

Campbell County Schools
Algebra IIB
3rd Nine Weeks

<p>Mathematical Practices:</p> <ol style="list-style-type: none"> 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. 	<p>Common Core Coding Explanation:</p> <div style="text-align: center; margin: 10px 0;"> <p>Conceptual Category Cluster Standard #</p> </div> <p>Domains Examples: SSE- Seeing Structure in Expressions REI- Reasoning with Equations & Inequalities CED- Creating Equations that Describe</p>
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Domain	Common Core State Standard	Tasks / Suggested Pacing	Textbook Lessons Aligned to Common Core
		45 days	
Description:	<p>Students see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. They identify different ways of collecting data—including sample surveys, experiments, and simulations—and the role that randomness and careful design play in the conclusions that can be drawn. Students will engage in high level math tasks that provide opportunities to express depths of knowledge using the Mathematical Practices.</p>		
Statistics & Probability: Making Inferences & Justifying Conclusions	<p>Understand and evaluate random processes underlying statistical experiments.</p> <ul style="list-style-type: none"> • S.IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population. 		

<p>Statistics & Probability: Making Inferences & Justifying Conclusions</p>	<p>Understand and evaluate random processes underlying statistical experiments.</p> <ul style="list-style-type: none"> • S.IC.A.2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. <i>For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?</i> 		
<p>Statistics & Probability: Conditional Probability and the Rules of Probability</p>	<p>Understand independence and conditional probability and use them to interpret data.</p> <ul style="list-style-type: none"> • S.CP.A.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”). 		
<p>Statistics & Probability: Conditional Probability and the Rules of Probability</p>	<p>Understand independence and conditional probability and use them to interpret data.</p> <ul style="list-style-type: none"> • S.CP.A.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. 		
<p>Statistics & Probability: Conditional Probability and the Rules of Probability</p>	<p>Understand independence and conditional probability and use them to interpret data.</p> <ul style="list-style-type: none"> • S.CP.A.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. 		

<p>Statistics & Probability: Conditional Probability and the Rules of Probability</p>	<p>Understand independence and conditional probability and use them to interpret data.</p> <ul style="list-style-type: none"> • S.C.P.A.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. <i>For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.</i> 		
<p>Statistics & Probability: Conditional Probability and the Rules of Probability</p>	<p>Understand independence and conditional probability and use them to interpret data.</p> <ul style="list-style-type: none"> • S.C.P.A.5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. <i>For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.</i> 		
<p>Statistics & Probability: Conditional Probability and the Rules of Probability</p>	<p>Use the rules of probability to compute probabilities of compound events in a uniform probability model.</p> <ul style="list-style-type: none"> • S.C.P.B.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. • S.C.P.B.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. 		

<p>Statistics & Probability: Using Probability to Make Decisions</p>	<p>Use probability to evaluate outcomes of decisions.</p> <ul style="list-style-type: none"> • S.MD.B.6. (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). • S.MD.B.7. (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). 		
<p>Statistics & Probability: Making Inferences & Justifying Conclusions</p>	<p>Make inferences and justify conclusions from sample surveys, experiments, and observational studies.</p> <ul style="list-style-type: none"> • S.IC.B.3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. • S.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. • S.IC.B.5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. • S.IC.B.6. Evaluate reports based on data. 		

<p style="text-align: center;">Statistics & Probability: Interpreting Categorical & Quantitative Data</p>	<p>Summarize, represent, and interpret data on two categorical and quantitative variables.</p> <ul style="list-style-type: none"> • S.ID.B.6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. • S.ID.B.6.a. 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. 		
<p style="text-align: center;">Statistics & Probability: Interpreting Categorical & Quantitative Data</p>	<p>Summarize, represent, and interpret data on a single count or measurement variable.</p> <ul style="list-style-type: none"> • S.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. 		