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”
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| **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.
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| **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.
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