



2015 Probability and Statistics to 2025 SC CCR Standards Crosswalk

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Overview of Document

The purpose of the crosswalk document is to reveal alignment and differences between the 2015 and the *2025 SC College- and Career-Ready Mathematics Standards*. This is just an alignment guide for the purpose of providing information regarding the dissolution of Probability and Statistics Course that was aligned to the *2015 SC CCR Mathematics Standards*.

Background: In 2021, South Carolina began a process of reviewing the *2015 SC College- and Career-Ready Mathematics Standards*. The review and revision processes involved classroom teachers, administrators, curriculum specialists, parents, and professors. In the 2025 version of the *SC CCR Mathematics Standards*, revisions were made to clarify the standards, ensure developmental appropriateness, and ensure clear skills progression across grade levels.

Overview: South Carolina's CCR Mathematics Standards are divided into four strands: Data, Probability, and Statistical Reasoning (DPSR); Measurement, Geometry, and Spatial Reasoning (MGSR); Numerical Reasoning (NR); and Patterns, Algebra, and Functional Reasoning (PAFR). The content from the Probability and Statistics Course (2015) shifted to different grades and courses and the Probability and Statistics Course (2015) was eliminated. The *2025 SC CCR Mathematics Standards* added Statistical Modeling to provide a more advanced statistics opportunity for students.

Probability and Statistics

Conditional Probability and Rules of Probability

<i>2015 SC CCR Math Standard</i>	<i>2025 SC CCR Math Indicator Alignment</i>
PS.SPCR.1 Describe events as subsets of a sample space and <ol style="list-style-type: none"> Use Venn diagrams to represent intersections, unions, and complements. Relate intersections, unions, and complements to the words and, or, and not. Represent sample spaces for compound events using Venn diagrams. 	GS.DPSR.3.1 Describe categories of events as subsets of a sample space using unions, intersections, or complements of other events. A2P.DPSR.1.1 Describe events as subsets of a sample space using characteristics or categories of the outcomes, or as unions, intersections, or complements of other events.
PS.SPCR.2 Use the multiplication rule to calculate probabilities for independent and dependent events. 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.	GS.DPSR.3.3 Apply the Multiplication Rule to determine the probability of independent events and interpret the answers in context. A2P.DPSR.1.2 Explain whether two events, A and B, are independent if and only 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. A2P.DPSR.2.3 Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A) \cdot P(B A) = P(B) \cdot P(A B)$ and interpret the answer in terms of the model.
PS.SPCR.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.	A2P.DPSR.1.3 Determine whether 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 in mathematical and real-world situations.

<i>2015 SC CCR Math Standard</i>	<i>2025 SC CCR Math Indicator Alignment</i>
PS.SPCR.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.	A1.DPSR.1.1 Summarize categorical data in two-way frequency tables, interpret relative frequencies in real-world situations, and informally determine possible associations and trends in the data. A1.DPSR.1.2 Summarize quantitative data in a table and on a scatter plot and describe how the variables are associated. Limit to linear data.
PS.SPCR.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.	A2P.DPSR.1.4 Recognize and explain the concepts of conditional probability and independence.
PS.SPCR.6 Calculate the conditional probability of an event A given event B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.	A2P.DPSR.2.1 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.
PS.SPCR.7 Apply the Addition Rule and the Multiplication Rule to determine probabilities, including conditional probabilities, and interpret the results in terms of the probability model.	GS.DPSR.3.2 Apply the Addition Rule to find the probability of both mutually exclusive and not mutually exclusive events and interpret the answers in context. GS.DPSR.3.3 Apply the Multiplication Rule to determine the probability of independent events and interpret the answers in context. A2P.DPSR.2.2 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. A2P.DPSR.2.3 Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A) \cdot P(B A) = P(B) \cdot P(A B)$ and interpret the answer in terms of the model.
PS.SPCR.8 Use permutations and combinations to solve mathematical and real-world problems, including determining probabilities of compound events. Justify the results.	A2P.DPSR.2.4 Use permutations and combinations to determine the number of possible outcomes in a sample space.

Making Inference and Justifying Conclusions

<i>2015 SC CCR Math Standard</i>	<i>2025 SC CCR Math Indicator Alignment</i>
PS.SPMJ.1 Understand statistics and sampling distributions as a process for making inferences about population parameters based on a random sample from that population.	A1.DPSR.2.1 Use two-way frequency tables to make inferences and interpret the data in terms of real-world or mathematical situations. RM.DPSR.1.3 Identify the population of interest and the variables to be used in each study. Determine the appropriate sampling design, sampling technique, and statistical analysis for each research question.
PS.SPMJ.2 Distinguish between experimental and theoretical probabilities. Collect data on a chance event and use the relative frequency to estimate the theoretical probability of that event. Determine whether a given probability model is consistent with experimental results.	7.DPSR.2.2 Calculate and interpret the theoretical probability of a simple random event. 7.DPSR.2.3 Calculate and interpret the experimental probability of a random event related to a simple experiment. 7.DPSR.2.4 Compare and contrast the experimental and theoretical probabilities for a simple experiment.
PS.SPMJ.3 Plan and conduct a survey to answer a statistical question. Recognize how the plan addresses sampling technique, randomization, measurement of experimental error and methods to reduce bias.	GS.DPSR.1.3 Conduct an investigation for a statistical question, interpret statistical significance in the context of a situation, and answer investigative questions appropriately. RM.DPSR.1.1 Formulate a statistical question and develop a statistical method to address questions/studies through exploration of the research cycle. SM.DPSR.3.3 Design sample surveys, experiments, and observational studies using statistical methods.
PS.SPMJ.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.	SM.DPSR.4.5 Calculate and interpret the p-value for a population proportion and/or population mean. SM.DPSR.5.1 Use statistical evidence from analyses to answer investigative statistical questions.

<i>2015 SC CCR Math Standard</i>	<i>2025 SC CCR Math Indicator Alignment</i>
PS.SPMJ.5 Distinguish between experiments and observational studies. Determine which of two or more possible experimental designs will best answer a given research question and justify the choice based on statistical significance.	GS.DPSR.1.3 Conduct an investigation for a statistical question, interpret statistical significance in the context of a situation, and answer investigative questions appropriately.
PS.SPMJ.6 Evaluate claims and conclusions in published reports or articles based on data by analyzing study design and the collection, analysis, and display of the data.	SM.DPSR.1.5 Summarize and evaluate reports based on data for appropriateness of study design, analysis methods, and statistical measures used. SM.DPSR.3.6 Describe and comply with the ethical use of data.

Interpreting Data

2015 SC CCR Math Standard	2025 SC CCR Math Indicator Alignment
PS.SPID.1 Select and create an appropriate display, including dot plots, histograms, and box plots, for data that includes only real numbers.	6.DPSR.1.2 Create box plots to represent numerical data sets in mathematical and real-world situations. 7.DPSR.1.4 Create histograms to represent data sets and interpret histograms to answer questions or draw conclusions about data sets.
PS.SPID.2 Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets that include all real numbers.	8.DPSR.1.4 For two data sets (numerical or graphical), compare and interpret the centers, spreads, and overlap of data to draw inferences about data in mathematical and real-world situations. Limit displays to double line graphs, back-to-back stem and-leaf plots, and double box plots.
PS.SPID.3 Summarize and represent data from a single data set. Interpret differences in shape, center, and spread in the context of the data set, accounting for possible effects of extreme data points (outliers).	7.DPSR.1.2 Use the shape of the graph to select the measure of center (mean, median, or mode) that best describes the data set. 7.DPSR.1.3 Calculate and interpret the measures of center (mean, median, mode) and spread (mean absolute deviation, interquartile range, range) in mathematical and real-world situations
PS.SPID.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.	SM.DPSR.1.2 Approximate percentages using the Empirical Rule and z-scores for normally distributed data. SM.DPSR.4.6 Use simulated sampling distributions to describe the sample-to-sample variability of sample statistics.
PS.SPID.5 Analyze bivariate categorical data using two-way tables and identify possible associations between the two categories using marginal, joint, and conditional frequencies.	A1.DPSR.1.1 Summarize categorical data in two-way frequency tables, interpret relative frequencies in real-world situations, and informally determine possible associations and trends in the data.

<i>2015 SC CCR Math Standard</i>	<i>2025 SC CCR Math Indicator Alignment</i>
PS.SPID.6 Using technology, create scatterplots and analyze those plots to compare the fit of linear, quadratic, or exponential models to a given data set. Select the appropriate model, fit a function to the data set, and use the function to solve problems in the context of the data.	<p>8.DPSR.1.1 Create and analyze scatter plots to represent numerical data sets in mathematical and real-world situations.</p> <p>GS.DPSR.1.2 Use two representative points from the data to find an approximate line of fit and compare it to the line of best fit.</p> <p>A1.DPSR.1.3 Find a linear function for a scatter plot that suggests a linear association.</p> <p>A1.DPSR.1.4 For linear associations, use technology to determine the correlation coefficient, evaluate the strength of the association, and find the line of best fit.</p> <p>SM.DPSR.4.1 Describe quantitative and categorical data.</p> <p>SM.DPSR.4.2 Summarize and describe relationships between two variables.</p>
PS.SPID.7 Find linear models using median fit and regression methods to make predictions. Interpret the slope and intercept of a linear model in the context of the data.	SM.DPSR.4.3 Describe the relationship between two quantitative variables by interpreting correlation (r) and a least-square regression line (using technology).
PS.SPID.8 Compute using technology and interpret the correlation coefficient of a linear fit	<p>A1.DPSR.1.4 For linear associations, use technology to determine the correlation coefficient, evaluate the strength of the association, and find the line of best fit.</p> <p>RM.PAFR.1.1 Compute and analyze the correlation coefficient of data to determine the strength of the linear model.</p>
PS.SPID.9 Differentiate between correlation and causation when describing the relationship between two variables. Identify potential lurking variables which may explain an association between two variables.	<p>8.DPSR.1.4 For two data sets (numerical or graphical), compare and interpret the centers, spreads, and overlap of data to draw inferences about data in mathematical and real-world situations. Limit displays to double line graphs, back-to-back stem and-leaf plots, and double box plots.</p> <p>GS.DPSR.2.1 Distinguish between correlation and causation.</p>
PS.SPID.10 Create residual plots and analyze those plots to compare the fit of linear, quadratic, and exponential models to a given data set. Select the appropriate model and use it for interpolation.	SM.DPSR.4.4 Assess the fit of a linear model by plotting and analyzing residuals, including the squares of the residuals, to improve its fit.

Using Probability to Make Decisions

2015 SC CCR Math Standard	2025 SC CCR Math Indicator Alignment
PS.SPMD.1 Develop the probability distribution for a random variable defined for a sample space in which a theoretical probability can be calculated and graph the distribution.	7.DPSR.2.2 Calculate and interpret the theoretical probability of a simple random event.
	SM.DPSR.3.1 Apply an appropriate data-collection plan when collecting data for the investigative statistical question of interest.
	SM.DPSR.3.3 Design sample surveys, experiments, and observational studies using statistical methods.
PS.SPMD.2 Calculate the expected value of a random variable as the mean of its probability distribution. Find expected values by assigning probabilities to payoff values. Use expected values to evaluate and compare strategies in real-world scenarios.	AM.DPSR.2.3 Calculate and analyze the expected value of a probability model (binominal, normal, and Poisson distributions) for a real-world situation to make decisions about fairness, payoff, and risk.
PS.SPMD.3 Construct and compare theoretical and experimental probability distributions and use those distributions to find expected values.	No Correlation
PS.SPMD.4 Use probability to evaluate outcomes of decisions by finding expected values and determine if decisions are fair.	AM.DPSR.2.2 Use probabilities to make and justify decisions about risk in real-world situations.
	AM.DPSR.2.3 Calculate and analyze the expected value of a probability model (binominal, normal, and Poisson distributions) for a real-world situation to make decisions about fairness, payoff, and risk.
PS.SPMD.5 Use probability to evaluate outcomes of decisions. Use probabilities to make fair decisions.	AM.DPSR.2.2 Use probabilities to make and justify decisions about risk in real-world situations.
	AM.DPSR.2.3 Calculate and analyze the expected value of a probability model (binominal, normal, and Poisson distributions) for a real-world situation to make decisions about fairness, payoff, and risk.

<i>2015 SC CCR Math Standard</i>	<i>2025 SC CCR Math Indicator Alignment</i>
PS.SPMD.6 Analyze decisions and strategies using probability concepts.	AM.DPSR.2.2 Use probabilities to make and justify decisions about risk in real-world situations. AM.DPSR.2.3 Calculate and analyze the expected value of a probability model (binominal, normal, and Poisson distributions) for a real-world situation to make decisions about fairness, payoff, and risk.