

Math – D. Analysis and Probability
Hartley-Melvin-Sanborn CSD
Grade Level/Course Benchmarks

Benchmark 1 - Select and use appropriate statistical methods to analyze data (Standard 2)

- find, use, and interpret measures of **central tendency**
- discuss and understand the correspondence between data sets and their graphical representations, especially **line graphs, pie graph, histograms, stem-and-leaf plots, box plots, and scatterplots**

Benchmark 2 - Develop and evaluate inferences and predictions that are based on data (Standard 2, 6)

- use observations about differences between two or more samples to make **conjectures** about the populations from which the samples were taken;
- make conjectures about possible relationships between two characteristics of a sample on the basis of scatterplots of the data and approximate lines of fit;
- use conjectures to formulate new questions and plan new studies to answer them.

Benchmark 3 - Understand and apply basic concepts of probability (Standard 2)

- understand and use appropriate terminology to describe **complementary and mutually exclusive** events;
- use **proportionality** and a basic understanding of probability to make and test conjectures about the results of experiments and simulations;
- compute probabilities for events

Benchmark 4 - Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them (Standard 2, 5)

- formulate questions, design studies, and collect data about a characteristic shared by two populations or different characteristics within one population;
- select, create, and use appropriate graphical representations of data, including histograms, box plots, and scatterplots.

Vocabulary (other than bold faced above):

- average
- best fit line
- closest estimate
- conjecture
- estimation
- expression
- linear relationship
- margin of error
- mean
- median
- probability
- guess
- random sample
- range
- sample size
- skew
- symmetry of data