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Standards for Mathematical Practice

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.

Current CA Math Content Standards	# of items	CST Released Items	California Common Core State Standards – Mathematics	Notes
Number Sense	**22 34%**			
NS 1.0 Students know the properties of, and compute with, rational numbers expressed in a variety of forms.			**Ratios and proportional Relationships 7.RP** -Analyze proportional relationships and use them to solve real-world and mathematical problems. **The Number System 7.NS** - Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers. - Know that there are numbers that are not rational, and approximate them by rational numbers. **Expressions and Equations 7.EE** - Use properties of operations to generate equivalent expressions. - Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (Cluster Statements)	
NS 1.1 Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10) with approximate numbers using scientific notation.	1	1-2	***7.EE.6. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 × 10^8 and the population of the world as 7 × 10^9, and determine that the world population is more than 20 times larger. (Common Core Standard 8EE-3)***	8.EE.4
*NS 1.2 Add, subtract, multiply and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.	4	3-7	7.NS.1: **Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.** a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. **Understand *p* + *q* as the number located a distance |*q*| from *p*, in the positive or negative direction depending on whether *q* is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing realworld contexts.** c. **Understand subtraction of rational numbers as adding the additive inverse, *p* - *q* = *p* + (-*q*). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.** d. **Apply properties of operations as strategies to add and subtract rational numbers.** 7.NS. 2.Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property,	8.EE.1

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			leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then -(*p*/*q*) = (-*p*)/*q* = *p*/(-*q*). Interpret quotients of rational numbers by describing real world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	
			7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers.[1]	
NS 1.3 Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.	1	8-9	7.NS. 2.Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then -(*p*/*q*) = (-*p*)/*q* = *p*/(-*q*). Interpret quotients of rational numbers by describing real world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. 7.EE.2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."* c. Apply properties of operations as strategies to multiply and divide rational numbers. d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. 7.EE.3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*	
*NS 1.4 Differentiate between rational and irrational numbers	1	10-11	***7.NS.4. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into***	

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			a rational number. (Common Core Standard 8NS-1)	
			7.NS.5. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations. (Common Core Standard 8NS-2)	
*NS 1.5 Know that every rational number is either a terminating or repeating decimal and be able to convert terminating decimals into reduced fractions	1	12	7.NS. 2.Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then -(*p*/*q*) = (-*p*)/*q* = *p*/(-*q*). Interpret quotients of rational numbers by describing real world contexts. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. **Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.**	
NS 1.6 Calculate the percentage of increases and decreases of a quantity	1	13	7.RP.3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*	
*NS 1.7 Solve problems that involve discounts, markups, commissions, and profit and compute simple and compound interest	5	14-20	7.RP.3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. .*	CCSS does not reference compound interest.
NS 2.0 Students use exponents, powers, and roots and use exponents in working with fractions:			**The Number System 7.NS** - Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers. **Expressions and Equations 7.EE** - Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (Cluster Statements)	
NS 2.1 Understand negative whole-number exponents. Multiply and divide expressions involving exponents with a common base.	1	21-22		8.EE.1
*NS 2.2 Add and subtract fractions by using factoring to find common	1	23		6.NS.4 5.NF.1

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denominators.				
*NS 2.3 Multiply, divide, and simplify rational numbers by using exponent rules	3	24-27		8.EE.1
NS 2.4 Use the inverse relationship between raising to a power and extracting the root of a perfect square integer; for an integer that is not square, determine with a calculator the two integers between which its square root lies and explain why	1	28-30	***7.EE.5. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational. (Common Core Standard 8EE-2)***	8.NS.2
*NS 2.5 Understand the meaning of the absolute value of a number; interpret the absolute value as the distance of the number from zero on a number line; and determine the absolute value of real numbers	2	31-33	7.NS.1: **Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.** a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.* b. **Understand *p* + *q* as the number located a distance |*q*| from *p*, in the positive or negative direction depending on whether *q* is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing realworld contexts.** c. **Understand subtraction of rational numbers as adding the additive inverse, *p* - *q* = *p* + (-*q*). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.** d. **Apply properties of operations as strategies to add and subtract rational numbers.**	6.NS.7
			Ratios and proportional Relationships 7.RP -Analyze proportional relationships and use them to solve real-world and mathematical problems. (Cluster Statement)	
			7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction $^{1/2}/_{1/4}$ miles per hour, equivalently 2 miles per hour.*	
			7.RP.2.Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the*	

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			number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn. d. Explain what a point *(x, y)* on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, *r)* where *r* is the unit rate.	
Algebra and Functions	**25 38%**			
AF 1.0 Students express quantitative relationships using algebraic terminology, expressions, equations, inequalities, and graphs			**Expressions and Equations 7.EE** - Use properties of operations to generate equivalent expressions. - Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (Cluster Statements)	
AF 1.1 Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represents a verbal description (e.g., three less than a number , half a large as area A)	1	34	7.EE.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*	6.EE.6 6.EE.8 6.EE.9
AF 1.2 Use the correct order of operations to evaluate algebraic expressions, such as $3(2x + 5)^2$Order of operations	1	35-36	7.EE.1.Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	
*AF 1.3 Simplify numerical expressions by applying properties of rational numbers (e.g., identity, inverse, distributive, associative, commutative) justify the process used	5	37-44	7.EE.1.Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	
AF 1.4 Use algebraic terminology (e.g., variable, equation, term, coefficient, inequality, expression, constant) correctly	1/3	45		6.EE.2
AF 1.5 Represent quantitative relationships graphically and interpret the meaning of a specific part of a	2/3	46-47		6.EE.9

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graph in the situation represented by the graph				
AF 2.0 Students interpret and evaluate expressions involving integer powers and simple roots:				8.EE
AF 2.1 Interpret positive whole-number powers as repeated multiplication and negative whole-number powers as repeated division of multiplication by the multiplicative inverse. Simplify and evaluate expressions that include exponents	1	48		6.EE.2 6.EE.3
AF 2.2 Multiply and divide monomials; extend the process to taking powers and extracting roots to monomials when the latter results in a monomial with an integer exponent	1	49		
AF 3.0 Students graph and interpret linear and some nonlinear functions:				8.F, 8.F.1 8.F.2, 8.F.3
AF 3.1 Graph functions of the form $y = nx^2$ and $y = nx^3$ and use in solving problems	2/3	50		
AF 3.2 Plot the values from the volumes of three-dimensional shapes for various values of the edge lengths (e.g., cubes with varying edge lengths or a triangle prism with a fixed height and an equilateral triangle base of varying lengths).	1/3			
*AF 3.3 Graph linear functions, noting that the vertical change (change in y-value) per unit of horizontal change (change in x-value) is always the same and know that the ratio ("rise over run") is called the slope of a graph	2	51-55		8.EE.5 8.EE.6

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*AF 3.4 Plot the values of quantities whose ratios are always the same (e.g., cost to the number of an item, feet to inches, circumference to the diameter of a circle). Fit a line to the plot and understand that the slope of the line equals the quantities	2	56		8.EE.5 8.SP.2
AF 4.0 Students solve simple linear equations and inequalities over the rational numbers:			**Expressions and Equations 7.EE** - Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (Cluster Statement)	8.EE.7
*AF 4.1 Solve two-step linear equations and inequalities in one variable over the rational numbers, interpret the solution or solutions in the context from which they arose, and verify the reasonableness of the results.	5	57-61	7.EE.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*	
*AF 4.2 Solve multi-step problems involving rate, average speed, distance and time or a direct variation	5	62-69		6.RP.3
Measurement and Geometry	**13 20%**			
MG 1.0 Students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems:			**Geometry 7.G** - Draw, construct, and describe geometrical figures and describe the relationships between them. (Cluster Statement)	5.MD 5.MD.1 6.RP.3
MG 1.1 Compare weights, capacities geometric measures, times, and temperatures within and between measurement systems (e.g., miles per hour and feet per second, cubic inches	2/3	70		6.RP.3

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to cubic centimeters).				
MG 1.2 Construct and read drawings and models made to scale	1/3	71-72	7.G.1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	
*MG 1.3 Use measures expressed as rates (e.g., speed, density) and measures expressed as products (e.g., person-days) to solve problems; check the units of the solutions; and use dimensional analysis to check the reasonableness of the answer.	3	73-76		6.RP.3
			7.G.2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	
			7.G.3.Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	
			7.G.5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	
MG 2.0 Students compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale:			**Geometry 7.G** - Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. - ***Solve real-life and mathematical problems involving volume of cylinders, cones, and spheres.***	
MG 2.1 Use formulas routinely for finding the perimeter and area of basic two-dimensional figures and the surface area and volume of basic three-dimensional figures, including rectangles, parallelograms, trapezoids, squares, triangles, circles, prisms, and cylinders.	1/3	77	7.G.4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. 7.G.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. ***7.G.7. Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. (Common Core Standard 8G-9)***	
MG 2.2 Estimate and compute the area of more complex or irregular two- and three-dimensional figures by	1/3	78-79	7.G.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	6.G.1

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breaking the figures down into more basic geometric objects.				
MG 2.3 Compute the length of the perimeter, the surface area of the faces, and the volume of a three-dimensional object built from rectangular solids. Understand that when the lengths of all dimensions are multiplied by a scale factor, the surface area is multiplied by the square of the scale factor and the volume is multiplied by the cube of the scale factor.	1/3	80	7.G.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	
MG 2.4 Relate the changes in measurement with a change of scale to the units used (e.g., square inches, cubic feet) and to conversions between units (1 square foot = 144 square inches or [1 ft^2] = [144 in^2], cubic inch is approximately 16.38 cubic centimeters or [1 in^3] = [16.38 cm^3]	1/3	81		6.RP.3
MG 3.0 Students know the Pythagorean theorem and deepen their understanding of plane and solid geometric shapes by construction figure that meet given conditions and by identifying attributes of figures:			**Geometry 7.G** - Draw, construct, and describe geometrical figures and describe the relationships between them. (Cluster Statement)	8.G
MG 3.1 Identify and construct basic elements of geometric figures (e.g., altitudes, midpoints, diagonals, angle bisectors, and perpendicular bisectors; central angles, radii, diameters, and chords of circles) by using a compass and straightedge.	1/3			

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MG 3.2 Understand and use coordinate graphs to plot simple figures, determine lengths and areas related to them, and determine their image under translations and reflections.	1/3	82		6.G.3 8.G.2 8.G.3 8.G.4
*MG 3.3 Know and understand the Pythagorean theorem and its converse and use it to find the length of the missing side of a right triangle and the lengths of other line segments and, in some situations, empirically verify the Pythagorean theorem by direct measurement.	4	83-87		8.G.6 8.G.7
*MG 3.4 Demonstrate an understanding of conditions that indicate two geometrical figures are congruent and what congruence means about the relationships between the sides and angles of the two figures.	2	88-89		8.G.2
MG 3.5 Construct two-dimensional patterns for three-dimensional models, such as cylinders, prisms, and cones.	NA			6.G.4
*MG 3.6 Identify elements of three-dimensional geometric objects (e.g. diagonals of rectangular solids) and describe how two or more objects are related in space (e.g., skew lines the possible ways three planes might intersect).	1	90	***7.G.3.1 Describe how two or more objects are related in space (e.g., skew lines, the possible ways three planes might intersect).***	
Statistics, Data Analysis and Probabilitiy	**5 8%**			
SDAP 1.0 Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a			**Statistics and Probability 7.SP** - Draw informal comparative inferences about two populations. (Cluster Statement)	8.SP.4

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data set by hand and through the use of n electronic spreadsheet software program:				
SDAP 1.1 Know various forms of display for data sets, including a stem-and-leaf plot or box-and-whisker plot; use the forms to display a single set of data or to compare two sets of data.	1	91		6.SP.4 6.SP.5
SDAP 1.2 Represent two numerical variables on a scatterplot and informally describe how he data point are distributed and any apparent relationship that exists between the two variables (e.g., between time spent on homework and grade level).	1	92	7.SP.3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.* 7.SP.4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*	8.SP.1
*SDAP 1.3 Understand the meaning of, and be able to compute, the minimum, the lower quartile, the median, the upper quartile, and the maximum of a data set.	3	93-96		6.SP.5
			Statistics and Probability 7.SP - Use random sampling to draw inferences about a population. - Investigate chance processes and develop, use, and evaluate probability models. (Cluster Statements)	
			7.SP.1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	
			7.SP.2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*	
			7.SP.5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0	

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			indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	
			7.SP.6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*	
			7.SP.7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*	
			7.SP.8.Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”),identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*	

***=Key Standards**