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| **Comparing Graphs** |  |  |

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| If you were asked to create a graph from a given set of data, how would you know which type of graph to use? Which graph we choose depends on the type of data given and what we are asked to convey to the reader. The information below will help you determine which type of graph to use. |

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| **Tables** are used to organize exact amounts of data and to display numerical information. Tables do not show visual comparisons. As a result, tables take longer to read and understand. It is more difficult to examine overall trends and make comparisons with tables than it is with graphs. |
| http://www.mathgoodies.com/lessons/graphs/images/tab.gif |
| **Line graphs** are used to display data or information that changes continuously over time. Line graphs allow us to see overall trends such as an increase or decrease in data over time. |
| http://www.mathgoodies.com/lessons/graphs/images/tab.gif |
| **Bar graphs**are used to compare facts. The bars provide a visual display for comparing quantities in different categories or groups. Bar graphs help us to see relationships quickly. However, bar graphs can be difficult to read accurately. A change in the scale in a bar graph may alter one's visual perception of the data. |
| http://www.mathgoodies.com/lessons/graphs/images/tab.gif |
| **Circle Graphs** are used to compare the parts of a whole. Circle graphs represent data visually in the same proportion as the numerical data in a table. The area of each sector in a circle graph is in the same proportion to the whole circle as each item is to the total value in the table. Constructing an accurate circle graph is difficult to do without a computer. This is because you must first find each part of the whole through several elaborate calculations and then use a protractor to draw each angle. This leaves a lot of room for human error. Circle graphs are best used for displaying data when there are no more than five or six sectors and when the values of each sector are different. Otherwise, they can be difficult to read and understand. |

"**TAILS**" Graphing Guidelines

**Ti**tle - shows relationship between x & y axes

**A**xes - independent variable on x axis; dependent variable on y axis

**I**ntervals - spaces between numbers on the axes are the same

**L**abel - each axis is labeled with proper units

**S**cale - 50% or more of the axis is used (don't cram your data)

Are the data plotted accurately?

Did you use a key when necessary?

