Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	**Standard:** 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"). *(Modeling Standard)
Conditional Probability and the Rules of Probability **Understand independence and conditional probability and use them to interpret data**	Questions to Focus Learning How can we use sets to calculate theoretical probability? Understanding the set of outcomes of an event can help us calculate theoretical probability. Student Friendly Objectives *Knowledge Targets* I can find the theoretical probability of random phenomena. *Reasoning Targets* I can create the sample space for a random phenomenon. I can describe an event as a subset of a sample space using characteristics of the outcomes. I can describe the union of two or more events as a subset of a sample space using characteristics of the outcomes. I can describe the intersection of two or more events as a subset of a sample space using characteristics of the outcomes. *Product Targets* I can construct a Venn diagram to find the union, intersection or complement of events.

	Vocabulary complement element empty set event intersection probability sample space set subset theoretical probability tree diagram union universal set Venn diagram Teacher Tips Vertical Progression 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. *(Modeling Standard) S.CP.3 - Understand the conditional probability of A given B as P(A 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. *(Modeling Standard) 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. 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. *(Modeling Standard) S.CP.5 - Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. 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. *(Modeling Standard)

The above information and more can be accessed for free on the Wiki-Teacher website.
Direct link for this standard: S.CP.1