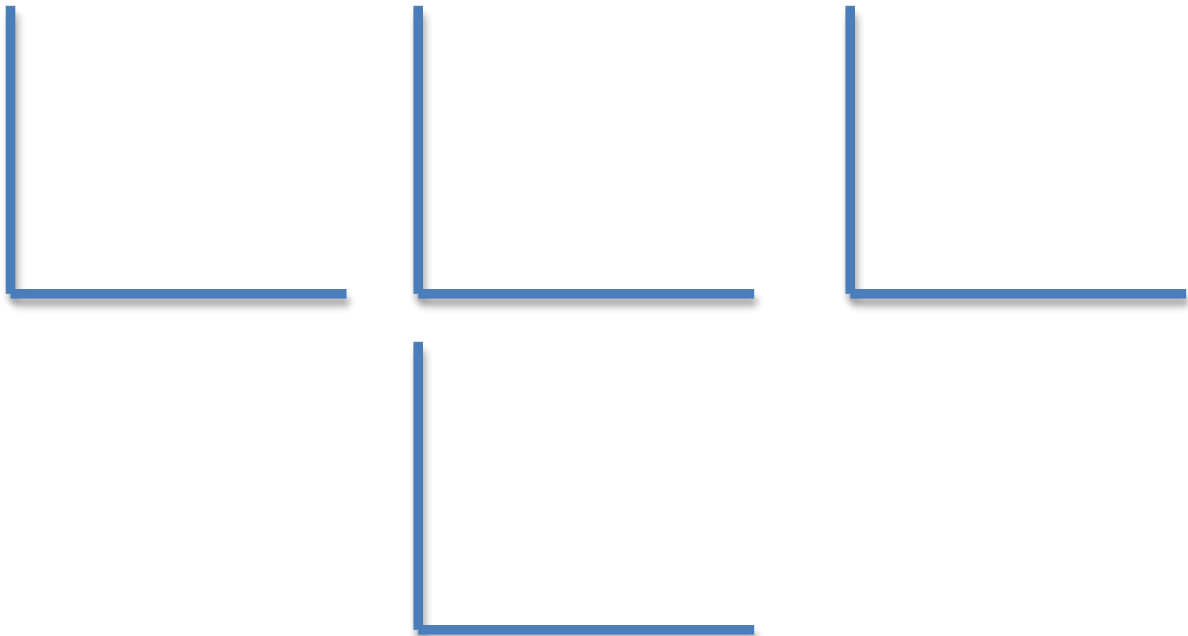
It is a particularly useful form of graph to use when _____
where you are trying to _____ such as 'older people sustain
more fractures' or 'the more hours homework a child does the better his/her SATs
results will be'.

In a scatter graph _____

There are three possible outcomes of a scatter graph depending on whether there is
a connection between the sets of data or not.

- i) ?
- ii) ?
- iii) ?

What do these look like when graphed?



Tips:

- If the points cluster in a band running from _____ left to _____ right, there is a positive correlation (if x increases, y increases)
- If the points cluster in a band from upper _____ to _____ right, there is a negative correlation (if x increases, y decreases)
- Imagine drawing a straight line or curve through the data so that it "fits" as well as possible. The more the points cluster closely around the imaginary line of best fit, the _____ the relationship that exists between the two variables
- If it is hard to see where you would draw a line, and if the points show no significant clustering, there is probably _____

If you had to guess or make an assumption about the following statement, what type of correlation would you expect to see?

- i) The relationship between the salary and number of sick days for employees who earn an hourly wage.
- ii) A comparison of the number of cigarettes smoked and chest infections
- iii) A comparison between the height of men and their weight
- iv) The relationship between the number of pets in a household and income

Using the whiteboard handouts, sketch a graph of what you think each of the above statement looks like. If you are just sketching, there is no need for rulers. You can make up your own variables and values.

Formal Scatter Plots

- 1) Draw the X and Y axis on graph paper
 - a. ?
- 2) Look at the range of your data to decide on the scale for both the X & Y axis and the label the axis with these numbers
 - a. ?
- 3) Plot each point using these scales
- 4) You can draw what is called a Line of Best (LoB) fit through the data
 - a. ?
 - b. ?
- 5) The title should explain what is being graphed (ex. A Scatter Plot Comparing the Age of a Person and Their Height). The title should be ALWAYS be underlined
- 6) ALWAYS use a ruler (when graphing by hand)

In-class Work

Visit and complete the following about Scatter Plots:

<http://staff.argyll.epsb.ca/jreed/math9/strand4/scatterPlot.htm>