Applications of Algebra/Essentials of Statistics Curriculum Map

Time Frame	Unit/Concepts	CCSS	Resources	Vocab
Marking Period 3	Statistics: The Art and Science of Data: Where Do Data Come From? Drawing Conclusions From Data	CCSS.Math.Content.HSS-IC.B.3 Recognize the purposes of and difference among sample surveys, experiments, and observational studies; explain how randomization relates to each. CCSS.Math.Content.HSS-IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	Textbook Chapter 1 Powerpoint Presentation	individuals, quantitative variable, categorical variable, observational studies, sample survey, sample, population, census, experiment statistical problem solving process
Marking Period 3	Describing Distributions of Data: Displaying Distributions with Graphs Describing Distributions with Numbers Use and Misuse of Statistics	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).	Textbook Chapter 2 Powerpoint Presentation	distribution, pie chart, bar graph, dot plot, stem plot, histogram, deviations, outliers, shape, center, spread, symmetric, skewed, median, quartile, interquartile range, standard deviation, mean, variance, resistant, line graph, pictogram, trend, 5-number summary
Marking Period 3	Modeling Distributions of Data: Measuring Locations in a Distribution Normal Distribution	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.	Textbook Chapter 3 Powerpoint Presentation	percentile, z-score, density curve, uniform distribution, normal curve, normal distribution, standard normal distribution, standard normal table

Marking Period 4	Describing Relationships: Scatterplots and Correlation Regression and Prediction	CCSS.Math.Content.HSS-ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. CCSS.Math.Content.HSS-ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. CCSS.Math.Content.HSS-ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. CCSS.Math.Content.HSS-ID.C.9 Distinguish between correlation and causation.	Textbook Chapter 4 Powerpoint Presentation	scatterplot, correlation, explanatory variable, response variable, positive association, negative association, direction, form, strength, r-value, regression line, least squares regression, residuals, residual plot, r-squared, causation, lurking variable, common response, confounding, direct cause and effect
Marking Period 4	Sampling and Surveys: Samples, Good and Bad What Do Samples Tell Us? Sample Surveys in the Real World	CCSS.Math.Content.HSS-IC.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). CCSS.Math.Content.HSS-IC.B.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. CCSS.Math.Content.HSS-IC.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	Textbook Chapter 5 Powerpoint Presentation	voluntary response, bias, convenience sampling, simple random sample, random digits, pseudo-random, parameter, statistic, sampling variability, margin of error, confidence level, confidence statement, sampling error, random sampling error, non-sampling error, undercoverage, processing error, response error, non-response, wording of questions, stratified random sampling, strata, probability samples
Marking Period 4	Designing Experiments: Experiments, Good and Bad Experiments in the Real World Data Ethics	CCSS.Math.Content.HSS-IC.B.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. CCSS.Math.Content.HSS-IC.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	Textbook Chapter 6 Powerpoint Presentation	subjects, treatment, placebo, placebo effect, randomized comparitive experiment, control group, experimental design, statistical significance, matched pairs, double-blind, non-adherers, dropouts, refusals, completely randomized, lack or realism, interaction, block design, institutional review board, informed consent, confidentiality, anonymity