



# SuccessMaker<sup>®</sup>

## South Carolina State Standards Alignments for Mathematics

Providing rigorous mathematics intervention  
for K-8 learners with unparalleled precision

| SC Standard   | SC Standard Text  | Item Description   | Item ID   |
|---|---|--|---|
| K.ATO.1   | Model situations that involve addition and subtraction within 10 using objects, fingers, mental images, drawings, acting out situations, verbal explanations, expressions, and equations. | Count two sets of objects to find the total (sums 4 to 6).   | SMMA_LO_00004   |
|   |   | Count two sets of objects to find the total (sums 2 to 5).   | SMMA_LO_00005   |
|   |   | Count two sets of objects to find the total (sums 6 to 10).  | SMMA_LO_00006   |
|   |   | Count the objects in two sets (sums 1 to 5).   | SMMA_LO_00007   |
|   |   | Count the objects in two sets (sums 6 to 10).  | SMMA_LO_00008   |
|   |   | Add using basic math facts displayed horizontally (sums 6 to 10).                                  | SMMA_LO_00013   |
|   |   | Write an addition number sentence to represent a picture (sums 1 to 9).                            | SMMA_LO_00036   |
|   |   | Identify sets of objects that combined have a given sum (sums 6 to 9).                             | SMMA_LO_00726   |
|   |   | Identify a picture that represents an addition problem (sums 2 to 6).                              | SMMA_LO_01228   |
|   |   | Write a number sentence for an addition problem (sums 2 to 5).                                     | SMMA_LO_01229   |
|   |   | Write a number sentence for an addition problem (sums 2 to 10).                                    | SMMA_LO_01230   |
|   |   | Identify the expression that represents a picture (minuends 2 to 9).                               | SMMA_LO_01414   |
|   |   | Subtract using basic math facts displayed horizontally (minuends 6 to 9).                          | SMMA_LO_01417   |
|   |   | Identify the pictorial solution to a subtraction problem (minuends 2 to 9).                        | SMMA_LO_01422   |
|   |   | Identify the pictorial solution to a problem in context (minuends 4 to 9).                         | SMMA_LO_01423   |
|   |   | Model and apply joining stories to solve problems (sums 1 to 9).                                   | SMMA_LO_01863   |
|   |   | K.ATO.2  | Solve real-world/story problems using objects and drawings to find sums up to 10 and differences within 10. |
| Solve a subtraction problem in context (minuends 2 to 5, pictorial models).               | SMMA_LO_01411   |  |   |
| Solve a subtraction problem in context (minuends 2 to 5, pictorial models).               | SMMA_LO_01412   |  |   |
| Subtract using basic math facts (minuends 2 to 10).                                       | SMMA_LO_01413   |  |   |
| Solve a problem in context by adding or subtracting 1.                                    | SMMA_LO_01535   |  |   |
| Act out the solution to a subtraction problem in context (minuends 1 to 6).               | SMMA_LO_01536   |  |   |
| Solve an addition problem in context (same objects, sums 2 to 5).                         | SMMA_LO_01540   |  |   |
| Identify the picture that represents a subtraction problem in context (minuends 2 to 10). | SMMA_LO_01542   |  |   |
| K.ATO.3   | Compose and decompose numbers up to 10 using objects, drawings, and equations.  | Decompose numbers 2–10 into pairs in more than one way by using objects.                           | SMMA_LO_02096   |
| K.ATO.4   | Create a sum of 10 using objects and drawings when given one of two addends 1 – 9.  | Model the number that makes 10 when added to a given number from 1 to 9; then identify the number. | SMMA_LO_02097   |

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| K.ATO.5   | Add and subtract fluently within 5.   | Add using basic math facts (sums 1 to 5).  | SMMA_LO_00010  |
|   |   | Add using basic math facts displayed horizontally (sums 2 to 5).                                     | SMMA_LO_00011  |
|   |   | Subtract using basic math facts displayed horizontally (minuends 0 to 5).                            | SMMA_LO_01415  |
|   |   | Subtract using basic math facts (minuends 0 to 5).   | SMMA_LO_01416  |
| K.G.1   | Describe positions of objects by appropriately using terms, including below, above, beside, between, inside, outside, in front of, or behind. | Identify the object on the top, in the middle, or on the bottom.                                     | SMMA_LO_00524  |
|   |   | Identify the object on the left or the right.  | SMMA_LO_00525  |
|   |   | Identify the picture on the left or right.   | SMMA_LO_00526  |
|   |   | Identify the object inside or outside a convex figure.   | SMMA_LO_00532  |
|   |   | Identify the object that is the top, middle or bottom one.   | SMMA_LO_00540  |
|   |   | Identify the object that is the top, middle, or bottom one.  | SMMA_LO_00543  |
|   |   | Determine whether points are outside, inside, or on a geometric figure.                              | SMMA_LO_00552  |
|   |   | Identify the object that is near or far from another object.   | SMMA_LO_00574  |
|   |   | Identify objects inside or outside a convex figure.  | SMMA_LO_00575  |
|   |   | Identify the object behind or in front of another object in a three-dimensional perspective.         | SMMA_LO_00584  |
|   |   | Move an object to a specified location (upper left, upper right, lower left, or lower right corner). | SMMA_LO_00590  |
|   |   | K.G.2  | Identify and describe a given shape and shapes of objects in everyday situations to include two-dimensional shapes (i.e., triangle, square, rectangle, hexagon, and circle) and three-dimensional shapes (i.e., cone, cube, cylinder, and sphere). |
| Identify triangles or rectangles by name.   | SMMA_LO_00530   |  |  |
| Identify a geometric figure (circle, triangle, rectangle, or square).                       | SMMA_LO_00531   |  |  |
| Identify circles or squares by name.  | SMMA_LO_00544   |  |  |
| Identify triangles or rectangles by name.   | SMMA_LO_00546   |  |  |
| Identify a shape by two positive tests, e.g., red, circle.                                  | SMMA_LO_00565   |  |  |
| Match a geometric figure to its name (circle, triangle, square, or rectangle).              | SMMA_LO_00568   |  |  |
| Identify the object modeled by a geometric figure.  | SMMA_LO_00570   |  |  |
| Identify the figure that is not of a given type (rectangle or triangle).                    | SMMA_LO_00571   |  |  |
| Count the geometric figures in a picture.   | SMMA_LO_00572   |  |  |
| Identify a geometric solid (cylinder, pyramid, or rectangular prism).                       | SMMA_LO_00616   |  |  |
| Identify geometric solids (cones, cubes, cylinders, pyramids, rectangular prisms, spheres). | SMMA_LO_00622   |  |  |
| R: Match pictures with shapes that are alike.   | SMMA_LO_00517   |  |  |
| R: Match the face of a geometric solid to a plane figure.                                   | SMMA_LO_00518   |  |  |
| R: Identify the rectangle with the same size and shape as a given rectangle.                | SMMA_LO_00736   |  |  |

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| K.G.3   | Classify shapes as two-dimensional/flat or three-dimensional/solid and explain the reasoning used.   | Sort two-dimensional and three-dimensional shapes.                             | SMMA_LO_01677 |
| K.G.4   | Analyze and compare two- and three-dimensional shapes of different sizes and orientations using informal language.   | Identify the figure that is a different color from a given figure.             | SMMA_LO_00541 |
|   |  | Match same size and shape (congruent) irregular polygons.                      | SMMA_LO_00545 |
|   |  | Identify the figure with a different shape.                                    | SMMA_LO_00547 |
|   |  | Identify the figure that has a different number of sides from a given figure.  | SMMA_LO_00553 |
|   |  | Match similar irregular polygons.  | SMMA_LO_00555 |
|   |  | Identify matching congruent figures under rotation and/or reflection.          | SMMA_LO_00557 |
|   |  | Match similar figures in different orientations.                               | SMMA_LO_00566 |
|   |  | Identify matching congruent geometric solids.                                  | SMMA_LO_00567 |
|   |  | Classify geometric figures by a shape attribute.                               | SMMA_LO_00576 |
|   |  | Match complex congruent figures in different orientations.                     | SMMA_LO_00581 |
|   |  | Count the number of sides in a polygon.  | SMMA_LO_00586 |
|   |  | Identify figures with more or fewer than a given number of sides.              | SMMA_LO_00587 |
|   |  | Identify corners (vertices) of polygons.                                       | SMMA_LO_00589 |
|   |  | Identify similar three-dimensional figures.                                    | SMMA_LO_00592 |
|   |  | Count the corners (vertices) of a polygon (3 to 7 corners).                    | SMMA_LO_00596 |
|   |  | R: Match simple geometric figures that have the same size, shape, and color.   | SMMA_LO_00514 |
|   |  | R: Match pictures that are identical.  | SMMA_LO_00515 |
|   |  | R: Match geometric figures that have the same size and shape (simple figures). | SMMA_LO_00516 |
|   |  | R: Move puzzle pieces to complete a puzzle (2 pieces).                         | SMMA_LO_00534 |
|   |  | R: Match a shape to a picture containing that shape.                           | SMMA_LO_00548 |
| R: Identify shapes that are alike.                        | SMMA_LO_00549  |  |               |
| R: Identify a pair of objects that are not the same size. | SMMA_LO_00692  |  |               |
| K.G.5   | Draw two-dimensional shapes (i.e., square, rectangle, triangle, hexagon, and circle) and create models of three-dimensional shapes (i.e., cone, cube, cylinder, and sphere). | Connect points on a geoboard to copy a figure.                                 | SMMA_LO_00611 |
| K.MDA.1   | Identify measureable attributes (length, weight) of an object.   | R: Identify the tool for a particular use (thermometer, scale, clock).         | SMMA_LO_00761 |
| K.MDA.2   | Compare objects using words such as shorter/longer, shorter/taller, and lighter/heavier.   | Identify the tallest object.   | SMMA_LO_00694 |
|   |  | Identify the object that is a different length.                                | SMMA_LO_00709 |
|   |  | Identify the objects that are taller or shorter than a nonstandard unit.       | SMMA_LO_00743 |
|   |  | Identify which familiar object is heavier.                                     | SMMA_LO_00781 |
|   |  | R: Identify the biggest or smallest object.                                    | SMMA_LO_00695 |
|   |  | R: Identify the object that is a different height.                             | SMMA_LO_00712 |
| R: Identify the smaller or bigger rectangle.              | SMMA_LO_00747  |  |               |

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| K.MDA.3  | Sort and classify data into 2 or 3 categories with data not to exceed 20 items in each category. | R: Use logical reasoning to identify the item that does not belong in a group.     | SMMA_LO_01227   |
|  |  | R: Formulate questions around numerical data.                                      | SMMA_LO_01642   |
| K.MDA.4  | Represent data using object and picture graphs and draw conclusions from the graphs.             | Read a pictograph (3 categories, 1 to 9 items per category).                       | SMMA_LO_01124   |
|  |  | Read and interpret a pictograph about birds counted (2 to 5 birds in each row).    | SMMA_LO_01299   |
| K.NS.1   | Count forward by ones and tens to 100.   | Find the next number in a sequence, counting by 1's (1 to 5).                      | SMMA_LO_00939   |
|  |  | Find the next number in a sequence, counting by 1's (1 to 9).                      | SMMA_LO_00948   |
|  |  | Find a missing number in a sequence, counting by 10's (10 to 100, visual support). | SMMA_LO_00971   |
|  |  | Find a missing number in a sequence, counting by 10's (10 to 100).                 | SMMA_LO_00981   |
| K.NS.2   | Count forward by ones beginning from any number less than 100.                                   | Enter the missing date on a calendar.  | SMMA_LO_00700   |
|  |  | Find the next number in a sequence, counting by 1's (1 to 5).                      | SMMA_LO_00940   |
|  |  | Find the number that comes before a given number, counting by 1's (1 to 9).        | SMMA_LO_00949   |
|  |  | Order four numbers from least to greatest (1 to 9).                                | SMMA_LO_00950   |
|  |  | Find a missing number in a sequence, counting by 1's (1 to 20).                    | SMMA_LO_00951   |
|  |  | Find a missing number in a sequence, counting by 1's (1 to 9).                     | SMMA_LO_00960   |
|  |  | Find a missing number in a sequence, counting by 1's (10 to 20).                   | SMMA_LO_00970   |
|  |  | Find a missing number in a sequence, counting by 1's (11 to 50).                   | SMMA_LO_00982   |
|  |  | Find a missing number in a sequence, counting by 1's (51 to 99).                   | SMMA_LO_00983   |
|  |  | Identify four numbers ordered from least to greatest (two-digit).                  | SMMA_LO_00985   |
|  |  | K.NS.3   | Read numbers from 0 – 20 and represent a number of objects 0 – 20 with a written numeral. |
| Move objects to show a one-to-one correspondence (1 to 5 objects). | SMMA_LO_00925  |  |   |
| Enter the number shown (1 to 5).                                   | SMMA_LO_00932  |  |   |
| Count objects arranged in a row (1-5 objects).                     | SMMA_LO_00933  |  |   |
| Match a digit to a set with that number of objects (0 to 5).       | SMMA_LO_00934  |  |   |
| Count objects not arranged in a row (1 to 5 objects).              | SMMA_LO_00935  |  |   |
| Count specific objects within a larger set (1 to 6 objects).       | SMMA_LO_00936  |  |   |
| Enter the number shown (1 to 9).                                   | SMMA_LO_00942  |  |   |
| Count objects not arranged in a row (6 to 9 objects).              | SMMA_LO_00943  |  |   |
| Count objects arranged in a row (one to nine objects).             | SMMA_LO_00957  |  |   |

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| K.NS.3      | Read numbers from 0 – 20 and represent a number of objects 0 – 20 with a written numeral.  | Count specific objects within a larger set (6 to 9 objects).   | SMMA_LO_00958 |
|             |  | R: Enter the number shown (0 to 4).  | SMMA_LO_00001 |
|             |  | R: Enter the number shown (5 to 9).  | SMMA_LO_00002 |
|             |  | R: Identify a number from a spoken number (1 to 5).  | SMMA_LO_00937 |
|             |  | R: Identify a number from a spoken number (6 to 9).  | SMMA_LO_00944 |
| K.NS.4a     | Understand the relationship between number and quantity. Connect counting to cardinality by demonstrating an understanding that the last number said tells the number of objects in the set (cardinality).   | Count objects by pairing each object with one number 1 to 10; determine how many objects there are.                      | SMMA_LO_02092 |
| K.NS.4b     | Understand the relationship between number and quantity. Connect counting to cardinality by demonstrating an understanding that the number of objects is the same regardless of their arrangement or the order in which they are counted (conservation of number).     | Count objects by pairing each object with one number 1 to 10; determine how many objects there are.                      | SMMA_LO_02092 |
| K.NS.4c     | Understand the relationship between number and quantity. Connect counting to cardinality by demonstrating an understanding that each successive number name refers to a quantity that is one more and each previous number name refers to a quantity that is one less. | Count objects by pairing each object with one number 1 to 10; determine how many objects there are when 1 more is added. | SMMA_LO_02093 |
| K.NS.5      | Count a given number of objects from 1 – 20 and connect this sequence in a one-to-one manner.  | Make a group with one to five objects.   | SMMA_LO_00938 |
|             |  | Make a group with 6 to 9 objects.  | SMMA_LO_00945 |
|             |  | Identify the group of objects that represent a number (1 to 5 objects).  | SMMA_LO_00956 |
|             |  | R: Match objects to show a one-to-one correspondence (2 to 5 objects).   | SMMA_LO_00921 |
| K.NS.7      | Determine whether the number of up to ten objects in one group is more than, less than, or equal to the number of up to ten objects in another group using matching and counting strategies.   | Identify a set with the same number of objects as a given set (1 to 5 objects).  | SMMA_LO_00922 |
|             |  | Identify a group with more objects than a given group (1 to 5 objects).  | SMMA_LO_00923 |
|             |  | Identify a group with fewer objects than a given group (1 to 5 objects).   | SMMA_LO_00924 |
|             |  | Make a set with the same number of objects as a given set (1 to 5 objects).  | SMMA_LO_00926 |
|             |  | Make a group with one more object than a given group (one to five objects).  | SMMA_LO_00927 |
|             |  | Make a group with one fewer object than a given group (1 to 5 objects).  | SMMA_LO_00928 |
|             |  | Make a group with the same number of objects as a given group (6 to 9 objects).  | SMMA_LO_00929 |
|             |  | Make a group with one more object than a given group (six to nine objects).  | SMMA_LO_00930 |

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| K.NS.7      | Determine whether the number of up to ten objects in one group is more than, less than, or equal to the number of up to ten objects in another group using matching and counting strategies.  | Make a group with one fewer object than a given group (6 to 9 objects).  | SMMA_LO_00931 |
|             |   | Create a set with the same, more, or fewer number of objects than a given group (1 to 9 objects).                | SMMA_LO_00953 |
|             |   | Create a set with one more object than a given set (1 to 9 objects).   | SMMA_LO_00954 |
|             |   | Create a set with one fewer object than a given set (1 to 9 objects).  | SMMA_LO_00955 |
|             |   | Identify the group with the greatest number of shapes of a given type (1 to 6).                                  | SMMA_LO_00959 |
| K.NS.8      | Compare two written numerals up to 10 using more than, less than or equal to.   | Identify a number that is greater than or less than a spoken number (1 to 9).                                    | SMMA_LO_00946 |
|             |   | Identify the number with the greatest value (1 to 9).  | SMMA_LO_00947 |
|             |   | Identify whole numbers on a number line that satisfy the inequality (0 to 10).                                   | SMMA_LO_01023 |
| K.NS.9      | Identify first through fifth and last positions in a line of objects.   | Identify the nth object in a sequence (first to fifth).  | SMMA_LO_00941 |
|             |   | Identify the ordinal word for the nth object in a sequence (first to fifth).                                     | SMMA_LO_00968 |
| K.NSBT.1    | Compose and decompose numbers from 11 – 19 separating ten ones from the remaining ones using objects and drawings.  | Find a number equal to 2 to 9 ones.  | SMMA_LO_00972 |
|             |   | Enter the number equal to 1 to 9 ones.   | SMMA_LO_00973 |
|             |   | Decompose numbers from 11 to 19 into ten ones and some further ones.   | SMMA_LO_02094 |
|             |   | Compose numbers from 11 to 19 given ten ones and some further ones by using objects.                             | SMMA_LO_02095 |
| 1.ATO.1     | Solve real-world/story problems using addition (as a joining action and as a part-part-whole action) and subtraction (as a separation action, finding parts of the whole, and as a comparison) through 20 with unknowns in all positions. | Use a picture to solve a missing addend problem (sums 2 to 6).   | SMMA_LO_01232 |
|             |   | Choose the expression that can represent a problem with extra information; then solve (addition or subtraction). | SMMA_LO_01239 |
|             |   | Solve an addition problem in context (different objects, sums 2 to 5).   | SMMA_LO_01544 |
|             |   | Solve a subtraction problem in context (minuends 2 to 5).  | SMMA_LO_01545 |
|             |   | Solve a problem in context by finding a missing addend (sums 2 to 5).  | SMMA_LO_01546 |
|             |   | Solve a subtraction problem in context by finding how many more (minuends 2 to 5).                               | SMMA_LO_01550 |
|             |   | Identify and solve a number sentence for an addition problem in context (sums 2 to 9).                           | SMMA_LO_01553 |
|             |   | Identify and solve a number sentence for an addition problem in context (sums 2 to 9).                           | SMMA_LO_01555 |
|             |   | Identify the expression that represents a subtraction problem in context (minuends 2 to 5).                      | SMMA_LO_01559 |
|             |   | Identify and solve the number sentence for a subtraction problem in context (minuends 2 to 5).                   | SMMA_LO_01562 |
|             |   | Identify and solve a number sentence for a subtraction problem in context (minuends 2 to 5).                     | SMMA_LO_01568 |

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| 1.ATO.1   | Solve real-world/story problems using addition (as a joining action and as a part-part-whole action) and subtraction (as a separation action, finding parts of the whole, and as a comparison) through 20 with unknowns in all positions. | R: Identify the operation from pictures and contexts (sums 6 to 9, minuends 6 to 9).  | SMMA_LO_00321 |
|   |   | R: Identify a picture that represents a subtraction problem (one or two-digit).   | SMMA_LO_01244 |
|   |   | R: Identify the picture that can be used to solve an addition or subtraction problem.   | SMMA_LO_01255 |
|   |   | R: Identify the number sentence that solves a subtraction problem in context (minuends 11 to 18, subtrahends 1 to 9).                 | SMMA_LO_01439 |
| 1.ATO.2   | Solve real-world/story problems that include three whole number addends whose sum is less than or equal to 20.  | Act out the problem to find the sum (basic facts).  | SMMA_LO_01241 |
|   |   | Identify a number sentence that can be used to solve a word problem with extra information (addition or subtraction, basic facts).    | SMMA_LO_01242 |
|   |   | Act out a problem to find the sum of three numbers (one-digit addends).   | SMMA_LO_01249 |
|   |   | Act out the solution to an addition problem in context (three addends, sums 1 to 9).  | SMMA_LO_01537 |
|   |   | Solve an addition problem with three addends in context (sums 3 to 10).   | SMMA_LO_01549 |
|   |   | Solve an addition problem with three addends in context (sums 3 to 10).   | SMMA_LO_01557 |
|   |   | Solve an addition problem in context (three addends, sums 9 to 18).   | SMMA_LO_01576 |
|   |   | R: Add three addends (sums 2 to 5).   | SMMA_LO_00026 |
|   |   | R: Add three addends (audio presentation, sums 3 to 5).   | SMMA_LO_00027 |
|   |   | R: Add three addends (sums 6 to 10).  | SMMA_LO_00028 |
|   |   | R: Add three addends displayed horizontally (sums 6 to 10).   | SMMA_LO_00029 |
|   |   | R: Add three addends (one-digit addends, sums 11 to 19).  | SMMA_LO_00031 |
|   |   | R: Add three addends (one-digit addends, sums 10 to 19).  | SMMA_LO_00032 |
|   |   | R: Find the missing addend in a number sentence (three addends, sums 1 to 9).   | SMMA_LO_00052 |
| R: Find the missing addend in a number sentence (three addends, sums 10 to 19). | SMMA_LO_00066   |   |               |
| 1.ATO.3   | Apply Commutative and Associative Properties of Addition to find the sum (through 20) of two or three addends.  | Apply the Commutative Property of Addition as a strategy to add two numbers; use fact families as a strategy to subtract two numbers. | SMMA_LO_02021 |
|   |   | Use the Associative Property of Addition to add two numbers by regrouping the numbers into a ten and some ones.                       | SMMA_LO_02022 |
|   |   | Apply the Associative Property of Addition to add three numbers.  | SMMA_LO_02135 |
| 1.ATO.4   | Understand subtraction as an unknown addend problem.  | Solve a subtraction problem by finding the missing addend.  | SMMA_LO_02023 |
| 1.ATO.5   | Recognize how counting relates to addition and subtraction.   | Subtract two numbers by regrouping the numbers into a ten and some ones.  | SMMA_LO_02026 |

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| 1.ATO.6a    | Demonstrate addition and subtraction through 20.                            | Add doubles (sums 2 to 18).   | SMMA_LO_00017 |
|             |   | Add two consecutive addends (one-digit addends, sums 1 to 17).  | SMMA_LO_00020 |
|             |   | Add two consecutive addends displayed horizontally (one-digit addends, sums 1 to 17).                               | SMMA_LO_00021 |
|             |   | Add using basic math facts (sums 11 to 18).   | SMMA_LO_00022 |
|             |   | Add using basic math facts displayed horizontally (sums 10 to 18).  | SMMA_LO_00023 |
|             |   | Add using basic math facts (sums 1 to 18).  | SMMA_LO_00024 |
|             |   | Add 10 to a number (sums 11 to 19).   | SMMA_LO_00038 |
|             |   | Add 1- and 2-digit addends (sums 11-19, audio presentation).  | SMMA_LO_00039 |
|             |   | Add two addends (sums 10 to 18).  | SMMA_LO_00041 |
|             |   | Add using basic math facts displayed horizontally (sums 10 to 18).  | SMMA_LO_00042 |
|             |   | Add 9 to a number (sums 10 to 18).  | SMMA_LO_00045 |
|             |   | Use guess and check to solve an addition and subtraction problem (basic facts).                                     | SMMA_LO_01240 |
|             |   | Subtract a number from its double (differences 1 to 9).   | SMMA_LO_01425 |
|             |   | Subtract 1 from a number (two-digit minuends, no regrouping).   | SMMA_LO_01427 |
|             |   | Subtract using basic math facts displayed horizontally (minuends 10 to 14, subtrahends 1 to 9).                     | SMMA_LO_01429 |
|             |   | Subtract (student choice, minuends 10 to 15, subtrahends 0 to 5, no regrouping).                                    | SMMA_LO_01430 |
|             |   | Subtract using basic math facts (student choice, minuends 16 to 19, subtrahends 1 to 9).                            | SMMA_LO_01433 |
|             |   | Subtract using basic math facts (minuends 15 to 18, subtrahends 6 to 9).  | SMMA_LO_01434 |
|             |   | Subtract using basic math facts (minuends 11 to 19, subtrahends 1 to 8).  | SMMA_LO_01435 |
|             |   | Subtract using basic math facts (minuends 11 to 18, subtrahends 1 to 9).  | SMMA_LO_01436 |
|             |   | Subtract 10 from a number (minuends 11 to 19, horizontal presentation).   | SMMA_LO_01442 |
|             |   | Subtract a one-digit number from a two-digit number displayed horizontally (minuends 11 to 19, subtrahends 1 to 9). | SMMA_LO_01443 |
|             |   | Subtract using basic math facts (minuends 15 to 18, subtrahends 6 to 9).  | SMMA_LO_01444 |
|             |   | Subtract (minuends 11 to 19, subtrahends 1 to 9, no regrouping).  | SMMA_LO_01445 |
| 1.ATO.6b    | Demonstrate fluency with addition and related subtraction facts through 10. | Add two addends (sums 6 to 10).   | SMMA_LO_00012 |
|             |   | Add using basic math facts (addends 0 to 5, sums 1 to 5).   | SMMA_LO_00014 |
|             |   | Add 1 to a number (sums 1 to 10).   | SMMA_LO_00015 |
|             |   | Add two addends (one-digit addends, sums 6 to 10).  | SMMA_LO_00016 |
|             |   | Add four addends (one-digit addends, sums 3 to 10).   | SMMA_LO_00030 |

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|--|--|---|---------------|
| 1.ATO.6b   | Demonstrate fluency with addition and related subtraction facts through 10.  | Add zero to a number (sums 1 to 9).   | SMMA_LO_00035 |
|  |  | Subtract using basic math facts (minuends 6 to 9).                                | SMMA_LO_01418 |
|  |  | Subtract using basic math facts (minuends 1 to 9).                                | SMMA_LO_01419 |
|  |  | Subtract using basic math facts (differences are 0).                              | SMMA_LO_01420 |
|  |  | Subtract 1 from a number (minuends 1 to 9).                                       | SMMA_LO_01421 |
|  |  | Subtract a number from 10 (subtrahends 1 to 9).                                   | SMMA_LO_01424 |
| 1.ATO.7  | Understand the meaning of the equal sign as a relationship between two quantities (sameness) and determine if equations involving addition and subtraction are true. | Determine if equations involving addition and subtraction are true or false.      | SMMA_LO_02024 |
| 1.ATO.8  | Determine the missing number in addition and subtraction equations within 20.  | Find the missing addend in a number sentence.                                     | SMMA_LO_00037 |
|  |  | Find the missing addend in a number sentence (sums 10 to 18).                     | SMMA_LO_00048 |
|  |  | Complete fact families with four facts (sums 3 to 10).                            | SMMA_LO_00322 |
|  |  | Solve for c in $a + b = c$ (sums 0 to 9).   | SMMA_LO_00323 |
|  |  | Solve for c in $a - b = c$ (differences 1 to 9).                                  | SMMA_LO_00324 |
|  |  | Solve for c in $a + b = c$ (sums 10 to 18).                                       | SMMA_LO_00327 |
|  |  | Solve for c in $a - b = c$ (differences 1 to 9).                                  | SMMA_LO_00329 |
|  |  | Solve for a or b in $a + b = c$ (sums 0 to 9).                                    | SMMA_LO_00330 |
|  |  | Solve for a or b in $a - b = c$ (differences 0 to 9).                             | SMMA_LO_00331 |
|  |  | Solve for a or b in $a + b = c$ (sums 10 to 18).                                  | SMMA_LO_00332 |
|  |  | Solve for a or b in $a - b = c$ (differences 0 to 18).                            | SMMA_LO_00333 |
|  |  | Identify a missing number in an addition and subtraction fact family.             | SMMA_LO_01035 |
|  |  | Find the missing subtrahend in a subtraction number sentence (minuends 0 to 9).   | SMMA_LO_01432 |
|  |  | Find the missing minuend in a subtraction number sentence (minuends 0 to 9).      | SMMA_LO_01440 |
|  |  | Find the missing subtrahend in a subtraction number sentence (minuends 10 to 14). | SMMA_LO_01446 |
|  |  | Find the missing subtrahend in a subtraction number sentence (minuends 15 to 18). | SMMA_LO_01449 |
|  |  | Find the missing minuend in a subtraction number sentence (minuends 10 to 14).    | SMMA_LO_01451 |
|  |  | Find the missing minuend in a subtraction number sentence (minuends 15 to 18).    | SMMA_LO_01455 |
|  |  | Find the missing subtrahend in a subtraction number sentence (minuends 11 to 19). | SMMA_LO_01464 |
|  |  | Find the missing minuend in a subtraction number sentence (minuends 11 to 19).    | SMMA_LO_01468 |
| Solve for the unknown in an addition equation (addends and sums less than 16). | SMMA_LO_01656  |   |               |
| Create a fact family (addition and subtraction).                               | SMMA_LO_01857  |   |               |

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| 1.ATO.8     | Determine the missing number in addition and subtraction equations within 20.   | Identify the missing number (addend or sum) in an addition equation, for numbers 20 and less.      | SMMA_LO_02010 |
|             |   | R: Work backwards to solve a problem with a missing number.  | SMMA_LO_01266 |
| 1.ATO.9a    | Create, extend and explain using pictures and words for repeating patterns (e.g., AB, AAB, ABB, and ABC type patterns).   | Extend a 1-2-1-2 pattern of pictures.  | SMMA_LO_00519 |
|             |   | Extend a 1-2-1-2 pattern of geometric figures.   | SMMA_LO_00520 |
|             |   | Extend a 1-1-2-2 pattern of pictures.  | SMMA_LO_00521 |
|             |   | Extend a 1-1-2-2 pattern of geometric figures.   | SMMA_LO_00522 |
|             |   | Match patterns of geometric figures.   | SMMA_LO_00539 |
|             |   | Extend a 1-2-2 pattern of pictures.  | SMMA_LO_00556 |
|             |   | Extend a 1-1-2 or 1-2-2 pattern of congruent shapes.   | SMMA_LO_00558 |
|             |   | Extend a 1-2-3 pattern of similar figures.   | SMMA_LO_00560 |
|             |   | Extend a 1-2-3 pattern of geometric figures.   | SMMA_LO_00585 |
|             |   | Identify the missing geometric figure in a 1-2-1-2 pattern.  | SMMA_LO_00591 |
| 1.G.1       | Distinguish between a two-dimensional shape's defining (e.g., number of sides) and non-defining attributes (e.g., color).   | R: Identify open and closed figures.   | SMMA_LO_00580 |
|             |   | R: Match compound figures that have the same shape (different sizes).                              | SMMA_LO_00594 |
| 1.G.2       | Combine two-dimensional shapes (i.e., square, rectangle, triangle, hexagon, rhombus, and trapezoid) or three-dimensional shapes (i.e., cube, rectangular prism, cone, and cylinder) in more than one way to form a composite shape. | Identify puzzle pieces needed to make a given shape, and then complete the puzzle (4 to 6 pieces). | SMMA_LO_00564 |
|             |   | R: Match a plane figure to a geometric design that uses the figure.                                | SMMA_LO_00554 |
| 1.G.3       | Partition two-dimensional shapes (i.e., square, rectangle, circle) into two or four equal parts.  | Draw one to two segments to divide a figure into two to four congruent parts.                      | SMMA_LO_00640 |
| 1.G.4       | Identify and name two-dimensional shapes (i.e., square, rectangle, triangle, hexagon, rhombus, trapezoid, and circle).  | Identify 3-, 4-, and 5-sided figures.  | SMMA_LO_00550 |
|             |   | Identify parallelograms, rhombuses, and trapezoids.  | SMMA_LO_00620 |
| 1.MDA.1     | Order three objects by length using indirect comparison.  | Order three objects by length.   | SMMA_LO_02147 |
|             |   | R: Match objects of the same height (3 heights).   | SMMA_LO_00687 |
|             |   | R: Match objects of the same length (3 lengths).   | SMMA_LO_00688 |
|             |   | R: Given 3 objects, identify the shortest or longest object.                                       | SMMA_LO_00693 |
| 1.MDA.2     | Use nonstandard physical models to show the length of an object as the number of same size units of length with no gaps or overlaps.  | Find the height (2 to 9 nonstandard units).  | SMMA_LO_00710 |
|             |   | Count to find the height and width (2 to 5 nonstandard units).                                     | SMMA_LO_00713 |
|             |   | Find the total length of two objects (nonstandard units, sums 2 to 5).                             | SMMA_LO_00720 |
|             |   | Estimate the height and width (2 to 5 nonstandard units).  | SMMA_LO_00721 |
|             |   | Measure the length of an object (2 to 7 nonstandard units).  | SMMA_LO_00777 |

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| 1.MDA.2     | Use nonstandard physical models to show the length of an object as the number of same size units of length with no gaps or overlaps.         | R: Identify the group of objects that is 1 to 5 nonstandard units long or tall.               | SMMA_LO_00701 |
|             |  | R: Count to find how long or tall (2 to 9 nonstandard units).                                 | SMMA_LO_00705 |
|             |  | R: Identify an object given the height and width in nonstandard units.                        | SMMA_LO_00725 |
|             |  | R: Find the distance between two objects (2 to 8 nonstandard units).                          | SMMA_LO_00732 |
| 1.MDA.3     | Use analog and digital clocks to tell and record time to the hour and half hour.   | Tell time to the hour using an analog clock.  | SMMA_LO_00714 |
|             |  | Tell time to the hour using digital and analog clocks.  | SMMA_LO_00716 |
|             |  | Tell time to the half-hour using an analog clock.   | SMMA_LO_00724 |
|             |  | R: Identify the hour or minute hand of a clock.   | SMMA_LO_00697 |
| 1.MDA.4     | Collect, organize, and represent data with up to 3 categories using object graphs, picture graphs, t-charts and tallies.                     | Create a table from a vertical bar graph.   | SMMA_LO_01132 |
|             |  | R: Match each set of tally marks to a total (1 to 9).   | SMMA_LO_00952 |
| 1.MDA.5     | Draw conclusions from given object graphs, picture graphs, t-charts, tallies, and bar graphs.  | Read and interpret a horizontal or vertical pictograph (four to six items).                   | SMMA_LO_00131 |
|             |  | Determine the most or the least from a horizontal or vertical pictograph (four to six items). | SMMA_LO_00135 |
|             |  | Read and interpret a horizontal or vertical pictograph (six items).                           | SMMA_LO_00150 |
|             |  | Identify a vertical bar graph that represents data in a table.                                | SMMA_LO_01134 |
|             |  | Identify the table that represents the data in a vertical bar graph.                          | SMMA_LO_01136 |
| 1.MDA.6     | Identify a penny, nickel, dime and quarter and write the coin values using a ¢ symbol.   | Identify nickels or dimes.  | SMMA_LO_00698 |
|             |  | Identify the coin worth 1, 5, 10, or 25 cents.  | SMMA_LO_00702 |
| 1.NSBT.1a   | Extend the number sequence to count forward by ones to 120 starting at any number.   | Enter the number for a word name (two-digit).   | SMMA_LO_01001 |
| 1.NSBT.1b   | Extend the number sequence to count by fives and tens to 100, starting at any number.  | Find a missing number in a sequence, counting by 5's (5 to 50).                               | SMMA_LO_01003 |
|             |  | Find a missing number in a sequence, counting up or down by 5's (two-digit).                  | SMMA_LO_01004 |
|             |  | Find the missing number in a sequence, counting by 5's or 10's.                               | SMMA_LO_01231 |
| 1.NSBT.1c   | Extend the number sequence to read, write and represent numbers to 100 using concrete models, standard form, and equations in expanded form. | Find the number of a set of objects (grouped tens and ones; two-digit).                       | SMMA_LO_00976 |
|             |  | Identify a written number from a spoken number (two-digit).                                   | SMMA_LO_00977 |
|             |  | Show a number using base-ten blocks (two-digit).  | SMMA_LO_00978 |
|             |  | Enter the number equal to a given number of ones and tens (0 to 9 tens, 1 to 9 ones).         | SMMA_LO_00979 |
|             |  | Identify a two-digit number, model, or expression that has a different value.                 | SMMA_LO_00991 |

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| 1.NSBT.1d   | Extend the number sequence to read and write in word form numbers zero through nineteen, and multiples of ten through ninety.   | Identify the number of objects for a word name. (1 to 9 objects).   | SMMA_LO_00964 |
|             |   | Identify a number, model, or word with the same value (1 to 9).   | SMMA_LO_00965 |
| 1.NSBT.2a   | Understand place value through 99 by demonstrating that ten ones can be thought of as a bundle (group) called a "ten."  | Given a number (1-9) of objects, determine how many more objects are needed to make a ten.                  | SMMA_LO_02017 |
| 1.NSBT.2b   | Understand place value through 99 by demonstrating that the tens digit in a two-digit number represents the number of tens and the ones digit represents the number of ones.  | Enter the number equal to 1 to 9 tens.  | SMMA_LO_00974 |
|             |   | Enter the number of tens for a given multiple of ten (10 to 90).  | SMMA_LO_00975 |
|             |   | Model multiples of 10 (from 10 to 90) with place value blocks.  | SMMA_LO_02019 |
| 1.NSBT.2c   | Understand place value through 99 by demonstrating that two-digit numbers can be decomposed in a variety of ways (e.g., 52 can be decomposed as 5 tens and 2 ones or 4 tens and 12 ones, etc.) and record the decomposition as an equation. | Enter how many tens and ones for a number (two-digit).  | SMMA_LO_00980 |
|             |   | Find two numbers when given place value clues (two-digit).  | SMMA_LO_00990 |
|             |   | Identify a number with a given digit in the ones or tens place.   | SMMA_LO_00995 |
|             |   | Find two numbers when given place value clues (two-digit).  | SMMA_LO_01049 |
|             |   | Model the numbers from 11 to 19 with place value blocks.  | SMMA_LO_02018 |
| 1.NSBT.3    | Compare two two-digit numbers based on the meanings of the tens and ones digits, using the words greater than, equal to, or less than.  | Find two numbers within a range (two-digit).  | SMMA_LO_00998 |
|             |   | Identify the greatest or least number (two-digit).  | SMMA_LO_00999 |
|             |   | Identify the value that is greater than one number and less than another in context.                        | SMMA_LO_01554 |
| 1.NSBT.4a   | Add through 99 using concrete models, drawings, and strategies based on place value to add a two-digit number and a one-digit number, understanding that sometimes it is necessary to compose a ten (regroup).                              | Add two addends (one- and two-digit addends, sums 11 to 99, no regrouping).                                 | SMMA_LO_00033 |
|             |   | Add two addends (student choice, a one-digit and a two-digit addend, sums 20 to 98, regrouping).            | SMMA_LO_00054 |
|             |   | Find a number that is one less or one more than a given number (two-digit).                                 | SMMA_LO_00984 |
| 1.NSBT.4b   | Add through 99 using concrete models, drawings, and strategies based on place value to add a two-digit number and a multiple of 10.   | Add two multiples of 10 (student choice, sums 20 to 90).  | SMMA_LO_00025 |
| 1.NSBT.5    | Determine the number that is 10 more or 10 less than a given number through 99 and explain the reasoning verbally and with multiple representations, including concrete models.   | Mentally find 10 more or 10 less than a given two-digit number; model the solution with place value blocks. | SMMA_LO_02020 |
| 1.NSBT.6    | Subtract a multiple of 10 from a larger multiple of 10, both in the range 10 to 90, using concrete models, drawings, and strategies based on place value.   | Subtract two multiples of 10 (student choice, minuends 20 to 90, subtrahends 10 to 80).                     | SMMA_LO_01426 |
|             |   | Subtract multiples of 10 (student choice, minuends 20 to 90, subtrahends 10 to 80).                         | SMMA_LO_01437 |
|             |   | Subtract multiples of 10 (minuends 20 to 90, subtrahends 10 to 80, horizontal presentation).                | SMMA_LO_01438 |
|             |   | Subtract 10 from a two-digit number (student choice, minuends 11 to 19).                                    | SMMA_LO_01441 |

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| 2.ATO.1     | Solve one- and two-step real-world/story problems using addition (as a joining action and as a part-part-whole action) and subtraction (as a separation action, finding parts of the whole, and as a comparison) through 99 with unknowns in all positions. | Choose an operation to solve a problem with extra information; then solve (addition or subtraction, basic facts).             | SMMA_LO_01247   |
|             |   | Identify a number sentence that can be used to solve a problem with extra information (addition or subtraction, basic facts). | SMMA_LO_01250   |
|             |   | Calculate the difference between the life spans of two animals (differences 2 to 59).   | SMMA_LO_01310   |
|             |   | Act out the solution to multi-step problem in context (addends, minuends 1 to 4).   | SMMA_LO_01538   |
|             |   | Make a picture to solve a two-step problem in context (addition and subtraction).   | SMMA_LO_01551   |
|             |   | Make a picture to solve a two-step problem in context (addition and subtraction).   | SMMA_LO_01552   |
|             |   | Solve an addition problem in context (two-digit addends, sums less than 100, no regrouping).                                  | SMMA_LO_01556   |
|             |   | Solve a problem with extra information (addition).  | SMMA_LO_01558   |
|             |   | Solve a subtraction problem in context (two-digit minuends, one-digit subtrahends, no regrouping).                            | SMMA_LO_01560   |
|             |   | Solve a subtraction problem in context to find how much is left (two-digit numbers, no regrouping).                           | SMMA_LO_01561   |
|             |   | Solve a subtraction problem to find a person's age (minuends 1 to 99, subtrahends 1 to 9, no regrouping).                     | SMMA_LO_01563   |
|             |   | Solve an addition problem in context (extra information, sums to 50, no regrouping).  | SMMA_LO_01567   |
|             |   | Solve a problem in context by finding a missing addend (three addends, sums to 20).   | SMMA_LO_01574   |
|             |   | Solve a subtraction problem in context (extra information, minuends 2 to 99, no regrouping).                                  | SMMA_LO_01581   |
|             |   | Solve an addition problem in context (four addends, sums 0 to 25).  | SMMA_LO_01587   |
|             |   | Read and interpret a table about temperature.   | SMMA_LO_01646   |
|             |   | Solve a one-step equation (addition, sums to 100).  | SMMA_LO_01686   |
|             |   | Identify the missing variable of addition or subtraction equations (sums 10 to 50, minuends 10 to 50).                        | SMMA_LO_01687   |
|             |   | Read and interpret a table.   | SMMA_LO_01695   |
|             |   | 2.ATO.2   | Demonstrate fluency with addition and related subtraction facts through 20. |
| 2.ATO.4     | Use repeated addition to find the total number of objects arranged in a rectangular array with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.  | Use repeated addition to multiply (products 2 x 2 to 5 x 5).  | SMMA_LO_00852   |
|             |   | Solve addition problems with doubles as prelude to multiplication.  | SMMA_LO_00853   |
|             |   | R: Add doubles (sums 4 to 18).  | SMMA_LO_00019   |

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| 2.G.1       | Identify triangles, quadrilaterals, hexagons, and cubes. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.   | Identify a shape with positive and negative tests.  | SMMA_LO_00578 |
|             |  | Identify polygons and circles (pentagons, hexagons, octagons, parallelograms).  | SMMA_LO_00627 |
| 2.G.2       | Partition a rectangle into rows and columns of same-size squares to form an array and count to find the total number of parts.   | Count squares to find the area (2 to 8 units).  | SMMA_LO_00706 |
| 2.G.3       | Partition squares, rectangles and circles into two or four equal parts, and describe the parts using the words halves, fourths, a half of, and a fourth of. Understand that when partitioning a square, rectangle or circle into two or four equal parts, the parts become smaller as the number of parts increases. | Describe fractions in terms of the number of parts in a whole and the relative size of those parts (e.g., larger, smaller). | SMMA_LO_02137 |
|             |  | R: Match halves of figures (left and right).  | SMMA_LO_00561 |
|             |  | R: Match halves of figures (top and bottom).  | SMMA_LO_00563 |
| 2.MDA.1     | Select and use appropriate tools (e.g., rulers, yardsticks, meter sticks, measuring tapes) to measure the length of an object.   | Measure the length of an object to the nearest inch (2 to 6 inches).  | SMMA_LO_00703 |
|             |  | Find the total length of two to four objects laid end to end (2 to 6 inches).   | SMMA_LO_00748 |
|             |  | Measure the length of an object to the nearest centimeter (3 to 12 cm).   | SMMA_LO_00750 |
|             |  | Measure the length of an object to the nearest inch (1 to 6 inches).  | SMMA_LO_00755 |
|             |  | Measure the length of an object to the nearest centimeter (4 to 12 centimeters).  | SMMA_LO_00762 |
|             |  | Measure the length of an object in centimeters or inches (whole numbers).   | SMMA_LO_00785 |
|             |  | Select the appropriate ruler to measure vertical or horizontal lengths.   | SMMA_LO_00812 |
|             |  | R: Identify a vertical distance (2 to 9 centimeters).   | SMMA_LO_00758 |
|             |  | R: Identify the reasonable length of an object (inches, feet, and yards).   | SMMA_LO_00780 |
| 2.MDA.2     | Measure the same object or distance using a standard unit of one length and then a standard unit of a different length and explain verbally and in writing how and why the measurements differ.  | Measure the length of an object in cm and inches; relate the two measurements to the sizes of the units.                    | SMMA_LO_02003 |
| 2.MDA.3     | Estimate and measure length/distance in customary units (i.e., inch, foot, yard) and metric units (i.e., centimeter, meter).   | Identify an object given the estimated height and width in customary units.   | SMMA_LO_00728 |
|             |  | Measure two lengths and find the sum (metric, sums 2 to 9).   | SMMA_LO_00753 |
| 2.MDA.4     | Measure to determine how much longer one object is than another, using standard length units.  | Measure two objects in inches; determine how much longer one object is than the other.                                      | SMMA_LO_02015 |
|             |  | R: Measure two metric lengths, write an addition problem, and find the sum (sums 2 to 12 centimeters).                      | SMMA_LO_00756 |

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| 2.MDA.5  | Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences through 99 on a number line diagram. | Find a missing number on a number line (0 to 9).  | SMMA_LO_00961 |
|  |   | Find a number that is one fewer or one greater than a given number (1 to 9).                                      | SMMA_LO_00962 |
|  |   | Identify two numbers within a range (1 to 9), number line in feedback.  | SMMA_LO_00963 |
|  |   | Identify a number on a number line between two given numbers (1 to 9).  | SMMA_LO_00993 |
|  |   | Find a missing number for a point on a number line (two-digit).   | SMMA_LO_00996 |
|  |   | Find the missing numbers on a number line counting by 3's or 9's (3 to 81).                                       | SMMA_LO_01034 |
|  |   | Enter a number on a partially numbered number line (100 to 999).  | SMMA_LO_01037 |
| 2.MDA.6  | Use analog and digital clocks to tell and record time to the nearest five-minute interval using a.m. and p.m.   | Show time to 5-minute intervals using digital and analog clocks.  | SMMA_LO_00744 |
|  |   | Identify another way to state the time (minutes before or after the hour).  | SMMA_LO_00779 |
|  |   | Match digital times with descriptions (e.g., quarter to or quarter past).   | SMMA_LO_00806 |
|  |   | Estimate the sum or difference in a money problem by rounding to the nearest 10 (two-digit sums and differences). | SMMA_LO_01580 |
| 2.MDA.7  | Solve real-world/story problems involving dollar bills using the \$ symbol or involving quarters, dimes, nickels, and pennies using the ¢ symbol.   | Determine the number of cents in 1 to 100 pennies, 1 to 20 nickels, or 1 to 10 dimes.                             | SMMA_LO_00143 |
|  |   | Determine the value of a combination of nickels, dimes, and quarters (values to \$5.00).                          | SMMA_LO_00165 |
|  |   | Identify the number of dollars and dimes that represent a given amount (\$1.10 to \$3.50).                        | SMMA_LO_00180 |
|  |   | Enter the amount of money shown (1 to 5 cents in pennies).  | SMMA_LO_00699 |
|  |   | Enter the amount of money shown (6 to 9 cents in pennies).  | SMMA_LO_00704 |
|  |   | Enter the amount of money shown (11 to 50 cents in pennies and dimes).  | SMMA_LO_00715 |
|  |   | Enter the amount of money shown (10 to 19 cents in pennies, nickels, and dimes).                                  | SMMA_LO_00722 |
|  |   | Find equivalence of nickels and dimes (1 to 5 dimes).   | SMMA_LO_00738 |
|  |   | Identify the given amount of money in coins (5 to 50 cents in nickels and dimes).                                 | SMMA_LO_00740 |
|  |   | Show another way to represent an amount of money (10 to 24 cents in pennies, nickels, and dimes).                 | SMMA_LO_00745 |
|  |   | Enter the amount of money shown (10 to 99 cents).   | SMMA_LO_00760 |
|  |   | Identify the set of coins that has greater value (16 to 75 cents in pennies, nickels, dimes, and quarters).       | SMMA_LO_00765 |
|  |   | Show the given amount of money in coins (25 to 90 cents in pennies, nickels, dimes, and quarters).                | SMMA_LO_00778 |
| Identify items that can be purchased for a nickel. | SMMA_LO_01541   |   |               |

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|-------------|--|---|---------------|
| 2.MDA.7     | Solve real-world/story problems involving dollar bills using the \$ symbol or involving quarters, dimes, nickels, and pennies using the ¢ symbol.    | Solve an addition problem involving money (sums 3 to 9 cents).  | SMMA_LO_01543 |
|             |  | Solve a subtraction problem involving coins (two-digit numbers, no regrouping).   | SMMA_LO_01579 |
|             |  | Make a picture to solve a multiplication problem involving total cost (2 to 5 items, 5, 10, or 15 cents each).                          | SMMA_LO_01584 |
|             |  | R: Identify the coin equivalent to 5, 10, or 25 pennies.  | SMMA_LO_00727 |
| 2.MDA.8     | Generate data by measuring objects in whole unit lengths and organize the data in a line plot using a horizontal scale marked in whole number units. | R: Analyze a line plot to find the total number of items that fall at, above, or below a given value.                                   | SMMA_LO_01156 |
| 2.MDA.9     | Collect, organize, and represent data with up to four categories using picture graphs and bar graphs with a single-unit scale.                       | Create a vertical bar graph from a table and interpret data in the graph.   | SMMA_LO_01130 |
|             |  | Label the categories of a vertical bar graph based on data from a table.  | SMMA_LO_01138 |
|             |  | Collect, tally, and graph the results generated by a spinner.   | SMMA_LO_01144 |
|             |  | Construct a vertical bar graph based on data from a horizontal bar graph.   | SMMA_LO_01146 |
|             |  | Construct a horizontal bar graph based on data from a vertical bar graph.   | SMMA_LO_01150 |
|             |  | Create a table based on data from a bar graph.  | SMMA_LO_01645 |
| 2.MDA.10    | Draw conclusions from t-charts, object graphs, picture graphs, and bar graphs.   | Read and interpret a horizontal or vertical pictograph (four to six items).   | SMMA_LO_00138 |
|             |  | Read and interpret a horizontal pictograph with a scale of 2 (five items).  | SMMA_LO_00140 |
|             |  | Interpret the shorter or taller bar of a vertical bar graph as having fewer or more items.  | SMMA_LO_01131 |
|             |  | Identify the two-column vertical bar graph that shows one category has fewer than, the same number as, or more than the other category. | SMMA_LO_01133 |
|             |  | Identify the vertical bar graph that shows a strictly increasing or decreasing trend.   | SMMA_LO_01135 |
|             |  | Identify the number of categories in a vertical bar graph that are less than, equal to, and greater than a given value.                 | SMMA_LO_01148 |
|             |  | Analyze a bar graph to find the number of bars that fall within a given range.  | SMMA_LO_01154 |
|             |  | Read and interpret a pictograph with a scale of 2, 5 or 10.   | SMMA_LO_01158 |
|             |  | Compare the amounts of two rows in a pictograph whose scale is 2, 5, or 10 items per picture.   | SMMA_LO_01172 |
|             |  | Compare the amounts of two rows in a pictograph whose scale is 2, 5, or 10 items per picture.   | SMMA_LO_01174 |
|             |  | Read and interpret data about tree growth from a bar graph.   | SMMA_LO_01302 |

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| 2.MDA.10    | Draw conclusions from t-charts, object graphs, picture graphs, and bar graphs.   | Given a bar graph of tree growth, calculate the height a tree grew from one year to another.                             | SMMA_LO_01303 |
|             |  | Read a bar graph and answer questions about tree growth over time.   | SMMA_LO_01304 |
|             |  | Given a chart of tree growth, infer which of two years there was more rainfall.  | SMMA_LO_01305 |
| 2.NSBT.1a   | Understand place value through 999 by demonstrating that 100 can be thought of as a bundle (group) of 10 tens called a "hundred."  | Given a number (1-9) of groups of 10 objects, determine how many more groups of 10 objects are needed to make a hundred. | SMMA_LO_02011 |
| 2.NSBT.1b   | Understand place value through 999 by demonstrating that the hundreds digit in a three-digit number represents the number of hundreds, the tens digit represents the number of tens, and the ones digit represents the number of ones. | Find a number equal to 1 to 9 hundreds.  | SMMA_LO_01007 |
|             |  | Find the number of hundreds equivalent to a multiple of 100 (100 to 900).  | SMMA_LO_01008 |
| 2.NSBT.2    | Count by tens and hundreds to 1,000 starting with any number.  | Find a missing number in a sequence, counting by 10's (two-digit, non multiples of 10).                                  | SMMA_LO_00992 |
| 2.NSBT.3    | Read, write and represent numbers through 999 using concrete models, standard form, and equations in expanded form.  | Identify the word name for a three-digit number.   | SMMA_LO_01009 |
|             |  | Identify the number represented by a set of objects (pictorial models of hundreds, tens, and ones; three-digit).         | SMMA_LO_01010 |
|             |  | Use base-ten blocks to show a number (three-digit).  | SMMA_LO_01012 |
|             |  | Enter a three-digit number in a place-value chart (base-ten block models, three-digit).                                  | SMMA_LO_01013 |
|             |  | Identify a number with a given digit in the ones, tens, or hundreds place.   | SMMA_LO_01014 |
|             |  | Find a number equal to 1 to 9 hundreds, 0 to 9 tens, and 0 to 9 ones.  | SMMA_LO_01015 |
|             |  | Identify the number, model, word name, or expanded notation that has a different value (three-digit).                    | SMMA_LO_01018 |
|             |  | Enter a three-digit number in a place-value chart (base-ten block models, three-digit).                                  | SMMA_LO_01025 |
|             |  | Enter the number for a word name (100 to 999).   | SMMA_LO_01042 |
|             |  | Find a number equal to 1 to 9 hundreds, 0 to 9 tens, and 0 to 9 ones.  | SMMA_LO_01047 |
| 2.NSBT.4    | Compare two numbers with up to three digits using words and symbols (i.e., >, =, or <).  | Compare numbers using < or > symbols (1 to 19).  | SMMA_LO_00325 |
|             |  | Compare sums (sums 1 to 9).  | SMMA_LO_00326 |
|             |  | Compare numbers using < or > symbols (20 to 99).   | SMMA_LO_00328 |
|             |  | Compare sums (two-digit addends, multiples of 10).   | SMMA_LO_00334 |
|             |  | Compare differences (minuends 1 to 9).   | SMMA_LO_00337 |
|             |  | Identify two numbers that make an inequality true (0 to 9).  | SMMA_LO_00994 |

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| 2.NSBT.4    | Compare two numbers with up to three digits using words and symbols (i.e., >, =, or <).           | Identify two numbers that make an inequality true (two-digit).  | SMMA_LO_00997 |
|             |   | Identify the greatest or least number (three-digit).  | SMMA_LO_01019 |
|             |   | Find a number between two given numbers (1 to 999).   | SMMA_LO_01020 |
|             |   | Identify the greatest or least number (three-digit).  | SMMA_LO_01026 |
|             |   | Identify a number that is between two numbers, or before, after, or closer to a number (101 to 999).                  | SMMA_LO_01027 |
| 2.NSBT.5    | Add and subtract fluently through 99 using knowledge of place value and properties of operations. | Add a multiple of 10 and a one-digit number displayed horizontally (sums 11 to 99).                                   | SMMA_LO_00040 |
|             |   | Add two multiples of 10 displayed horizontally (sums 20 to 90).   | SMMA_LO_00044 |
|             |   | Add two addends displayed horizontally (one- and two-digit addends, sums 11 to 99).                                   | SMMA_LO_00049 |
|             |   | Find the missing addend in a number sentence (a multiple of 10 and a one-digit addend, sums 11 to 99, no regrouping). | SMMA_LO_00050 |
|             |   | Find the sum of two numbers displayed horizontally (a one-digit and a two-digit addend, sums 20 to 98, regrouping).   | SMMA_LO_00055 |
|             |   | Add three addends displayed horizontally (one-digit addends, sums 20 to 27).  | SMMA_LO_00062 |
|             |   | Add two addends displayed horizontally (two-digit addends, sums 21 to 99).  | SMMA_LO_00064 |
|             |   | Add two addends (student choice, two-digit addends, sums 30 to 98, regrouping).                                       | SMMA_LO_00067 |
|             |   | Add three addends (student choice, one-digit addends, sums 20 to 27).   | SMMA_LO_00069 |
|             |   | Find the missing addend in a number sentence (a one-digit and a two-digit addend, sums 10 to 99, no regrouping).      | SMMA_LO_00070 |
|             |   | Find the missing addend in a number sentence (three addends, sums 20 to 27, regrouping).                              | SMMA_LO_00082 |
|             |   | Find the missing addend in a number sentence (two addends, sums 20 to 98, regrouping).                                | SMMA_LO_00084 |
|             |   | Solve for a or b in $a + b = c$ (sums 10 to 108).   | SMMA_LO_00336 |
|             |   | Solve for c in $a - b = c$ (minuends 20 to 99, subtrahends 1 to 9, no regrouping).                                    | SMMA_LO_00338 |
|             |   | Solve for c in $a - b = c$ (minuends 20 to 99, two-digit subtrahends, no regrouping).                                 | SMMA_LO_00340 |
|             |   | Solve for a or b in $a + b = c$ (sums 12 to 98).  | SMMA_LO_00341 |
|             |   | Solve for c in $a - b = c$ (minuends 20 to 99, regrouping).   | SMMA_LO_00342 |
|             |   | Solve for a or b in $a - b = c$ (minuends 20 to 99, no regrouping).   | SMMA_LO_00343 |
|             |   | Solve for a or b in $a - b = c$ (minuends 21 to 99, subtrahends 1 to 9, no regrouping).                               | SMMA_LO_00347 |

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|---|---|---|---|--|---------------|
| 2.NSBT.5  | Add and subtract fluently through 99 using knowledge of place value and properties of operations. | Find the sum or difference when a two-digit number is added to or subtracted from a number (base-ten block models).     | SMMA_LO_00989   |  |               |
|   |   | Find the difference between two numbers (two-digit, presented as a sentence).   | SMMA_LO_01000   |  |               |
|   |   | Identify a missing number in related addition and subtraction number sentences (two-digit sums, two-digit differences). | SMMA_LO_01060   |  |               |
|   |   | Subtract (student choice, minuends 21 to 95, subtrahends 1 to 9, no regrouping).  | SMMA_LO_01428   |  |               |
|   |   | Subtract (minuends 21 to 99, subtrahends 1 to 9, no regrouping).  | SMMA_LO_01450   |  |               |
|   |   | Subtract a multiple of 10 from a 2-digit number (minuends 11-99, vertical presentation).                                | SMMA_LO_01452   |  |               |
|   |   | Subtract (student choice, minuends 21 to 99, no regrouping).  | SMMA_LO_01454   |  |               |
|   |   | Subtract two numbers displayed horizontally (counting up strategy, minuends 21 to 98, subtrahends 2 to 9, regrouping).  | SMMA_LO_01462   |  |               |
|   |   | Subtract two-digit numbers with regrouping (vertical presentation).   | SMMA_LO_01463   |  |               |
|   |   | Find the missing subtrahend in a subtraction number sentence (minuends 21 to 99).                                       | SMMA_LO_01470   |  |               |
|   |   | Subtract two numbers displayed horizontally (counting up strategy, minuends 25 to 98, subtrahends 6 to 9, regrouping).  | SMMA_LO_01472   |  |               |
|   |   | Subtract two-digit numbers with regrouping (vertical presentation).   | SMMA_LO_01473   |  |               |
|   |   | Find the missing minuend in a number sentence (minuends 21 to 99).  | SMMA_LO_01478   |  |               |
|   |   | Find the missing subtrahend in a number sentence (minuends 10 to 99).   | SMMA_LO_01480   |  |               |
|   |   | Find the missing minuend in a subtraction number sentence (minuends 10 to 99, no regrouping).                           | SMMA_LO_01486   |  |               |
|   |   | Find the difference of two whole numbers (two digit numbers, regrouping).   | SMMA_LO_01488   |  |               |
|   |   | Find the missing minuend in a subtraction number sentence (minuends 20 to 98, subtrahends 11 to 89).                    | SMMA_LO_01491   |  |               |
|   |   | 2.NSBT.6  | Add up to four two-digit numbers using strategies based on knowledge of place value and properties of operations. | Add three multiples of 10 (student choice, sums 30 to 90). | SMMA_LO_00043 |
|   |   |   |   | Add three multiples of 10 (sums 100 to 190, regrouping).   | SMMA_LO_00051 |
| Add three addends (two-digit addends, sums 33 to 99, no regrouping).  | SMMA_LO_00056   |   |   |  |               |
| Add three addends (student choice, two-digit addends, sums 100 to 199, regrouping from tens to hundreds place). | SMMA_LO_00060   |   |   |  |               |
| Add three addends (student choice, one-digit and two-digit addends, sums 21 to 99, no regrouping).              | SMMA_LO_00079   |   |   |  |               |

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| 2.NSBT.6    | Add up to four two-digit numbers using strategies based on knowledge of place value and properties of operations.                         | Add three addends (student choice, one- and two-digit addends, sums 100 to 198, no regrouping).                                       | SMMA_LO_00087 |
|             |   | Add three addends (student choice, one- and two-digit addends, sums 30 to 98, regrouping).  | SMMA_LO_00090 |
|             |   | Add three addends (student choice, one- and two-digit addends, sums 100 to 207, regrouping).  | SMMA_LO_00092 |
|             |   | Add three addends (student choice, two-digit addends, sums 40 to 297, regrouping).  | SMMA_LO_00095 |
|             |   | R: Explain how to solve an addition problem, either by using place value blocks or by rewriting the problem.                          | SMMA_LO_02012 |
|             |   | R: Explain how to solve a subtraction problem, either by using place value blocks or by rewriting the problem as an addition problem. | SMMA_LO_02013 |
| 2.NSBT.7    | Add and subtract through 999 using concrete models, drawings, and symbols which convey strategies connected to place value understanding. | Add two multiples of 100 (student choice, sums 200 to 900).   | SMMA_LO_00046 |
|             |   | Add two multiples of 10 (student choice, sums 100 to 180).  | SMMA_LO_00047 |
|             |   | Add two addends (student choice, two-digit addends, sums 100 to 189, regrouping 10's to 100's).                                       | SMMA_LO_00053 |
|             |   | Add two 3-digit numbers without regrouping (sums 200-999).  | SMMA_LO_00058 |
|             |   | Add two addends (student choice, a two-digit and a three-digit addend, sums 120 to 998, regrouping).                                  | SMMA_LO_00059 |
|             |   | Add two addends (student choice, three-digit addends, sums 200 to 998, regrouping).   | SMMA_LO_00061 |
|             |   | Add two addends (student choice, a two-digit and a three-digit addend, sums 100 to 999, no regrouping).                               | SMMA_LO_00065 |
|             |   | Add two addends displayed horizontally (multiples of 10, sums 100 to 180, regrouping).  | SMMA_LO_00068 |
|             |   | Add two addends (student choice, three-digit addends, sums 200 to 999, no regrouping).  | SMMA_LO_00071 |
|             |   | Find the missing addend in a number sentence (multiples of 10, sums 100 to 180).  | SMMA_LO_00074 |
|             |   | Add two addends (student choice, two-digit addends, sums 100 to 198, regrouping).   | SMMA_LO_00075 |
|             |   | Add two addends (student choice, three-digit addends, sums 300 to 989, no regrouping).  | SMMA_LO_00081 |
|             |   | Add two addends (student choice, a two-digit and a three-digit addend, sums 120 to 999, regrouping).                                  | SMMA_LO_00083 |
|             |   | Add two addends (student choice, three-digit addends, sums 210 to 999, regrouping).   | SMMA_LO_00085 |
|             |   | Find the missing addend in a number sentence (two addends, sums 100 to 199, regrouping).  | SMMA_LO_00086 |

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| 2.NSBT.7    | Add and subtract through 999 using concrete models, drawings, and symbols which convey strategies connected to place value understanding. | Find the missing addend in an number sentence (a two-digit and a three-digit addend, multiples of 10, sums 110 to 990).                               | SMMA_LO_00088 |
|             |   | Solve for a or b in $a + b = c$ (sums 101 to 199, no regrouping).   | SMMA_LO_00345 |
|             |   | Find a number that is one fewer, one greater, just before, or just after a three-digit number.  | SMMA_LO_01016 |
|             |   | Find the sum or difference when ones, tens, or hundreds are added to or subtracted from a three-digit number (base-ten block models).                 | SMMA_LO_01017 |
|             |   | Subtract two multiples of 100 (student choice, minuends 200 to 900, subtrahends 100 to 800).  | SMMA_LO_01447 |
|             |   | Subtract two multiples of 10 (minuends 100 to 180, subtrahends 10 to 90).   | SMMA_LO_01448 |
|             |   | Subtract (student choice, minuends 110 to 199, two-digit subtrahends, no regrouping).   | SMMA_LO_01456 |
|             |   | Subtract (student choice, minuends 122 to 199, subtrahends 11 to 88, no regrouping).  | SMMA_LO_01457 |
|             |   | Subtract a three-digit multiple of 10 from a number (student choice, minuends 222 to 999, no regrouping).   | SMMA_LO_01458 |
|             |   | Subtract (student choice, minuends and subtrahends 110 to 999).   | SMMA_LO_01460 |
|             |   | Find the difference of two three-digit numbers.   | SMMA_LO_01467 |
|             |   | Find the difference of two three-digit numbers (no regrouping).   | SMMA_LO_01469 |
|             |   | Find the difference of two whole numbers (student choice, three-digit minuends, two-digit subtrahends, regrouping from hundreds place to tens place). | SMMA_LO_01471 |
|             |   | Find the difference of two whole numbers (student choice, three-digit minuends, two-digit subtrahends, regrouping from tens place to ones place).     | SMMA_LO_01475 |
|             |   | Find the difference of two three-digit numbers (student choice, no regrouping).   | SMMA_LO_01477 |
|             |   | Find the difference of two whole numbers (student choice, minuends 201 to 999, subtrahends 11 to 99, regrouping).                                     | SMMA_LO_01479 |
|             |   | Find the difference of two whole numbers (student choice, three-digit minuends, two-digit subtrahends, regrouping from hundreds place to tens place). | SMMA_LO_01481 |
|             |   | Find the difference of two three-digit numbers (student choice, regrouping from the tens to the ones place).  | SMMA_LO_01483 |
|             |   | Find the difference of two three-digit numbers (student choice, regrouping from the tens to the ones place).  | SMMA_LO_01485 |
|             |   | Find the difference of two three-digit numbers (student choice, regrouping from the tens to the ones place).  | SMMA_LO_01487 |

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| 2.NSBT.7    | Add and subtract through 999 using concrete models, drawings, and symbols which convey strategies connected to place value understanding.  | Find the difference of two whole numbers (student choice, regrouping from tens place to ones place and hundreds place to tens place).           | SMMA_LO_01489 |
|             |  | Find the difference of two three-digit numbers (student choice, regrouping from the tens to the ones place and the hundreds to the tens place). | SMMA_LO_01490 |
|             |  | Subtract a two-digit number from a three-digit number (regrouping from the tens place and hundreds place).                                      | SMMA_LO_01492 |
| 2.NSBT.8    | Determine the number that is 10 or 100 more or less than a given number through 1,000 and explain the reasoning verbally and in writing.   | Add two addends (100 and a three-digit number, sums 200 to 900).  | SMMA_LO_00057 |
|             |  | Subtract 100 from a three-digit number presented in a sentence.   | SMMA_LO_01459 |
| 3.ATO.1     | Use concrete objects, drawings and symbols to represent multiplication facts of two single-digit whole numbers and explain the relationship between the factors (i.e., 0 – 10) and the product.                              | Make a picture to solve a multiplication problem (basic facts).   | SMMA_LO_01237 |
|             |  | Identify a picture that represents a multiplication problem (basic facts).  | SMMA_LO_01246 |
|             |  | R: Solve addition and multiplication problems (products $2 \times 6$ to $2 \times 9$ ).   | SMMA_LO_00854 |
| 3.ATO.2     | Use concrete objects, drawings and symbols to represent division without remainders and explain the relationship among the whole number quotient (i.e., 0 – 10), divisor (i.e., 0 – 10), and dividend.                       | Make a picture to solve a division problem (math facts).  | SMMA_LO_01238 |
|             |  | Identify a picture that represents a division problem (math facts).   | SMMA_LO_01245 |
| 3.ATO.3     | Solve real-world problems involving equal groups, area/array, and number line models using basic multiplication and related division facts. Represent the problem situation using an equation with a symbol for the unknown. | Divide using graphic models (combinations to $5 \times 5$ ).  | SMMA_LO_00279 |
|             |  | Identify the method to solve a multiplication problem with extra information.   | SMMA_LO_01267 |
|             |  | Identify the method to solve a division problem with extra information.   | SMMA_LO_01268 |
|             |  | Make a picture to solve a partitive division problem (dividends to 20).   | SMMA_LO_01564 |
|             |  | Make a picture to solve a quotitive division problem (dividends to 20).   | SMMA_LO_01565 |
|             |  | Identify and solve an expression that represents a multiplication problem in context (model shown, products to 32).                             | SMMA_LO_01570 |
|             |  | Find twice the amount of the money shown (products to 20).  | SMMA_LO_01571 |
|             |  | Solve a multiplication problem in context (counting feedback, products $2 \times 2$ to $5 \times 5$ ).  | SMMA_LO_01572 |
|             |  | Solve a multiplication problem in context (repeated addition feedback, products $2 \times 2$ to $5 \times 5$ ).                                 | SMMA_LO_01578 |
|             |  | Solve a multiplication problem in context with extra information.   | SMMA_LO_01589 |
|             |  | Identify and solve an expression that represents a multiplication problem in context (products $3 \times 4$ to $9 \times 9$ ).                  | SMMA_LO_01590 |
|             |  | Solve a problem using data in a table (twice, half, three times, or four times an amount).  | SMMA_LO_01593 |

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| 3.ATO.3     | Solve real-world problems involving equal groups, area/array, and number line models using basic multiplication and related division facts. Represent the problem situation using an equation with a symbol for the unknown. | Solve a one-step division problem (math facts $2 \times 2$ to $9 \times 9$ ).                                       | SMMA_LO_01600 |
|             |  | Identify the expression that represents a division problem in context; then solve the problem (dividends 12 to 81). | SMMA_LO_01605 |
|             |  | Use repeated subtraction to solve a division problem (dividends 4 to 24).   | SMMA_LO_01664 |
|             |  | Identify four arrays for a given product (products 6 to 30).  | SMMA_LO_01858 |
|             |  | R: Identify the missing information needed to solve a multiplication problem in context; then solve the problem.    | SMMA_LO_01283 |
|             |  | R: Identify the number sentence that represents a division problem in context (model shown, dividends to 20).       | SMMA_LO_01569 |
|             |  | R: Create arrays for a given product (products 6 to 30).  | SMMA_LO_01859 |
| 3.ATO.4     | Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is a missing factor, product, dividend, divisor, or quotient.                                      | Find the missing dividend or divisor (combinations $4 \times 4$ to $7 \times 7$ ).                                  | SMMA_LO_00285 |
|             |  | Solve for a or b in $a \times b = c$ (products $1 \times 2$ to $5 \times 9$ ).                                      | SMMA_LO_00351 |
|             |  | Solve for a or b in $a \div b = c$ (combinations $1 \times 2$ to $5 \times 5$ ).                                    | SMMA_LO_00352 |
|             |  | Solve for a or b in $a \div b = c$ (combinations $6 \times 6$ to $9 \times 9$ ).                                    | SMMA_LO_00354 |
|             |  | Find the missing factor (products to $5 \times 5$ ).  | SMMA_LO_00856 |
|             |  | Find the missing factor (products to $5 \times 5$ ).  | SMMA_LO_00858 |
|             |  | Find the missing factor (products $1 \times 6$ to $5 \times 9$ ).   | SMMA_LO_00860 |
|             |  | Find the missing factor (products $1 \times 6$ to $5 \times 9$ ).   | SMMA_LO_00862 |
|             |  | Find the missing factor (products $1 \times 6$ to $9 \times 5$ ).   | SMMA_LO_00864 |
|             |  | Find the missing factor (products $6 \times 1$ to $9 \times 5$ ).   | SMMA_LO_00866 |
|             |  | Find the missing factor (products $6 \times 6$ to $9 \times 9$ ).   | SMMA_LO_00873 |
|             |  | Find the missing factor (products $6 \times 6$ to $9 \times 9$ ).   | SMMA_LO_00877 |
|             |  | Find the missing factor (products $2 \times 2$ to $12 \times 12$ ).   | SMMA_LO_00881 |
|             |  | Find the missing factor (products $20 \times 11$ to $90 \times 99$ , multiples of 10).                              | SMMA_LO_00891 |
|             |  | R: Complete fact families with four facts (products $2 \times 3$ to $8 \times 9$ ).                                 | SMMA_LO_00344 |
| 3.ATO.5     | Apply properties of operations (i.e., Commutative Property of Multiplication, Associative Property of Multiplication, Distributive Property) as strategies to multiply and divide and explain the reasoning.                 | Apply the Commutative Property of Multiplication as a strategy to multiply and divide whole numbers.                | SMMA_LO_02036 |
|             |  | Apply the Associative Property of Multiplication as a strategy to multiply whole numbers.                           | SMMA_LO_02037 |
|             |  | Apply the Distributive Property as a strategy to multiply whole numbers.  | SMMA_LO_02038 |

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|--|---|--|--|
| 3.ATO.6  | Understand division as a missing factor problem.  | Represent a division problem as an unknown-factor problem; then find the missing factor. | SMMA_LO_02039  |
| 3.ATO.7  | Demonstrate fluency with basic multiplication and related division facts of products and dividends through 100. | Divide using basic facts (combinations 5 x 5).   | SMMA_LO_00280  |
|  |   | Divide using basic facts (combinations 2 x 6 to 9 x 5).                                  | SMMA_LO_00282  |
|  |   | Divide (combinations 6 x 6 to 9 x 9).  | SMMA_LO_00284  |
|  |   | Divide (combinations 2 x 10 to 5 x 12).  | SMMA_LO_00286  |
|  |   | Divide (combinations 5 x 9 to 6 x 12).   | SMMA_LO_00288  |
|  |   | Divide (combinations 2 x 13 to 5 x 19, no remainder).                                    | SMMA_LO_00305  |
|  |   | Solve for c in $a \times b = c$ (products 1 x 2 to 5 x 9).                               | SMMA_LO_00346  |
|  |   | Find the quotient (dividends 6 x 6 to 9 x 9).  | SMMA_LO_00349  |
|  |   | Compare products (products 2 x 2 to 9 x 9).  | SMMA_LO_00350  |
|  |   | Solve for c in $a \times b = c$ (products 6 x 2 to 9 x 12).                              | SMMA_LO_00353  |
|  |   | Compare quotients (combinations 2 x 2 to 9 x 9).   | SMMA_LO_00355  |
|  |   | Multiply whole numbers (products to 5 x 5).  | SMMA_LO_00855  |
|  |   | Multiply whole numbers (products 6 x 1 to 9 x 5).  | SMMA_LO_00857  |
|  |   | Multiply whole numbers displayed horizontally (products 1 x 6 to 5 x 9).                 | SMMA_LO_00859  |
|  |   | Multiply whole numbers (products 1 x 2 to 5 x 5).  | SMMA_LO_00861  |
|  |   | Multiply whole numbers (products 1 x 6 to 5 x 9).  | SMMA_LO_00863  |
|  |   | Multiply whole numbers (products 6 x 2 to 9 x 5).  | SMMA_LO_00865  |
|  |   | Multiply whole numbers (products 6 x 6 to 9 x 9).  | SMMA_LO_00867  |
|  |   | Multiply whole numbers displayed horizontally (products 6 x 6 to 9 x 9).                 | SMMA_LO_00868  |
|  |   | 3.ATO.8  | Solve two-step real-world problems using addition, subtraction, multiplication and division of whole numbers and having whole number answers. Represent these problems using equations with a letter for the unknown quantity. |
| Find the missing information needed to solve a problem; then solve.  | SMMA_LO_01293   |  |  |
| Solve a two-step multiplication and addition problem in context.   | SMMA_LO_01633   |  |  |
| R: Solve for a, b, or c in $a + b + c = d$ (sums 10 to 19).  | SMMA_LO_00335   |  |  |
| R: Solve for d in $a + b + c = d$ (one-digit addends, sums 20 to 27).  | SMMA_LO_00339   |  |  |
| R: Identify the missing operation in a subtraction or addition number sentence (basic facts).  | SMMA_LO_01031   |  |  |
| R: Identify the missing operation (sums 20 to 99, differences 10 to 70).   | SMMA_LO_01055   |  |  |
| R: Identify the missing operation in a number sentence (all operations).   | SMMA_LO_01074   |  |  |
| R: Identify a number sentence that can be used to solve an addition, a subtraction, or a multiplication problem (one- or two-digit). | SMMA_LO_01254   |  |  |
| R: Identify a number sentence that could be used to solve a multiplication problem.  | SMMA_LO_01270   |  |  |

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| 3.ATO.8     | Solve two-step real-world problems using addition, subtraction, multiplication and division of whole numbers and having whole number answers. Represent these problems using equations with a letter for the unknown quantity.   | R: Identify extra information in a problem.   | SMMA_LO_01272 |
|             |  | R: Identify the missing information needed to solve a two-step problem; then solve the problem.                                 | SMMA_LO_01274 |
|             |  | R: Identify an expression that can be used to solve a problem (inverse operations).   | SMMA_LO_01275 |
|             |  | R: Estimate the distance by rounding ( $d = rt$ ).  | SMMA_LO_01606 |
|             |  | R: Solve a problem in context that involves finding the difference of 2 three-digit numbers.                                    | SMMA_LO_01610 |
| 3.ATO.9     | Identify a rule for an arithmetic pattern (e.g., patterns in the addition table or multiplication table).  | Count by 2's, 3's, or 10's (11 to 209, not multiples of 2, 3, 10).  | SMMA_LO_01056 |
|             |  | Count by 5's, 6's, or 7's (through 70).   | SMMA_LO_01058 |
|             |  | Count by 8's or 9's (up to 90).   | SMMA_LO_01061 |
|             |  | Describe the relationship between two sets of numbers in a relation or function using multiplication, addition, or subtraction. | SMMA_LO_01653 |
|             |  | Describe the relationship between two sets of numbers in a relation or function using multiplication (factors 2 - 5).           | SMMA_LO_01655 |
|             |  | Identify the one-step rule in the relation or function (addition and subtraction).  | SMMA_LO_01722 |
| 3.G.1       | Understand that shapes in different categories (e.g., rhombus, rectangle, square, and other 4-sided shapes) may share attributes (e.g., 4-sided figures) and the shared attributes can define a larger category (e.g., quadrilateral). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. | Identify the quadrilaterals in a set of figures.  | SMMA_LO_00615 |
|             |  | Identify the quadrilaterals that are trapezoids or rhombuses.   | SMMA_LO_00659 |
| 3.G.2       | Partition two-dimensional shapes into 2, 3, 4, 6, or 8 parts with equal areas and express the area of each part using the same unit fraction. Recognize that equal parts of identical wholes need not have the same shape.   | Identify a model that represents a fraction (halves, thirds, fourths).  | SMMA_LO_00404 |
|             |  | Identify a fraction that represents a model (halves, thirds, fourths).  | SMMA_LO_00405 |
|             |  | Partition shapes into equal parts.  | SMMA_LO_02000 |
|             |  | R: Identify the model that is divided into equal parts (2 to 8 parts).  | SMMA_LO_00400 |
|             |  | R: Count the number of equal parts in a fractional model (2 to 8 parts).  | SMMA_LO_00402 |
|             |  | R: Identify the figure divided into equal parts (halves to eighths).  | SMMA_LO_00417 |
| 3.G.3       | Use a right angle as a benchmark to identify and sketch acute and obtuse angles.   | Determine whether an angle is larger than, smaller than, or the same size as a right angle.                                     | SMMA_LO_00624 |
|             |  | Identify an angle as acute, right, or obtuse.   | SMMA_LO_00628 |

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| 3.G.4       | Identify a three-dimensional shape (i.e., right rectangular prism, right triangular prism, pyramid) based on a given two-dimensional net and explain the relationship between the shape and the net.                                 | Identify the set of faces for a geometric solid.  | SMMA_LO_00664 |
|             |  | Identify the net for a geometric solid.   | SMMA_LO_00675 |
|             |  | Identify the net that forms a three-dimensional solid.  | SMMA_LO_01772 |
| 3.MDA.1     | Use analog and digital clocks to determine and record time to the nearest minute, using a.m. and p.m.; measure time intervals in minutes; and solve problems involving addition and subtraction of time intervals within 60 minutes. | Find the elapsed time (differences from 1 to 6 hours, does not cross 12 o'clock).                                       | SMMA_LO_00142 |
|             |  | Find the time one to five hours before or after a given time (not crossing 12 o'clock).                                 | SMMA_LO_00153 |
|             |  | Compare the difference of two times to a given time (1 to 24 hours, across 12 o'clock).                                 | SMMA_LO_00155 |
|             |  | Find the time one to five hours before or after a given time (across 12 o'clock).                                       | SMMA_LO_00162 |
|             |  | Find the time one to twelve hours and ten to fifty-five minutes from a starting time.                                   | SMMA_LO_00175 |
|             |  | Determine elapsed time (1 to 6 hours, start and end times on the hour, can cross 12 o'clock).                           | SMMA_LO_00731 |
|             |  | Find the elapsed time (1 1/2 to 6 1/2 hours, start times and end times on the hour or half-hour, can cross 12 o'clock). | SMMA_LO_00770 |
|             |  | Show time to the minute using digital and analog clocks.  | SMMA_LO_00771 |
|             |  | Show time 1 to 11 hours and 5 to 55 minutes before or after the time shown (analog and digital clocks).                 | SMMA_LO_00775 |
|             |  | Find the time 5 to 50 minutes after the time shown (analog clock).  | SMMA_LO_00798 |
|             |  | Find a fraction of an hour in minutes (1/4, 1/3, 1/2, 2/3, or 3/4 hour).  | SMMA_LO_00817 |
|             |  | Solve a problem by identifying the time 1 to 2 hours after a given time (not crossing 12 o'clock).                      | SMMA_LO_01547 |
|             |  | Set the digital clock to match the time on the analog clock to the exact minute.  | SMMA_LO_01670 |
|             |  | Convert hours to minutes.   | SMMA_LO_01672 |
|             |  | Show time 1 to 11 hours and 5 to 55 minutes before or after the time shown (analog and digital clocks).                 | SMMA_LO_02155 |
| 3.MDA.2     | Estimate and measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (mL, L) to the nearest whole unit.   | Add nonstandard units of capacity (sums 2 to 8).  | SMMA_LO_00739 |
|             |  | Add units of capacity (pints, sums 2 to 6).   | SMMA_LO_00764 |
|             |  | R: Match amounts of liquid in containers (3 amounts).   | SMMA_LO_00689 |
|             |  | R: Identify the container with the greatest or least capacity.  | SMMA_LO_00696 |
|             |  | R: Select the appropriate standard unit of measurement for length, capacity, and weight (customary).                    | SMMA_LO_00729 |
|             |  | R: Subtract nonstandard units of capacity (differences 0 to 3).   | SMMA_LO_00742 |

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| 3.MDA.2     | Estimate and measure liquid volumes (capacity) in customary units (i.e., c., pt., qt., gal.) and metric units (mL, L) to the nearest whole unit.                                 | R: Find the capacity of a container (3 to 10 nonstandard units).  | SMMA_LO_00754 |
|             |  | R: Select the appropriate standard unit of measurement for length, capacity, and weight (metric).   | SMMA_LO_00767 |
|             |  | R: Choose the appropriate customary units of liquid measure (cups, quarts, and gallons).  | SMMA_LO_01674 |
| 3.MDA.3     | Collect, organize, classify, and interpret data with multiple categories and draw a scaled picture graph and a scaled bar graph to represent the data.                           | Make a pictograph from a set of data.   | SMMA_LO_00146 |
|             |  | Complete and interpret a pictograph.  | SMMA_LO_01207 |
|             |  | Create a bar graph using data from a chart of values.   | SMMA_LO_01696 |
|             |  | Create a bar graph.   | SMMA_LO_01769 |
| 3.MDA.4     | Generate data by measuring length to the nearest inch, half-inch and quarter-inch and organize the data in a line plot using a horizontal scale marked off in appropriate units. | Measure the length of a bar to the nearest 1/4 inch or 0.5 cm.  | SMMA_LO_00822 |
| 3.MDA.5a    | Understand the concept of area measurement: Recognize area as an attribute of plane figures.   | Identify a unit square and what attribute it is used to measure.  | SMMA_LO_02027 |
| 3.MDA.5b    | Understand the concept of area measurement. Measure area by building arrays and counting standard unit squares.  | Find the sum of the areas of two figures (sums 3 to 8, nonstandard units).  | SMMA_LO_00752 |
|             |  | Find the area of a rectangle (5 to 25 square centimeters).  | SMMA_LO_00773 |
|             |  | Identify the figure in a set with the least or greatest area (figures are made up of squares).  | SMMA_LO_00776 |
|             |  | Count squares and half squares to find the area of a figure in square centimeters.  | SMMA_LO_00783 |
|             |  | Using a grid, find the area of a simple figure (8 to 60 nonstandard units).   | SMMA_LO_00786 |
|             |  | Identify a figure with a given area on a geoboard (4 to 15 square units).   | SMMA_LO_00802 |
|             |  | Estimate the area of a figure on a grid (3 to 11 square units).   | SMMA_LO_00808 |
|             |  | Find the area of an irregular figure displayed on a grid (12 to 50 square units).   | SMMA_LO_01280 |
|             |  | Find the area of a plane figure made up of square units and halves of square units.   | SMMA_LO_02028 |
| 3.MDA.5c    | Understand the concept of area measurement. Determine the area of a rectilinear polygon and relate to multiplication and addition.   | Use partial sums and arrays to solve a two-digit by a one-digit multiplication problem.   | SMMA_LO_01716 |
|             |  | Find the area of a rectangle by tiling it; complete an equation to show that the area is the same as would be found by multiplying the side lengths.                  | SMMA_LO_02029 |
|             |  | Tile a rectangle to find its area; represent the area of the rectangle in two different ways (length times width and the sum of the areas of two smaller rectangles). | SMMA_LO_02031 |
|             |  | R: Identify equivalent arrays with different factors.   | SMMA_LO_01715 |

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|---|--|---|--|
| 3.MDA.6   | Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. | Find the perimeter of a rectangle (24 to 48 customary or metric units).                         | SMMA_LO_00169  |
|   |  | Given the length of one side of a rectangle, measure another side, and then find the perimeter. | SMMA_LO_00788  |
|   |  | Given the lengths of all sides, find the perimeter of a rectangle.                              | SMMA_LO_00821  |
|   |  | Given a perimeter, mark equilateral polygons with the same side measures.                       | SMMA_LO_00849  |
|   |  | Identify examples of relationships between area and perimeter.                                  | SMMA_LO_00850  |
|   |  | R: Count to find the perimeter (3 to 9 nonstandard units).                                      | SMMA_LO_00708  |
|   |  | R: Identify the shape with the greater perimeter (3 to 11 nonstandard units).                   | SMMA_LO_00734  |
|   |  | R: Find the perimeter of a figure (3 to 10 nonstandard units).                                  | SMMA_LO_00757  |
|   |  | R: Identify the expression for the perimeter of a figure.                                       | SMMA_LO_00818  |
|   |  | 3.NSBT.1  | Use place value understanding to round whole numbers to the nearest 10 or 100. |
| Round a three-digit number to the nearest hundred.  | SMMA_LO_01036  |   |  |
| Identify the best estimate for a sum of two numbers (two-digit addends, round to the nearest 10). | SMMA_LO_01052  |   |  |
| Round a two-digit or three-digit number to the nearest ten.                                       | SMMA_LO_01059  |   |  |
| Round a three- to five-digit number to the nearest hundred.                                       | SMMA_LO_01081  |   |  |
| Determine the reasonableness of a sum or difference (two- and three-digit numbers).               | SMMA_LO_01259  |   |  |
| Estimate the sum by rounding to the nearest 10 (two-digit addends).                               | SMMA_LO_01615  |   |  |
| Round a two-digit number to the nearest ten (hundreds chart).                                     | SMMA_LO_01648  |   |  |
| Round a two-digit number to the nearest ten.  | SMMA_LO_01649  |   |  |
| Round a three-digit number to the nearest hundred.  | SMMA_LO_01650  |   |  |
| Round a three-digit number to the nearest hundred.  | SMMA_LO_01651  |   |  |
| Round a three-digit number to the nearest hundred.  | SMMA_LO_01652  |   |  |
| Estimate the difference (three-digit, differences 100 to 800).                                    | SMMA_LO_01676  |   |  |
| R: Estimate the number of objects to the nearest ten (21 to 49 objects).                          | SMMA_LO_01548  |   |  |
| R: Round two-digit numbers to the nearest ten.  | SMMA_LO_01647  |   |  |
| 3.NSBT.2  | Add and subtract whole numbers fluently to 1,000 using knowledge of place value and properties of operations.  |   |  |

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| 3.NSBT.3    | Multiply one-digit whole numbers by multiples of 10 in the range 10 – 90, using knowledge of place value and properties of operations.  | Multiply whole numbers (student choice, products 20 x 2 to 90 x 9, multiples of 10).                     | SMMA_LO_00878 |
|             |   | Multiply whole numbers (products 2 x 20 to 90 x 9, multiples of 10).                                     | SMMA_LO_00885 |
| 3.NSBT.4    | Read and write numbers through 999,999 in standard form and equations in expanded form.   | Identify a number with a given digit in the ones, tens, hundreds, or thousands place.                    | SMMA_LO_01033 |
|             |   | Identify the expanded notation of a four-digit number.   | SMMA_LO_01038 |
|             |   | Identify a word name for a four-, five- or six-digit numbers.  | SMMA_LO_01043 |
|             |   | Identify a number with a given digit in the ones to hundred thousands place.                             | SMMA_LO_01045 |
|             |   | Identify the expanded notation of a five- or six-digit number.   | SMMA_LO_01046 |
|             |   | Find a number equal to 1 to 9 thousands, 0 to 9 hundreds, 0 to 9 tens, and 0 to 9 ones.                  | SMMA_LO_01051 |
|             |   | Enter the number for a word name (1000 to 9999).   | SMMA_LO_01065 |
|             |   | Enter a number in a place-value chart (10,000 to 999,999).   | SMMA_LO_01070 |
|             |   | Identify the number when given the word name (10,000 to 999,999).  | SMMA_LO_01076 |
|             |   | Express a number in expanded notation or determine the number from an expanded notation.                 | SMMA_LO_01097 |
|             |   | R: Show a four-digit number with base-ten blocks.  | SMMA_LO_01032 |
| 3.NSBT.5    | Compare and order numbers through 999,999 and represent the comparison using the symbols >, =, or <.  | Identify four numbers that are in consecutive order (three-digit).                                       | SMMA_LO_01029 |
|             |   | Compare numbers (1,000 to 9,999).  | SMMA_LO_01039 |
|             |   | Order four numbers from least to greatest (1,000 to 9,999).  | SMMA_LO_01040 |
|             |   | Identify a set of numbers between two numbers, or less than or greater than a given number (101 to 999). | SMMA_LO_01068 |
|             |   | Identify a number that is one or two greater than or less than a five- or six-digit number.              | SMMA_LO_01072 |
|             |   | Order five numbers from least to greatest (three- to six-digit numbers).                                 | SMMA_LO_01710 |
|             |   | Compare two whole numbers (three to seven-digit numbers).  | SMMA_LO_01711 |
|             |   | R: Identify four numbers that are in consecutive order (three-digit).                                    | SMMA_LO_01021 |
| 3.NSF.1a    | Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers. A fraction $\frac{1}{b}$ (called a unit fraction) is the quantity formed by one part when a whole is partitioned into b equal parts. | Partition shapes into equal parts.   | SMMA_LO_02000 |

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|---|---|--|--|--|---------------|
| 3.NSF.1b  | Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers. A fraction $a/b$ is the quantity formed by a parts of size $1/b$ . | Identify the set of shapes that represents a fraction (halves, thirds, fourths).               | SMMA_LO_00406  |  |               |
|   |   | Identify the figure showing a fractional part shaded (halves, thirds, fourths).                | SMMA_LO_00409  |  |               |
|   |   | Identify the fraction representing a shaded region (halves, thirds, fourths).                  | SMMA_LO_00410  |  |               |
|   |   | Identify the figure showing the fraction of a set shaded (halves, thirds, fourths).            | SMMA_LO_00413  |  |               |
|   |   | Identify the fraction representing shaded items in a set (halves, thirds, fourths).            | SMMA_LO_00414  |  |               |
|   |   | Identify a fractional portion of a set (halves, thirds, fourths).                              | SMMA_LO_00415  |  |               |
|   |   | Identify the figure showing a fraction of a region shaded (halves to eighths).                 | SMMA_LO_00420  |  |               |
|   |   | Identify a fraction representing the shaded part (halves to eighths).                          | SMMA_LO_00421  |  |               |
|   |   | Enter the fraction representing the shaded amount (halves to eighths).                         | SMMA_LO_00422  |  |               |
|   |   | Solve a problem by finding the fractional amount of a set (halves to eighths).                 | SMMA_LO_00424  |  |               |
|   |   | Identify a fractional portion of a set (halves to eighths).                                    | SMMA_LO_00425  |  |               |
|   |   | Model a fraction $a/b$ by filling in a out of b sections in a fraction model.                  | SMMA_LO_02034  |  |               |
|   |   | R: Count the fractional parts and total number of parts in a region (halves, thirds, fourths). | SMMA_LO_00403  |  |               |
|   |   | R: Match the word name of a fraction to a fraction (halves, thirds, fourths).                  | SMMA_LO_00411  |  |               |
|   |   | R: Count the fractional parts and total number of parts in a set (halves, thirds, fourths).    | SMMA_LO_00412  |  |               |
|   |   | R: Match the word name of the fraction to the fraction (halves to eighths).                    | SMMA_LO_00416  |  |               |
|   |   | R: Count shaded parts and the total number of parts (halves to eighths).                       | SMMA_LO_00419  |  |               |
|   |   | R: Count the shaded and total number of elements in a set (halves to eighths).                 | SMMA_LO_00423  |  |               |
|   |   | 3.NSF.1c   | Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers. A fraction is a number that can be represented on a number line based on counts of a unit fraction. | Enter the missing fraction on a number line (halves to eighths).                                     | SMMA_LO_00430 |
|   |   |  |  | Identify a fraction for a given point on a number line divided into tenths, twelfths, or sixteenths. | SMMA_LO_00431 |
| Represent a unit fraction $1/b$ by partitioning a number line and then finding $1/b$ on it. | SMMA_LO_02148   |  |  |  |               |
| 3.NSF.1d  | Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers. A fraction can be represented using set, area, and linear models.  | Count the fractional parts and total number of parts in a region (halves, thirds, fourths).    | SMMA_LO_00403  |  |               |
|   |   | Identify the set of shapes that represents a fraction (halves, thirds, fourths).               | SMMA_LO_00406  |  |               |
|   |   | Identify the figure showing a fractional part shaded (halves, thirds, fourths).                | SMMA_LO_00409  |  |               |
|   |   | Identify the fraction representing a shaded region (halves, thirds, fourths).                  | SMMA_LO_00410  |  |               |
|   |   | Count the fractional parts and total number of parts in a set (halves, thirds, fourths).       | SMMA_LO_00412  |  |               |
|   |   | Identify the figure showing the fraction of a set shaded (halves, thirds, fourths).            | SMMA_LO_00413  |  |               |

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| 3.NSF.1d    | Develop an understanding of fractions (i.e., denominators 2, 3, 4, 6, 8, 10) as numbers. A fraction can be represented using set, area, and linear models.  | Identify the fraction representing shaded items in a set (halves, thirds, fourths).                        | SMMA_LO_00414   |
|             |   | Identify a fractional portion of a set (halves, thirds, fourths).  | SMMA_LO_00415   |
|             |   | Count shaded parts and the total number of parts (halves to eighths).                                      | SMMA_LO_00419   |
|             |   | Identify the figure showing a fraction of a region shaded (halves to eighths).                             | SMMA_LO_00420   |
|             |   | Identify a fraction representing the shaded part (halves to eighths).                                      | SMMA_LO_00421   |
|             |   | Enter the fraction representing the shaded amount (halves to eighths).                                     | SMMA_LO_00422   |
|             |   | Count the shaded and total number of elements in a set (halves to eighths).                                | SMMA_LO_00423   |
|             |   | Identify a fractional portion of a set (halves to eighths).  | SMMA_LO_00425   |
|             |   | Model a fraction $a/b$ by filling in $a$ out of $b$ sections in a fraction model.                          | SMMA_LO_02034   |
|             |   | 3.NSF.2a   | Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that two fractions are equal if they are the same size, based on the same whole, or at the same point on a number line. |
| 3.NSF.2b    | Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that fraction equivalence can be represented using set, area, and linear models.  | Using models, find equivalent fractions (halves to sixteenths).  | SMMA_LO_00433   |
|             |   | Identify two equivalent fractions for $1/2$ .  | SMMA_LO_01708   |
|             |   | R: Determine if a fraction can be simplified; simplify if possible (simplified fractions $1/2$ to $3/4$ ). | SMMA_LO_00452   |
| 3.NSF.2c    | Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that whole numbers can be written as fractions (e.g., $4 = 4/1$ and $1 = 4/4$ ).  | Find a fraction equal to 1 (halves to eighths).  | SMMA_LO_00427   |
|             |   | Using a model, rewrite a whole number as a fraction (halves to eighths).                                   | SMMA_LO_00443   |
| 3.NSF.2d    | Explain fraction equivalence (i.e., denominators 2, 3, 4, 6, 8, 10) by demonstrating an understanding that fractions with the same numerator or same denominator can be compared by reasoning about their size based on the same whole. | Using a number line, compare fractions (like denominators, halves to sixteenths).                          | SMMA_LO_00434   |
|             |   | Using models, compare fractions (unlike denominators, numerators equal to one, halves to sixteenths).      | SMMA_LO_00435   |
|             |   | Compare fractions (like denominators, thirds to sixteenths).   | SMMA_LO_00447   |
| 3.NSF.3     | Develop an understanding of mixed numbers (i.e., denominators 2, 3, 4, 6, 8, 10) as iterations of unit fractions on a number line.  | Using a model, rewrite a mixed number as a fraction (halves to eighths).                                   | SMMA_LO_00446   |
| 3.NSF.4     | Develop an understanding of mixed numbers (i.e., denominators 2, 3, 4, 6, 8, 10) as iterations of unit fractions on a number line.  | Rewrite a mixed number as a fraction (fifths to ninths).   | SMMA_LO_00450   |

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|-------------|--|---|---------------|
| 4.ATO.1     | Interpret a multiplication equation as a comparison (e.g. interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.) Represent verbal statements of multiplicative comparisons as multiplication equations. | Translate a verbal statement of a multiplicative comparison into a multiplication equation.   | SMMA_LO_02008 |
|             |  | Interpret a multiplication equation by writing a comparison statement.  | SMMA_LO_02025 |
| 4.ATO.2     | Solve real-world problems using multiplication (product unknown) and division (group size unknown, number of groups unknown).  | Identify a reasonable answer for a division problem.  | SMMA_LO_00246 |
|             |  | Determine the number of calories in multiple servings given data in a chart.  | SMMA_LO_01333 |
|             |  | Solve a division problem in context by rounding the quotient to the next whole number (model shown).  | SMMA_LO_01573 |
|             |  | Solve a multiplication problem in context (one-, two-, and three-digit factors).  | SMMA_LO_01604 |
|             |  | Solve a division problem in context (remainder).  | SMMA_LO_01616 |
|             |  | Interpret the quotient and remainder of a division problem in context (three-digit dividends).  | SMMA_LO_01617 |
|             |  | Share a set of objects equally to show a division problem (6, 7, 10, or 12 objects).  | SMMA_LO_01663 |
|             |  | Use a model to represent a word problem involving multiplicative comparison. Then, use an equation to represent the solution to the word problem. | SMMA_LO_02009 |
|             |  | R: Estimate the difference of 2 four-digit numbers to the nearest thousand.   | SMMA_LO_01614 |
| 4.ATO.3     | Solve multi-step, real-world problems using the four operations. Represent the problem using an equation with a variable as the unknown quantity.  | Use a picture to solve an addition problem with three addends.  | SMMA_LO_01286 |
|             |  | Choose a method to solve a two-step problem.  | SMMA_LO_01289 |
|             |  | Predict the effect of changing temperatures on the weather.   | SMMA_LO_01312 |
|             |  | Measure topsoil in a soil sample; calculate how long it took to form.   | SMMA_LO_01323 |
|             |  | Make a picture to solve a multistep addition and multiplication problem in context.   | SMMA_LO_01592 |
|             |  | Solve an addition problem using data in a table (sums 100 to 198).  | SMMA_LO_01595 |
|             |  | Identify the best estimate for a sum using data in a table (three- and four-digit addends).   | SMMA_LO_01620 |
|             |  | Estimate the sum by rounding to the nearest hundred (three-digit addends).  | SMMA_LO_01675 |
|             |  | R: Identify all the towns with temperatures below 32 degrees Fahrenheit on a weather map.   | SMMA_LO_01311 |
|             |  | R: Identify the expression that gives the best estimate for an addition or subtraction problem in context (two-digit numbers).                    | SMMA_LO_01566 |
|             |  | R: Identify the most reasonable quantity for a context (order of magnitude differs).  | SMMA_LO_01586 |

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| 4.ATO.4     | Recognize that a whole number is a multiple of each of its factors. Find all factors for a whole number in the range 1 – 100 and determine whether the whole number is prime or composite. | Identify the number that is divisible by a given factor (numbers 2 to 81, factors 2 to 9).                                  | SMMA_LO_01066 |
|             |  | Identify numbers that are multiples of a given number.  | SMMA_LO_01069 |
|             |  | Identify the complete set of factors for a number (2 to 25).  | SMMA_LO_01071 |
|             |  | Find the factors of a number and determine if the number is prime or composite (3 to 30).                                   | SMMA_LO_01073 |
|             |  | Using a factor tree, find the prime factors of a number (2 to 32).  | SMMA_LO_01087 |
|             |  | Identify prime and composite numbers (one- or two-digit).   | SMMA_LO_01105 |
|             |  | Determine three factors of a given number.  | SMMA_LO_01107 |
|             |  | Identify sets of prime and composite numbers.   | SMMA_LO_01119 |
|             |  | R: Identify the prime factorization of a two-digit number.  | SMMA_LO_01093 |
|             |  | R: Identify which numbers are divisible by another number (divisors 2 to 10).   | SMMA_LO_01101 |
| 4.ATO.5     | Generate a number or shape pattern that follows a given rule and determine a term that appears later in the sequence.  | Determine the output of a one-function machine, given an input and sample inputs and outputs (combinations 2 x 2 to 9 x 9). | SMMA_LO_00358 |
|             |  | Find a missing number in a sequence, counting by 2's (0 to 10).   | SMMA_LO_00966 |
|             |  | Find the missing two-digit number in a sequence of odd or even numbers.   | SMMA_LO_01002 |
|             |  | Count by 2's, 4's, 5's, or 10's (2 to 20, 4 to 40, 5 to 50, 80 to 200).   | SMMA_LO_01030 |
|             |  | Identify if the sum, difference, or product of two numbers is even or odd.  | SMMA_LO_01086 |
|             |  | Look for a pattern to solve a problem.  | SMMA_LO_01276 |
|             |  | Extend a geometric pattern.   | SMMA_LO_01691 |
|             |  | R: Identify an even or odd number (2 to 99).  | SMMA_LO_01050 |
|             |  | R: Identify the expression whose sum is odd or even (basic facts).  | SMMA_LO_01053 |
|             |  | R: Identify odd or even numbers (two- and three-digit).   | SMMA_LO_01054 |
| 4.G.1       | Draw points, lines, line segments, rays, angles (i.e., right, acute, obtuse), and parallel and perpendicular lines. Identify these in two-dimensional figures.                             | Identify line segments in three- and four-sided figures.  | SMMA_LO_00579 |
|             |  | Identify right, acute, and obtuse angles in polygons.   | SMMA_LO_00630 |
|             |  | Draw parallel, perpendicular, or intersecting lines on a grid.  | SMMA_LO_00638 |
|             |  | Identify the pairs of parallel line segments in a geometric drawing.  | SMMA_LO_00639 |
|             |  | Draw a line segment using a ruler (to 1/4 inch and 0.5 cm).   | SMMA_LO_00800 |
|             |  | R: Predict whether or not lines will intersect.   | SMMA_LO_00598 |
|             |  | R: Identify line segments.  | SMMA_LO_00605 |
|             |  | R: Match the labeled angles to the correct angle notation.  | SMMA_LO_00617 |

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| 4.G.1   | Draw points, lines, line segments, rays, angles (i.e., right, acute, obtuse), and parallel and perpendicular lines. Identify these in two-dimensional figures.   | R: Identify parallel and perpendicular streets on a map.   | SMMA_LO_00619   |
|   |  | R: Identify the set of vertices on a grid can be connected to form a figure (triangle, quadrilateral, rectangle, or square). | SMMA_LO_00625   |
| 4.G.2   | Classify quadrilaterals based on the presence or absence of parallel or perpendicular lines.   | In a set of quadrilaterals, identify all the parallelograms.   | SMMA_LO_00621   |
| 4.G.4   | Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. | Identify the vertical line of symmetry.  | SMMA_LO_00595   |
|   |  | Identify the horizontal line of symmetry.  | SMMA_LO_00597   |
|   |  | Draw a vertical or horizontal line of symmetry.  | SMMA_LO_00608   |
|   |  | Identify lines that are lines of symmetry.   | SMMA_LO_00623   |
|   |  | Complete a symmetrical drawing.  | SMMA_LO_00647   |
|   |  | Identify the lines of symmetry in an object.   | SMMA_LO_01699   |
|   |  | Identify the shape with a given number of lines of symmetry.   | SMMA_LO_01773   |
| 4.MDA.1   | Convert measurements within a single system of measurement, customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., cm, m, km, g, kg, mL, L) from a larger to a smaller unit.                        | Express yards and feet as an equivalent number of feet, or feet and inches as an equivalent number of inches.                | SMMA_LO_00166   |
|   |  | Add metric measurements with unlike units and express the sum in terms of the smaller unit.                                  | SMMA_LO_00168   |
|   |  | Compare unlike customary units of length (inches, feet, and yards).  | SMMA_LO_00792   |
|   |  | Compare unlike customary units of capacity (cups, pints, quarts, and gallons).   | SMMA_LO_00799   |
|   |  | Compare unlike customary units of weight and identify the correct statement (ounces and pounds).                             | SMMA_LO_00801   |
|   |  | Compare unlike metric units and identify the correct statement (mm, cm, m, km; mL, L; mg, g, kg).                            | SMMA_LO_00820   |
|   |  | 4.MDA.2  | Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations. |
| Convert units of time (seconds, minutes, hours, days, weeks, months, and years).                          | SMMA_LO_00837  |  |   |
| Identify the most reasonable answer to a division problem involving money.                                | SMMA_LO_01279  |  |   |
| Read weights from a chart; choose two weights that equal a given total (sums to 1,500).                   | SMMA_LO_01301  |  |   |
| Make a picture to find the change received from a purchase (change back from \$1.00).                     | SMMA_LO_01583  |  |   |
| Solve a division problem about money with extra information (round quotient to the nearest whole number). | SMMA_LO_01585  |  |   |
| Estimate the total cost of four items by rounding to the nearest dollar (sums to \$15.00).                | SMMA_LO_01591  |  |   |
| Solve an addition problem in context (3 three-digit addends, regrouping).                                 | SMMA_LO_01597  |  |   |
| Find the change from one dollar (item costs 55 to 99 cents).  | SMMA_LO_01598  |  |   |

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| 4.MDA.2     | Solve real-world problems involving distance/length, intervals of time within 12 hours, liquid volume, mass, and money using the four operations.       | Solve a decimal subtraction problem in context (tenths, regrouping).   | SMMA_LO_01599 |
|             |   | Solve a problem in context that involves adding three amounts expressed as dollars and cents.  | SMMA_LO_01608 |
|             |   | Find the change from one dollar for two to four items (each 10, 15, or 20 cents).  | SMMA_LO_01609 |
|             |   | Given the ending time and the elapsed time, find the starting time.  | SMMA_LO_01613 |
|             |   | Determine the number of dollar bills needed to buy three to five items.  | SMMA_LO_01623 |
|             |   | Estimate the difference by rounding to the nearest dollar (minuends \$5.00 to \$20.00, subtrahends \$3.00 to \$15.00).   | SMMA_LO_01669 |
|             |   | Read and interpret a line graph.   | SMMA_LO_01764 |
|             |   | R: Identify the fraction of a dollar a coin is worth (penny to half-dollar).   | SMMA_LO_00809 |
|             |   | R: Identify the most reasonable answer to a multiplication problem involving money.  | SMMA_LO_01278 |
| 4.MDA.3     | Apply the area and perimeter formulas for rectangles.   | Find the area of a rectangle (36 to 144 customary or metric square units).   | SMMA_LO_00173 |
|             |   | Find the area of a rectangle using a formula.  | SMMA_LO_00810 |
|             |   | Identify rectangles that have equal areas, but different dimensions.   | SMMA_LO_00823 |
|             |   | Multiply side lengths to find the area of a rectangle in a real-world context; use area to represent a whole-number product by arranging tiles in a rectangle. | SMMA_LO_02030 |
|             |   | Find the area of a rectilinear figure in a context by decomposing it into two rectangles.  | SMMA_LO_02032 |
| 4.MDA.4     | Create a line plot to display a data set (i.e., generated by measuring length to the nearest quarter-inch and eighth-inch) and interpret the line plot. | R: Choose a title for a line plot and label the units.   | SMMA_LO_01643 |
| 4.MDA.6     | Measure and draw angles in whole number degrees using a protractor.   | Given the measure of an angle (initial side at 0 degrees, measure 10 to 180 degrees).  | SMMA_LO_00631 |
|             |   | Use a protractor to measure an angle.  | SMMA_LO_00636 |
|             |   | Measure an angle using the appropriate protractor.   | SMMA_LO_00646 |
|             |   | Use a protractor to measure an angle in a triangle or quadrilateral; then find the sum of all the angles in the figure.  | SMMA_LO_00650 |
|             |   | Measure complementary or supplementary angles and find the sum of the angle measures.  | SMMA_LO_00661 |
|             |   | Measure angles in degrees using a protractor.  | SMMA_LO_00663 |
|             |   | R: Select the appropriate protractor to measure an angle.  | SMMA_LO_00644 |
|             |   | R: Identify the better estimate for an angle measure.  | SMMA_LO_00657 |

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| 4.MDA.7     | Solve addition and subtraction problems to find unknown angles in real-world and mathematical problems.                                | Use a protractor to measure an angle in a triangle or quadrilateral; then find the sum of all the angles in the figure.         | SMMA_LO_00650 |
| 4.MDA.8     | Determine the value of a collection of coins and bills greater than \$1.00.  | Solve an addition problem by finding the total cost of two items (prices expressed as decimals, total < \$0.50, no regrouping). | SMMA_LO_00181 |
|             |  | Write the value of a set of dimes in dollar form (\$1.10 to \$3.90).  | SMMA_LO_00183 |
|             |  | Show a decimal money amount in dollars and coins (\$1.00 to \$5.00).  | SMMA_LO_00774 |
|             |  | Write the value of a set of coins as a decimal amount (\$1.00 to \$3.20).   | SMMA_LO_00784 |
|             |  | Find the total value of a group of quarters, dimes, nickels, and pennies (sums to \$1.65).                                      | SMMA_LO_01611 |
| 4.NSBT.1    | Understand that, in a multi-digit whole number, a digit represents ten times what the same digit represents in the place to its right. | Identify the value of a given digit in a four-digit number.   | SMMA_LO_01062 |
| 4.NSBT.2    | Recognize math periods and number patterns within each period to read and write in standard form large numbers through 999,999,999.    | Identify a number with a given digit in the thousands to hundred millions place.  | SMMA_LO_01064 |
|             |  | Enter each individual digit in a place-value chart for a five- to nine-digit number given the name of the number.               | SMMA_LO_01075 |
|             |  | Identify the digits in the period (hundreds, thousands, millions, and billions).  | SMMA_LO_01083 |
| 4.NSBT.3    | Use rounding as one form of estimation and round whole numbers to any given place value.   | Round four- to five-digit numbers in context (to the nearest thousand).   | SMMA_LO_01106 |
|             |  | Estimate the sum by rounding to the nearest hundred (three-digit addends).  | SMMA_LO_01621 |
|             |  | R: Identify the multiple of 5 that is closest to a given number.  | SMMA_LO_01005 |
|             |  | R: Identify the multiple of 5 that is closer to a number (25 to 94).  | SMMA_LO_01006 |
| 4.NSBT.4    | Fluently add and subtract multi-digit whole numbers using strategies to include a standard algorithm.                                  | Add two addends (student choice, three-digit addends, sums 1000 to 1899, regrouping).   | SMMA_LO_00077 |
|             |  | Add two addends (student choice, three-digit addends, sums 1010 to 1898, regrouping).   | SMMA_LO_00091 |
|             |  | Add two addends (student choice, three-digit addends, sums 1000 to 1989, regrouping).   | SMMA_LO_00093 |
|             |  | Add two addends (student choice, three-digit addends, sums 1000 to 1998, regrouping in all places).                             | SMMA_LO_00096 |
|             |  | Add three addends (student choice, a two-digit and 2 three-digit addends, sums 211 to 2097, regrouping in all places).          | SMMA_LO_00097 |
|             |  | Add three addends (student choice, three-digit addends, sums 311 to 2997, regrouping in all places).                            | SMMA_LO_00098 |
|             |  | Add two addends (student choice, a three-digit and a four-digit addends, sums 1111 to 10998, regrouping in all places).         | SMMA_LO_00099 |
|             |  | Add two addends (student choice, four-digit addends, sums 2111 to 19998, regrouping in all places).                             | SMMA_LO_00100 |

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| 4.NSBT.4   | Fluently add and subtract multi-digit whole numbers using strategies to include a standard algorithm. | Use logical reasoning to complete an addition puzzle with two three-digit addends.   | SMMA_LO_01261  |
|  |   | Subtract a three-digit number from a four-digit number (regrouping from the tens place).   | SMMA_LO_01493  |
|  |   | Subtract a three-digit number from a four-digit number (regrouping from the tens and thousands places).  | SMMA_LO_01494  |
|  |   | Subtract a three-digit number from a four-digit number (regrouping from the tens and thousands places).  | SMMA_LO_01495  |
|  |   | Subtract a three-digit number from a four-digit number (regrouping from the tens and hundreds places).   | SMMA_LO_01496  |
|  |   | Subtract a three-digit number from a four-digit number (regrouping from the tens and hundreds places).   | SMMA_LO_01497  |
|  |   | Find the difference of two whole numbers (student choice, four-digit numbers, regrouping from tens and hundreds places).                         | SMMA_LO_01498  |
|  |   | Subtract a three-digit number from a four-digit number (student choice, regrouping from tens, hundreds, and thousands places).                   | SMMA_LO_01499  |
|  |   | Subtract a three-digit number from a four-digit number (student choice, regrouping from tens, hundreds, and thousands places).                   | SMMA_LO_01500  |
|  |   | Find the difference of two whole numbers (student choice, four-digit numbers, regrouping from tens and thousands places).                        | SMMA_LO_01501  |
|  |   | Subtract across zero (student choice, four-digit minuends with a 0 in the tens place, regrouping from the tens, hundreds, and thousands places). | SMMA_LO_01502  |
|  |   | Subtract across zero (student choice, four-digit minuends with a 0 in the tens place, regrouping from the tens, hundreds, and thousands places). | SMMA_LO_01503  |
|  |   | Find the difference of two whole numbers (student choice, four-digit numbers, regrouping from tens, hundreds, and thousands places).             | SMMA_LO_01504  |
|  |   | 4.NSBT.5   | Multiply up to a four-digit number by a one-digit number and multiply a two-digit number by a two-digit number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using rectangular arrays, area models and/or equations. |
| Multiply whole numbers (student choice, products $10 \times 2$ to $15 \times 5$ ). | SMMA_LO_00870   |  |  |
| Multiply whole numbers (products $10 \times 2$ to $12 \times 12$ ).                | SMMA_LO_00871   |  |  |
| Multiply whole numbers (student choice, products $16 \times 2$ to $19 \times 5$ ). | SMMA_LO_00872   |  |  |
| Multiply whole numbers (student choice, products $10 \times 6$ to $15 \times 9$ ). | SMMA_LO_00874   |  |  |
| Multiply whole numbers (products $2 \times 12$ to $12 \times 12$ ).                | SMMA_LO_00875   |  |  |

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| 4.NSBT.5   | Multiply up to a four-digit number by a one-digit number and multiply a two-digit number by a two-digit number using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using rectangular arrays, area models and/or equations. | Multiply whole numbers (student choice, products 16 x 6 to 19 x 9).                               | SMMA_LO_00876 |
|  |  | Multiply whole numbers (student choice, products 21 x 2 to 99 x 9).                               | SMMA_LO_00880 |
|  |  | Multiply whole numbers (student choice, products 100 x 2 to 990 x 9, multiples of 10).            | SMMA_LO_00882 |
|  |  | Multiply whole numbers (student choice, products 10 x 10 to 15 x 90, multiples of 10).            | SMMA_LO_00884 |
|  |  | Multiply whole numbers (student choice, products 101 x 2 to 999 x 9).                             | SMMA_LO_00886 |
|  |  | Multiply whole numbers (products 20 x 20 to 90 x 90, multiples of 10).                            | SMMA_LO_00889 |
|  |  | Multiply whole numbers (student choice, products 1000 x 2 to 9999 x 9).                           | SMMA_LO_00892 |
|  |  | Find the missing factor (products 20 x 20 to 90 x 90, multiples of 10).                           | SMMA_LO_00893 |
|  |  | Multiply whole numbers (products 13 x 1 to 19 x 5).   | SMMA_LO_00894 |
|  |  | Multiply whole numbers (products 12 x 6 to 19 x 9).   | SMMA_LO_00896 |
|  |  | Multiply whole numbers (student choice, products 11 x 11 to 15 x 99).                             | SMMA_LO_00899 |
|  |  | Multiply whole numbers (student choice, products 16 x 11 to 19 x 99).                             | SMMA_LO_00901 |
|  |  | Estimate the product by rounding the second factor.   | SMMA_LO_01603 |
|  |  | Identify equivalent arrays with different factors (two-digit factors).                            | SMMA_LO_01733 |
| Use an area model to solve a multiplication problem (two-digit factors). | SMMA_LO_01734  |   |               |
| 4.NSBT.6   | Divide up to a four-digit dividend by a one-digit divisor using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.  | Divide using the long division algorithm (one-digit divisor, no remainder).                       | SMMA_LO_00290 |
|  |  | Divide using the long division algorithm (one-digit divisor, remainder).                          | SMMA_LO_00292 |
|  |  | Divide using the long division algorithm (one-digit divisor, no remainder).                       | SMMA_LO_00294 |
|  |  | Divide using the long division algorithm (one-digit divisor, remainder).                          | SMMA_LO_00295 |
|  |  | Divide using the long division algorithm (three-digit dividend, one-digit divisor, no remainder). | SMMA_LO_00296 |
|  |  | Divide using the long division algorithm (three-digit dividend, one-digit divisor, remainder).    | SMMA_LO_00297 |
|  |  | Divide using the long division algorithm (three-digit dividend, one-digit divisor, remainder).    | SMMA_LO_00298 |
|  |  | Divide using the long division algorithm (four-digit dividend, one-digit divisor, remainder).     | SMMA_LO_00300 |
|  |  | Find the quotient of b divided by a (combinations 6 x 13 to 9 x 19).                              | SMMA_LO_00312 |
|  |  | R: Estimate the quotient to the nearest ten (three-digit dividends, one-digit divisors).          | SMMA_LO_00314 |

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| SC Standard   | SC Standard Text  | Item Description  | Item ID   |  |               |
|---|---|---|---|--|---------------|
| 4.NSF.1   | Explain why a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100), $a/b$ , is equivalent to a fraction, $n \times a / n \times b$ , by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. | Find the missing numerator or denominator in an equivalent fraction (simplified fractions $1/2$ to $3/4$ ). | SMMA_LO_00451   |  |               |
|   |   | Find the missing numerator or denominator in an equivalent fraction (simplified fractions $1/2$ to $7/8$ ). | SMMA_LO_00453   |  |               |
|   |   | Determine if a fraction can be simplified; simplify if possible (simplified fractions $1/2$ to $7/8$ ).     | SMMA_LO_00454   |  |               |
|   |   | Write a fraction in simplest form (simplified fractions $1/2$ to $7/8$ ).                                   | SMMA_LO_00455   |  |               |
|   |   | Determine if a fraction can be simplified; simplify if possible (simplified fractions $1/2$ to $7/8$ ).     | SMMA_LO_00456   |  |               |
|   |   | Find an equivalent fraction of a simplified fraction (simplified fractions $1/2$ to $8/9$ ).                | SMMA_LO_00457   |  |               |
|   |   | Find three equivalent fractions (simplified fractions $1/2$ to $8/9$ ).                                     | SMMA_LO_00458   |  |               |
|   |   | Identify the figures with the equivalent fractional parts shaded.   | SMMA_LO_00483   |  |               |
|   |   | Generate a table of equivalent fractions for a fraction in simplest form.                                   | SMMA_LO_01791   |  |               |
|   |   | Generate a table of equivalent fractions for a fraction not in simplest form.                               | SMMA_LO_01792   |  |               |
|   |   | Identify the fraction equivalent to the given fraction.   | SMMA_LO_01793   |  |               |
|   |   | 4.NSF.2   | Compare two given fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$ and represent the comparison using the symbols $>$ , $=$ , or $<$ . | Use a model to compare two fractions (halves to eighths, unlike denominators). | SMMA_LO_00429 |
|   |   |   |   | Compare fractions to 1 on the number line (halves to eighths).                 | SMMA_LO_00432 |
| Using models, compare fractions (unlike denominators, halves to sixteenths).                          | SMMA_LO_00436   |   |   |  |               |
| Identify the fraction that is greater than a given fraction (unlike denominators, halves to eighths). | SMMA_LO_00437   |   |   |  |               |
| Using models, compare fractions (unlike denominators, halves to eighths).                             | SMMA_LO_00438   |   |   |  |               |
| Order three fractions from least to greatest (unlike denominators, halves to twelfths).               | SMMA_LO_00440   |   |   |  |               |
| Compare fractions to 1 (halves to sixteenths).  | SMMA_LO_00448   |   |   |  |               |
| Compare fractions (unlike denominators).  | SMMA_LO_00462   |   |   |  |               |
| Identify the greatest or least fraction in a problem (unlike denominators).                           | SMMA_LO_00482   |   |   |  |               |
| Compare fractions (unlike denominators).  | SMMA_LO_00495   |   |   |  |               |
| Identify a list of fractions that is ordered from least to greatest.                                  | SMMA_LO_00497   |   |   |  |               |
| Identify the fraction that is between two fractions.  | SMMA_LO_00503   |   |   |  |               |
| R: Determine the least common denominator of two fractions.   | SMMA_LO_00493   |   |   |  |               |
| Determine the equivalent fractions using the least common denominator of two given fractions.         | SMMA_LO_00494   |   |   |  |               |

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| SC Standard | SC Standard Text  | Item Description   | Item ID       |
|-------------|---|--|---------------|
| 4.NSF.3a    | Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions. Compose and decompose a fraction in more than one way, recording each composition and decomposition as an addition or subtraction equation. | Using a model, rewrite a whole number as a fraction (halves to eighths).   | SMMA_LO_00443 |
|             |   | Rewrite a fraction as a mixed number (halves to eighths).  | SMMA_LO_00449 |
|             |   | Determine addition expressions that are equivalent to a given fraction.  | SMMA_LO_02146 |
| 4.NSF.3b    | Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions. Add and subtract mixed numbers with like denominators.  | Using models, add fractions, no simplifying (like denominators, thirds to eighths).  | SMMA_LO_00441 |
|             |   | Using models, subtract fractions, no simplifying (like denominators, halves to eighths).   | SMMA_LO_00442 |
|             |   | Identify the difference when a fraction is subtracted from 1 (fourths to twelfths).  | SMMA_LO_00445 |
|             |   | Add mixed numbers; no simplifying (like denominators, thirds to twelfths).   | SMMA_LO_00460 |
|             |   | Subtract mixed numbers; no simplifying (like denominators, thirds to twelfths).  | SMMA_LO_00461 |
|             |   | Add mixed numbers; simplify if necessary (like denominators, halves to sixteenths).  | SMMA_LO_00463 |
|             |   | Add mixed numbers within a context; simplify if necessary (like denominators).   | SMMA_LO_00480 |
|             |   | Subtract mixed numbers in context; simplify if necessary (like denominators).  | SMMA_LO_00481 |
|             |   | Subtract mixed numbers; simplify if necessary (like denominators).   | SMMA_LO_00485 |
|             |   | Add mixed numbers with like denominators in context; simplify if necessary.  | SMMA_LO_01624 |
| 4.NSF.3c    | Develop an understanding of addition and subtraction of fractions (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100) based on unit fractions. Solve real-world problems involving addition and subtraction of fractions referring to the same whole and having like denominators.         | Add mixed numbers within a context; simplify if necessary (like denominators).   | SMMA_LO_00480 |
|             |   | Subtract mixed numbers in context; simplify if necessary (like denominators).  | SMMA_LO_00481 |
|             |   | Add mixed numbers with like denominators in context; simplify if necessary.  | SMMA_LO_01624 |
|             |   | Add fractions with like denominators (no simplifying).   | SMMA_LO_01709 |
|             |   | Use a model and an equation to solve word problems involving the addition of fractions with like denominators.                   | SMMA_LO_02004 |
|             |   | Use a model and an equation to solve word problems involving the subtraction of fractions with like denominators.                | SMMA_LO_02016 |
| 4.NSF.4a    | Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100). Understand a fraction $a/b$ as a multiple of $1/b$ .   | Use fraction models to relate a fraction to a whole number times a unit fraction. Then, write an equation for this relationship. | SMMA_LO_02005 |

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|-------------|--|---|---------------|
| 4.NSF.4b    | Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100). Understand a multiple of $a/b$ as a multiple of $1/b$ , and use this understanding to multiply a fraction by a whole number.                                  | Use fraction models to rewrite the product of a whole number and a fraction as the product of a whole number and a unit fraction. Then, find the product. | SMMA_LO_02006 |
| 4.NSF.4c    | Apply and extend an understanding of multiplication by multiplying a whole number and a fraction (i.e., denominators 2, 3, 4, 5, 6, 8, 10, 12, 25, 100). Solve real-world problems involving multiplication of a fraction by a whole number (i.e., use visual fraction models and equations to represent the problem). | Determine the sale price of an item when the price is reduced by one-half, one-third, or one-fourth.  | SMMA_LO_01285 |
|             |  | R: Identify the picture that shows one number is one-half of another number.  | SMMA_LO_00418 |
|             |  | R: Using pictures, find a fractional amount of a whole number (product of halves to fourths and 2 to 16).   | SMMA_LO_00428 |
| 4.NSF.5     | Express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 and use this technique to add two fractions with respective denominators of 10 and 100.  | Express a fraction with denominator 10 as an equivalent fraction with denominator 100. Then, add that fraction to another fraction with denominator 100.  | SMMA_LO_02007 |
| 4.NSF.6     | Write a fraction with a denominator of 10 or 100 using decimal notation, and read and write a decimal number as a fraction.  | Match a fraction to a decimal (tenths, 0.1 to 0.9).   | SMMA_LO_00184 |
|             |  | Determine the fraction and decimal that represent a model (base-ten blocks, tenths, 0.1 to 0.9).  | SMMA_LO_00185 |
|             |  | Enter a decimal number for a mixed number (tenths, 1.1 to 9.9).   | SMMA_LO_00187 |
|             |  | Enter the decimal equivalent for a mixed number (hundredths, 0.10 to 9.99).   | SMMA_LO_00205 |
|             |  | Determine the equivalent fraction for a decimal (the denominator is a factor of 100).   | SMMA_LO_00259 |
| 4.NSF.7     | Compare and order decimal numbers to hundredths, and justify using concrete and visual models.   | Compare decimal numbers (0.1 to 9.9).   | SMMA_LO_00191 |
|             |  | Order three decimal numbers (tenths to hundredths).   | SMMA_LO_00218 |
|             |  | R: Mark the point on a number line that represents a decimal number (0.1 to 0.9).   | SMMA_LO_00186 |
|             |  | R: Find the missing decimal number on a number line (tenths, 0.1 to 0.9).   | SMMA_LO_00188 |
|             |  | R: Compare two decimal numbers (10.01 to 99.99).  | SMMA_LO_00216 |
|             |  | R: Graph and interpret rainfall data in a chart.  | SMMA_LO_01328 |
| 5.ATO.1     | Evaluate numerical expressions involving grouping symbols (i.e., parentheses, brackets, braces).   | Evaluate an expression using the order of operations.   | SMMA_LO_01091 |
| 5.ATO.3     | Investigate the relationship between two numerical patterns.   | Describe the relationship between two sets of numbers in a relation or function using subtraction (minuends 30 to 50, subtrahends 2 to 5).                | SMMA_LO_01654 |

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| SC Standard             | SC Standard Text  | Item Description   | Item ID       |
|-------------------------|---|--|---------------|
| 5.G.1b                  | Define a coordinate system. Any point on the coordinate plane can be represented by its coordinates.  | Identify a point on a grid given an ordered pair, or identify the ordered pair for a point shown on the grid.    | SMMA_LO_01057 |
|                         |   | Find the coordinates for a point on a grid.  | SMMA_LO_01077 |
|                         |   | Identify a point on a coordinate grid given the ordered pair.  | SMMA_LO_01092 |
| 5.G.1c                  | Define a coordinate system. The first number in an ordered pair is the x-coordinate and represents the horizontal distance from the origin. | Identify a point on a grid given an ordered pair, or identify the ordered pair for a point shown on the grid.    | SMMA_LO_01057 |
|                         |   | Find the coordinates for a point on a grid.  | SMMA_LO_01077 |
|                         |   | Identify a point on a coordinate grid given the ordered pair.  | SMMA_LO_01092 |
| 5.G.1d                  | Define a coordinate system. The second number in an ordered pair is the y-coordinate and represents the vertical distance from the origin.  | Identify a point on a grid given an ordered pair, or identify the ordered pair for a point shown on the grid.    | SMMA_LO_01057 |
|                         |   | Find the coordinates for a point on a grid.  | SMMA_LO_01077 |
|                         |   | Identify a point on a coordinate grid given the ordered pair.  | SMMA_LO_01092 |
| 5.G.2                   | Plot and interpret points in the first quadrant of the coordinate plane to represent real-world and mathematical situations.                | Identify a point on a coordinate grid given the ordered pair.  | SMMA_LO_01092 |
|                         |   | Find the amount of increase or decrease between two points in a line graph.                                      | SMMA_LO_01178 |
|                         |   | Read and interpret a line graph.   | SMMA_LO_01206 |
|                         |   | Interpret a line graph with time and temperature data, and add a point to line graph.                            | SMMA_LO_01324 |
|                         |   | Given the survival needs for a bug, interpret a line graph with time and temperature data.                       | SMMA_LO_01325 |
|                         |   | Graph a point on a coordinate grid (Quadrant I).   | SMMA_LO_01735 |
|                         |   | Graph a set of ordered pairs from a table on a coordinate plane (Quadrant I).                                    | SMMA_LO_01808 |
|                         |   | R: Identify a point on a grid given an ordered pair, or identify the ordered pair for a point shown on the grid. | SMMA_LO_01057 |
|                         |   | R: Find the coordinates for a point on a grid.   | SMMA_LO_01077 |
|                         |   | R: Create a line graph using data from a table.  | SMMA_LO_01697 |
| R: Create a line graph. | SMMA_LO_01771   |  |               |
| 5.G.4                   | Classify two-dimensional figures in a hierarchy based on their attributes.  | Identify the regular polygons.   | SMMA_LO_00651 |
|                         |   | Identify acute, obtuse, and right triangles.   | SMMA_LO_00655 |
|                         |   | Identify the true statement about a relationship among quadrilaterals.   | SMMA_LO_00656 |
|                         |   | Identify equilateral, isosceles, and scalene triangles.  | SMMA_LO_00658 |
|                         |   | Classify and sort two-dimensional geometric figures by properties and attributes.                                | SMMA_LO_01728 |
|                         |   | Identify all triangles of a particular class (acute, right, or obtuse).  | SMMA_LO_01774 |

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| SC Standard | SC Standard Text  | Item Description   | Item ID       |
|-------------|---|--|---------------|
| 5.MDA.1     | Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.  | Add metric measurements with unlike units and express the sum in terms of the larger unit.   | SMMA_LO_00172 |
|             |   | Convert customary units of length (inches, feet, and yards).   | SMMA_LO_00791 |
|             |   | Convert customary units of capacity (cups, pints, quarts, and gallons).  | SMMA_LO_00796 |
|             |   | Convert between customary units of weight (ounces and pounds).   | SMMA_LO_00797 |
|             |   | Convert metric units of length (mm, cm, m, and km; whole numbers).   | SMMA_LO_00814 |
| 5.MDA.3a    | Understand the concept of volume measurement. Recognize volume as an attribute of right rectangular prisms.   | Identify a unit cube and what attribute it is used to measure.   | SMMA_LO_02041 |
| 5.MDA.3b    | Understand the concept of volume measurement. Relate volume measurement to the operations of multiplication and addition by packing right rectangular prisms and then counting the layers of standard unit cubes.                     | Find the volume of a rectangular solid by counting cubes.  | SMMA_LO_00829 |
|             |   | Find the volume of a rectangular solid by counting cubes.  | SMMA_LO_00833 |
|             |   | Find the volume of a prism by packing the prism with unit cubes.   | SMMA_LO_02042 |
| 5.MDA.3c    | Understand the concept of volume measurement. Determine the volume of right rectangular prisms using the formula derived from packing right rectangular prisms and counting the layers of standard unit cubes.                        | Determine the volume of a box given the height, width, and length (60 to 480 customary or metric cubic units).                               | SMMA_LO_00174 |
|             |   | Compute the volume of right rectangular prisms using formulas.   | SMMA_LO_02043 |
| 5.MDA.4     | Differentiate among perimeter, area and volume and identify which application is appropriate for a given situation.   | Determine if the perimeter, area, or volume is needed to solve the problem.  | SMMA_LO_00826 |
| 5.NSBT.1    | Understand that, in a multi-digit whole number, a digit in one place represents 10 times what the same digit represents in the place to its right, and represents 1/10 times what the same digit represents in the place to its left. | Identify the place and the value of a digit in a number; for that value, identify the number 10 times as much and the number 1/10 as much.   | SMMA_LO_02045 |
| 5.NSBT.2a   | Use whole number exponents to explain patterns in the number of zeroes of the product when multiplying a number by powers of 10.  | Explain patterns in the number of zeros of the product and in the placement of the decimal point when multiplying a number by powers of ten. | SMMA_LO_02046 |
|             |   | R: Multiply whole numbers (multiples of 10 or 100).  | SMMA_LO_00911 |
| 5.NSBT.2b   | Use whole number exponents to explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.  | Explain patterns in the number of zeros of the product and in the placement of the decimal point when multiplying a number by powers of ten. | SMMA_LO_02046 |

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| SC Standard | SC Standard Text   | Item Description   | Item ID   |
|-------------|--|--|---|
| 5.NSBT.3    | Read and write decimals in standard and expanded form. Compare two decimal numbers to the thousandths using the symbols $>$ , $=$ , or $<$ . | Match the word name with the decimal number (0.10 to 9.99).  | SMMA_LO_00204   |
|             |  | Match a decimal number to an equivalent fraction (tenths to thousandths).                              | SMMA_LO_00224   |
|             |  | Compare decimal numbers (to thousandths).  | SMMA_LO_00225   |
|             |  | Match a decimal number to its word name (to thousandths).  | SMMA_LO_00227   |
|             |  | Order three decimals from least to greatest (to thousandths).  | SMMA_LO_00236   |
|             |  | Identify the place value of a digit in a decimal number (tenths to ten thousandths).                   | SMMA_LO_00241   |
|             |  | Identify the symbol ( $<$ or $>$ ) needed to complete the inequality.                                  | SMMA_LO_00254   |
|             |  | Enter a decimal number in a place-value chart (tenths to thousandths).                                 | SMMA_LO_01089   |
|             |  | Identify a list of decimal numbers ordered from least to greatest.                                     | SMMA_LO_01103   |
|             |  | R: Identify the decimal number with a 0 to 9 in the tenths or hundredths place.                        | SMMA_LO_00202   |
|             |  | R: Enter a decimal number on a number line (1.11 to 9.89).   | SMMA_LO_00213   |
|             |  | R: Find the missing decimal number on a number line (1.0 to 9.89).                                     | SMMA_LO_00215   |
|             |  | R: Match a decimal number to a model (thousandths).  | SMMA_LO_00242   |
|             |  | 5.NSBT.4   | Round decimals to any given place value within thousandths. |
| 5.NSBT.5    | Fluently multiply multi-digit whole numbers using strategies to include a standard algorithm.  | Multiply whole numbers (products 10,000 $\times$ 2 to 99,999 $\times$ 9).                              | SMMA_LO_00900   |
|             |  | Multiply whole numbers (student choice, products 100 $\times$ 20 to 990 $\times$ 90, multiples of 10). | SMMA_LO_00902   |
|             |  | Multiply whole numbers (student choice, products 21 $\times$ 11 to 99 $\times$ 99).                    | SMMA_LO_00903   |
|             |  | Multiply whole numbers (student choice, products 101 $\times$ 20 to 999 $\times$ 90, multiples of 10). | SMMA_LO_00904   |
|             |  | Multiply whole numbers (student choice, products 100 $\times$ 21 to 990 $\times$ 90, multiples of 10). | SMMA_LO_00905   |
|             |  | Multiply (student choice, products 1000 $\times$ 20 to 9999 $\times$ 90, multiples of 10).             | SMMA_LO_00906   |
|             |  | Multiply whole numbers (student choice, products 101 $\times$ 21 to 999 $\times$ 99).                  | SMMA_LO_00907   |
|             |  | Multiply by a multiple of 10 (student choice, 10,000 $\times$ 20 to 99,999 $\times$ 90).               | SMMA_LO_00908   |
|             |  | Multiply whole numbers (student choice, products 1000 $\times$ 21 to 9999 $\times$ 99).                | SMMA_LO_00909   |
|             |  | Multiply whole numbers (student choice, 10,000 $\times$ 21 to 99,999 $\times$ 99).                     | SMMA_LO_00910   |
|             |  | Estimate the product of two numbers (factors 101 to 949).  | SMMA_LO_00912   |
|             |  | Multiply one- to five-digit whole numbers by powers of ten (10 to 100,000).                            | SMMA_LO_01078   |

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|-------------------------------------|---|---|---------------|
| 5.NSBT.5                            | Fluently multiply multi-digit whole numbers using strategies to include a standard algorithm.   | Estimate the product of three factors (1,000 to 350,000).   | SMMA_LO_01099 |
|                                     |   | Estimate the product by rounding each factor.   | SMMA_LO_01622 |
| 5.NSBT.6                            | Divide up to a four-digit dividend by a two-digit divisor, using strategies based on place value, the properties of operations, and the relationship between multiplication and division. | Divide (combinations 2 x 20 to 5 x 90).   | SMMA_LO_00291 |
|                                     |   | Divide (combinations 6 x 20 to 9 x 90).   | SMMA_LO_00293 |
|                                     |   | Multiply multiples of 10 using mental math (20 x 20 to 90 x 90).  | SMMA_LO_00299 |
|                                     |   | Find the missing dividend or divisor (combinations 20 x 20 to 90 x 90).   | SMMA_LO_00303 |
|                                     |   | R: Choose the best estimate for a long division problem (three-digit dividends, two-digit divisors).                | SMMA_LO_00315 |
|                                     |   | R: Estimate the sum, difference, product or quotient to solve a problem in context (round to the nearest thousand). | SMMA_LO_01109 |
| 5.NSBT.7                            | Add, subtract, multiply, and divide decimal numbers to hundredths using concrete area models and drawings.  | Subtract metric length or weight measurements expressed as decimals (to tenths, difference 1.2 to 8.9, regrouping). | SMMA_LO_00159 |
|                                     |   | Add decimals using addition facts (sums 0.02-0.99).   | SMMA_LO_00206 |
|                                     |   | Subtract decimals numbers (minuends and subtrahends 0.01 to 9.99).  | SMMA_LO_00207 |
|                                     |   | Subtract money amounts (sums less than \$17.00, regrouping).  | SMMA_LO_00208 |
|                                     |   | Add or subtract decimals using mental math (sums less than 1.00, with or without regrouping).                       | SMMA_LO_00210 |
|                                     |   | Align the decimal numbers in a vertical addition problem; then solve (hundredths, regrouping).                      | SMMA_LO_00211 |
|                                     |   | Align the decimal numbers in a vertical subtraction problem; then solve (hundredths, regrouping).                   | SMMA_LO_00212 |
|                                     |   | Subtract money amounts (sums less than \$50.00, regrouping).  | SMMA_LO_00214 |
|                                     |   | Add decimals numbers using mental math (sums 1.0 to 99.8, regrouping).  | SMMA_LO_00217 |
|                                     |   | Find the missing factor and quotient in two related number sentences (products 0.2 x 2 to 0.9 x 5).                 | SMMA_LO_00219 |
|                                     |   | Find the missing decimal number on a number line; then count by multiples of tenths to find the product.            | SMMA_LO_00220 |
|                                     |   | Multiply a decimal and a whole number displayed horizontally (0.02 x 2 to 0.09 x 5).                                | SMMA_LO_00221 |
|                                     |   | Multiply two decimals or multiply a decimal by a whole number (tenths to hundredths).                               | SMMA_LO_00223 |
|                                     |   | Multiply decimals displayed horizontally (0.2 x 0.6 to 0.9 x 0.12).   | SMMA_LO_00232 |
|                                     |   | Multiply decimals by 10, 100, or 1000.  | SMMA_LO_00235 |
|                                     |   | Divide a decimal by a decimal (horizontal division; dividends to tenths).   | SMMA_LO_00237 |
| Divide a decimal by a whole number. | SMMA_LO_00239   |   |               |

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|-------------|--|--|---------------|
| 5.NSBT.7    | Add, subtract, multiply, and divide decimal numbers to hundredths using concrete area models and drawings. | Determine the missing factor in the multiplication number sentence (decimals, to ten-thousandths).                             | SMMA_LO_00240 |
|             |  | Divide decimals (0.3 x 0.3 to 0.9 x 0.09).   | SMMA_LO_00245 |
|             |  | Divide decimals (0 x 2 to 2 x 5).  | SMMA_LO_00251 |
|             |  | Multiply a whole number or a decimal by 0.1, 0.01, or 0.001.   | SMMA_LO_00252 |
|             |  | Find the missing decimal number in a pattern.  | SMMA_LO_00253 |
|             |  | Divide a decimal by 0.1, 0.01, or 0.001.   | SMMA_LO_00263 |
|             |  | Divide a decimal by 0.1, 0.01, or 0.001 (dividends 0.001 to 0.999).  | SMMA_LO_00267 |
|             |  | Find the perimeter of a polygon (decimal numbers, metric units).   | SMMA_LO_00790 |
|             |  | Find the perimeter of a polygon (decimal numbers, metric units).   | SMMA_LO_00805 |
|             |  | Measure the amount of rainfall for the week; then complete the chart and determine the total amount of rainfall for the month. | SMMA_LO_01327 |
|             |  | Find the number of dollar bills needed to buy two to four items (each \$1.79 to \$3.99 each).                                  | SMMA_LO_01629 |
|             |  | Identify the rule for an iterative pattern.  | SMMA_LO_01840 |
|             |  | R: Add two decimal numbers (tenths, sums 1.0 to 2.0, regrouping).  | SMMA_LO_00192 |
|             |  | R: Add two decimal numbers using mental math (sums 1.1 to 9.9, no regrouping).   | SMMA_LO_00193 |
|             |  | R: Subtract decimal numbers using mental math (minuends and subtrahends 0.1 to 9.9, no regrouping).                            | SMMA_LO_00195 |
|             |  | R: Add two decimal numbers using mental math (sums 10.1 to 99.9, no regrouping).   | SMMA_LO_00196 |
|             |  | R: Subtract decimal numbers using mental math (minuends and subtrahends 10.1 to 99.9, no regrouping).                          | SMMA_LO_00197 |
|             |  | R: Subtract decimal numbers (minuends 2.0 to 9.9, subtrahends 0.1 to 0.9, regrouping).   | SMMA_LO_00198 |
|             |  | R: Add decimal numbers (sums less than 10.0, regrouping).  | SMMA_LO_00199 |
|             |  | R: Add two decimal numbers (sums 1.0 to 98.9, regrouping).   | SMMA_LO_00201 |
|             |  | R: Subtract decimal numbers (minuends and subtrahends 0.1 to 99.9, with or without regrouping).                                | SMMA_LO_00203 |
|             |  | R: Identify the location of the decimal point of the product of two decimals (factors, tenths to hundredths).                  | SMMA_LO_00222 |
|             |  | R: Identify the best estimate of a sum, difference, or product.  | SMMA_LO_00231 |
|             |  | R: Identify the best estimate for a quotient (decimal divided by a whole number).  | SMMA_LO_00238 |
|             |  | R: Identify the probable error in a multiplication calculation with decimals.  | SMMA_LO_00250 |

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| SC Standard   | SC Standard Text  | Item Description   | Item ID   |
|---|---|--|---|
| 5.NSF.1   | Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including an area model and number line.   | Subtract a fraction from 1; simplify (halves to sixteenths).   | SMMA_LO_00464   |
|   |   | Add fractions; no simplifying (unlike denominators).   | SMMA_LO_00465   |
|   |   | Subtract fractions; no simplifying (unlike denominators).  | SMMA_LO_00466   |
|   |   | Add fractions; no simplifying (unlike denominators).   | SMMA_LO_00467   |
|   |   | Subtract fractions; no simplifying (unlike denominators).  | SMMA_LO_00468   |
|   |   | Add fractions; simplify if necessary (unlike denominators).  | SMMA_LO_00471   |
|   |   | Subtract fractions; simplify if necessary (unlike denominators).   | SMMA_LO_00472   |
|   |   | Add fractions; simplify if necessary (unlike denominators).  | SMMA_LO_00473   |
|   |   | Subtract fractions; simplify if necessary (unlike denominators).   | SMMA_LO_00474   |
|   |   | Add mixed numbers; simplify if necessary (like denominators).  | SMMA_LO_00484   |
|   |   | Add mixed numbers; simplify if necessary (unlike denominators).  | SMMA_LO_00499   |
|   |   | Subtract mixed numbers; simplify if necessary (unlike denominators).   | SMMA_LO_00500   |
|   |   | Add mixed numbers; simplify if necessary (unlike denominators).  | SMMA_LO_00504   |
|   |   | Subtract mixed numbers; simplify if necessary (unlike denominators).   | SMMA_LO_00505   |
|   |   | Add mixed numbers within a context; simplify if necessary (unlike denominators).   | SMMA_LO_00509   |
|   |   | Subtract mixed numbers within a context; simplify if necessary (unlike denominators).  | SMMA_LO_00510   |
|   |   | Add two fractional parts of whole numbers in context.  | SMMA_LO_01640   |
|   |   | 5.NSF.2  | Solve real-world problems involving addition and subtraction of fractions with unlike denominators. |
| Subtract two fractions from a whole within a context.           | SMMA_LO_01634   |  |   |
| Use addition to find an equivalent fraction for $\frac{1}{2}$ . | SMMA_LO_01706   |  |   |
| Estimate the difference of two fractions.                       | SMMA_LO_01707   |  |   |
| 5.NSF.3   | Understand the relationship between fractions and division of whole numbers by interpreting a fraction as the numerator divided by the denominator (i.e., $a/b = a \div b$ ).   | Model a division word problem that results in a rational quotient; then express the word problem with an equation.                               | SMMA_LO_02047   |
| 5.NSF.4a  | Extend the concept of multiplication to multiply a fraction or whole number by a fraction. Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths. | Find the area of a rectangle with fractional side lengths in two ways: by multiplying its side lengths and by tiling it with smaller rectangles. | SMMA_LO_02049   |

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| SC Standard | SC Standard Text   | Item Description   | Item ID       |
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| 5.NSF.4b    | Extend the concept of multiplication to multiply a fraction or whole number by a fraction. Interpret multiplication of a fraction by a whole number and a whole number by a fraction and compute the product.  | Multiply a whole number by a proper fraction; no simplifying.  | SMMA_LO_00470 |
|             |  | Multiply a fraction and a whole number; simplify.  | SMMA_LO_00477 |
|             |  | Multiply a fraction and a whole number; simplify first.  | SMMA_LO_00478 |
| 5.NSF.4c    | Extend the concept of multiplication to multiply a fraction or whole number by a fraction. Interpret multiplication in which both factors are fractions less than one and compute the product.   | Multiply fractions; no simplifying.  | SMMA_LO_00469 |
|             |  | Multiply fractions; simplify.  | SMMA_LO_00475 |
|             |  | Multiply three fractions; simplify if necessary.   | SMMA_LO_00506 |
| 5.NSF.5a    | Justify the reasonableness of a product when multiplying with fractions. Estimate the size of the product based on the size of the two factors.  | Determine whether multiplying a number by a factor results in scaling the number up or down.   | SMMA_LO_02050 |
| 5.NSF.5b    | Justify the reasonableness of a product when multiplying with fractions. Explain why multiplying a given number by a number greater than 1 (e.g., improper fractions, mixed numbers, whole numbers) results in a product larger than the given number. | Determine whether multiplying a number by a factor results in scaling the number up or down.   | SMMA_LO_02051 |
| 5.NSF.5c    | Justify the reasonableness of a product when multiplying with fractions. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.  | Determine whether multiplying a number by a factor results in scaling the number up or down.   | SMMA_LO_02051 |
| 5.NSF.6     | Solve real-world problems involving multiplication of a fraction by a fraction, improper fraction and a mixed number.  | Find the fractional part of a recipe (multiply a fraction and a mixed number).   | SMMA_LO_00835 |
|             |  | Model multiplication of a whole number by a fraction; complete an equation to show the product; interpret a real-world context that can be modeled by this equation. | SMMA_LO_02048 |
|             |  | Model the multiplication of two fractions; complete an equation to show the product; interpret a real-world context that can be modeled by this equation.            | SMMA_LO_02054 |
|             |  | R: Multiply mixed numbers; simplify if necessary.  | SMMA_LO_00501 |
| 5.NSF.7a    | Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. Interpret division of a unit fraction by a non-zero whole number and compute the quotient.                                    | Model the division of a unit fraction by a nonzero whole number, and compute the quotient.   | SMMA_LO_02052 |

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| 5.NSF.7b    | Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations. Interpret division of a whole number by a unit fraction and compute the quotient. | Divide a whole number by a fraction; simplify if necessary.  | SMMA_LO_01787 |
| 5.NSF.8     | Solve real-world problems involving division of unit fractions and whole numbers, using visual fraction models and equations.  | Use models to solve real-world problems involving division of unit fractions by nonzero whole numbers and division of whole numbers by unit fractions.       | SMMA_LO_02053 |
|             |  | Use models to solve real-world problems involving division of unit fractions by nonzero whole numbers.   | SMMA_LO_02156 |
| 6.DS.4      | Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots.   | Find the range of a set of data.   | SMMA_LO_01166 |
|             |  | Determine the range of a set of data represented in a line graph.  | SMMA_LO_01176 |
|             |  | Find the five values (upper and lower extremes, median, and upper and lower quartiles) from a set of data that are needed to create a box-and-whiskers plot. | SMMA_LO_01199 |
|             |  | Identify the box-and-whiskers plot that matches a given set of data.   | SMMA_LO_01201 |
|             |  | Identify data sets that match the data represented in a given box-and-whiskers plot.   | SMMA_LO_01202 |
|             |  | Determine the range, mean, median, and mode (one-digit numbers).   | SMMA_LO_01210 |
|             |  | Determine the range of a set of data.  | SMMA_LO_01766 |
| 6.DS.5c     | Describe numerical data sets in relation to their real-world context. Give measures of center (median, mean).  | Find the average of 3 numbers.   | SMMA_LO_00151 |
|             |  | Determine a student's grade point average based on five grades.  | SMMA_LO_00179 |
|             |  | Determine the mean of a data set of three to five customary weights or metric masses.  | SMMA_LO_00836 |
|             |  | Identify the median of a data set with an odd number of items.   | SMMA_LO_01168 |
|             |  | Identify the median of a data set with an even number of items and the two middle values are not equal.  | SMMA_LO_01170 |
|             |  | Determine the mode of a data set.  | SMMA_LO_01719 |
|             |  | Determine the median of a data set.  | SMMA_LO_01726 |
|             |  | Determine the mean of a data set.  | SMMA_LO_01727 |
|             |  | Determine the median of a set of data.   | SMMA_LO_01768 |
|             |  | R: Identify the median of a data set with an even number of items and the two middle values are equal.   | SMMA_LO_01169 |
|             |  | R: Solve a problem in context by finding the average (mean) of three to seven numbers.   | SMMA_LO_01619 |
| 6.EE.1      | Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.  | Give the value of a number (1 to 10) raised to a power (1 to 5).   | SMMA_LO_01098 |
|             |  | Match expressions with repeated factors to numbers in exponential form to create equations.  | SMMA_LO_01100 |

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|-------------|--|---|---------------|
| 6.EE1.2a    | Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers. Translate between algebraic expressions and verbal phrases that include variables.  | Identify the expression that is a translation of the written phrase.  | SMMA_LO_01759 |
|             |  | Identify the written phrase that is a translation of an expression or inequality.                             | SMMA_LO_01815 |
|             |  | Translate an expression into a written phrase (two-step).   | SMMA_LO_01816 |
|             |  | Write expressions that record operations with numbers and variables.  | SMMA_LO_02056 |
| 6.EE1.2b    | Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers. Investigate and identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and factor.  | Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient). | SMMA_LO_02057 |
| 6.EE1.2c    | Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers. Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers. | Given the value for the variable, evaluate an addition expression (sums 4 to 12).                             | SMMA_LO_01683 |
|             |  | Evaluate an expression with variables using substitution and a value chart (addition, sums to 18).            | SMMA_LO_01685 |
|             |  | Evaluate the expression $mx + c$ or $mx - c$ .  | SMMA_LO_01739 |
|             |  | Evaluate an expression within a context (multiplication).   | SMMA_LO_01740 |
|             |  | Generate a table of values given a one-step rule.   | SMMA_LO_01755 |
| 6.EE1.3     | Apply mathematical properties (e.g., commutative, associative, distributive) to generate equivalent expressions.   | Identify an equivalent expression for $a \times (b + c)$ with variables.                                      | SMMA_LO_00129 |
|             |  | Apply the properties of operations to generate equivalent expressions.  | SMMA_LO_02059 |
|             |  | Choose all expressions that are equivalent to a given expression.   | SMMA_LO_02060 |
|             |  | R: Use the commutative and associative properties of addition to find the missing number.                     | SMMA_LO_01090 |
| 6.EE1.5     | Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.   | Use substitution to determine whether a given number in a specified set makes an equation or inequality true. | SMMA_LO_02061 |
| 6.EE1.6     | Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.   | Write an expression to represent a real-world problem, using variables to represent numbers.                  | SMMA_LO_02062 |
| 6.EE1.7     | Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.   | Solve for $a$ or $b$ in $a \times b = c$ (products $6 \times 2$ to $9 \times 12$ ).                           | SMMA_LO_00357 |
|             |  | Solve for $a$ or $b$ in $a \div b = c$ (combinations $2 \div 10$ to $5 \div 12$ ).                            | SMMA_LO_00359 |
|             |  | Solve for $a$ or $b$ in $a \div b = c$ (combinations $6 \div 10$ to $9 \div 12$ ).                            | SMMA_LO_00361 |
|             |  | Solve for $a$ or $b$ in $a \times b = x$ (products $2 \times 10$ to $12 \times 12$ ).                         | SMMA_LO_00363 |

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| 6.EE1.7   | Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations. | Solve for a or b in $a \div b = c$ (combinations $6 \div 20$ to $9 \div 90$ , multiples of 10).    | SMMA_LO_00365 |
|   |  | Solve for a or b in $a \times b = x$ (products $2 \times 20$ to $12 \times 90$ , multiples of 10). | SMMA_LO_00366 |
|   |  | Solve for a or b in $a + b = c$ (decimals to tenths, no regrouping).                               | SMMA_LO_00367 |
|   |  | Solve for a or b in $a - b = c$ (decimals to tenths, regrouping).                                  | SMMA_LO_00368 |
|   |  | Solve for a or b in $a \times b = c$ (products from $0.2 \times 0.6$ to $0.9 \times 0.9$ ).        | SMMA_LO_00369 |
|   |  | Solve for a or b in $a \div b = c$ (combinations $0.6 \times 0.6$ to $0.9 \times 0.9$ ).           | SMMA_LO_00370 |
|   |  | Solve for a, b, or c in $a \times b/c = d/e$ (combinations to $12 \times 12$ ).                    | SMMA_LO_00371 |
|   |  | Solve for a or b in $a + b = c$ (decimals to hundredths).  | SMMA_LO_00373 |
|   |  | Solve for a or b in $a - b = c$ (decimals to hundredths, regrouping).                              | SMMA_LO_00374 |
|   |  | Solve for a or b in $a \times b = c$ (products from $0.02 \times 0.13$ to $0.09 \times 0.19$ ).    | SMMA_LO_00376 |
|   |  | Solve for a or b in $a \div b = c$ (up to 4-digit decimals).                                       | SMMA_LO_00378 |
|   |  | Solve for a in $a + b = c$ or $a - b = c$ in steps (whole number sums and differences 2 to 20).    | SMMA_LO_00379 |
|   |  | Solve for x in $ax = c$ in steps (products $4 \times 4$ to $9 \times 10$ ).                        | SMMA_LO_00380 |
|   |  | Complete the steps to solve for a in $a \div b = c$ (combinations $4 \times 4$ to $9 \times 10$ ). | SMMA_LO_00381 |
|   |  | Identify related multiplication and division number sentences that can be used to solve a problem. | SMMA_LO_01080 |
|   |  | Solve a one-step equation (subtraction).   | SMMA_LO_01688 |
|   |  | Solve a one-step equation (multiplication).  | SMMA_LO_01690 |
|   |  | Solve a one-step equation (division).  | SMMA_LO_01692 |
|   |  | Solve a one-step equation in context (addition, two-digit whole numbers).                          | SMMA_LO_01743 |
|   |  | Solve a one-step equation in context (subtraction, two-digit whole numbers).                       | SMMA_LO_01744 |
|   |  | Solve a one-step equation in context (division, two-digit whole numbers).                          | SMMA_LO_01745 |
|   |  | Solve a one-step equation in context (division, two-digit whole numbers).                          | SMMA_LO_01747 |
|   |  | Solve one-step equations (multiplication, fractions).  | SMMA_LO_01795 |
|   |  | Solve one-step equations (subtraction fractions).  | SMMA_LO_01796 |
|   |  | Solve a one-step equation (multiplication, decimals).  | SMMA_LO_01797 |
|   |  | Solve for a, b, or c in $a \times b/c = d/e$ (combinations to $12 \times 12$ ).                    | SMMA_LO_01798 |
| Solve a one-step equation (fractions, multiplication and division). | SMMA_LO_01847  |  |               |

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| 6.EE1.7     | Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.  | Solve a one-step equations (fractions, addition and subtraction).   | SMMA_LO_01868 |
|             |   | R: Solve a one-step equation with decimals in context (addition and subtraction).   | SMMA_LO_01799 |
|             |   | R: Identify the one-step equation that is a translation of the written phrase within a context.   | SMMA_LO_01813 |
| 6.EE1.8a    | Extend knowledge of inequalities used to compare numerical expressions to include algebraic expressions in real-world and mathematical situations. Write an inequality of the form $x > c$ or $x < c$ and graph the solution set on a number line.          | Write an inequality of the form $x > c$ or $x < c$ to represent a constraint in a real-world problem.   | SMMA_LO_02064 |
|             |   | Write an inequality of the form $x > c$ or $x < c$ to represent a constraint in a real-world problem. Then represent the solution on a number line. | SMMA_LO_02065 |
| 6.EE1.9a    | Investigate multiple representations of relationships in real-world and mathematical situations. Write an equation that models a relationship between independent and dependent variables.  | Identify an expression to describe the pattern generated by a table.  | SMMA_LO_01741 |
| 6.EE1.9b    | Investigate multiple representations of relationships in real-world and mathematical situations. Analyze the relationship between independent and dependent variables using graphs and tables.  | Identify an expression to describe the pattern generated by a table.  | SMMA_LO_01741 |
| 6.EE1.9c    | Investigate multiple representations of relationships in real-world and mathematical situations. Translate among graphs, tables, and equations.   | Identify an expression to describe the pattern generated by a table.  | SMMA_LO_01741 |
|             |   | Complete a table given a two-step rule (single-digit whole numbers).  | SMMA_LO_01750 |
|             |   | Complete a table given a two-step rule (whole numbers).   | SMMA_LO_01751 |
|             |   | Generate a table of values given a two-step rule.   | SMMA_LO_01756 |
|             |   | Complete an input/output table given a two-step rule; then plot the ordered pairs on coordinate grid.   | SMMA_LO_01758 |
|             |   | Make a table and a graph when given a rule in the form $y = ax$ or $y = x + a$ .  | SMMA_LO_02139 |
| 6.GM.1      | Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. | R: Multiply mixed numbers to determine the area of a rectangle or triangle; simplify if necessary.  | SMMA_LO_00508 |

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| 6.GM.2      | Use visual models (e.g., model by packing) to discover that the formulas for the volume of a right rectangular prism ( $V=lwh, V=Bh$ ) are the same for whole or fractional edge lengths. Apply these formulas to solve real-world and mathematical problems. | R: Identify geometric solids (prisms, pyramids, cones, or spheres).                                       | SMMA_LO_00667 |
| 6.GM.4      | Unfold three-dimensional figures into two-dimensional rectangles and triangles (nets) to find the surface area and to solve real-world and mathematical problems.   | R: Identify faces, edges, and vertices of solids.   | SMMA_LO_00632 |
|             |   | R: Count the vertices, edges, or faces of a prism or pyramid.   | SMMA_LO_00643 |
|             |   | R: Complete sentences about bases, faces, edges, and vertices of geometric solids.                        | SMMA_LO_00652 |
|             |   | R: Classify and sort three-dimensional solids based on attributes using formal geometric language.        | SMMA_LO_02138 |
| 6.NS.1      | Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations).  | Divide fractions; simplify if necessary.  | SMMA_LO_00487 |
|             |   | Divide a fraction by a mixed number; simplify if necessary.   | SMMA_LO_00491 |
|             |   | Divide a whole number by a fraction.  | SMMA_LO_00492 |
|             |   | Divide a mixed number by a whole number; simplify if necessary.   | SMMA_LO_00502 |
|             |   | Divide fractions; simplify.   | SMMA_LO_00512 |
|             |   | Divide a fraction by a fraction; simplify if necessary.   | SMMA_LO_01788 |
|             |   | Divide a mixed number by a fraction; simplify if necessary.   | SMMA_LO_01789 |
|             |   | Divide a mixed number by a mixed number; simplify if necessary.   | SMMA_LO_01790 |
| 6.NS.2      | Fluently divide multi-digit whole numbers using a standard algorithmic approach.  | Divide using the long division algorithm (three-digit number, two-digit divisor, remainder).              | SMMA_LO_00304 |
|             |   | Extend an iterative pattern.  | SMMA_LO_01754 |
|             |   | R: Estimate the quotient in a long division problem (three-digit dividend, two-digit divisor, remainder). | SMMA_LO_00301 |
| 6.NS.3      | Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach.  | Align the decimal numbers for a vertical addition problem; then solve (to thousandths).                   | SMMA_LO_00226 |
|             |   | Align the decimal numbers for a vertical subtraction problem; then solve (to thousandths).                | SMMA_LO_00228 |
|             |   | Align the decimal numbers in a vertical subtraction problem; then solve (decimals to thousandths).        | SMMA_LO_00233 |
|             |   | Multiply decimals (to thousandths x hundredths).  | SMMA_LO_00234 |
|             |   | Subtract decimals with regrouping (to ten-thousandths).   | SMMA_LO_00243 |
|             |   | Multiply decimals (to ten-thousandths x ten-thousandths).   | SMMA_LO_00244 |
|             |   | Move the decimal point in the divisor and dividend in a long division problem.                            | SMMA_LO_00247 |
|             |   | Divide a decimal by a whole number.   | SMMA_LO_00248 |

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| 6.NS.3      | Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach.  | Move the decimal point in the divisor and dividend in a long division problem; then find the quotient.  | SMMA_LO_00249 |
|             |   | Find a decimal number that is either greater than or less than two decimal numbers.   | SMMA_LO_01118 |
|             |   | Add the decimal numbers provided on a data table.   | SMMA_LO_01785 |
|             |   | Subtract the decimal numbers provided on a data table.  | SMMA_LO_01786 |
| 6.NS.4a     | Find common factors and multiples using two whole numbers. Compute the greatest common factor (GCF) of two numbers both less than or equal to 100.  | Find the greatest common factor for two to three numbers.   | SMMA_LO_01110 |
|             |   | R: Identify a common factor of two numbers (4 to 81).   | SMMA_LO_01088 |
| 6.NS.4b     | Find common factors and multiples using two whole numbers. Compute the least common multiple (LCM) of two numbers both less than or equal to 12.  | Given the prime factorization of two numbers, find the common multiple.   | SMMA_LO_01108 |
|             |   | Find the least common multiple of two or three numbers.   | SMMA_LO_01112 |
|             |   | R: Identify the common multiples for two to three numbers (2 to 20).  | SMMA_LO_01096 |
| 6.NS.5      | Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations and explain the meaning of zero in each situation.                              | Read the temperature on a thermometer to nearest degree (-10 to 10 degrees).  | SMMA_LO_00804 |
|             |   | Read and interpret data in a table to determine the time it would take for skin to freeze.  | SMMA_LO_01314 |
|             |   | Read and interpret data in a table to determine the time it would take for skin to freeze.  | SMMA_LO_01315 |
|             |   | Use positive and negative numbers together to represent quantities having opposite directions or values.  | SMMA_LO_02066 |
|             |   | R: Evaluate $-(a + b)$ , where $9 < a < 19$ , $1 < b < 9$ .   | SMMA_LO_00127 |
|             |   | R: Read a thermometer to the nearest 10 degrees (Fahrenheit).   | SMMA_LO_00768 |
| 6.NS.6a     | Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane. Understand the concept of opposite numbers, including zero, and their relative locations on the number line.                  | Evaluate the expression $-(-a)$ , where $a$ has values 1 to 99.   | SMMA_LO_01518 |
| 6.NS.6c     | Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane. Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, both axes, or the origin. | Given two points, describe how the points are related: reflected across the x-axis, reflected across the y-axis, or reflected across both axes. | SMMA_LO_02108 |

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|-------------|---|--|---------------|
| 6.NS.6d     | Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane. Plot rational numbers on number lines and ordered pairs on coordinate planes.   | Locate the missing integer on a number line (-3 to -12).                                   | SMMA_LO_00101 |
|             |   | Graph a set of ordered pairs from a table on a coordinate plane.                           | SMMA_LO_01809 |
|             |   | Graph a set of ordered pairs from a table on a coordinate plane.                           | SMMA_LO_01810 |
| 6.NS.7a     | Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers. Interpret statements using less than (<), greater than (>), and equal to (=) as relative locations on the number line.  | Determine the least or greatest integer (-10 to 10).                                       | SMMA_LO_01102 |
| 6.NS.7b     | Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers. Interpret statements using less than (<), greater than (>), and equal to (=) as relative locations on the number line.  | Complete statements of order for rational numbers in real-world contexts.                  | SMMA_LO_02110 |
|             |   | R: Compare hundredths to multiples of $\frac{1}{4}$ .                                      | SMMA_LO_00209 |
| 6.NS.7c     | Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers. Use concepts of equality and inequality to write and to explain real-world and mathematical situations.   | Compare rational numbers in real-world contexts.   | SMMA_LO_02109 |
|             |   | Complete statements of order for rational numbers in real-world contexts.                  | SMMA_LO_02110 |
| 6.NS.7d     | Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers. Understand that absolute value represents a number's distance from zero on the number line and use the absolute value of a rational number to represent real-world situations.  | Identify absolute value as a distance from zero on a number line.                          | SMMA_LO_01823 |
|             |   | Evaluate the absolute value of a number.   | SMMA_LO_01824 |
| 6.NS.7e     | Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers. Recognize the difference between comparing absolute values and ordering rational numbers. For negative rational numbers, understand that as the absolute value increases, the value of the negative number decreases. | Compare the absolute values of positive and negative quantities in a real-world situation. | SMMA_LO_02111 |
| 6.NS.8a     | Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers. Plot points in all four quadrants to represent the problem.  | Graph points on a coordinate plane based on a real-world context.                          | SMMA_LO_02112 |

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|-------------|---|---|---------------|
| 6.NS.8b     | Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers. Find the distance between two points when ordered pairs have the same x-coordinates or same y-coordinates.         | Find distances between points with the same first coordinate or the same second coordinate by using coordinates and absolute value. | SMMA_LO_02113 |
| 6.NS.8c     | Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers. Relate finding the distance between two points in a coordinate plane to absolute value using a number line.        | Find distances between points with the same first coordinate or the same second coordinate by using coordinates and absolute value. | SMMA_LO_02113 |
| 6.NS.9      | Investigate and translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Fractions should be limited to those with denominators of 2, 3, 4, 5, 8, 10, and 100.                         | Determine the decimal and percent that is represented by a model (base-ten blocks, hundredths).                                     | SMMA_LO_00256 |
|             |   | Identify equivalent representations of numbers.   | SMMA_LO_01114 |
| 6.RP.1      | Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole.  | Identify the ratio.   | SMMA_LO_01712 |
|             |   | Write a ratio in three different forms.   | SMMA_LO_01825 |
| 6.RP.2a     | Investigate relationships between ratios and rates. Translate between multiple representations of ratios (i.e., $a/b$ , $a:b$ , $a$ to $b$ , visual models).  | Identify the ratio.   | SMMA_LO_01712 |
|             |   | Write a ratio in three different forms.   | SMMA_LO_01825 |
| 6.RP.2c     | Investigate relationships between ratios and rates. Convert from rates to unit rates.   | Find the unit price of an item (products $2 \times 6$ to $25 \times 32$ ).  | SMMA_LO_00830 |
|             |   | Identify two unit rates for a given word problem.   | SMMA_LO_02114 |
| 6.RP.3a     | Apply the concepts of ratios and rates to solve real-world and mathematical problems. Create a table consisting of equivalent ratios and plot the results on the coordinate plane.  | Find missing values in a table that represents a proportional relationship, and plot the pairs of values on the coordinate plane.   | SMMA_LO_02115 |
| 6.RP.3b     | Apply the concepts of ratios and rates to solve real-world and mathematical problems. Use multiple representations, including tape diagrams, tables, double number lines, and equations, to find missing values of equivalent ratios. | Convert measurement units either by making a table or by multiplying by a unit rate.  | SMMA_LO_02117 |
| 6.RP.3c     | Apply the concepts of ratios and rates to solve real-world and mathematical problems. Use two tables to compare related ratios.   | Complete a comparison statement based on the ratios in two tables.  | SMMA_LO_02116 |

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| 6.RP.3d     | Apply the concepts of ratios and rates to solve real-world and mathematical problems. Apply concepts of unit rate to solve problems, including unit pricing and constant speed.                               | Solve time and distance problems (whole numbers).   | SMMA_LO_00842 |
|             |   | Solve a proportion problem in context.  | SMMA_LO_01284 |
|             |   | Given the rate and time, find the distance.   | SMMA_LO_01575 |
|             |   | Find the number of hours worked given the hourly rate and total earned.   | SMMA_LO_01625 |
|             |   | Find the amount of an ingredient needed to make two, three, or four times a recipe.   | SMMA_LO_01627 |
|             |   | Find the total money earned, given the number of hours worked and the hourly rate.  | SMMA_LO_01630 |
|             |   | Solve a problem in context using proportions.   | SMMA_LO_01635 |
|             |   | Convert measurement units either by making a table or by multiplying by a unit rate.  | SMMA_LO_02117 |
| 6.RP.3e     | Apply the concepts of ratios and rates to solve real-world and mathematical problems. Understand that a percentage is a rate per 100 and use this to solve problems involving wholes, parts, and percentages. | Find a percent of a money amount (\$0.80 to \$10.80).   | SMMA_LO_00270 |
|             |   | Find a percent of a number (the percent is greater than or equal to 100).   | SMMA_LO_00275 |
|             |   | Find the percent given the whole and the part.  | SMMA_LO_00276 |
|             |   | Find the whole given the percent and the part.  | SMMA_LO_00277 |
|             |   | Determine the percent (100 total items).  | SMMA_LO_01713 |
|             |   | Express a fraction as a percent (denominator is 100).   | SMMA_LO_01714 |
| 6.RP.3f     | Apply the concepts of ratios and rates to solve real-world and mathematical problems. Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).                                   | Convert measurement units either by making a table or by multiplying by a unit rate.  | SMMA_LO_02117 |
| 7.DSP.2     | Draw inferences about a population by collecting multiple random samples of the same size to investigate variability in estimates of the characteristic of interest.  | Make predictions based on a sample.   | SMMA_LO_01223 |
| 7.DSP.4     | Compare the numerical measures of center (mean, median, mode) and variability (range, interquartile range, mean absolute deviation) from two random samples to draw inferences about the populations.         | Find and compare the average variation of two sets of data.   | SMMA_LO_01221 |
| 7.DSP.5a    | Investigate the concept of probability of chance events. Determine probabilities of simple events.  | Determine whether a chronological event is certain or impossible.   | SMMA_LO_01137 |
|             |   | Given information about a current situation, classify a future event as being certain, possible, or impossible.   | SMMA_LO_01139 |
|             |   | Within the context of repeated selections without replacement from a bag containing two balls of the same color, label events as certain or impossible. | SMMA_LO_01141 |
|             |   | Given a sentence describing an observed event, label a future occurrence as certain, possible, or impossible.   | SMMA_LO_01143 |

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| 7.DSP.5a    | Investigate the concept of probability of chance events. Determine probabilities of simple events.                                    | 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 |
|             |   | Create a set of colored balls whose contents are specified by whether it is certain, possible, or impossible to select a particular color.   | SMMA_LO_01153 |
|             |   | 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 |
|             |   | Determine the probability of an event.   | SMMA_LO_01197 |
|             |   | Using a graphical representation of a bowl containing marbles of four colors, begin to apply the addition rule for computing the probabilities of inclusive classes using light and dark colored marbles.                | SMMA_LO_01203 |
|             |   | 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 name on it, compute the probability of each name being selected from a set of cards.  | SMMA_LO_01215 |
|             |   | Write a fraction to express the probability of an event.   | SMMA_LO_01667 |
| 7.DSP.5b    | Investigate the concept of probability of chance events. Understand that probability measures likelihood of a chance event occurring. | 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 |
|             |   | 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 |

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| 7.DSP.5b    | Investigate the concept of probability of chance events. Understand that probability measures likelihood of a chance event occurring.                            | 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 |
|             |  | Given a graphical representation of two urns containing different compositions of balls of two colors, select the urn in which an event is qualitatively determined to have a high probability.   | SMMA_LO_01173 |
|             |  | Given a random experiment represented graphically by a spinner, prepare an equivalent random experiment using a representation based on an urn and colored balls.   | SMMA_LO_01200 |
|             |  | Given a graphical representation of a spinner partitioned into sectors of different sizes, each containing one of several possible pictures, label events as certain or impossible or pairs of events as more, less, or equally likely. | SMMA_LO_01212 |
|             |  | Given a graphical representation of two spinners, select the spinner for which a given event has the highest probability of occurring.  | SMMA_LO_01216 |
| 7.DSP.6a    | Investigate the relationship between theoretical and experimental probabilities for simple events. Determine approximate outcomes using theoretical probability. | 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 |
| 7.DSP.6b    | Investigate the relationship between theoretical and experimental probabilities for simple events. Perform experiments that model theoretical probability.       | 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 |
| 7.DSP.6c    | Investigate the relationship between theoretical and experimental probabilities for simple events. Compare theoretical and experimental probabilities.           | 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 |
| 7.DSP.8b    | Extend the concepts of simple events to investigate compound events. Identify the outcomes in a sample space using organized lists, tables, and tree diagrams.   | 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 coordinate grid to represent outcomes of tossing a pair of number cubes, compute theoretical probability of an event defined by the sum of a pair of outcomes.  | SMMA_LO_01220 |
|             |  | R: Given a graphical representation of a spinner, count the number of possible outcomes and complete a list of all the outcomes.  | SMMA_LO_01209 |

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|--|--|--|---------------|
| 7.DSP.8c   | Extend the concepts of simple events to investigate compound events. Determine probabilities of compound events using organized lists, tables, and tree diagrams.  | Identify the probability of two independent outcomes, and then determine the probability of the combination of the two outcomes occurring simultaneously.                        | SMMA_LO_01224 |
|  |  | Given information about a situation in which items are selected from a container without replacement, label the probabilities of given outcomes in a first and second selection. | SMMA_LO_01226 |
|  |  | R: Given a graphical representation of two spinners, count all the possible outcomes for spinning each spinner once.   | SMMA_LO_01665 |
|  |  | R: Determine the number of arrangements that can be made from two groups with two items.   | SMMA_LO_01717 |
|  |  | R: Determine the arrangements that can be made with a group of two and a group of three items.   | SMMA_LO_01718 |
| 7.EEI.1  | Apply mathematical properties (e.g., commutative, associative, distributive) to simplify and to factor linear algebraic expressions with rational coefficients.  | Apply properties of operations to add two linear expressions.  | SMMA_LO_02149 |
| 7.EEI.2  | Recognize that algebraic expressions may have a variety of equivalent forms and determine an appropriate form for a given real-world situation.  | Rewrite an expression from context by factoring and combining like terms.  | SMMA_LO_02150 |
|  |  | R: Identify the equivalent expression for a fraction, whole number, or a mixed numbers being divided by a fraction, a whole number, or a mixed number.                           | SMMA_LO_00511 |
| 7.EEI.3  | Extend previous understanding of Order of Operations to solve multi-step real-world and mathematical problems involving rational numbers. Include fraction bars as a grouping symbol.  | Solve for a, b, c, or d in $a/b \times c/d = e/f$ (combinations to $12 \times 12$ ).   | SMMA_LO_00372 |
|  |  | Solve for a, b, or c in $a/b \div c = d/e$ (combinations to $12 \times 12$ ).  | SMMA_LO_00375 |
|  |  | Solve for a, b, c, or d in $a/b \div c/d = e/f$ .  | SMMA_LO_00377 |
| 7.EEI.4a   | Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations. Write and fluently solve linear equations of the form $ax+b=c$ and $a(x+b)=c$ where a, b, and c are rational numbers. | Solve for a or c in $a/b + c/b = d/b$ (sums $2/3$ to $11/12$ ).  | SMMA_LO_00356 |
|  |  | Solve for a or c in $(a/b - c/b = d/b)$ (minuends $2/3$ to $11/12$ ).  | SMMA_LO_00360 |
|  |  | Solve for a or c in $a/b - c/b = d/b$ (improper fractions, minuends $4/3$ to $35/12$ ).  | SMMA_LO_00362 |
|  |  | Solve for a or c in $a/b + c/b = d/b$ (improper fractions, sums $4/3$ to $35/12$ ).  | SMMA_LO_00364 |
|  |  | Complete the steps to solve for x in $ax \div b = c$ in steps.   | SMMA_LO_00382 |
|  |  | Complete the steps to solve for x in $ax + b = c$ .  | SMMA_LO_00383 |
|  |  | Solve for x in $ax + b = c$ .  | SMMA_LO_00384 |
|  |  | Identify the equation that translates the written phrase ( $ax + b = c$ ).   | SMMA_LO_00385 |
|  |  | Identify the equation that translates the written phrase ( $ax + b = c$ ).   | SMMA_LO_00386 |
|  |  | Solve for a in $a + b = c$ (a is from -20 to -1).  | SMMA_LO_00388 |
| Solve for a in $a - b = c$ (differences from -19 to 11). | SMMA_LO_00389  |  |               |

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| 7.EE1.4a    | Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations. Write and fluently solve linear equations of the form $ax+b=c$ and $a(x+b)=c$ where $a$ , $b$ , and $c$ are rational numbers. | Solve for $x$ in $ax = b$ (products from $-(4 \times 4)$ to $(9 \times 9)$ ).                                   | SMMA_LO_00390 |
|             |  | Solve for $a$ in $a/b = c$ (products from $-(4 \times 4)$ to $-(9 \times 9)$ ).                                 | SMMA_LO_00391 |
|             |  | Complete the steps to solve for $x$ in $ax + b = c$ ( $x$ is from $-9$ to $-1$ ).                               | SMMA_LO_00392 |
|             |  | Complete the steps to solve for $x$ in $ax - b = c$ ( $x$ is from $-9$ to $2$ ).                                | SMMA_LO_00393 |
|             |  | Complete the steps to solve for $x$ in $ax - b = c$ ( $x$ is from $-9$ to $9$ ).                                | SMMA_LO_00394 |
|             |  | Solve for $x$ in $-x = a$ (numbers from $-99$ to $99$ ).  | SMMA_LO_00395 |
|             |  | Complete the steps to solve for $x$ in $a - x = b$ .  | SMMA_LO_00396 |
|             |  | Determine whether a given value for $x$ is a solution for $ax + b = c$ ( $x$ is from $-9$ to $9$ ).             | SMMA_LO_00397 |
|             |  | Solve for $a$ two-step equation in context.   | SMMA_LO_01638 |
|             |  | Solve a one-step equation (multiplication and division, integers).  | SMMA_LO_01800 |
|             |  | Solve a one-step equation (addition and subtraction, one-digit integers).                                       | SMMA_LO_01801 |
|             |  | Identify the two-step equation that is a translation of the written phrase within a context.                    | SMMA_LO_01814 |
|             |  | Solve a one-step equation (two-digit integers, addition and subtraction).                                       | SMMA_LO_01844 |
|             |  | Solve a one-step equation (integers, multiplication and division).  | SMMA_LO_01845 |
|             |  | Solve a two-step equation (integers).   | SMMA_LO_01846 |
|             |  | Solve a one-step equation (fractions, addition and subtraction).  | SMMA_LO_01848 |
|             |  | Solve a one-step equation (decimals, multiplication and division).  | SMMA_LO_01849 |
|             |  | Solve a two-step equation (fractions, multiplication).  | SMMA_LO_01850 |
|             |  | Solve a two-step equation (decimals).   | SMMA_LO_01851 |
|             |  | R: Identify the equation translated from a written phrase.  | SMMA_LO_01852 |
| 7.EE1.4c    | Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations. Write and solve two-step linear inequalities. Graph the solution set on a number line and interpret its meaning.              | 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 |
|             |  | R: Identify the inequality translated from a written phrase.  | SMMA_LO_01853 |
|             |  | R: Identify the written phrase translated from an inequality.   | SMMA_LO_01869 |
|             |  | R: Identify the written phrase translated from an inequality.   | SMMA_LO_01870 |
| 7.GM.1      | Determine the scale factor and translate between scale models and actual measurements (e.g., lengths, area) of real-world objects and geometric figures using proportional reasoning.  | 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 |

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| 7.GM.3      | Describe two-dimensional cross-sections of three-dimensional figures, specifically right rectangular prisms and right rectangular pyramids.  | Identify the cross section of a three-dimensional figure.   | SMMA_LO_00668 |
| 7.GM.4d     | Investigate the concept of circles. Use the formulas for circumference and area of circles appropriately to solve real-world and mathematical problems.  | 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 |
|             |  | Given the diameter, find the circumference of a circle within context.  | SMMA_LO_01856 |
|             |  | R: Identify parts of a circle (center, radius, and diameter).   | SMMA_LO_00633 |
|             |  | R: Identify a part of a circle (center, radius, chord, or diameter).  | SMMA_LO_00653 |
| 7.GM.5      | Write equations to solve problems involving the relationships between angles formed by two intersecting lines, including supplementary, complementary, vertical, and adjacent.   | Solve a problem involving equal angle measures.   | SMMA_LO_00677 |
|             |  | R: Establish that vertical angles are congruent.  | SMMA_LO_00670 |
|             |  | R: Find the measure of the missing angle in a diagram.  | SMMA_LO_00674 |
| 7.GM.6a     | Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations. Understand that the concept of area is applied to two-dimensional figures such as triangles, quadrilaterals, and polygons.   | 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 |
| 7.GM.6b     | Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations. Understand that the concepts of volume and surface area are applied to three-dimensional figures such as cubes, right rectangular prisms, and right triangular prisms. | 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 |
| 7.GM.6d     | Apply the concepts of two- and three-dimensional figures to real-world and mathematical situations. Use the formulas for area, volume, and surface area appropriately.   | Find the volume of a three-dimensional figure by decomposing that figure into two right rectangular prisms and then adding those prisms' volumes. | SMMA_LO_02044 |

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| 7.NS.1a     | Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line. Understand that the additive inverse of a number is its opposite and their sum is equal to zero.   | Find the missing one-digit addend in a number sentence (positive or negative integers, sums are 0). | SMMA_LO_00102 |
|             |  | Describe situations that can be represented by opposite quantities.                                 | SMMA_LO_02086 |
| 7.NS.1b     | Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line. Understand that the sum of two rational numbers ( $p+q$ ) represents a distance from $p$ on the number line equal to $ q $ where the direction is indicated by the sign of $q$ . | Add two negative integers (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 |
|             |  | Evaluate $-(-a + b)$ , where $1 < a, b < 9$ .   | SMMA_LO_00128 |
|             |  | Find a missing number in an arithmetic sequence (-200 to 200, intervals 3 to 8).                    | SMMA_LO_01115 |
|             |  | R: Determine if the sum is positive or negative (one- and two-digit addends).                       | SMMA_LO_00106 |
| 7.NS.1c     | Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line. Translate between the subtraction of rational numbers and addition using the additive inverse, $p-q=p+(-q)$ .  | Locate an integer on the 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 20, subtrahends 1 to 40).  | SMMA_LO_01510 |
|             |  | Subtract integers using a number line.  | SMMA_LO_01511 |
|             |  | Subtract integers (minuends -20 to -10, subtrahends 0 to 10).                                       | SMMA_LO_01513 |
|             |  | Identify $a - b$ as equivalent to $a + (-b)$ , where $a$ and $b$ are 1 to 20.                       | SMMA_LO_01514 |
|             |  | Identify $-a - b$ as equivalent to $-a + (-b)$ (minuends -20 to -1).                                | SMMA_LO_01515 |
|             |  | Subtract integers (minuends -20 to 20, subtrahends 0 to -20).                                       | SMMA_LO_01516 |
|             |  | Identify $a - (-b)$ as equivalent to $a + b$ (minuends 1 to 10).                                    | SMMA_LO_01517 |
|             |  | Subtract an integer from 0 (subtrahends -20 to 20).   | SMMA_LO_01519 |
|             |  | Subtract integers (minuends 0 to 20, subtrahends -10 to -1).  | 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 -10 to 10, subtrahends -10 to 10).                                      | SMMA_LO_01525 |
|             |  | Subtract integers (minuends -20 to 20, subtrahends -20 to 20).                                      | 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 |

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| SC Standard | SC Standard Text   | Item Description  | Item ID       |
|-------------|--|---|---------------|
| 7.NS.1c     | Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line. Translate between the subtraction of rational numbers and addition using the additive inverse, $p - q = p + (-q)$ .  | Evaluate the expression $-(a - b)$ , where $a$ and $b$ have values from 1 to 9.   | SMMA_LO_01531 |
|             |  | Evaluate the expression $-(-a - b)$ , where $a$ and $b$ have values from 1 to 9.  | SMMA_LO_01532 |
|             |  | Represent addition and subtraction of rational numbers on a number line.  | SMMA_LO_02085 |
|             |  | Represent subtraction of integers on a number line.   | SMMA_LO_02152 |
|             |  | 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 |
| 7.NS.1e     | Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line. Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to add and subtract rational numbers. | Identify an equivalent expression of commutativity for addition of integers.  | SMMA_LO_00114 |
|             |  | Find the sum of four integers when two are additive inverses ( $a$ , $b$ , $c$ , and $d$ have absolute values 1 to 20). | SMMA_LO_00119 |
|             |  | Compare two expressions using the additive inverse property.  | SMMA_LO_00120 |
|             |  | R: Identify an equivalent expression with integers (four one-digit addends).  | SMMA_LO_00117 |
| 7.NS.2b     | Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers. Understand sign rules for multiplying rational numbers.  | 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 |
|             |  | Determine the sign of the products of two integers (one and two-digit integers).  | SMMA_LO_00916 |
|             |  | Multiply a negative integer by a positive integer (products $-(20 \times 2)$ to $-(90 \times 9)$ ).                     | SMMA_LO_00917 |
|             |  | Determine the sign of the product of four factors.  | SMMA_LO_00919 |
| 7.NS.2c     | Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers. Understand sign rules for dividing rational numbers and that a quotient of integers (with a non-zero divisor) is a rational number.  | 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 |
|             |  | Identify fractions that are equivalent to a given negative fraction.  | SMMA_LO_02087 |
| 7.NS.2d     | Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers. Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to multiply and divide rational numbers.  | Identify $-(a + b)$ as equivalent to $-a - b$ , where $a$ and $b$ are 1 to 9.   | SMMA_LO_00118 |
|             |  | 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 |
|             |  | 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 |

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| SC Standard | SC Standard Text   | Item Description   | Item ID       |
|-------------|--|--|---------------|
| 7.NS.2e     | Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers. Understand that some rational numbers can be written as integers and all rational numbers can be written as fractions or decimal numbers that terminate or repeat. | Divide to convert from a fraction to a decimal equivalent.   | SMMA_LO_00258 |
|             |  | R: Identify the division problem that can be used to rewrite a fraction as a decimal.                                | SMMA_LO_00257 |
| 7.NS.3      | Apply the concepts of all four operations with rational numbers to solve real-world and mathematical problems.   | 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).   | 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 $((a + b) + c, \text{ three addends } -10 \text{ to } 10)$ .               | 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 |
|             |  | 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 $2 \times 13$ to $5 \times 19$ ).                                 | SMMA_LO_00309 |
|             |  | Finding the missing dividend or divisor (combinations $6 \times 13$ to $9 \times 19$ ).                              | SMMA_LO_00310 |
|             |  | Find the missing dividend or divisor in a number sentence (combinations $7 \times 13$ to $9 \times 19$ , all signs). | SMMA_LO_00320 |
|             |  | Solve for $a, b,$ or $c$ in $a/b \div c = d/e$ (combinations to $12 \times 12$ ).                                    | SMMA_LO_00375 |
|             |  | Solve for $a, b, c,$ or $d$ in $a/b \div c/d = e/f$ .  | SMMA_LO_00377 |
|             |  | Estimate the missing factor in a number sentence (round to the nearest ten, products 2,010 to 81,090).               | SMMA_LO_00913 |
|             |  | 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 a missing number in a geometric sequence (first number 1 to 5, factors 2 to 5).                                 | SMMA_LO_01117 |
|             |  | Find the missing subtrahend in a number sentence (minuends 0 to 10, subtrahends 2 to 11, negative differences).      | SMMA_LO_01509 |

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|--|--|---|---|
| 7.NS.3   | Apply the concepts of all four operations with rational numbers to solve real-world and mathematical problems.   | Find the missing subtrahend in a number sentence (minuends -9 to 0, differences -9 to 0).               | SMMA_LO_01512   |
|  |  | Evaluate a numerical expression $(a) + (b) - (c)$ , where $a$ , $b$ , and $c$ have values from -9 to 9. | SMMA_LO_01527   |
|  |  | Compare sums and difference of positive and negative integers (-5 to 5).                                | SMMA_LO_01528   |
|  |  | Solve a two-step addition problem to find a person's age 5 to 20 years from now.                        | SMMA_LO_01631   |
|  |  | Find the final temperature given the initial temperature and the temperature increase.                  | SMMA_LO_01632   |
|  |  | Find three consecutive integers when given their sum.   | SMMA_LO_01639   |
|  |  | Extend an arithmetic sequence for three more terms.   | SMMA_LO_01803   |
|  |  | Evaluate an algebraic expression with exponents (integers -10 to 10).                                   | SMMA_LO_01818   |
|  |  | Evaluate an algebraic expression (integers -10 to 10).  | SMMA_LO_01842   |
|  |  | Evaluate an algebraic expression with three variables (-5.9 to 5.9).                                    | SMMA_LO_01843   |
|  |  | Interpret quotients of rational numbers by describing real-world contexts.                              | SMMA_LO_02088   |
|  |  | 7.NS.5  | Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Exclude the conversion of repeating decimal numbers to fractions. |
| Express a mixed number as a decimal.   | SMMA_LO_00260  |   |   |
| Express a percent as a fraction and simplify.  | SMMA_LO_00269  |   |   |
| Identify decimals or fractions that are not equivalent to a given decimal or fraction.   | SMMA_LO_01094  |   |   |
| Identify a number not equivalent to four others.   | SMMA_LO_01116  |   |   |
| Complete the equivalence table by expressing a decimal number as a fraction and a percent.   | SMMA_LO_01820  |   |   |
| Complete the equivalence table by expressing a decimal number as a fraction and a percent (round answer to the nearest hundredth). | SMMA_LO_01821  |   |   |
| Complete the equivalence table by expressing a fraction as a decimal number and a percent (round answer to the nearest hundredth). | SMMA_LO_01822  |   |   |
| 7.RP.1   | Compute unit rates, including those involving complex fractions, with like or different units.   | Identify the correct proportion for the context, and then solve.  | SMMA_LO_01826   |
| 7.RP.2a  | Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations. Determine when two quantities are in a proportional relationship. | Form a proportion that can be used to solve for the height of an object.                                | SMMA_LO_00660   |
|  |  | Determine the fraction needed to complete the proportion.   | SMMA_LO_01827   |

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| 7.RP.2b     | Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations. Recognize or compute the constant of proportionality.  | 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 |
| 7.RP.2c     | Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations. Understand that the constant of proportionality is the unit rate.  | 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 |
| 7.RP.2d     | Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations. Use equations to model proportional relationships.   | Identify an equation that can be used to solve a two-step problem in context.   | SMMA_LO_01297 |
|             |   | Given the number of kilowatt-hours used and a price, find the total cost of power.  | SMMA_LO_01336 |
|             |   | Convert light years to kilometers and kilometers to light years.  | SMMA_LO_01339 |
| 7.RP.2e     | Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations. Investigate the graph of a proportional relationship and explain the meaning of specific points (e.g., origin, unit rate) in the context of the situation. | 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 |
| 7.RP.3      | Solve real-world and mathematical problems involving ratios and percentages using proportional reasoning (e.g., multi-step dimensional analysis, percent increase/decrease, tax).   | 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 |
|             |   | 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 |
| 8.DSP.1c    | Investigate bivariate data. Describe patterns observed on a scatter plot, including clustering, outliers, and association (positive, negative, no correlation, linear, nonlinear).  | Identify positive, negative, or no association for sets of actual data.   | SMMA_LO_01222 |
| 8.DSP.3     | Apply concepts of an approximate line of best fit in real-world situations.   | Choose an approximation based on a trend line for bivariate data.   | SMMA_LO_02143 |

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| 8.EE1.1     | Understand and apply the laws of exponents (i.e. product rule, quotient rule, power to a power, product to a power, quotient to a power, zero power property, negative exponents) to simplify numerical expressions that include integer exponents. | Multiply or divide two numbers with exponents (same base, exponents less than 18).                                      | SMMA_LO_01104 |
|             |   | Find the missing exponent in a multiplication or division number sentence.  | SMMA_LO_01111 |
| 8.EE1.2b    | Investigate concepts of square and cube roots. Evaluate square roots of perfect squares.  | Find the square root of a number using a calculator (numbers to 4000).  | SMMA_LO_01120 |
| 8.EE1.3a    | Explore the relationship between quantities in decimal and scientific notation. Express very large and very small quantities in scientific notation in the form $a \times 10^b = p$ where $1 \leq a < 10$ and $b$ is an integer.                    | Write very small numbers in scientific notation.  | SMMA_LO_02070 |
|             |   | Write very large numbers in scientific notation.  | SMMA_LO_02071 |
| 8.EE1.3b    | Explore the relationship between quantities in decimal and scientific notation. Translate between decimal notation and scientific notation.   | Express a number in scientific notation (exponents 1 to 6).   | SMMA_LO_01113 |
|             |   | Given the scientific notation, determine the standard notation of a number (the power of 10 has an exponent of 1 to 6). | SMMA_LO_01121 |
|             |   | Find the missing exponent for a number written in scientific notation (the exponent is 1 to 6).                         | SMMA_LO_01122 |
|             |   | Write very small numbers in scientific notation.  | SMMA_LO_02070 |
|             |   | Write very large numbers in scientific notation.  | SMMA_LO_02071 |
| 8.EE1.3c    | Explore the relationship between quantities in decimal and scientific notation. Estimate and compare the relative size of two quantities in scientific notation.  | Compare numbers written in scientific notation.   | SMMA_LO_02072 |
| 8.EE1.5a    | Apply concepts of proportional relationships to real-world and mathematical situations. Graph proportional relationships.   | Graph proportional relationships and interpret the unit rate as the slope of the graph.                                 | SMMA_LO_02073 |
| 8.EE1.5b    | Apply concepts of proportional relationships to real-world and mathematical situations. Interpret unit rate as the slope of the graph.  | Graph proportional relationships and interpret the unit rate as the slope of the graph.                                 | SMMA_LO_02073 |
|             |   | Compare a proportional relationship represented as a graph to a proportional relationship represented as a table.       | SMMA_LO_02074 |
| 8.EE1.5c    | Apply concepts of proportional relationships to real-world and mathematical situations. Compare two different proportional relationships given multiple representations, including tables, graphs, equations, diagrams, and verbal descriptions.    | Compare a proportional relationship represented as a graph to a proportional relationship represented as a table.       | SMMA_LO_02074 |

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| SC Standard | SC Standard Text  | Item Description  | Item ID       |
|-------------|---|---|---------------|
| 8.EE1.6a    | Apply concepts of slope and $y$ -intercept to graphs, equations, and proportional relationships. Explain why the slope, $m$ , is the same between any two distinct points on a non-vertical line using similar triangles.   | Use similar triangles to explain why the slope $m$ is the same between any two distinct points on a nonvertical line in the coordinate plane.                   | SMMA_LO_02075 |
| 8.EE1.6b    | Apply concepts of slope and $y$ -intercept to graphs, equations, and proportional relationships. Derive the slope-intercept form ( $y=mx+b$ ) for a non-vertical line.  | Derive the equation $y = mx$ for a line through the origin, and $y = mx + b$ for a line intercepting the vertical axis at $b$ .                                 | SMMA_LO_02076 |
| 8.EE1.7a    | Extend concepts of linear equations and inequalities in one variable to more complex multi-step equations and inequalities in real-world and mathematical situations. Solve linear equations and inequalities with rational number coefficients that include the use of the distributive property, combining like terms, and variables on both sides. | Transform a given multi-step equation into a simpler form.  | SMMA_LO_02079 |
|             |   | Generate and solve an equation with variables on both sides of the equal sign in a real-world context.  | SMMA_LO_02145 |
| 8.EE1.7b    | Extend concepts of linear equations and inequalities in one variable to more complex multi-step equations and inequalities in real-world and mathematical situations. Recognize the three types of solutions to linear equations: one solution ( $x=a$ ), infinitely many solutions ( $a=a$ ), or no solutions ( $a=b$ ).                             | R: Transform a given multi-step equation into a simpler form.   | SMMA_LO_02079 |
| 8.EE1.8b    | Investigate and solve real-world and mathematical problems involving systems of linear equations in two variables with integer coefficients and solutions. Understand and verify that a solution to a system of linear equations is represented on a graph as the point of intersection of the two lines.   | Identify the solution to a system of linear equations by locating the point of intersection on its graph.   | SMMA_LO_02080 |
| 8.EE1.8c    | Investigate and solve real-world and mathematical problems involving systems of linear equations in two variables with integer coefficients and solutions. Solve systems of linear equations algebraically, including methods of substitution and elimination, or through inspection.   | If a system of linear equations has 0 or infinitely many solutions, solve it by inspection. If it has 1 solution, solve it either algebraically or by graphing. | SMMA_LO_02133 |
|             |   | Model a real-world problem with a system of linear equations. Then solve it by locating the intersection point of the graphs of the two equations.              | SMMA_LO_02134 |

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|-------------|--|---|---------------|
| 8.EE1.8d    | Investigate and solve real-world and mathematical problems involving systems of linear equations in two variables with integer coefficients and solutions. Understand that systems of linear equations can have one solution, no solution, or infinitely many solutions. | If a system of linear equations has 0 or infinitely many solutions, solve it by inspection. If it has 1 solution, solve it either algebraically or by graphing. | SMMA_LO_02133 |
| 8.F.1a      | Explore the concept of functions. Understand that a function assigns to each input exactly one output.   | Given a list of ordered pairs of a relation, identify two ordered pairs that show the relation is not a function.   | SMMA_LO_01811 |
|             |  | Given a graph of a relation, identify two ordered pairs on the graph that show the relation is not a function.  | SMMA_LO_01812 |
|             |  | Given a set of graphs of relations, identify which graphs represent functions.  | SMMA_LO_01835 |
| 8.F.1b      | Explore the concept of functions. Relate inputs ( $x$ -values or domain) and outputs ( $y$ -values or range) to independent and dependent variables.   | Identify the addition or subtraction rule of the function.  | SMMA_LO_01682 |
|             |  | Identify the multiplication or division rule of the function.   | SMMA_LO_01684 |
|             |  | Complete an input/output table given a one-step rule; then plot the ordered pairs on a coordinate grid.   | SMMA_LO_01757 |
|             |  | Complete an input/output table and identify the algebraic equation that describes the one-step rule.  | SMMA_LO_01806 |
|             |  | Complete an input/output table and identify the algebraic equation that describes the two-step rule.  | SMMA_LO_01807 |
|             |  | Complete a table of values and graph the equation of a quadratic function.  | SMMA_LO_01836 |
|             |  | Complete a table of values and graph the equation of a linear function.   | SMMA_LO_01837 |
|             |  | R: Identify the one-step rule in the relation or function (multiplication and division).  | SMMA_LO_01723 |
|             |  | R: Generate a table of values given a rule.   | SMMA_LO_01724 |
| 8.F.1c      | Explore the concept of functions. Translate among the multiple representations of a function, including mappings, tables, graphs, equations, and verbal descriptions.  | Identify an expression to describe the pattern generated by a table.  | SMMA_LO_01742 |
|             |  | Identify a two-step expression to describe the pattern generated by a table (input = 100).  | SMMA_LO_01752 |
|             |  | Identify a two-step expression to describe the pattern generated by a table (input = 1000).   | SMMA_LO_01753 |
|             |  | Complete an input/output table given a one-step rule; then plot the ordered pairs on a coordinate grid.   | SMMA_LO_01757 |
|             |  | Complete an input/output table and identify the algebraic equation that describes the one-step rule.  | SMMA_LO_01806 |
|             |  | Complete an input/output table and identify the algebraic equation that describes the two-step rule.  | SMMA_LO_01807 |
|             |  | Complete a table of values and graph the equation of a quadratic function.  | SMMA_LO_01836 |
|             |  | Complete a table of values and graph the equation of a linear function.   | SMMA_LO_01837 |

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|-------------|--|--|---------------|
| 8.F.1d      | Explore the concept of functions. Determine if a relation is a function using multiple representations, including mappings, tables, graphs, equations, and verbal descriptions.  | Given a set of graphs of relations, identify which graphs represent functions.   | SMMA_LO_01835 |
|             |  | R: Given a list of ordered pairs of a relation, identify two ordered pairs that show the relation is not a function.   | SMMA_LO_01811 |
|             |  | R: Given a graph of a relation, identify two ordered pairs on the graph that show the relation is not a function.  | SMMA_LO_01812 |
| 8.F.1e      | Explore the concept of functions. Graph a function from a table of values. Understand that the graph and table both represent a set of ordered pairs of that function.   | Complete a table of values and graph the equation of a quadratic function.   | SMMA_LO_01836 |
|             |  | Complete a table of values and graph the equation of a linear function.  | SMMA_LO_01837 |
| 8.F.2       | Compare multiple representations of two functions, including mappings, tables, graphs, equations, and verbal descriptions, in order to draw conclusions.   | Identify the rate of change and the y-intercept of two linear functions, one represented graphically, and one represented either algebraically or in a table.              | SMMA_LO_02101 |
|             |  | Identify the rate of change and the y-intercept of two linear functions, one represented in a verbal description, and one represented either graphically or algebraically. | SMMA_LO_02102 |
|             |  | Identify the rate of change and the y-intercept of two linear functions, one represented in a table, and one represented either algebraically or in a verbal description.  | SMMA_LO_02103 |
| 8.F.3a      | Investigate the differences between linear and nonlinear functions using multiple representations (i.e. tables, graphs, equations, and verbal descriptions). Define an equation in slope-intercept form ( $y=mx+b$ ) as being a linear function.         | Identify if an equation is a linear or exponential function.   | SMMA_LO_01828 |
|             |  | Identify if an equation is a linear or nonlinear function.   | SMMA_LO_01833 |
|             |  | Determine if a table values represents a linear or exponential function.   | SMMA_LO_01881 |
|             |  | Determine if a table values represents a linear or quadratic function.   | SMMA_LO_01882 |
|             |  | Identify the function that is represented by a table of values (linear and nonlinear).   | SMMA_LO_01883 |
| 8.F.3c      | Investigate the differences between linear and nonlinear functions using multiple representations (i.e. tables, graphs, equations, and verbal descriptions). Provide examples of nonlinear functions.  | Identify if an equation is a linear or exponential function.   | SMMA_LO_01828 |
|             |  | Identify if an equation is a linear or nonlinear function.   | SMMA_LO_01833 |
| 8.F.4b      | Apply the concepts of linear functions to real-world and mathematical situations. Determine the slope and the y-intercept of a linear function given multiple representations, including two points, tables, graphs, equations, and verbal descriptions. | Identify the rate of change and the y-intercept of two linear functions, one represented graphically, and one represented either algebraically or in a table.              | SMMA_LO_02101 |
|             |  | Identify the rate of change and the y-intercept of two linear functions, one represented in a verbal description, and one represented either graphically or algebraically. | SMMA_LO_02102 |
|             |  | Identify the rate of change and the y-intercept of two linear functions, one represented in a table, and one represented either algebraically or in a verbal description.  | SMMA_LO_02103 |

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| SC Standard   | SC Standard Text  | Item Description   | Item ID       |
|---|---|--|---------------|
| 8.F.5a  | Apply the concepts of linear and nonlinear functions to graphs in real-world and mathematical situations. Analyze and describe attributes of graphs of functions (e.g., constant, increasing/decreasing, linear/nonlinear, maximum/minimum, discrete/continuous). | Identify if an equation is a linear or quadratic function.   | SMMA_LO_01829 |
|   |   | Identify whether graphs are linear or exponential.   | SMMA_LO_01830 |
|   |   | Identify whether graphs are linear or quadratic.   | SMMA_LO_01831 |
|   |   | Identify whether graphs are linear or nonlinear.   | SMMA_LO_01832 |
|   |   | Determine if a table values represents a linear or nonlinear function.   | SMMA_LO_01834 |
| 8.GM.1  | Investigate the properties of rigid transformations (rotations, reflections, translations) using a variety of tools (e.g., grid paper, reflective devices, graphing paper, technology).   | Identify a set of geometric figures that show a reflection (flip).   | SMMA_LO_00648 |
|   |   | Determine the missing coordinate of a vertex of a triangle in a transformation.  | SMMA_LO_01736 |
|   |   | Rotate a figure by 90, 180, or 270 degrees clockwise or counterclockwise on a coordinate plane.                              | SMMA_LO_02104 |
|   |   | Reflect a figure on a coordinate plane over the x-axis, the y-axis, or the line $y = x$ .                                    | SMMA_LO_02105 |
|   |   | Translate a figure on a coordinate plane.  | SMMA_LO_02120 |
|   |   | Rotate a figure on a coordinate plane; verify properties of the rotation.  | SMMA_LO_02121 |
|   |   | Reflect a figure on a coordinate plane over the x-axis, the y-axis, or the line $y = x$ ; verify properties of the rotation. | SMMA_LO_02122 |
|   |   | Translate a figure on a coordinate plane; verify properties of the rotation.   | SMMA_LO_02123 |
|   |   | R: Identify a reflection, a rotation, and a translation of a geometric figure.   | SMMA_LO_00665 |
| R: Identify a transformation as a slide, flip, or a turn. | SMMA_LO_01776   |  |               |
| 8.GM.2  | Apply the properties of rigid transformations (rotations, reflections, translations).   | R: Identify a figure as a slide, reflection (flip), or turn of another figure.   | SMMA_LO_00599 |
| 8.GM.2a   | Apply the properties of rigid transformations (rotations, reflections, translations). Rotate geometric figures 90, 180, and 270 degrees, both clockwise and counterclockwise, about the origin.   | Rotate a figure on a coordinate plane; verify properties of the rotation.  | SMMA_LO_02121 |
| 8.GM.2b   | Apply the properties of rigid transformations (rotations, reflections, translations). Reflect geometric figures with respect to the x-axis and/or y-axis.   | Reflect a figure on a coordinate plane over the x-axis, the y-axis, or the line $y = x$ ; verify properties of the rotation. | SMMA_LO_02122 |
| 8.GM.2c   | Apply the properties of rigid transformations (rotations, reflections, translations). Translate geometric figures vertically and/or horizontally.   | Translate a figure on a coordinate plane; verify properties of the rotation.   | SMMA_LO_02123 |

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| SC Standard | SC Standard Text   | Item Description  | Item ID       |
|-------------|--|---|---------------|
| 8.GM.2d     | Apply the properties of rigid transformations (rotations, reflections, translations). Recognize that two-dimensional figures are only congruent if a series of rigid transformations can be performed to map the pre-image to the image.   | Given two congruent figures, transform one figure so that it lines up with the other. Then, identify the sequence of transformations used.  | SMMA_LO_02124 |
|             |  | R: Identify the figure that is the same size and shape as a given figure.   | SMMA_LO_00600 |
|             |  | R: Identify congruent figures on a geoboard.  | SMMA_LO_00606 |
|             |  | R: Identify similar polygons.   | SMMA_LO_00610 |
|             |  | R: Identify two figures as being similar, congruent, or neither.  | SMMA_LO_00618 |
|             |  | R: Identify the polygon that is not similar to the others.  | SMMA_LO_00645 |
|             |  | R: Identify the example that is a counterexample to a statement.  | SMMA_LO_00649 |
| 8.GM.2e     | Apply the properties of rigid transformations (rotations, reflections, translations). Given two congruent figures, describe the series of rigid transformations that justifies this congruence.  | Given two congruent figures, transform one figure so that it lines up with the other. Then, identify the sequence of transformations used.  | SMMA_LO_02124 |
| 8.GM.3a     | Investigate the properties of transformations (rotations, reflections, translations, dilations) using a variety of tools (e.g., grid paper, reflective devices, graphing paper, dynamic software). Use coordinate geometry to describe the effect of transformations on two-dimensional figures. | Reflect a figure, find the coordinates of the reflected figure, and describe the effect of the reflection on the coordinates.   | SMMA_LO_02125 |
|             |  | Determine the algebraic expression used to find the coordinates of the image of a figure under a dilation with the origin as the center of dilation.  | SMMA_LO_02142 |
| 8.GM.4b     | Apply the properties of transformations (rotations, reflections, translations, dilations). Recognize that two-dimensional figures are only similar if a series of transformations can be performed to map the pre-image to the image.  | Identify similar triangles or rectangles on a geoboard.   | SMMA_LO_00847 |
| 8.GM.5b     | Extend and apply previous knowledge of angles to properties of triangles, similar figures, and parallel lines cut by a transversal. Discover and use the relationship between interior and exterior angles of a triangle.  | Arrange statements to write a proof of a fact about either the angle sum or the exterior angle of a triangle.   | SMMA_LO_02126 |
| 8.GM.5c     | Extend and apply previous knowledge of angles to properties of triangles, similar figures, and parallel lines cut by a transversal. Identify congruent and supplementary pairs of angles when two parallel lines are cut by a transversal.   | Establish that alternate interior angles are congruent for parallel lines.  | SMMA_LO_00672 |
|             |  | In a figure in which parallel lines are cut by a transversal, identify the transformations that would line one angle up with another angle. Then, describe the relationship between the two angles. | SMMA_LO_02129 |
|             |  | R: Count the points of intersection of two or more lines (0 to 5 intersection points).  | SMMA_LO_00635 |

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| SC Standard | SC Standard Text  | Item Description   | Item ID       |
|-------------|---|--|---------------|
| 8.GM.5d     | Extend and apply previous knowledge of angles to properties of triangles, similar figures, and parallel lines cut by a transversal. Recognize that two similar figures have congruent corresponding angles. | Determine whether or not a diagram gives enough information to determine whether or not two triangles are similar. If so, identify the triangles as similar or not similar.          | SMMA_LO_02130 |
|             |   | R: Identify congruent angles.  | SMMA_LO_00637 |
|             |   | R: Match the corresponding sides or angles of two similar figures.   | SMMA_LO_00673 |
| 8.GM.6      | Use models to demonstrate a proof of the Pythagorean Theorem and its converse.  | Explain a proof of the Pythagorean Theorem.  | SMMA_LO_02131 |
|             |   | Explain a proof of the converse of the Pythagorean Theorem.  | SMMA_LO_02132 |
| 8.GM.7      | Apply the Pythagorean Theorem to model and solve real-world and mathematical problems in two and three dimensions involving right triangles.  | Find the measurement of the hypotenuse using the Pythagorean theorem. (2D)   | SMMA_LO_01854 |
| 8.GM.8      | Find the distance between any two points in the coordinate plane using the Pythagorean Theorem.   | Given two points on a coordinate grid, draw a right triangle whose hypotenuse connects the two points. Then use the Pythagorean Theorem to find the distance between the two points. | SMMA_LO_02100 |
| 8.GM.9      | Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres and the surface area of cylinders.  | Use a formula to find the volume of a cylinder.  | SMMA_LO_00839 |
|             |   | Use a formula to find the surface area of a cylinder or sphere.  | SMMA_LO_00840 |
|             |   | Use a formula to find the volume of a cone or a sphere.  | SMMA_LO_00844 |
|             |   | Generalize a figure for surface area, and then use that formula to find the surface area of a given figure.  | SMMA_LO_02144 |
| 8.NS.2      | Estimate and compare the value of irrational numbers by plotting them on a number line.   | Drag rational and irrational values to their correct positions on a number line.   | SMMA_LO_02141 |

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