

Graphing Directions and Checklist

<input type="checkbox"/>	<p>1. Determine the best graph to display the data.</p> <p>a. Data is <u>discrete</u> (categorical or counted):</p> <ul style="list-style-type: none"> • Use a circle (pie) graph to compare parts of a whole or percentages. • Use a bar graph when comparing categories of data. <p>b. Data is <u>continuous</u> (standard measurement scale is used):</p> <ul style="list-style-type: none"> • Use a histogram to summarize data within intervals. • Use a line graph to compare how one factor changes in response to another. • Use a scatter plot to show the relationship between two variables.
<input type="checkbox"/>	<p>2. Use a sharp pencil and a ruler to draw the x- and y-axes on graph paper. Allow space for labels outside the axes.</p>
<input type="checkbox"/>	<p>3. Identify the x-axis and y-axis data. For an experiment, the independent variable (IV) goes on the x-axis and the dependent variable (DV) goes on the y-axis. For a histogram, the x-axis represents the intervals used.</p>
<input type="checkbox"/>	<p>4. Label both axes with the name of the data sets being plotted and the unit of measurement. For example: mass (g).</p>
<input type="checkbox"/>	<p>5. Determine the range for the data. Divide each axis so that the numbers for data are equally spaced (0, 1, 2, 3 ... or 0, 2, 4, 6 ... or 0, 5, 10, 15 ...). The two axes do not have to be spaced with the same intervals.</p>
<input type="checkbox"/>	<p>6. Plot the data (use small pencil dots or bars, as appropriate). On a line graph, connect the dots with straight lines after plotting. On a scatterplot, draw a line of best fit.</p>
<input type="checkbox"/>	<p>7. Use different colors or patterns if showing more than one set of data on a graph. Include a key to show which color or pattern goes with each data set.</p>
<input type="checkbox"/>	<p>8. If asked, find the mean, median, and mode and include them with units.</p>
<input type="checkbox"/>	<p>9. Put a title at the top of the graph that clearly describes the information that was graphed. When graphing the results of an experiment, use the proper format, <i>The Effect of the IV on the DV</i>.</p>
<input type="checkbox"/>	<p>10. Write a summary statement about the graphed data.</p> <ul style="list-style-type: none"> • Can predictions be made within the data set (interpolate)? • Can predictions be made beyond the data set (extrapolate)?