**Unit 13 Collect, Analyze, Display Data**

**Vocabulary**

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| Statistics | The practice of collecting and analyzing data in large quantities |
| Data | Values such as counts, ratings, measurements, or opinions that are gathered to answer questions. |
| Mean | A value that represents the "evening out" of the values in a set of data |
| Median | The number that is the midpoint of a set of data |
| Mode | The data value that occurs the most |
| Range | The difference between the least value and the greatest value in a data set |
| Line Plot | A quick, simple way to organize data along a number line where the X's (or other symbols) above a number represent how often each value is mentioned |
| Measures of Center | Establish a central location in the data set |
| Measures of Variability | Establish the degree of variability (or scatter) of the individual data values and their deviations from the measures of center |
| Histogram | A display that shows the distribution of numeric data. The range of data values, divided into intervals, is displayed on the horizontal axis. The vertical axis shows frequency. |
| Frequency Table | A list of items or intervals that shows the number of times, or frequency, with which they occur. |
| Interval | is a set of real numbers with the property that any number that lies between two numbers in the set is also included in the set |
| Distribution | The arrangement of values in a data set |
| Gap | a break or opening |
| Cluster | a group of things or persons close together |
| Peak | being at the point of maximum frequency, intensity, use, etc. |
| Box Plot | a method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data |
| Quartiles | one of the values of a variable that divides the distribution of the variable into four groups having equal frequencies |
| Lower Quartile | for a data set with median m, the first quartile is the median of the data values less than m  Example: for the data set {1, 3, 6, 7, 10, 12, 14, 15, 22,120}, the first quartile is 6. |
| Upper Quartile | for a data set with median m, the third quartile is the median of the data values greater than m  Example: for the data set {2, 3, 6, 7, 10, 12, 14,15, 22, 120}, the third quartile is 15. |
| Outlier | a value that lies far from the "center" of a distribution |
| Inter-Quartile Range | a measure of variation in a set of numerical data, the inter-quartile range is the distance between the first and third quartiles of the data set  Example: for the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the inter-quartile range is 15 - 6 = 9. |
| Five-Number Summary | The minimum, value, lower quartile, median, upper quartile, and maximum value |
| Minimum Value | The lowest value in a data set |
| Maximum Value | The greatest value in a data set |
| Mean Absolute Deviation | The average distance of all data values from the mean of the set |
| Variability | Degree to which data are spread out around a center value |
| continuous data | data that can take any value |
| coordinate graph | a graphical representation in which points are used to denote pairs of related numerical values |
| dependent variables | a variable in a functional relation whose value is determined by the values assumed by other variables in the relation |
| discrete data | data that would not be represented with fractional parts such as people, tents, records, etc. |
| independent variables | a variable in a functional relation whose value determines the value or values of other variables |
| x-axis | the horizontal number line used to make a graph |
| y-axis | the vertical number line used to make a graph |
| skewed | asymmetry in a frequency distribution |
| summary statistics | include quantitative measures of center (median and median) and variability (interquartile range and mean absolute deviation) including extreme values (minimum and maximum), mean, median, mode, range, and quartiles |
| symmetrical | characterized by or exhibiting symmetry; well-proportioned, as a body or whole; regular in form or arrangement of corresponding parts |