



SuccessMaker®

**Colorado Academic Standards
Mathematics 2020
Grade 7**

**Alignments to SuccessMaker
Providing rigorous intervention
for K-8 learners with unparalleled precision**

| Colorado Academic Standards' Codes | Colorado Academic Standards Mathematics 2020 Grade 7 | SuccessMaker Item Descriptions | Item IDs |
|------------------------------------|---|---|---------------|
| 1 | Number and Quantity | | |
| 7.RP.A | Ratios & Proportional Relationships: Analyze proportional relationships and use them to solve real-world and mathematical problems. | | |
| 7.RP.A.1 | Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. | Identify two unit rates for a given word problem. | SMMA_LO_02114 |
| | | Calculate, compare, and use units rates to find the best prices for bakery ingredients. | SMMA_LO_02510 |
| | | Find the amount of an ingredient needed to make two, three or four times a recipe. | SMMA_LO_01627 |
| 7.RP.A.2 | Identify and represent proportional relationships between quantities. | | |
| 7.RP.A.2.a | Determine 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. | Determine the fraction needed to complete the proportion. | SMMA_LO_01827 |
| | | Identify the correct proportion for the context, and then solve. | SMMA_LO_01826 |
| 7.RP.A.2.b | Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. | Identify the unit rate given a table, a graph, an equation, a diagram, or a word problem. | SMMA_LO_02001 |
| | | Identify the constant of proportionality given a table, a graph, an equation, a diagram, or a word problem. | SMMA_LO_02002 |
| | | Ratios and Equations Targeted Lesson 12: Rates, Formulas, and Graphs | |
| | | Ratios and Equations Targeted Lesson 14: Graphing Proportional Relationships | |

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| 7.RP.A.2.c | Represent proportional relationships by equations. For example, if total cost t is proportional to the 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 $t = pn$. | Students use proportions to calculate their weight on Mars. | SMMA_LO_02513 |
| | | Given the number of kilowatt-hours used and a price, find the total cost of power. | SMMA_LO_01336 |
| 7.RP.A.2.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. | Interpret the meaning of a point on the graph of a proportional relationship in terms of the situation; use this information to answer questions about the situation. | SMMA_LO_02089 |
| | | Graph proportional relationships and interpret the unit rate as the slope of the graph. | SMMA_LO_02073 |
| | | Ratios and Equations Targeted Lesson 14: Graphing Proportional Relationships | |
| 7.RP.A.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. | Find the total cost, given an amount and the sales tax percentage. | SMMA_LO_00178 |
| | | Find the percent of increase. | SMMA_LO_00278 |
| | | Identify a correct expression to solve a problem about sales tax. | SMMA_LO_00845 |
| | | Students use percents to interpret increase in number of views on a video. | SMMA_LO_02512 |
| | | Find the number of grams that represents a percentage of the total weight (whole numbers). | SMMA_LO_01636 |
| | | Find total earnings for two to four weeks given the weekly salary, commission percentage, and total sales (whole number percents). | SMMA_LO_01637 |
| | | Solve for a variable in the formula for simple interest (whole numbers and decimals). | SMMA_LO_01805 |

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| | | Find the combined area of two walkways and the total cost of paving stones to cover the walkway. | SMMA_LO_02501 |
| | | Find a percent of a money amount (\$0.80 to \$10.80). | SMMA_LO_00270 |
| | | Solve a problem in context using proportions. | SMMA_LO_01635 |
| | | Ratios and Equations Targeted Lesson 17: What Does the Percent Refer To? | |
| | | Ratios and Equations Targeted Lesson 18: Solving Percent Problems | |
| 7.NS.A | The Number System: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. | | |
| 7.NS.A.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. | Represent addition and subtraction of rational numbers (fractions) on a number line. | SMMA_LO_02153 |
| | | Represent addition and subtraction of rational numbers (decimals) on a number line. | SMMA_LO_02154 |
| | | Represent addition of integers on a number line. | SMMA_LO_02085 |
| | | Ratios and Equations Targeted Lesson 6: Adding Positive and Negative Numbers | |
| | | Ratios and Equations Targeted Lesson 7: Subtracting Positive and Negative Numbers | |
| | | Ratios and Equations Targeted Lesson 8: Relating Addition and Subtraction of Positive and Negative Numbers | |

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| 7.NS.A.1.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. | Describe situations that can be represented by opposite quantities. | SMMA_LO_02086 |
| 7.NS.A.1.b | Demonstrate $p + q$ 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 real-world contexts. | Add two negative integers or add 0 and a negative integer (sums -20 to 0). | SMMA_LO_00107 |
| | | Add a positive and a negative integer (one-digit addends, sums -9 to 9). | SMMA_LO_00108 |
| | | Add two integers using addition facts (addends -10 to 10, sums -20 to 20). | SMMA_LO_00109 |
| 7.NS.A.1.c | Demonstrate 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. | Subtract integers using a number line (differences -5 to 1). | SMMA_LO_01505 |
| | | Subtract integers (minuends 0 to 10, subtrahends 1 to 10, differences negative). | SMMA_LO_01506 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01507 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01508 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01510 |
| | | Subtract integers using a number line (differences -5 to 4). | SMMA_LO_01511 |
| | | Subtract integers (minuends -11 to -20, subtrahends -1 to -10, negative differences). | SMMA_LO_01513 |
| | | Identify $a - b$ as equivalent to $a + (-b)$, where a and b are 1 to 20. | SMMA_LO_01514 |

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| | | Identify $-a - b$ as equivalent to $-a + (-b)$ (minuends -20 to -1). | SMMA_LO_01515 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01516 |
| | | Identify $a - (-b)$ as equivalent to $a + b$ (minuends 1 to 10). | SMMA_LO_01517 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01520 |
| | | Identify $-a - (-b)$ as equivalent to $-a + b$ (minuends and subtrahends -9 to 9). | SMMA_LO_01521 |
| | | Subtract integers (minuends -10 to 0, subtrahends -10 to -1). | SMMA_LO_01522 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01525 |
| | | Subtract integers (minuends 0 to 19, subtrahends 1 to 20, negative differences). | SMMA_LO_01526 |
| | | Identify $-(a - b)$ as equivalent to $-a + b$ with variables. | SMMA_LO_01529 |
| | | Identify $-(-a - b)$ as equivalent to $a + b$ with variables. | SMMA_LO_01530 |
| | | Ratios and Equations Targeted Lesson 7: Subtracting Positive and Negative Numbers | |
| | | Ratios and Equations Targeted Lesson 8: Relating Addition and Subtraction of Positive and Negative Numbers | |
| 7.NS.A.1.d | Apply properties of operations as strategies to add and subtract rational numbers. | Identify an equivalent expression of commutativity for addition of integers. | SMMA_LO_00114 |
| | | Add integers in an associative expression $((a + b) + c$, three addends -10 to 10). | SMMA_LO_00113 |
| | | Ratios and Equations Targeted Lesson 6: Adding Positive and Negative Numbers | |
| | | Ratios and Equations Targeted Lesson 8: Relating Addition and Subtraction of Positive and Negative Numbers | |

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| 7.NS.A.2 | Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. | Ratios and Equations Targeted Lesson 9: Multiplying and Dividing Positive and Negative Numbers | |
| 7.NS.A.2.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. | Identify an equivalent variable expression $-(a + b) = -a + (-b)$. | SMMA_LO_00124 |
| | | Identify $a \times (b - c)$ as equivalent to $(a \times b) - (a \times c)$. | SMMA_LO_00130 |
| | | Multiply a negative integer by a positive integer (products -144 to -4). | SMMA_LO_00914 |
| | | Multiply two negative integers (products 4 to 144). | SMMA_LO_00915 |
| | | Multiply a negative integer by a positive integer (one-digit number \times two-digit multiple of 10). | SMMA_LO_00917 |
| | | Ratios and Equations Targeted Lesson 9: Multiplying and Dividing Positive and Negative Numbers | |
| 7.NS.A.2.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. | Divide integers (combinations 6 \times 10 to -9 \times 12, dividend or divisor is negative). | SMMA_LO_00316 |
| | | Divide integers (combinations 4 \times 6 to 12 \times 12). | SMMA_LO_00317 |
| | | Divide integers (combinations 6 \times 13 to 9 \times 19, all signs). | SMMA_LO_00319 |
| | | Interpret quotients of rational numbers by describing real-world contexts. | SMMA_LO_02088 |

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| 7.NS.A.2.c | Apply properties of operations as strategies to multiply and divide rational numbers. | Identify $-(a - b)$ as equivalent to $-a + b$ (a and b from 1 to 9). | SMMA_LO_01523 |
| | | Identify $-(a - b)$ as equivalent to $a + b$ (a and b from 1 to 9). | SMMA_LO_01524 |
| | | Identify $a \times (b - c)$ as equivalent to $(a \times b) - (a \times c)$ with variables. | SMMA_LO_01533 |
| | | Identify $a \times (b - c)$ as equivalent to $(a \times b) - (a \times c)$. | SMMA_LO_01534 |
| | | Divide integers (combinations 6 x 13 to 9 x 19, all signs). | SMMA_LO_00319 |
| | | Ratios and Equations Targeted Lesson 9: Multiplying and Dividing Positive and Negative Numbers | |
| 7.NS.A.2.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. | Divide to convert from a fraction to a decimal equivalent. | SMMA_LO_00258 |
| | | Determine the equivalent decimal for a mixed number. | SMMA_LO_00260 |
| 7.NS.A.3 | Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.) | Find the missing two-digit addend in a number sentence (sums are 0). | SMMA_LO_00103 |
| | | Find the missing two-digit addend in a number sentence (sums are 0, missing addend is first). | SMMA_LO_00104 |
| | | Find the missing negative addend in a number sentence (sums 1 to 8). | SMMA_LO_00105 |
| | | Find the missing addend in a number sentence (missing addends -10 to 10, sums -20 to 20). | SMMA_LO_00110 |
| | | Add three integers (sum -10 to 10). | SMMA_LO_00111 |
| | | Add integers in an associative expression $((a + b) + c)$, three addends -10 to 10). | SMMA_LO_00113 |
| | | Identify $-(a + b)$ as equivalent to $-a + (-b)$, where a and b are 1 to 9. | SMMA_LO_00115 |
| | | Identify $-(a + b)$ as equivalent to $-a - b$, where a and b are 1 to 9. | SMMA_LO_00116 |

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| | | Add two integers (-20 to 20). | SMMA_LO_00121 |
| | | Find the missing addend in a number sentence (sums -20 to 20). | SMMA_LO_00122 |
| | | Find the missing addend in a number sentence (three addends, -10 to 10). | SMMA_LO_00123 |
| | | Find the missing dividend or divisor (combinations 2 x 13 to 5 x 19). | SMMA_LO_00309 |
| | | Finding the missing dividend or divisor (combinations 6 x 13 to 9 x 19). | SMMA_LO_00310 |
| | | Find the missing dividend or divisor in a number sentence (combinations 7 x 13 to 9 x 19, all signs). | SMMA_LO_00320 |
| | | Solve for a, b, or c in $a/b \div c = d/e$ (combinations to $12 \div 12$). | SMMA_LO_00375 |
| | | Solve for a, b, c, or d in $a/b \div c/d = e/f$. | SMMA_LO_00377 |
| | | Find the missing positive or negative factor in a number sentence. | SMMA_LO_00918 |
| | | Multiply three integers (one-digit factors with absolute values 2 to 10). | SMMA_LO_00920 |
| | | Find the missing subtrahend in a number sentence (minuends 0 to 10, subtrahends 2 to 11, negative differences). | SMMA_LO_01509 |
| | | Find the missing subtrahend in a number sentence (minuends -9 to 0, differences -9 to 0). | SMMA_LO_01512 |
| | | Solve a two-step addition problem to find a person-s age in 5 to 20 years from now. | SMMA_LO_01631 |
| | | Find the temperature given the initial temperature and the temperature increase. | SMMA_LO_01632 |
| | | Students use calculations on rational numbers to figure out the speed at which James Cameron descended into Mariana Trench. | SMMA_LO_02514 |
| | | Ratios and Equations Targeted Lesson 6: Adding Positive and Negative Numbers | SMMA_LO_01818 |
| | | Ratios and Equations Targeted Lesson 7: Subtracting Positive and Negative Numbers | |

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| | | Ratios and Equations Targeted Lesson 8: Relating Addition and Subtraction of Positive and Negative Numbers | |
| | | Ratios and Equations Targeted Lesson 9: Multiplying and Dividing Positive and Negative Numbers | |
| | | Ratios and Equations Targeted Lesson 10: Determining the Sign | |
| 2 | Algebra and Functions | | |
| 7.EE.A | Expressions & Equations: Use properties of operations to generate equivalent expressions. | | |
| 7.EE.A.1 | Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. | Apply properties of operations to add two linear expressions. | SMMA_LO_02149 |
| | | Rewrite an expression from context by factoring and combining like terms. | SMMA_LO_02150 |
| 7.EE.A.2 | Demonstrate 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." | Identify the equivalent expression for a fraction, whole number, or a mixed number being divided by a fraction, a whole number, or a mixed number. | SMMA_LO_00511 |
| | | Rewrite an expression from context by factoring and combining like terms. | SMMA_LO_02150 |
| 7.EE.B | Expressions & Equations: Solve real-life and mathematical problems using numerical and algebraic expressions and equations. | | |

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| 7.EE.B.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. on the exact computation. | Solve for a, b, c, or d in $a/b \times c/d = e/f$ (combinations to 12×12). | SMMA_LO_00372 |
| | | Solve for a, b, or c in $a/b \div c = d/e$ (combinations to $12 \div 12$). | SMMA_LO_00375 |
| | | Solve for a, b, c, or d in $a/b \div c/d = e/f$. | SMMA_LO_00377 |
| | | Find the combined area of two walkways and the total cost of paving stones to cover the walkway. | SMMA_LO_02501 |
| | | Students use calculations on rational numbers to figure out the speed at which James Cameron descended into Mariana Trench. | SMMA_LO_02514 |
| | | Figure the expected expenses and income to help decide if it is worth setting up a Taco Truck at the county fair. | SMMA_LO_02503 |
| | | Addition and Subtraction Targeted Lesson 13: Introducing Two-Step Word Problems | |
| 7.EE.B.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. | Identify an expression that can be used to solve a problem (inverse operations). | SMMA_LO_01275 |

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| | | Identify the expression that represents a division problem in context; then solve the problem (dividends 12 to 81). | SMMA_LO_01605 |
| | | Represent solutions for one-variable, one-step equations and inequalities on a number line. | SMMA_LO_00357 |
| | | Match equations and inequalities with real-world situations. | SMMA_LO_02140 |
| | | Write and use inequalities to decide whether vegetables in a processing plant meet quality standards. | SMMA_LO_02511 |
| | | Generate and solve an equation with variables on both sides of the equal sign in a real-world context. | SMMA_LO_02145 |
| | | Ratios and Equations Targeted Lesson 27: Writing and Solving Equations from Situations | |
| 7.EE.B.4.a | Solve word problems leading to equations of the form $px \pm q = r$ and $p(x \pm q) = r$, 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? | Use a model and an equation to solve word problems involving the addition of fractions with like denominators. | SMMA_LO_02004 |
| | | Solve a two-step addition problem to find a person-s age in 5 to 20 years from now. | SMMA_LO_01631 |
| | | Use a model and an equation to solve word problems involving the subtraction of fractions with like denominators. | SMMA_LO_02016 |
| | | Generate and solve an equation with variables on both sides of the equal sign in a real-world context. | SMMA_LO_02145 |
| | | Ratios and Equations Targeted Lesson 27: Writing and Solving Equations from Situations | |

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| 7.EE.B.4.b | Solve word problems leading to inequalities of the form $px \pm q > r$, $px \pm q \geq r$, $px \pm q < r$, or $px \pm q \leq r$, 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. | Write an inequality of the form $px + q > r$ or $px + q < r$ to represent a constraint in a real-world problem. | SMMA_LO_02083 |
| | | Solve an inequality of the form $px + q > r$ or $px + q < r$; then graph the solution on a number line. | SMMA_LO_02084 |
| | | Represent solutions for one-variable, one-step equations and inequalities on a number line. | SMMA_LO_00357 |
| | | Write and use inequalities to decide whether vegetables in a processing plant meet quality standards | SMMA_LO_02511 |
| | | Ratios and Equations Targeted Lesson 28: Solving Inequalities | |
| 3 | Data, Statistics, and Probability | | |
| 7.SP.A | Statistics & Probability: Use random sampling to draw inferences about a population. | | |
| 7.SP.A.1 | Understand that statistics can be used to gain information about a population by examining a sample of the population; explain that generalizations about a population from a sample are valid only if the sample is representative of that population. Explain that random sampling tends to produce representative samples and support valid inferences. | Identify representative samples of a population. | SMMA_LO_02203 |
| 7.SP.A.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. | Make predictions based on a sample. | SMMA_LO_01223 |

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| 7.SP.B | Statistics & Probability: Draw informal comparative inferences about two populations. | | |
| 7.SP.B.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. | Use MAD to identify the difference between the means of two data distributions. | SMMA_LO_02177 |
| | | Determine the range, mean, or median of a data set in context. | SMMA_LO_02175 |
| | | Determine the mean, median, MAD, or IQR of a data set. | SMMA_LO_02173 |
| 7.SP.B.4 | Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. | Find and compare the average variation of two sets of data. | SMMA_LO_01221 |
| | | Compare estimates and variation in two samples. | SMMA_LO_02218 |
| 7.SP.C | Statistics & Probability: Investigate chance processes and develop, use, and evaluate probability models. | | |
| 7.SP.C.5 | Explain 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 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. | Given the graphical representation of a bowl containing marbles of two colors, represent on a qualitative ordinal scale the probability of an event (6 to 11 marbles in the bowl). | SMMA_LO_01165 |
| | | Given a graphical representation of a bowl containing marbles of two colors, represent on a qualitative ordinal scale the probability of an event and its complement. | SMMA_LO_01171 |
| | | Express an event as a ratio of the number of favorable outcomes to the total number of outcomes (bowl containing marbles of two colors). | SMMA_LO_01179 |

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| | | Write a fraction to express the probability of an event. | SMMA_LO_01667 |
| 7.SP.C.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. | Determine the event that is most or least likely; then conduct a simulation in which the results are recorded so that theoretical and experimental probability can be compared. | SMMA_LO_01738 |
| | | Given a graphical representation of an urn containing balls of three colors, determine qualitatively which event is more probable to occur (5 to 8 times as many balls of one color as of the other color). | SMMA_LO_01157 |
| | | Given a graphical representation of an urn containing balls of two colors, determine qualitatively which color is more probable to be randomly selected (2 to 4 times as many balls of one color as of the other color). | SMMA_LO_01159 |
| | | Using a graphical representation of an urn and a set of balls of two colors, modify a random experiment so that the qualitative probability of getting one color is greater than that of getting the other color. | SMMA_LO_01161 |
| | | Given a graphical representation of an urn containing balls of three colors, determine qualitatively which event is more probable to occur. | SMMA_LO_01163 |
| | | Within the context of selecting without replacement from a cup containing three balls, each of a different color, label a given event prior to each selection as certain, possible, or impossible. | SMMA_LO_01147 |

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| | | Within the context of selecting without replacement from a bowl containing marbles of two colors, indicate the effect of changes on the probability of the event in both the number of possible outcomes favorable to an event and the total number of possible. | SMMA_LO_01200 |
| | | Within the context of selecting without replacement from a bowl containing marbles of two colors, indicate the effect of changes on the probability of the event in both the number of possible outcomes favorable to an event and the total number of possible. | SMMA_LO_01203 |
| 7.SP.C.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. | | |

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| 7.SP.C.7.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. | In the context of randomly selecting a card that has one of two pictures on it, compute the probability of each picture being selected from a set of cards (total of 4 to 7 cards). | SMMA_LO_01211 |
| | | In the context of randomly selecting a card that has a certain me on it, compute the probability of each me being selected from a set of cards. | SMMA_LO_01215 |
| 7.SP.C.8 | Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. | Identify a simulation to accurately determine the probability of compound events. | SMMA_LO_02205 |
| 7.SP.C.8.a | Explain 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. | Identify the probability of two independent outcomes, and then determine the probability of the combination of the two outcomes occurring simultaneously. | SMMA_LO_01224 |
| 7.SP.C.8.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. | Given a coordinate grid to represent outcomes of tossing a pair of number cubes, identify the point that represents a given pair of outcomes. | SMMA_LO_01218 |
| | | Given a coordinate grid to represent outcomes of tossing a pair of number cubes, identify all points that represent the sum given for a pair of outcomes. | SMMA_LO_01219 |
| | | Given a graphical representation of two spinners, count all the possible outcomes for spinning each spinner once. | SMMA_LO_01665 |
| 7.SP.C.8.c | Design and use a simulation to generate frequencies for compound events. | Identify a simulation to accurately determine the probability of compound events. | SMMA_LO_02205 |
| 4 | Geometry | | |

| Colorado Academic Standards' Codes | Colorado Academic Standards Mathematics 2020 Grade 7 | SuccessMaker Item Descriptions | Item IDs |
|------------------------------------|---|--|---------------|
| 7.G.A | Geometry: Draw, construct, and describe geometrical figures and describe the relationships between them. | | |
| 7.G.A.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. | Identify the scale factor in similar shapes to find the missing corresponding sides. | SMMA_LO_00513 |
| | | Determine distances from scale drawings (inches to miles, cm to km). | SMMA_LO_00815 |
| | | Interpret scale drawings (metric and customary units of length). | SMMA_LO_00846 |
| 7.G.A.3 | Describe the two-dimensional figures that result from slicing three-dimensional figures, as in cross sections of right rectangular prisms and right rectangular pyramids. | Identify the cross section of a three-dimensional figure. | SMMA_LO_00668 |
| 7.G.B | Geometry: Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. | | |
| 7.G.B.4 | State 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. | Find the circumference, given the length of the diameter or the radius ($\pi = 3.14$). | SMMA_LO_00828 |
| | | Measure the diameter of a circle, and then determine the circumference. | SMMA_LO_01779 |
| | | Measure the radius of a circle, and then determine the circumference. | SMMA_LO_01780 |
| | | Measure the diameter of a circle, and then determine the area. | SMMA_LO_01781 |
| | | Measure the radius of a circle, and then determine the area. | SMMA_LO_01783 |
| | | Determine the most accurate representation of the circumference of a circle. | SMMA_LO_01784 |
| | | Given the radius, find the circumference of a circle within context. | SMMA_LO_01855 |

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| | | Given the diameter, find the circumference of a circle within context. | SMMA_LO_01856 |
| 7.G.B.5 | Use facts about supplementary, complementary, vertical, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure. | Solve a problem involving equal angle measures. | SMMA_LO_00677 |
| | | Find the measure of the missing angle in a diagram. | SMMA_LO_00674 |
| 7.G.B.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. | Find the area of a triangle (2 to 72 square inches). | SMMA_LO_00176 |
| | | Use a formula to find the area of a parallelogram. | SMMA_LO_00824 |
| | | Find the area of a triangle using a formula. | SMMA_LO_00827 |
| | | Find the volume of a rectangular or triangular prism. | SMMA_LO_00838 |
| | | Choose the best estimate for the volume of a rectangular prism. | SMMA_LO_00848 |
| | | Solve for a variable in the formula for volume of a rectangular prism (whole numbers and mixed numbers). | SMMA_LO_01817 |
| | | Calculate the volume of a rectangular prism; then convert the cubic feet or cubic meters into gallons or liters. | SMMA_LO_01819 |
| | | Use a formula to find the surface area of a cylinder or sphere. | SMMA_LO_00840 |
| | | Generalize a figure for surface area, and then use that formula to find the surface area of a given figure. | SMMA_LO_02144 |
| | | Find the volume of concrete needed to build a life-size model of Stonehenge. | SMMA_LO_02508 |
| | | Multiplication and Division Targeted Lesson 26: Solving Area Word Problems | |
| | | Multiplication and Division Targeted Lesson 28: Area and Perimeter Word Problems | |

