MAKING A GRAPH, part 2

David B. Fankhauser, PhD

16 October 2009, 17Sept10

1) Draw the X and Y coordinates, three spaces away from the edge of the bottom and left edge of the page. On a standard lab notebook, this will leave an area 35 x 40 squares for the graph.
2 Determine the value of a single "square":
   a) For the X axis:
      i) Divide the range of X (highest value - lowest value) by the number of squares available (usually 35).
      ii) Round up the value per square to the next decimal multiple of 1, 2, 5 or 10.
      iii) Enter the numbers along the X axis every 2 or 5 squares (see example at bottom of page.)
   b) For the Y axis:
      i) Divide the range of Y (highest value - lowest value) by the number of squares available (usually 40).
      ii) Round up the value per square to the next decimal multiple of 1, 2, 5 or 10.
      iii) Enter the numbers along the Y axis every 2 or 5 squares (see example at bottom of page.)
3) Plot the data by entering a dot at the appropriate spots according to the coordinate values.
4) Circle (or square, etc) around the dot to protect it.
5) Connect the circles (*not* the dots) with a line to generate the curve.
6) Enter the descriptions:
   a) Fully descriptive TITLE at the top of the page
   b) Label the coordinates, including units
   c) Identify the nature of the data: circles = "A", squares = "B", etc.
   d) Give the resulting conclusion of the graph in a few words
   e) Cross reference to the source of the data you have plotted on line 6 of the notebook.

Examples of assigned values per square:

```
|....|....|....|....|....|....|.....
0    1    2    3 (one square = 0.2)

|.|.|.|.|.|.|.|.|.|.|....
0 1 2 3 4 5 6 7 8 9 10 (one square = 0.5)

|....|....|....|....|....|
0    5    10   15   20 (one square = 1)

|....|....|....|....|.......
0  5  10   20   30 (one square = 2)
```