

Curriculum Units and Learning Outcomes

Content Area: Honors Algebra I	Grade Level: 9
Unit 8: Topics in Statistics	
Unit Summary: Students will deepen their understanding of measures of central tendency by analyzing shape / spread of data, presence of outliers / clusters, etc. in order to make choices about using the best descriptive statistic to model data. Students will also organize single variable and bivariate data graphically in order to visually present and analyze information.	
Massachusetts Standards: S.ID.1, 2, 3, 5 Summarize, represent, and interpret data on a single count or measurement variable. Use calculators, spreadsheets, and other technology as appropriate. - Represent data with plots on the real number line (dot plots, histograms, and box plots). - 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. - Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). Summarize, represent, and interpret data on two categorical and quantitative variables. - 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. N.Q.1 Reason quantitatively and use units to solve problems. - Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	
Enduring Understandings:	

- Statistics measure the central tendencies and the spread of data.
- There are many graphic and tabular methods of representing data.
- Outliers and clusters influence the spread of data changing which measure of central tendency best represents the data set.

Essential Questions:

- What are measures of central tendency and measures of dispersion?
- How do I statistically represent one variable and two variable data graphically and numerically?
- How do I interpret statistical representations of data?

Students will demonstrate KNOWLEDGE of:

- the measures of central tendency
- choosing most appropriate statistic to represent data
- how to display the measures of dispersion
- bivariate data: reading two-way tables

Students will be SKILLED at:

- finding mean, median, mode, and range for a given data set.
- constructing and interpreting box-and-whisker graphs, histograms, dotplots, stem and leaf, dot plots, circle graphs.
- using technology, such as a graphing calculator, to input lists, in order to determine measures of central tendency.

Estimated Duration: 5 classes