

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM	
Content Area: Mathematics	
Course Title: Probability and Statistics	Grade Level: High School
Introduction to Statistics	2 weeks
Summarizing and Graphing Data	5 weeks
Probability	4 weeks
Distributions	5 weeks
Confidence Intervals and Hypothesis Testing	21 weeks
Correlation and Regression	3 weeks
Date Created:	July 26, 2012
Board Approved on:	

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM	
Unit Overview - Introduction to Statistics	
Content Area: Mathematics	Grade: High School
Unit: Introduction to Statistics	
Domain: Interpreting Categorical and Quantitative Data	
<p>Unit Summary: Summarize, represent, and interpret data on a single count or measurement variable. Calculate and interpret measures of central tendency, variation and position. Construct and interpret histograms, box plots, dot plots, stem and leaf plots, bar charts, pie charts.</p> <p>Primary interdisciplinary connections: Language Arts, Social Studies, Science</p> <p>21st century themes: Global Awareness, Financial Literacy, Health Literacy, Civic Literacy</p>	
Learning Targets	
Content Standards	
Number	Common Core Standard for Mastery
S-ID.1.	Represent data with plots on the real number line (dot plots, histograms, and box plots).
S-ID.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.
S-ID.3.	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
Number	Common Core Standard for Introduction
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
8	Look for and express regularity in repeated reasoning.
<p>Unit Essential Questions</p> <p>How can we describe data?</p> <p>To what extent can statistics help us make predictions and inferences about our world?</p> <p>How can we determine the validity of our interpretation of the statistics?</p>	<p>Unit Enduring Understandings</p> <p><i>Students will understand that...</i></p> <p>Data collection can be utilized to make summative statements or inferences about a population.</p> <p>Observational studies can be used to demonstrate correlation or association.</p> <p>Designed experiments can be used to prove causation.</p>

	Data can be organized in a variety of useful ways.
<p>Unit Objectives <i>Students will know...</i> Methods of survey Types of statistics Designing Experiments Organizing Data</p> <p><i>Vocabulary:</i></p> Population Sample Descriptive statistics Inferential statistics Discrete data Continuous data Univariate Bivariate Stratified sample Cluster sample Treatment Placebo Control Blocking Blind Nominal Ordinal Interval Ratio	<p>Unit Objectives <i>Students will be able to...</i> Identify types of statistics and data. Identify levels of measurement. Establish a process for planning and conducting a study. Calculate relative frequency. Construct bar graphs and dot plots. Distinguish between an experiment and an observational study. Determine the processes of sampling. Create a procedure for conducting a designed experiment using proper terminology. Identify key concepts of a designed experiment and then to block an experiment. Understand the need to blind or double blind an experiment.</p>

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM
Evidence of Learning

Formative Assessments

- Homework
- Math Journals
- Peer/Self assessments
- Verbal check
- Class participation
- Observation

Summative Assessments

Good & bad graphs: <http://www.datavis.ca/gallery/index.php>

Statistics resources: <http://www.deeanef.com/apstat.htm>

- Chapter/Unit Test
- Quizzes
- Unit Projects
- Presentations
- State Assessments

Modifications (ELLs, Special Education, Gifted and Talented)

- Follow all IEP modifications/504 plan
- Teacher tutoring
- Peer tutoring
- Cooperative learning groups
- Modified assignments
- Differentiated instruction

Curriculum development Resources/Instructional Materials/Equipment Needed Teacher Resources:

Calculators, Texts, Excel Software

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<http://davidmlane.com/hyperstat/index.html>
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Teacher Notes:

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM	
Unit Overview - Summarizing and Graphing Data	
Content Area: Mathematics	Grade: High School
Unit: Summarizing and Graphing Data	
Domain: Independently use their learning to display and analyze data	
Unit Summary: Analyze and interpret a normal distribution. To use various ways to interpret and analyze statistical data.	
Primary interdisciplinary connections: Language Arts, Social Studies, Science	
21st century themes: Global Awareness, Financial Literacy, Health Literacy, Civic Literacy	
Learning Targets	
Content Standards	
Number	Common Core Standard for Mastery
S-ID.1.	Represent data with plots on the real number line (dot plots, histograms, and box plots).
S-ID.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.
S-ID.3.	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
S-ID.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.
S-ID.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.
S-ID.6.	Represent data on two quantitative variables on a scatter plot and describe how the variables are related.
Number	Common Core Standard for Introduction
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2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
8	Look for and express regularity in repeated reasoning.

<p>Unit Essential Questions</p> <p>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?</p>	<p>Unit Enduring Understandings</p> <p><i>Students will understand that...</i></p> <p>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</p>
<p>Unit Objectives</p> <p><i>Students will know...</i></p> <p>Frequency table and histogram Stem and leaf plots Normal vs. skewed Scatterplots Mean, Median, Mode, Midrange Standard Deviation Interquartile Range Boxplots Outliers</p> <p><i>Vocabulary:</i></p> <p>Histogram Comparative Bar Graph Stem and Leaf Cumulative frequency Scatter plot Sample/Pop Mean and Deviations Empirical Rule Boxplot Interquartile Range Outlier</p>	<p>Unit Objectives</p> <p><i>Students will be able to...</i></p> <p>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, interquartile range and standard deviation of data. Create and interpret boxplots. Understand and use the Empirical Rule.</p>

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Teacher Notes:

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM Unit Overview - Probability	
Content Area: Mathematics Grade: High School	
Unit: Probability	
Domain: To calculate probabilities and make inferences about the data.	
Unit Summary: Use probabilities to interpret data. Calculate and interpret a variety of probabilities utilizing the addition, multiplication and conditional probability rules.	
Primary interdisciplinary connections: Language Arts, Social Studies, Science	
21st century themes: Global Awareness, Financial Literacy, Health Literacy, Civic Literacy	
Learning Targets	
Content Standards	
Number	Common Core Standard for Mastery
S-CP.1.	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).
S-CP.2.	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
S-CP.3.	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.
S-CP.4.	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.
S-CP.5.	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
S-CP.6.	Find the conditional probability of A given B as the fraction of B’s outcomes that also belong to A and interpret the answer in terms of the model. Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.
S-CP.7.	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.
S-CP.8.	(+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A) P(B A) = P(B) P(A B)$, and interpret the answer in terms of the model.

S-CP.9.	(+) Use permutations and combinations to compute probabilities of compound events and solve problems.
S-MD.1.	Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
S-MD.2.	Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.
S-MD.3.	Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value.
S-MD.4.	Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value.
S-MD.5.	<ul style="list-style-type: none"> • Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. • Find the expected payoff for a game of chance. • Evaluate and compare strategies on the basis of expected values.
S-MD.6.	Use probabilities to make fair decisions
S-MD.7.	Analyze decisions and strategies using probability concepts
Number	Common Core Standard for Introduction
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
8	Look for and express regularity in repeated reasoning.
Unit Essential Questions Can probability be an accurate tool for making predictions? What are differences between games of chance and skill and can probability be used for each? When is simulation a useful tool in calculating probability? When data is considered normally distributed and when can z-scores be used?	Unit Enduring Understandings <i>Students will understand that...</i> Relative frequency of occurrence is probability The Law of Large Numbers allows for accurate estimations when sample size is large enough Tree diagrams are an excellent method of displaying sample space and calculating probability Probability distribution of a discrete variable becomes more normal as sample size increases

<p>Unit Objectives <i>Students will know...</i> Compound Probability Conditional Probability Law of Large Numbers Expected Value Probability Distribution Binomial Probability Central Limit Theory</p> <p><i>Vocabulary:</i></p> <p>Sample Space Simple/Compound Probability Mutually Exclusive or Disjoint Independence Binomial Distribution z-score Critical value Discrete random variable</p>	<p>Unit Objectives <i>Students will be able to...</i></p> <p>Create sample space of a chance experiment. Use Venn Diagrams to represent outcomes. Identify mutually exclusive events. Distinguish between experimental and theoretical probabilities. Calculate probabilities for compound events and conditional events. Establish rules for Independence of events. Calculate means of discrete random variables. Identify properties of a z-curve. Use z-scores to find probabilities and percentiles.</p>
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Teacher Notes:

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM	
Unit Overview - Distributions	
Content Area: Mathematics	Grade: High School
Unit: Distributions	
Domain: Calculate the probabilities of binomial, Poisson and Normal distributions	
<p>Unit Summary: Analyze and interpret binomial, Poisson and Normal distributions. Determine whether an event satisfies the conditions for a binomial distribution and whether that event can be approximated by a normal distribution. Then use the area under the normal curve to explain the probability of that event occurring by chance.</p>	
<p>Primary interdisciplinary connections: Language Arts, Social Studies, Science</p>	
<p>21st century themes: Global Awareness, Financial Literacy, Health Literacy, Civic Literacy</p>	
Learning Targets	
Content Standards	
Number	Common Core Standard for Mastery
S-MD, 1.	Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
S-MD, 2.	Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.
S-MD 3	Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value.
S-MD - 4	Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value.
S-MD- 5	Use probabilities to make fair decisions
S-MD -6	Analyze decisions and strategies using probability concepts
Number	Common Core Standard for Introduction
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
8	Look for and express regularity in repeated reasoning.

<p>Unit Essential Questions</p> <p>When data is considered normally distributed and when can z-scores be used?</p> <p>Is the data from a simple random sample?</p> <p>Are there only 2 possible outcomes?</p> <p>Are the trials independent?</p> <p>Does the probability stay the same between trials?</p>	<p>Unit Enduring Understandings</p> <p><i>Students will understand that...</i></p> <p>Probability distribution of a discrete variable becomes more normal as sample size increases.</p> <p>A binomial distribution can be approximated by a normal distribution when certain conditions are met</p>
<p>Unit Objectives</p> <p><i>Students will know...</i></p> <p>The meaning of the expected value and standard deviation of a binomial distribution</p> <p>The results of the calculated values for both a binomial and normal distribution</p> <p>Identify an unusual z-score</p> <p>The area under the curve being the probability that event can occur</p> <p>Identify conditions for Binomial and Poisson Distribution</p> <p><i>Vocabulary:</i></p> <p>Expected Value</p> <p>Probability Distribution</p> <p>Binomial Probability</p> <p>Central Limit Theory</p> <p>Sample Space</p> <p>Binomial Distribution</p> <p>Poisson Distribution</p> <p>z-score</p> <p>Critical value</p> <p>Discrete/Continuous random variable</p>	<p>Unit Objectives</p> <p><i>Students will be able to...</i></p> <p>Calculate means of discrete random variables.</p> <p>Identify properties of a z-curve.</p> <p>Use z-scores to find probabilities and percentiles</p> <p>Calculate the expected value and standard deviation for a binomial distribution</p> <p>Calculate the value of a binomial distribution</p> <p>Correctly use a normal distribution as an approximation of a binomial distribution</p> <p>Calculate the area under a normal curve</p> <p>Calculate the mean for a Poisson Distribution and find the probability for an event meeting the conditions.</p>

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM

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Teacher Notes:

TOMS RIVER REGIONAL SCHOOLS MATHEMATICS CURRICULUM	
Unit Overview – Confidence Intervals and Hypothesis Testing	
Content Area: Mathematics	Grade: High School
Domain: Creating and Analyzing Inferential statistics	
Unit Summary: Adminstrating hypothesis testing. Calculate and interpret confidence intervals. Perform hypothesis testing for proportions, averages, (sigma known and unknown), independence of factors and difference between samples by comparing p-values to alpha and test statistic to critical values.	
Primary interdisciplinary connections: Language Arts, Social Studies, Science	
21st century themes: Global Awareness, Financial Literacy, Health Literacy, Civic Literacy	
Learning Targets	
Content Standards	
Number	Common Core Standard for Mastery
S-IC 1	Understand that statistics is a process for making inferences about population parameters based on a random sample from that population.
S-IC 2	Decide if a specified model is consistent with results from a given data-generating process, e.g. using simulation.
S – IC 3	Recognize the purposes of and differences among sample surveys, experiments and observational studies; explain how randomization relates to each.
S – IC 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.
S-IC 5	Use data from a randomized experiment to compare two treatments; justify significant differences between parameters through the use of simulation models for random assignment.
S – IC 6	Evaluate reports based on data.
S – ID 1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
S – ID 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.
S – ID 3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
S – ID 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.

S ID 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.
Number	Common Core Standard for Introduction
1	Make sense of problems and persevere in solving them.
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8	Look for and express regularity in repeated reasoning
<p>Unit Essential Questions</p> <p>How can a confidence interval be interpreted in context of the problem?</p> <p>How is the width of the interval affected by changes in sample size or confidence level?</p> <p>How can a sample size be determined for a study that would place your results within a specified error?</p> <p>Can confidence intervals be used to draw conclusions about a claim?</p> <p>Which hypothesis test is appropriate for a particular data set?</p> <p>What makes results “statistically significant” and how are they determined so?</p> <p>When is interpreting results inconclusive and potentially dangerous?</p> <p>How can one data set be used to draw opposing conclusions?</p> <p>How can hypothesis testing be used to find out if a difference between two samples is greater than a given value?</p>	<p>Unit Enduring Understandings</p> <p><i>Students will understand that...</i></p> <p>A point estimate is used to establish a value for a population parameter</p> <p>A confidence interval is a range of plausible values for a characteristic of a population</p> <p>Confidence intervals are always two tailed and the confidence level relates to the area under the curve between the interval</p> <p>Standard error is the estimated standard deviation of the statistic</p> <p>Hypothesis testing uses sample data to decide between two competing claims about a population characteristic</p> <p>There is a possibility of making a Type I or Type II error when conducting a hypothesis test</p> <p>Tests can be performed using the critical value approach or the p-value approach</p> <p>The level of significance is the total area in the rejection region</p> <p>In a one-tailed hypothesis test, the equivalent confidence level is equal to one minus twice the alpha level.</p> <p>Hypothesis testing for two samples involves the difference between the means or proportions</p>

<p>What are differences between pooled and non-pooled and does it matter which is used to test data?</p> <p>When is it appropriate to use a matched pair t-test instead of a two sample t-test?</p> <p>How can qualitative data be tested to draw inferential conclusions that are supported numerically?</p> <p>When does the observed data for one sample fit a preconceived model for categorical data?</p> <p>When are the frequencies of a row factor associated (dependent) with the frequencies of a column factor?</p> <p>Can the probability value be utilized to determine the strength of the test?</p>	<p>Identifying and labeling each population allows for more accurate and less confusing conclusions</p> <p>Procedures vary for samples that are dependent as opposed to independent</p> <p>Matched pair tests are an important analysis tool when analyzing results of an experiment</p> <p>Properties of the Chi-Squared Distribution</p> <p>Hypothesis testing for categorical data to determine fit or association.</p>
<p>Unit Objectives <i>Students will know...</i> Interval for one mean Interval for sample proportion Confidence level Sample size Interval for difference of 2 means or proportions Null and alternate hypotheses Words/context of hypothesis testing Chi Square Hypothesis Testing Errors in Hypothesis testing Frequencies vs. Measurement Hypothesis Testing</p>	<p>Unit Objectives <i>Students will be able to...</i> Calculate a point estimate from a sample. Use formula to create a confidence interval for a sample mean. Understand the relationship between the interval and a normal curve. Interpret the interval in words in context of the problem. Find confidence interval for one sample proportion. Understand the relationship between sample size and width of confidence interval. Work backwards to find sample size needed for a given study. Calculate and interpret intervals for the difference of two sample means or proportions. Determine the null and alternate hypotheses for a given scenario. Understand difference between one tailed and two tailed test and draw curve.</p>

<p><i>Vocabulary</i></p> <p>Point estimate Confidence level Critical value(s) Standard error Margin of error Null hypothesis Alternate Hypothesis Type I Type II Error Test statistic Critical value Level of significance P-value Rejection region Power of the test Degrees of freedom Independent samples Paired samples Paired test statistic Pooled Non-pooled F-Distribution Chi-Squared Distribution Expected vs. Observed Values</p>	<p>Identify and interpret Type I and Type II errors in context of problem.</p> <p>Follow procedure and conduct hypothesis test on one sample mean.</p> <p>Understand and use p-value approach as well as critical value approach.</p> <p>Analyze results of test in context of the problem.</p> <p>Perform hypothesis tests on one sample proportion.</p> <p>Establish and interpret the power of the test</p> <p>Identify and label two groups to be tested.</p> <p>Create appropriate null and alternate hypotheses.</p> <p>Conduct two sample t-tests for pooled or non-pooled data.</p> <p>Distinguish between independent and dependent samples.</p> <p>Perform matched pair t-test and interpret results.</p> <p>Construct confidence interval for matched pair results.</p> <p>Understand the cautions and limitations of hypothesis t testing.</p> <p>Use paragraph method of conducting hypothesis tests.</p> <p>Understand the cautions and limitations of chi-squared testing</p> <p>Perform goodness of fit and chi-squared test of independence and interpret results.</p>
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Domain: Correlation and Regression	
Unit: Correlation and Regression	
Unit Summary: To interpret scatter plots and regression lines. To determine a relationship between two quantitative variables by using a scatter plot and regression line.	
Primary interdisciplinary connections: Language Arts, Social Studies, Science	
21st century themes: Global Awareness, Financial Literacy, Health Literacy, Civic Literacy	
Learning Targets	
Content Standards	
Number	Common Core Standard for Mastery
S-ID.6.	<ul style="list-style-type: none"> ● Represent data on two quantitative variables on a scatter plot and describe how the variables are related. ● Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or chooses a function suggested by the context. Emphasize linear, quadratic, and exponential models. ● Informally assess the fit of a model function by plotting and analyzing residuals. ● Fit a linear function for scatter plots that suggest a linear association.
S-ID.7.	Interpret the slope (rate of change) and the intercept (constant term) of a linear fit in the context of the data.
S-ID.8.	Compute (using technology) and interpret the correlation coefficient of a linear fit.
S-ID.9.	Distinguish between correlation and causation.
Number	Common Core Standard for Introduction
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
8	Look for and express regularity in repeated reasoning
Unit Essential Questions	Unit Enduring Understandings
What are differences between correlation and association when drawing conclusions about data?	<p><i>Students will understand that...</i></p> <p>Bivariate quantitative data can be tested using linear regression hypothesis testing procedures</p>

When is data usable for linear regression hypothesis testing?	
<p>Unit Objectives <i>Students will know...</i> Interpreting graphs of bivariate data Correlation Linear Regression Test</p> <p><i>Vocabulary:</i></p> <p>Non-linear Correlation Residual Correlation coefficient Coefficient of Determination Variance</p>	<p>Unit Objectives <i>Students will be able to...</i></p> <p>Calculate residuals for linear data.</p> <p>Find and interpret the correlation coefficient and coefficient of determination.</p> <p>Conduct a linear regression hypothesis test on the slope of a regression line and interpret results in context.</p>

Evidence of Learning	
Formative Assessments	
<ul style="list-style-type: none"> ● Homework ● Math Journals ● Peer/Self assessments 	<ul style="list-style-type: none"> ● Verbal Check ● Class Participation ● Observation
Summative Assessments	
Good & bad graphs: http://www.datavis.ca/gallery/index.php Statistics resources: http://www.deeanef.com/apstat.htm	
<ul style="list-style-type: none"> ● Chapter/Unit Test ● Quizzes ● Unit Projects ● Presentations ● State Assessments 	
Modifications (ELLs, Special Education, Gifted and Talented)	
<ul style="list-style-type: none"> ● Follow all IEP modifications/504 plan ● Teacher tutoring ● Peer tutoring ● Cooperative learning groups ● Modified assignments ● Differentiated instruction 	
Curriculum development Resources/Instructional Materials/Equipment Needed Teacher Resources:	
Calculators, Texts, Excel Software Applications of Prob & Stat: http://www.intuitor.com/statistics/ http://www.statdisk.org/ Statistical investigations: http://www.intuitor.com/student/specs_APstatsInve.php http://www.bbn-school.org/us/mathAP_stats/applets/applets.html Statistical Resources: http://www.khanacademy.org http://www.stats.gla.ac.uk/steps/glossary/ http://www.apus.edu/media/mathWV/statistics-bk.htm http://www.stattrek.com http://www.learner.org/resources/series65.html http://davidmlane.com/hyperstat/index.html Triola Elementary Statistics	
Teacher Notes:	