

## Types of Graphs

Tuesday, July 28, 2009  
5:08 PM

## Types of Graphs

Bar Graph	A type of graph that uses bars of different heights or lengths to show the number or percentage of items in different categories of data. The bars are not drawn together, since the axis represents categories. This type of graph is useful for analyzing and comparing categorical data.	<p>Favorite Fast Food</p> <table><thead><tr><th>Fast Food</th><th>Number of Students</th></tr></thead><tbody><tr><td>Hamburger</td><td>120</td></tr><tr><td>Hot Dog</td><td>100</td></tr><tr><td>Pizza</td><td>150</td></tr><tr><td>Taco</td><td>130</td></tr></tbody></table>	Fast Food	Number of Students	Hamburger	120	Hot Dog	100	Pizza	150	Taco	130		
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Box and Whisker	A type of graph that is helpful in interpreting the distribution of data. The graph consists of the median, the quartiles, and the smallest and greatest values in the distribution. The graph displays the center, the spread, and overall range of distribution of the data. This type of graph is useful for analyzing and comparing numerical data.	<p>8<sup>th</sup> Grade Boys Basketball Player Heights</p> <table><thead><tr><th>Statistic</th><th>Height (inches)</th></tr></thead><tbody><tr><td>Minimum</td><td>60</td></tr><tr><td>Q1</td><td>61</td></tr><tr><td>Median</td><td>62</td></tr><tr><td>Q3</td><td>63</td></tr><tr><td>Maximum</td><td>64</td></tr></tbody></table>	Statistic	Height (inches)	Minimum	60	Q1	61	Median	62	Q3	63	Maximum	64
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Median	62													
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Circle Graph	A type of graph that compares the numbers in a set of data by showing the relative sizes of the parts that make up a whole. The graph represents the whole, which is made up of all the data elements. Each section of the graph represents parts of the whole. This type of graph is useful for analyzing and comparing categorical data.	<p>Electives</p> <table><thead><tr><th>Elective</th><th>Percentage</th></tr></thead><tbody><tr><td>Sports</td><td>50%</td></tr><tr><td>Band</td><td>25%</td></tr><tr><td>Speech</td><td>11%</td></tr><tr><td>Choir</td><td>14%</td></tr></tbody></table>	Elective	Percentage	Sports	50%	Band	25%	Speech	11%	Choir	14%		
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Histogram	A type of graph that uses bars of different heights or lengths to show the number of data that falls within specific intervals of values. The data's range should be divided into equal intervals, and the bars are drawn together. This type of graph is useful for analyzing and comparing numerical data.	<p>10K Race Results</p> <table><thead><tr><th>Number of Runners</th><th>Number of Minutes</th></tr></thead><tbody><tr><td>0-29</td><td>30</td></tr><tr><td>30-59</td><td>40</td></tr><tr><td>60-99</td><td>20</td></tr></tbody></table>	Number of Runners	Number of Minutes	0-29	30	30-59	40	60-99	20				
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Line Graph	A type of graph that shows points plotted on a coordinate grid. The points are connected by line segments. The plotted points represent data presented as pairs of numbers. This graph is particularly useful for showing changes in data over a period of time. This type of graph is useful for analyzing and comparing numerical data over time.	<p>Super Bowl Point Spread</p> <table><thead><tr><th>Year</th><th>Point Spread</th></tr></thead><tbody><tr><td>'00</td><td>10</td></tr><tr><td>'01</td><td>25</td></tr><tr><td>'02</td><td>5</td></tr><tr><td>'03</td><td>28</td></tr><tr><td>'04</td><td>10</td></tr></tbody></table>	Year	Point Spread	'00	10	'01	25	'02	5	'03	28	'04	10
Year	Point Spread													
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Line Plot	This graph is usually used when there is one group of data and fewer than 50 values. The graph consists of a horizontal number line and each value of the set is marked over the corresponding value on the number line. The number of marks over each value indicates how many times each value of the set occurred. This type of graph is useful for analyzing and comparing categorical and numerical data.	<p>Favorite Fast Food</p> <table><thead><tr><th>Fast Food</th><th>Frequency</th></tr></thead><tbody><tr><td>Hamburger</td><td>10</td></tr><tr><td>Hot Dog</td><td>5</td></tr><tr><td>Taco</td><td>6</td></tr><tr><td>Pizza</td><td>8</td></tr></tbody></table>	Fast Food	Frequency	Hamburger	10	Hot Dog	5	Taco	6	Pizza	8																										
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Scatterplot	A type of graph that can be used to show whether there is a relationship between two quantities. To make predictions with this graph, look for correlations in the data or a pattern in the data points. Patterns in the graph are usually called trends. The trend may not be true for every point, but look for an overall pattern the data may seem to fit. This type of graph is useful for analyzing and comparing numerical data.	<p>Minutes Spent on Homework vs. Math Grades</p> <table><thead><tr><th>Math Grades</th><th>Time Spent Studying (minutes)</th></tr></thead><tbody><tr><td>10</td><td>10</td></tr><tr><td>20</td><td>25</td></tr><tr><td>30</td><td>30</td></tr><tr><td>40</td><td>45</td></tr><tr><td>50</td><td>50</td></tr><tr><td>60</td><td>60</td></tr><tr><td>70</td><td>65</td></tr><tr><td>80</td><td>70</td></tr></tbody></table>	Math Grades	Time Spent Studying (minutes)	10	10	20	25	30	30	40	45	50	50	60	60	70	65	80	70																		
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Stem-and-Leaf Plot	A type of graph that shows how many entries you have in certain classes of numbers and what those entries are. It is a way to organize data in ascending or descending order. This type of graph is useful for analyzing and comparing numerical data.	<p>Six Weeks Grades</p> <table><thead><tr><th>Grade</th><th>Frequency</th></tr></thead><tbody><tr><td>62</td><td>1</td></tr><tr><td>68</td><td>1</td></tr><tr><td>71</td><td>1</td></tr><tr><td>74</td><td>1</td></tr><tr><td>75</td><td>1</td></tr><tr><td>76</td><td>1</td></tr><tr><td>78</td><td>1</td></tr><tr><td>82</td><td>1</td></tr><tr><td>84</td><td>1</td></tr><tr><td>84</td><td>1</td></tr><tr><td>85</td><td>1</td></tr><tr><td>86</td><td>1</td></tr><tr><td>88</td><td>1</td></tr><tr><td>92</td><td>1</td></tr><tr><td>93</td><td>1</td></tr><tr><td>97</td><td>1</td></tr><tr><td>100</td><td>3</td></tr></tbody></table>	Grade	Frequency	62	1	68	1	71	1	74	1	75	1	76	1	78	1	82	1	84	1	84	1	85	1	86	1	88	1	92	1	93	1	97	1	100	3
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Venn Diagram	A type of graph that shows overlaps in data. It is used to show how many pieces of data have a certain property in common. The data in each section of the graph show how many values fall within each category.	<p>Favorite Ice Cream</p> <table><thead><tr><th>Category</th><th>Count</th></tr></thead><tbody><tr><td>Vanilla (exclusive)</td><td>21</td></tr><tr><td>Intersection</td><td>9</td></tr><tr><td>Chocolate (exclusive)</td><td>32</td></tr><tr><td>Total (Universal Set)</td><td>5</td></tr></tbody></table>	Category	Count	Vanilla (exclusive)	21	Intersection	9	Chocolate (exclusive)	32	Total (Universal Set)	5																										
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Notes: Titles, Labels and Scales of Graphs