TAKE IT TO THE MAT

A NEWSLETTER ADDRESSING THE FINER POINTS OF MATHEMATICS INSTRUCTION

Regional Professional Development Program
April 15, 2002 — Elementary School Edition

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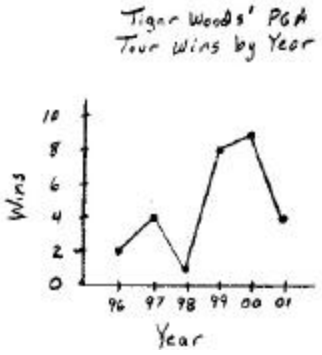
In the elementary grades it is expected that students can collect, organize, and interpret data in a variety of formats. The level of sophistication of the tables and graphs that students read and create is dependent on the grade level. Certain types of tables and graphs are better than others in certain situations. In this issue of *Take It to the MAT*, we will look at *line graphs*, when to use them, and when not to.

A line graph is primarily used to show *changes* and *trends* over an interval of time. The interval may range from seconds to days to millennia, but there must be some span of time under consideration. For example, the table at right shows the number of tournaments won by Tiger Woods on the PGA (Professional Golf Association) tour from 1996–2001. The corresponding line graph gives us a quick visual that Mr. Woods' number of wins generally increased from 1996 to 2001. There were some minor ups and downs, but the trend is easily recognized.

Tiger Woods' PGA Tour Wins by Year

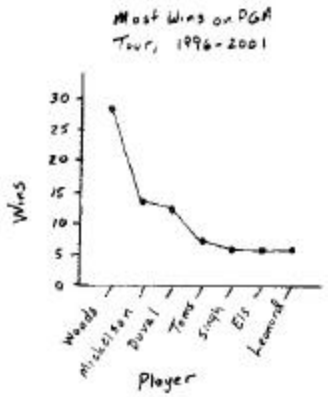
Year	Wins
1996	2
1997	4
1998	1
1999	8
2000	9
2001	5



Now examine the table of *Most PGA Wins from 1996-2001* showing the seven top golfers. If we make a line graph with the players in order from most to least wins, is the trend downward? What if we alphabetize the players' last names? Now what is the trend? There may be more than one logical sequence as to how we arrange the players. Regardless, there cannot be a *trend* over a "span of players." In the case of most PGA wins, a bar graph would be a better display of the data.

Most Wins on PGA Tour, 1996-2001

Player	Wins
T. Woods	29
P. Mickelson	14
D. Duval	13
D. Toms	7
V. Singh	6
E. Els	6
J. Leonard	6



The moral of the story is that there is a time for using a line graph and a time not to (no pun intended). If the data are such that they represent changes over time (or space), then a line graph is appropriate. If there is no such span of time under consideration—all the data are from the same time—then other methods, such as bar graphs and circle graphs, are more appropriate.