

Unit 2 Data Displays and Analysis

Content Area: **Mathematics**
Course(s): **AP Statistics**
Time Period: **October**
Length: **4 weeks**
Status: **Published**

Transfer Skills

Students will be able to independently use their learning to display and analyze data.

Enduring Understandings

Data can be organized and displayed in a variety of ways.

Understanding the distribution of data is important to determine how to analyze the data.

Describing the variation of data is as important as defining the center of a data set.

Standard deviation is essential to every statistically analysis.

Essential Questions

What method of displaying data would best represent my purpose?

Why can technology support but not replace our mathematics skills and understanding?

What conclusions can be made and supported and what can not be supported?

When is data reliable to use?

Content

Red Hot Topics:

Create frequency

table and histogram

Construct stem and leaf plots

Normal vs skewed

Scatterplots

Mean, Median,

Mode, Midrange

Standard Deviation

Vocabulary:

Histogram

Comparative Bar Graph

Stem and Leaf

Cumulative frequency

Scatter plot

Sample/Pop Mean and Deviations

Empirical Rule

Box Plot

Five Point Number Summary

Outlier

Skills

Use comparative bar graphs and pie graphs to display data.

Construct and analyze stem and leaf plots for tendencies and distribution.

Create frequency, relative frequency and cumulative frequency histograms.

Identify distribution of data based on histograms.

Display bivariate data using scatter plots.

Calculate the mean, median, mode, midrange, range and standard deviation of data.

Create and interpret boxplots.

Understand and use the Empirical Rule.

Resources

Standards

Need to add College Board Standards

CCSS.Math.Content.HSS-ID	Interpreting Categorical and Quantitative Data
CCSS.Math.Content.HSS-ID.A	Summarize, represent, and interpret data on a single count or measurement variable
CCSS.Math.Content.HSS-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
CCSS.Math.Content.HSS-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
CCSS.Math.Content.HSS-ID.A.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
CCSS.Math.Content.HSS-ID.A.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
CCSS.Math.Content.HSS-ID.B	Summarize, represent, and interpret data on two categorical and quantitative variables
CCSS.Math.Content.HSS-ID.B.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

CCSS.Math.Content.HSS-ID.B.6

Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.