

Mathematics
Transitional Mathematics
Unit 4: Data Analysis

Essential Understandings	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ <u>Terms:</u> <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ▪ 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	<p><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.</p> <ol style="list-style-type: none"> a. Find and apply range, quartiles, mean absolute deviation, and standard deviation (using technology) of a set of data. b. Interpret, give examples of, and describe key differences among different types of distributions: uniform, normal, and skewed. c. 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	<ul style="list-style-type: none"> ▪ 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.

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Sample Classroom Assessment Methods	▪ Students will create a graph using Excel to represent their statistical data.
Sample Resources	▪ <u>Publications:</u> <ul style="list-style-type: none">○ <u>Saxon-Algebra 1/2</u>