Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Homeroom: \_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_ **1.5**

**Types of Graphs to Display Data: Bar Graphs, Line Graphs, Pie Charts, and Scatterplots (SPI.INQ.3)**

|  |  |
| --- | --- |
| **Key Points** | **Notes** |
| **Data** | **Data are information** in the form of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and/or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **Data Tables** | * Data tables are used to display our data. In a data table, the independent variable is on the \_\_\_\_\_\_\_ and the dependent variable is on the right. * You need to make sure that you include your \_\_\_\_\_\_\_\_\_\_!   **Studying vs. Assessment Score** |
| **Charts and Graphs** | •We use \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ to help us \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ our results and conclusions  •Sometimes, complicated information complicated information can be made easier to understand by providing an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **Bar Graph** | •Usually a bar graph is used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  •Useful for comparing data of several groups |
| **Pie Chart (Circle Graph)** | •**Pie charts** are used to show \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a whole at a set \_\_\_\_\_\_\_\_\_\_ in time  •Pie charts show **part: whole relationships**  •The “pie” is divided into different “pieces” of different sizes  •The size of each piece represents a fraction or a percentage of the whole **(100%)** |
| **Line Graph** | •**A line graph** is usually used to show how something \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  •They have \_\_\_\_\_\_ different \_\_\_\_\_\_\_ that each show a value for a variable  •Within a line, graph, a point is plotted at each place where the values of two variables intersect  •A \_\_\_\_\_\_\_\_ is used to connect \_\_\_\_\_ points  •Line graphs are best used to **show** \_\_\_\_\_\_\_\_\_\_\_\_ in **data** more clearly than tables |
| **Titling Graphs** | A **graph title**:   * Must communicate the dependent and independent \_\_\_\_\_\_\_\_\_\_\_\_\_ * Can be presented in the form “Y versus X” |
| **Labeling Axes in Graphs** | * Independent (manipulated) variable is written along the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ axis (X- axis) * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (responding) variable is written along the vertical axis (Y axis) * Units on any variables should be included in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (kg) |
| **Plotting Data Pairs as Points** | * Make sure the data table is in (X,Y) form * Select the first pair of values from the data table (X and Y). * Draw a light, dashed line up from the number on the X axis and over from the number on Y axis. * Where these light lines cross, put a dark point. * Repeat for the next pair of points. |
| **So What??** | * Bar graphs are used to compare groups * Pie charts (circle graphs) are used to show part to whole relationship (percentages) * Line graphs are used to show trends over time. They are used to see **relationships** that exist between your independent and dependent variables. These graphs are the most frequently used graphs in science. |