POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

AP Statistics Unit 1:	Exploring Data: Describing patterns and departures from patterns	TIME FRAME:	10 weeks

NATIONAL COMMON CORE STANDARDS:

Understand and evaluate random processes underlying statistical experiments
- **S-IC.1** Understand statistics as a process for making inferences about population parameters based on a random sample from that population.

Reason quantitatively and use units to solve problems
- **N-Q.2** Define appropriate quantities for the purpose of descriptive modeling.
- **N-Q.1** 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.
- **N-Q.3** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Summarize, represent, and interpret data on a single count or measurement variable
- **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).

Create equations that describe numbers or relationships
- **A-CED.4** Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Summarize, represent, and interpret data on a single count or measurement variable
- **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.

Interpret linear models
- **S-ID.8** Compute (using technology) and interpret the correlation coefficient of a linear fit.
- **S-ID.9** Distinguish between correlation and causation.

Summarize, represent, and interpret data on two categorical and quantitative variables
- **S-ID.6** Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
- **S-ID.6a** Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.
- **S-ID.6b** Informally assess the fit of a function by plotting and analyzing residuals.
- **S-ID.6c** Fit a linear function for a scatter plot that suggests a linear association.

Represent and solve equations and inequalities graphically
- **A-REI.11** Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions

MATHEMATICAL PRACTICES:

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.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

Interpret functions that arise in applications in terms of the context
- **F-IF.4** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
- **F-IF.5** Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
- **F-IF.6** Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

Construct and compare linear, quadratic, and exponential models and solve problems
- **F-LE.1** Distinguish between situations that can be modeled with linear functions and with exponential functions.
- **F-LE.1b** Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

Interpret the structure of expressions
- **A-SSE.1** Interpret expressions that represent a quantity in terms of its context.
- **A-SSE.1b** Interpret complicated expressions by viewing one or more of their parts as a single entity.

ESSENTIAL QUESTIONS	ASSESSMENT
What is data? How do we understand and communicate data? **Can you lie with statistics? How and to what extent?** **What assumptions can be made from data?** **How can graphical displays be manipulated to present misleading information?** **How can data analysis be used to predict future happenings?** **Does the data always lead to the truth?** **How does one assess normality?** **Why is the normal distribution essential to the study of statistics?** **How does the normal distribution apply to the real world?**	**Formative:** - At the bell activities - Question and answer - Homework - Quizzes - Constructed response/open-ended problem solving - Performance tasks - Sample AP Essays **Summative:** - Performance based assessments - Quizzes - Tests - Constructed response/ open-ended problem solving - Performance tasks - Project

	• Released Practice AP Exam • Death Penalty Project Statistics • Caloric content of hot dogs and a comparison of meat • Linear Regression Project

	PA COMMON CORE STANDARDS	Keystone Eligible Content
UNIT OF INSTRUCTION: **DESCRIBING PATTERNS AND DEPARTURES FROM PATTERNS**	**CC.2.1.HS.F.1:** Apply and extend the properties of exponents to solve problems with rational exponents. **CC.2.1.HS.F.3:** Apply quantitative reasoning to choose and interpret units and scales in formulas, graphs, and data displays. **CC.2.1.HS.F.4:** Use units as a way to understand problems and to guide the solution of multi-step problems. **CC.2.1.HS.F.5:** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. **CC.2.2.HS.D.1:** Interpret the structure of expressions to represent a quantity in terms of its context. **CC.2.2.HS.D.2:** Write expressions in equivalent forms to solve problems. **CC.2.2.HS.C.2:** Graph and analyze functions and use their properties to make connections between the different representations. **CC.2.2.HS.C.6:** Interpret functions in terms of the situations they model. **CC.2.4.HS.B.1:** Summarize, represent, and interpret data on a single count or measurement variable. **CC.2.4.HS.B.2:** Summarize, represent, and interpret data on two categorical and quantitative variables. **CC.2.4.HS.B.3:** Analyze linear models to make interpretations based on the data. **CC.2.2.8.C.2:** Use concepts of functions to model relationships between quantities. **CC.2.1.7.D.1:** Analyze proportional relationships and use them to model and solve real-world and mathematical problems. **Essential Skills and Understanding** • Choose an appropriate display for categorical data. • Be able to create an appropriate display for categorical data and clearly describe the reasoning for the choice. • Be able to read and interpret displays of conditional distributions of one variable for more. • Be able to identify an appropriate display for quantitative data and clearly justify the choice. • Be able to construct a display for quantitative data. • Know how to compare the distributions of groups by comparing their shape, center, and spread.	**A1.1.2 Linear Equations** **A1.1.2.1 Write, solve, and/or graph linear equations using various methods.** **A1.1.2.2.2** • Interpret solutions to problems in the context of the problem situation. **A1.1.3.1.2** • Identify or graph the solution set to a linear inequality on a number line. **A1.2.1.1.1** • Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically. **A1.2.2.2.1** • Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot. **A1.2.3.2.2** • Analyze data; make predictions, and/or answer questions based on displayed data (box-and whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations). **A1.2.3.2.3** • Make predictions using the

- Understand the impact of outliers in the data.
- Use a graphing calculator to construct a basic histogram.
- Understand the standard deviation tells how the data surrounds the mean.
- Use a graphing calculator to find a 5-number summary of a variable and create a boxplot.
- Understand which numerical descriptions resist outliers and which do not.
- Know how to clearly describe numerical summaries in written form.
- Be able to use the Normal model to estimate observations falling within certain standard deviations of the mean.
- Know how to find the percentage.
- Recognize patterns in a scatter plot.
- Know how to describe a given scatter plot in detail.
- Draw conclusions about the value of the correlation coefficient be able to defend the strength of the value.
- Be able to distinguish between correlation and causation.
- Be able to distinguish between correlation and association.
- Know how to create a scatter plot by hand and with technology.

equations or graphs of best-fit lines of scatter plots.

POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

DIFFERENTIATION ACTIVITIES:
Teacher directed differentiated instructional projects and activities are ongoing and based on student need.

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<tr>
<td rowspan="2">ENRICHMENT:</td>
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- The Practice of Statistics: Third Edition online resources
- StudyIsland
- Web-based Math Resources
- Small group instruction
- Teacher generated/differentiated instruction enrichment and activities
- Supporting the range of learners as per teacher manual
- Encourage and support learners in explaining how they applied their skills during mathematical tasks

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<td rowspan="2">REMEDIATION:</td>
<td>

- Khan Academy
- Prentice Hall Algebra 2
- The Practice of Statistics: Third Edition online resources
- StudyIsland
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RESOURCES:

- MiniTab Statistics Software
- Microsoft Excel
- PDE SAS portal: http://www.pdesas.org
- Graphing calculator
- Khan Academy
- www.studyisland.com
- The Practice of Statistics: Third Edition 2008 Daniel Yates, David Moore, Daren Starnes
- Stats: Modeling the World 2007 Bock, Velleman, De Veaux
- Statistics in Practice: Second Edition 1998 Blaisdell
- CollegeBoard.com
- Practice Released AP Exam materials

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POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

AP Statistics UNIT 2: Gr. 11,12	Sampling and Experimentation: Planning and conducting a study	TIME FRAME:	6 weeks

NATIONAL COMMON CORE STANDARDS:	MATHEMATICAL PRACTICES:
Make inferences and justify conclusions from sample surveys, experiments, and observational studies • **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.6** Evaluate reports based on data. • **S-IC.5** Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. **Understand and evaluate random processes underlying statistical experiments** • **S-IC.1** Understand statistics as 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.	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. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.

ESSENTIAL QUESTIONS	ASSESSMENT
• **How do we obtain data? Why is it important?** • **What is bias? How can it be identified? How can it be prevented?** • **To what extent is data biased? To what extent can data be purposely biased?** • **To what extent does data collection methodology affect results?** • **Does size matter?**	**Formative:** • At the bell activities • Question and answer • Homework • Quizzes • Constructed response/open-ended problem solving • Performance tasks • Sample AP Essays **Summative:** • Performance based assessments • Quizzes • Tests • Constructed response/open-ended problem solving • Performance tasks • Project • Released Practice AP Exam

	PA COMMON CORE STANDARDS	KEYSTONE ELIGIBLE CONTENT/LEARNING ACTIVITIES
UNIT OF INSTRUCTION: SAMPLING AND EXPERIMENTATION: PLANNING AND CONDUCTING A STUDY	**CC.2.1.HS.F.5:** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. **CC.2.4.HS.B.2:** Summarize, represent, and interpret data on two categorical and quantitative variables. **CC.2.4.HS.B.4:** Recognize and evaluate random processes underlying statistical experiments. **CC.2.4.HS.B.5:** Make inferences and justify conclusions based on sample surveys, experiments, and observational studies. **Essential Skills and Understanding** • Be able to identify the population in sampling. • Be able to recognize bias. • Know how to use a calculator to select a simple random sample. • Recognize the difference between an observation study and an experiment. • Be able to identify bias. • Identify all elements of an experiment. • Design a randomized experiment. • Explain in writing why a randomized comparative experiment can give good evidence for cause and effect relationships.	**M07.D-S.1. Use random sampling to draw inference about a population.** **M07.D-S.1.1.1** • Determine whether a sample is a random sample given a real-world situation. **M07.D-S.1.1.2** • Use data from a random sample to draw inferences about a population with an unknown characteristic of interest.

POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

	DIFFERENTIATION ACTIVITIES: Teacher directed differentiated instructional projects and activities are ongoing and based on student need.		
ENRICHMENT:	• The Practice of Statistics: Third Edition online resources • StudyIsland • Web-based Math Resources • Small group instruction • Teacher generated/differentiated instruction enrichment and activities • Supporting the range of learners as per teacher manual • Encourage and support learners in explaining how they applied their skills during mathematical tasks	**REMEDIATION:**	• Khan Academy • Prentice Hall Algebra 2 • The Practice of Statistics: Third Edition online resources • StudyIsland • Web-based Math Resources • Small group instruction • Teacher generated/differentiated instruction enrichment and activities • Supporting the range of learners as per teacher manual • Encourage and support learners in explaining how they applied their skills during mathematical tasks
RESOURCES:	• MiniTab Statistics Software • Microsoft Excel • PDE SAS portal: http://www.pdesas.org • Graphing calculator • Khan Academy • www.studyisland.com • The Practice of Statistics: Third Edition 2008 Daniel Yates, David Moore, Daren Starnes • Stats: Modeling the World 2007 Bock, Velleman, De Veaux • Statistics in Practice: Second Edition 1998 Blaisdell • CollegeBoard.com • Practice Released AP Exam materials **Resource Requirements:** • The school ensures that each student has a college-level statistics textbook for individual use, inside and outside of the classroom. • The school ensures that each student has access to a graphing calculator with statistical capabilities. • The school provides access to a computer to aid in investigating and analyzing data and in exploring statistical models.		

POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

AP Statistics Unit 3:	Anticipating Patterns: Exploring Random Phenomena Using Probability and Simulation	**TIME FRAME:**	10 weeks

NATIONAL COMMON CORE STANDARDS:	**MATHEMATICAL PRACTICES:**
Calculate expected values and use them to 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. **Use probability to evaluate outcomes of decisions** • **S-MD.5** Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. • **S-MD.5a** Find the expected payoff for a game of chance. **Make inferences and justify conclusions from sample surveys, experiments, and observational studies** • **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. **Use probability to evaluate outcomes of decisions** • **S-MD.7** Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). **Use probability to evaluate outcomes of decisions** • **S-MD.5** (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. • **S-MD.5b** Evaluate and compare strategies on the basis of expected values.	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. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.

ESSENTIAL QUESTIONS	ASSESSMENT
- What is the probability of understanding probability? - When is probability a sure thing? - How can we base decisions on chance? - How can probability be used to simulate events and to predict future happenings? - What are the benefits of simulating events as opposed to gathering real data? - What is randomness? - How can modeling predict the future? - To what extent does our world exhibit binomial and geometric phenomena? - When is probability a sure thing? - How can we base decisions on chance? - How can modeling predict the future? - To what extent does our world exhibit binomial and geometric phenomena? - How does the normal distribution apply to the real world? - How can we use the Central Limit Theorem to understand the variability of a statistic? - Does the Central Limit Theorem test one's limit?	<u>Formative:</u> - Journals/logs - KWL chart - At the bell activities - Question and answer - Individual white boards/Promethean Board ActiVotes - Homework - Quizzes - Constructed response/open-ended problem solving - Performance tasks - Exit slips <u>Summative:</u> - CDT's - Performance based assessments - Quizzes - Tests - Constructed response/open-ended problem solving - Performance tasks - Project

PA COMMON CORE STANDARDS	Keystone Eligible Content
ANTICIPATING PATTERNS: EXPLORING RANDOM PHENOMENA **CC.2.1.HS.F.5:** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. **CC.2.2.HS.D.1:** Interpret the structure of expressions to represent a quantity in terms of its context. **CC.2.4.7.B.3:** Investigate chance processes and develop, use, and evaluate probability models. **CC.2.4.6.B.1:** Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. **CC.2.4.HS.B.6:** Use the concepts of independence and conditional probability to interpret data. **CC.2.4.HS.B.7:** Apply the rules of probability to compute probabilities of compound events in a uniform probability model. **Essential Skills and Understanding** Be able to explain independent and dependent variables.	**A1.2.3 Data Analysis** **A1.2.3.3 Apply probability to practical situations.** **A1.2.3.3.1** Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent. **A2.2.1 Patterns, Relations, and Functions** **A2.2.1.1 Analyze and/or use patterns or relations.**

- Calculate the mean and variance of a discrete random variable.
- Use technology or the formula to calculate binomial and geometric probabilities.
- Construct cumulative distribution tables and histograms.
- <mark>Understand that dependency of variability on size of sample.</mark>
- Be able to demonstrate a sampling distribution by simulation.

A2.2.1.1.1
- Analyze a set of data for the existence of a pattern, and represent the pattern with a rule algebraically and/or graphically.

A2.2.3 Data Analysis

A2.2.3.2 Apply probability to practical situations

A2.2.3.2.1
- Use combinations, permutations, and the fundamental counting principle to solve problems involving probability.

A2.2.3.2.2
- Use odds to find probability and/or use probability to find odds.

A2.2.3.2.3
- Use probability for independent, dependent, or compound events to predict outcomes.

	DIFFERENTIATION ACTIVITIES: Teacher directed differentiated instructional projects and activities are ongoing and based on student need.		
ENRICHMENT:	• MiniTab Statistics Software • Pearson - Stats: Modeling the World • Pearson – Elementary Statistics • Microsoft Excel • The Practice of Statistics: Third Edition online resources • StudyIsland • Web-based Math Resources • Small group instruction • Teacher generated/differentiated instruction enrichment and activities • Supporting the range of learners as per teacher manual • Encourage and support learners in explaining how they applied their skills during mathematical tasks	**REMEDIATION:**	• Khan Academy • Prentice Hall Algebra 2 • The Practice of Statistics: Third Edition online resources • StudyIsland • Web-based Math Resources • Small group instruction • Teacher generated/differentiated instruction enrichment and activities • Supporting the range of learners as per teacher manual • Encourage and support learners in explaining how they applied their skills during mathematical tasks
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POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

AP Statistics Unit 4: Gr. 11,12	Statistical Inference: Estimating Population Parameters and Testing Hypotheses	TIME FRAME:	10 weeks

NATIONAL COMMON CORE STANDARDS:	MATHEMATICAL PRACTICES:
Make inferences and justify conclusions from sample surveys, experiments, and observational studies • **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.6** Evaluate reports based on data. • **S-IC.5** Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. **Summarize, represent, and interpret data on two categorical and quantitative variables** • **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. **Understand independence and conditional probability and use them to interpret data** • **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.	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. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.

ESSENTIAL QUESTIONS	ASSESSMENT
• **How much evidence do you need before you are able to make a reasonable conjecture?** • **Is it reasonable to think that different people require different amounts of convincing?** • **How is statistical inference used to draw conclusions from data?** • **How is probability used to express the strength of our conclusions?** • **How can decisions be based on chance?** • **To what extent should decisions be made based on chance?** • **What does it mean to be 95% confident when speaking to statistical reports?** • **How do you determine if there is a statistical significance?** • **What does it mean to make an inference?** • **How does one distinguish among the various confidence intervals?** • **How can we test a series of proportions?** • **How can we verify that two variables are independent?** • **How do you find critical values for a chi-square test?** • **How is a test of significance done?** • **How does one distinguish among the various tests of significance?** • **How can we test a series of proportions?** • **How can we verify that two variables are independent?** • **How can we test the slope of a correlation?** • **How do we use a model to make statistical inference?**	**Formative:** • At the bell activities • Question and answer • Homework • Quizzes • Constructed response/open-ended problem solving • Performance tasks • Sample AP Essays **Summative:** • Performance based assessments • Quizzes • Tests • Constructed response/open-ended problem solving • Performance tasks • Project • Released Practice AP Exam

	PA COMMON CORE STANDARDS	KEYSTONE ELIGIBLE CONTENT/LEARNING ACTIVITIES
UNIT OF INSTRUCTION: **STATISTICAL INFERENCE: ESTIMATING POPULATION PARAMETERS AND TESTING HYPOTHESES**	**CC.2.1.HS.F.5:** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. **CC.2.4.HS.B.5:** Make inferences and justify conclusions based on sample surveys, experiments, and observational studies. **CC.2.4.7.B.1:** Draw inferences about populations based on random sampling concepts. **CC.2.4.7.B.2:** Draw informal comparative inferences about two populations. **Essential Skills and Understanding** • Understand that dependency of variability on size of sample. • Be able to demonstrate a sampling distribution by simulation. • Be able to draw conclusions about the distribution of the mean by using the sampling distribution model. • Be able to interpret a sampling distribution model and describe it. • Explain what is meant by 95% confidence. • Calculate a confidence interval for the mean of a normal population. • Recognize when the confidence interval formula cannot be used. • Find appropriate sample sized to obtain a confidence interval of specified margin of error. • Determine what Type I and Type II errors are in the context of a situation. • Understand the connection between sample size and power. • Explain the meaning for the p-value. • Calculate the z statistic and p-value for one-sided and two-sided tests. • Recognize when you can use the z test. • Determine statistical significance. • Be able to state the null and alternative hypothesis for testing the difference between two proportions. • Know how to determine when making inference about the difference between two population proportions would be invalid. • Know how to find a confidence interval for the difference between two Proportions. • Understand that failing to reject the null hypothesis does not mean accepting it.	**M08.D-S.1.2.1** Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables.

POCONO MOUNTAIN SCHOOL DISTRICT CURRICULUM

	DIFFERENTIATION ACTIVITIES: Teacher directed differentiated instructional projects and activities are ongoing and based on student need.		
ENRICHMENT:	• The Practice of Statistics: Third Edition online resources • StudyIsland • Web-based Math Resources • Small group instruction • Teacher generated/differentiated instruction enrichment and activities • Supporting the range of learners as per teacher manual • Encourage and support learners in explaining how they applied their skills during mathematical tasks	**REMEDIATION:**	• Khan Academy • Prentice Hall Algebra 2 • The Practice of Statistics: Third Edition online resources • StudyIsland • Web-based Math Resources • Small group instruction • Teacher generated/differentiated instruction enrichment and activities • Supporting the range of learners as per teacher manual • Encourage and support learners in explaining how they applied their skills during mathematical tasks
RESOURCES:	• MiniTab Statistics Software • Microsoft Excel • PDE SAS portal: http://www.pdesas.org • Graphing calculator • Khan Academy • www.studyisland.com • The Practice of Statistics: Third Edition 2008 Daniel Yates, David Moore, Daren Starnes • Stats: Modeling the World 2007 Bock, Velleman, De Veaux • Statistics in Practice: Second Edition 1998 Blaisdell • CollegeBoard.com **Resource Requirements:** • Practice Released AP Exam materials • The school ensures that each student has a college-level statistics textbook for individual use, inside and outside of the classroom. • The school ensures that each student has access to a graphing calculator with statistical capabilities. • The school provides access to a computer to aid in investigating and analyzing data and in exploring statistical models.		