

Essential Understandings	- Data analysis is used by the media, so it is important to know how to accurately interpret data. - Mathematicians use data to represent real life situations. This data is usually represented as a table, chart or graph. - Data can be manipulated to inaccurately represent information.
Essential Questions	- What is data? - What does the “mean” represent? - What does the “mode” represent? - What does the “median” represent? - What does the “range” represent? - What are some basic types of graphs used to represent data? - What is a sample group? - How does the media use data? - What are some ways in which data can be misrepresented?
Essential Knowledge	- Data analysis involves gathering statistics using sample groups, and the representing this data graphically. - The mean, median, mode and range are measures of central tendency used in data analysis. - Accurate graphs have consistent intervals, labels and titles.
Vocabulary	<u>Terms:</u> - mean, median, mode, range, ascending and descending order, average, repeating data, bar graph, line graph, pictograph, pie graph, spread sheet, sample group and measures of central tendency
Essential Skills	- Calculate the mean, median and range of given data. - Identify the mode of a given data set. - Create graphs using excel and paper and pencil. - Read and interpret information from graphical representations.
Related Maine Learning Results	<u>Mathematics</u> B. Data B3.Students understand and know how to describe distributions and find and use descriptive statistics for a set of data. - Find and apply range, quartiles, mean absolute deviation, and standard deviation (using technology) of a set of data. - Interpret, give examples of, and describe key differences among different types of distributions: uniform, normal, and skewed. - For the sample mean of normal distributions, use the standard deviation for a group of observations to establish 90%, 95%, or 99% confidence intervals.
Sample Lessons And Activities	- Students will use the computer lab to learn the techniques for creating graphs utilizing the Excel program. - Students will create a survey question, develop a sample group and gather data.

Sample Classroom Assessment Methods	▪ Students will create a graph using Excel to represent their statistical data.
Sample Resources	▪ <u>Publications:</u> - o <u>Saxon-Algebra 1/2</u>