Notes Mean, Median, Mode & Range

How Do You Use Mode, Median, Mean, and Range to Describe Data?

There are many ways to describe the characteristics of a set of data. The mode, median, and mean are all called **measures of central tendency**. These measures of central tendency and range are described in the table below.

Mode	The **mode** of a set of data describes which value occurs most frequently. If two or more numbers occur the same number of times and occur more often than all the other numbers in the set, those numbers are all modes for the data set. If each number in the set occurs the same number of times, the set of data has no mode.	Use the mode to show which value in a set of data occurs most often. For the set {1, 1, 2, 3, 5, 6, 10}, the mode is 1 because it occurs most frequently.
Median	The **median** of a set of data describes what value is in the middle if the set is ordered from greatest to least or from least to greatest. If there are an even number of values, the median is the average of the two middle values. Half of the values are greater than the median, and half of the values are less than the median. The median is a good measure of central tendency to use when a set of data has an outlier.	Use the median to show which number in a set of data is in the middle when the numbers are listed in order. For the set {1, 1, 2, 3, 5, 6, 10}, the median is 3 because it is in the middle when the numbers are listed in order.
Mean	The **mean** of a set of data describes their average. To find the mean, add all of the numbers and then divide by the number of items in the set. The mean of a set of data can be greatly affected if one of the numbers is an outlier. The mean is a good measure of central tendency to use when a set of data does not have any outliers.	Use the mean to show the numerical average of a set of data. For the set {1, 1, 2, 3, 5, 6, 10}, the mean is the sum, 28, divided by the number of items, 7. The mean is $28 \div 7 = 4$.
Range	The **range** of a set of data describes how big a spread there is from the largest value in the set to the smallest value.	Use the range to show how much the numbers vary. For the set {1, 1, 2, 3, 5, 6, 10}, the range is $10 - 1 = 9$.