



SuccessMaker[®]

**Virginia
State Standards
Alignments for Mathematics**

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

VA Standard	VA Standard Text	Item Description	Item ID
K.1	The student, given two sets, each containing 10 or fewer concrete objects, will identify and describe one set as having more, fewer, or the same number of members as the other set, using the concept of one-to-one correspondence.	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
		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
		R: Match objects to show a one-to-one correspondence (2 to 5 objects).	SMMA_LO_00921
		R: Move objects to show a one-to-one correspondence (1 to 5 objects).	SMMA_LO_00925
K.2.a	The student, given a set containing 15 or fewer concrete objects, will tell how many are in the set by counting the number of objects orally.	Match a digit to a set with that number of objects (0 to 5).	SMMA_LO_00934
		Identify the group of objects that represent a number (1 to 5 objects).	SMMA_LO_00956
		Identify the number of objects for a word name. (1 to 9 objects).	SMMA_LO_00964
		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
		R: Make a group with one to five objects.	SMMA_LO_00938
		R: Make a group with 6 to 9 objects.	SMMA_LO_00945
K.2.b	The student, given a set containing 15 or fewer concrete objects, will write the numeral to tell how many are in the set.	Enter the number shown (1 to 5).	SMMA_LO_00932
		Count objects arranged in a row (1-5 objects).	SMMA_LO_00933
		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
		Find the next number in a sequence, counting by 1's (1 to 5).	SMMA_LO_00940
		Enter the number shown (1 to 9).	SMMA_LO_00942
		Count objects not arranged in a row (6 to 9 objects).	SMMA_LO_00943
		Find the next number in a sequence, counting by 1's (1 to 9).	SMMA_LO_00948

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K.2.b	The student, given a set containing 15 or fewer concrete objects, will write the numeral to tell how many are in the set.	Count objects arranged in a row (one to nine objects).	SMMA_LO_00957
		Count specific objects within a larger set (6 to 9 objects).	SMMA_LO_00958
		Count objects by pairing each object with one number 1 to 10; determine how many objects there are.	SMMA_LO_02092
K.2.c	The student, given a set containing 15 or fewer concrete objects, will select the corresponding numeral from a given set of numerals.	Identify the group of objects that is 1 to 5 nonstandard units long or tall.	SMMA_LO_00701
		Identify a number from a spoken number (1 to 5).	SMMA_LO_00937
		Identify a number from a spoken number (6 to 9).	SMMA_LO_00944
		R: Enter the number shown (0 to 4).	SMMA_LO_00001
		R: Enter the number shown (5 to 9).	SMMA_LO_00002
K.3	The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth, and the ordered position of each object.	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.4.a	The student will count forward to 100 and backward from 10.	Find the next number in a sequence, counting by 1's (1 to 5).	SMMA_LO_00939
		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.4.b	The student will identify one more than a number and one less than a number.	Find the number that comes before a given number, counting by 1's (1 to 9).	SMMA_LO_00949
		Find a number that is one fewer or one greater than a given number (1 to 9).	SMMA_LO_00962
		Find a number that is one less or one more than a given number (two-digit).	SMMA_LO_00984
		Subtract 1 from a number (two-digit minuends, no regrouping).	SMMA_LO_01427
K.4.c	The student will count by fives and tens to 100.	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.6	The student will model adding and subtracting whole numbers, using up to 10 concrete objects.	Count two set 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
		Add using basic math facts displayed horizontally (sums 6 to 10).	SMMA_LO_00013
		Add 1 to a number (sums 1 to 10).	SMMA_LO_00015

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K.6	The student will model adding and subtracting whole numbers, using up to 10 concrete objects.	Add four addends (one-digit addends, sums 3 to 10).	SMMA_LO_00030
		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
		Use a picture to solve a missing addend problem (sums 2 to 6).	SMMA_LO_01232
		Identify a picture that represents a subtraction problem (minuends 5 to 10).	SMMA_LO_01235
		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
		Identify the expression that represents a picture (minuends 2 to 9).	SMMA_LO_01414
		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
		Act out the solution to an addition problem in context (three addends, sums 1 to 9).	SMMA_LO_01537
		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
		Model and apply joining stories to solve problems (sums 1 to 9).	SMMA_LO_01863
		Decompose numbers 2–10 into pairs in more than one way by using objects.	SMMA_LO_02096
		Model the number that makes 10 when added to a given number from 1 to 9; then identify the number.	SMMA_LO_02097
		R: Count two sets of objects to find the total (sums 2 to 4).	SMMA_LO_00003
		R: Count two sets of objects to find the total (sums 4 to 6).	SMMA_LO_00004
R: Count the objects in two sets (sums 1 to 5).	SMMA_LO_00007		
R: Count the objects in two sets (sums 6 to 10).	SMMA_LO_00008		
K.7	The student will recognize a penny, nickel, dime, and quarter and will determine the value of a collection of pennies and/or nickels whose total value is 10 cents or less.	Identify nickels or dimes.	SMMA_LO_00698
		Enter the amount of money shown (1 to 5 cents in pennies).	SMMA_LO_00699
		Identify the coin worth 1, 5, 10, or 25 cents.	SMMA_LO_00702
		Enter the amount of money shown (6 to 9 cents in pennies).	SMMA_LO_00704
K.8	The student will identify the instruments used to measure length (ruler), weight (scale), time (clock: digital and analog; calendar: day, month, and season), and temperature (thermometer).	Identify the tool for a particular use (thermometer, scale, clock).	SMMA_LO_00761

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K.9	The student will tell time to the hour, using analog and digital clocks.	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
		R: Identify the hour or minute hand of a clock.	SMMA_LO_00697
K.10	The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, and block.	Match objects of the same height (3 heights).	SMMA_LO_00687
		Match objects of the same length (3 lengths).	SMMA_LO_00688
		Given 3 objects, Identify the shortest or longest object.	SMMA_LO_00693
		Identify the tallest object.	SMMA_LO_00694
		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 object that is a different length.	SMMA_LO_00709
		R: Identify the object that is a different height.	SMMA_LO_00712
K.11.a	The student will identify, describe, and trace plane geometric figures (circle, triangle, square, and rectangle).	Identify circles or squares by name.	SMMA_LO_00529
		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 3-, 4-, and 5-sided figures.	SMMA_LO_00550
		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
		K.11.b	The student will compare the size (larger, smaller) and shape of plane geometric figures (circle, triangle, square, and rectangle).
Match geometric figures that have the same size and shape (simple figures).	SMMA_LO_00516		
Move puzzle pieces to complete a puzzle (2 pieces).	SMMA_LO_00534		
Match congruent irregular polygons.	SMMA_LO_00545		
Identify the figure with a different shape.	SMMA_LO_00547		
Match a shape to a picture containing that shape.	SMMA_LO_00548		
Identify shapes that are alike.	SMMA_LO_00549		
Identify the figure that has a different number of sides from a given figure.	SMMA_LO_00553		
Match similar figures in different orientations.	SMMA_LO_00566		
Identify figures with more or fewer than a given number of sides.	SMMA_LO_00587		
Identify the rectangle with the same size and shape as a given rectangle.	SMMA_LO_00736		
Identify the smaller or bigger rectangle.	SMMA_LO_00747		

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K.12	The student will describe the location of one object relative to another (above, below, next to) and identify representations of plane geometric figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space.	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
K.13	The student will gather data by counting and tallying.	R: Match each set of tally marks to a total (1 to 9).	SMMA_LO_00952
K.15	The student will sort and classify objects according to attributes.	Match pictures that are identical.	SMMA_LO_00515
		Match pictures with shapes that are alike.	SMMA_LO_00517
		Match the face of a geometric solid to a plane figure.	SMMA_LO_00518
		Match similar irregular polygons.	SMMA_LO_00555
		Identify matching congruent figures under rotation and/or reflection.	SMMA_LO_00557
		Classify geometric figures by a shape attribute.	SMMA_LO_00576
		Formulate questions around numerical data.	SMMA_LO_01642
		R: Identify the figure that is a different color from a given figure.	SMMA_LO_00541
		R: Identify a pair of objects that are not the same size.	SMMA_LO_00692
		R: Identify the biggest or smallest object.	SMMA_LO_00695
1.1.a	The student will count from 0 to 100 and write the corresponding numerals.	Identify a number, model, or word with the same value (1 to 9).	SMMA_LO_00965
		Identify a written number from a spoken number (two-digit).	SMMA_LO_00977
		Enter the number for a word name (two-digit).	SMMA_LO_01001
1.1.b	The student will group a collection of up to 100 objects into tens and ones and write the corresponding numeral to develop an understanding of place value.	Find the number of a set of objects (grouped tens and ones; two-digit).	SMMA_LO_00976
		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
		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
		R: Find a number equal to 2 to 9 ones.	SMMA_LO_00972
		R: Enter the number equal to 1 to 9 ones.	SMMA_LO_00973
		R: Enter the number equal to 1 to 9 tens.	SMMA_LO_00974
		R: Enter the number of tens for a given multiple of ten (10 to 90).	SMMA_LO_00975

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1.1.b	The student will group a collection of up to 100 objects into tens and ones and write the corresponding numeral to develop an understanding of place value.	R: Enter how many tens and ones for a number (two-digit).	SMMA_LO_00980
		R: Given a number (1-9) of objects, determine how many more objects are needed to make a ten.	SMMA_LO_02017
		R: Model the numbers from 11 to 19 with place value blocks.	SMMA_LO_02018
		R: Model multiples of 10 (from 10 to 90) with place value blocks.	SMMA_LO_02019
1.3	The student will identify the parts of a set and/or region that represent fractions for halves, thirds, and fourths and write the fractions.	Identify the set of shapes that represents a fraction (halves, thirds, fourths).	SMMA_LO_00406
1.4.a	The student, given a familiar problem situation involving magnitude, will select a reasonable order of magnitude from three given quantities: a one-digit numeral, a two-digit numeral, and a three-digit numeral (e.g., 5, 50, 500).	Identify the most reasonable quantity for a context (order of magnitude differs).	SMMA_LO_01586
1.5	The student will recall basic addition facts with sums to 18 or less and the corresponding subtraction facts.	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
		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 two addends (one-digit addends, sums 6 to 10).	SMMA_LO_00016
		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 three addends (sums 2 to 5).	SMMA_LO_00026
		Add three addends (audio presentation, sums 3 to 5).	SMMA_LO_00027
		Add three addends (sums 6 to 10).	SMMA_LO_00028
		Add three addends displayed horizontally (sums 6 to 10).	SMMA_LO_00029
		Add three addends (one-digit addends, sums 11 to 19).	SMMA_LO_00031
		Add three addends (one-digit addends, sums 10 to 19).	SMMA_LO_00032
		Add zero to a number (sums 1 to 9).	SMMA_LO_00035
		Find the missing addend in a number sentence.	SMMA_LO_00037
		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		

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1.5	The student will recall basic addition facts with sums to 18 or less and the corresponding subtraction facts.	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
		Find the missing addend in a number sentence (sums 10 to 18).	SMMA_LO_00048
		Find the missing addend in a number sentence (three addends, sums 1 to 9).	SMMA_LO_00052
		Find the missing addend in a number sentence (three addends, sums 10 to 19).	SMMA_LO_00066
		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
		Use guess and check to solve an addition and subtraction problem (basic facts).	SMMA_LO_01240
		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
		Subtract using basic math facts displayed horizontally (minuends 6 to 9).	SMMA_LO_01417
		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
		Subtract a number from its double (differences 1 to 9).	SMMA_LO_01425
		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
		Find the missing subtrahend in a subtraction number sentence (minuends 0 to 9).	SMMA_LO_01432
		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

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1.5	The student will recall basic addition facts with sums to 18 or less and the corresponding subtraction facts.	Find the missing minuend in a subtraction number sentence (minuends 0 to 9).	SMMA_LO_01440		
		Subtract 10 from a two-digit number (student choice, minuends 11 to 19).	SMMA_LO_01441		
		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		
		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		
		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		
		Solve a subtraction problem by finding the missing addend.	SMMA_LO_02023		
		Subtract two numbers by regrouping the numbers into a ten and some ones.	SMMA_LO_02026		
		1.6	The student will create and solve one-step story and picture problems using basic addition facts with sums to 18 or less and the corresponding subtraction facts.	Choose the expression that can represent a problem with extra information; then solve (addition or subtraction).	SMMA_LO_01239
				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
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				
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				
Act out the solution to multi-step problem in context (addends, minuends 1 to 4).	SMMA_LO_01538				

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1.6	The student will create and solve one-step story and picture problems using basic addition facts with sums to 18 or less and the corresponding subtraction facts.	Solve an addition problem involving money (sums 3 to 9 cents).	SMMA_LO_01543
		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 an addition problem with three addends in context (sums 3 to 10).	SMMA_LO_01549
		Solve a subtraction problem in context by finding how many more (minuends 2 to 5).	SMMA_LO_01550
		Make a picture to solve a two-step problem in context (addition and subtraction).	SMMA_LO_01551
		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
		Solve an addition problem with three addends in context (sums 3 to 10).	SMMA_LO_01557
		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
		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
1.7.a	The student will identify the number of pennies equivalent to a nickel, a dime, and a quarter.	Identify the coin equivalent to 5, 10, or 25 pennies.	SMMA_LO_00727
1.7.b	The student will determine the value of a collection of pennies, nickels, and dimes whose total value is 100 cents or less.	Determine the number of cents in 1 to 100 pennies, 1 to 20 nickels, or 1 to 10 dimes.	SMMA_LO_00143
		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
		Identify the given amount of money in coins (5 to 50 cents in nickels and dimes).	SMMA_LO_00740
		Enter the amount of money shown (10 to 99 cents).	SMMA_LO_00760
		Show the given amount of money in coins (25 to 90 cents in pennies, nickels, dimes, and quarters).	SMMA_LO_00778

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VA Standard	VA Standard Text	Item Description	Item ID
1.8	The student will tell time to the half-hour, using analog and digital clocks.	Tell time to the half-hour using an analog clock.	SMMA_LO_00724
1.9	The student will use nonstandard units to measure length, weight/mass, and volume.	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
		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
1.10.a	The student will compare, using the concepts of more, less, and equivalent, the volumes of two given containers.	Identify the container with the greatest or least capacity.	SMMA_LO_00696
1.12	The student will identify and trace, describe, and sort plane geometric figures (triangle, square, rectangle, and circle) according to number of sides, vertices, and right angles.	Count the number of sides in a polygon.	SMMA_LO_00586
		Identify corners (vertices) of polygons.	SMMA_LO_00589
		Count the corners (vertices) of a polygon (3 to 7 corners).	SMMA_LO_00596
		R: Match halves of figures (top and bottom).	SMMA_LO_00563
		R: Identify open and closed figures.	SMMA_LO_00580
		R: Connect points on a geoboard to copy a figure.	SMMA_LO_00611
1.13	The student will construct, model, and describe objects in the environment as geometric shapes (triangle, rectangle, square, and circle) and explain the reasonableness of each choice.	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
1.14	The student will investigate, identify, and describe various forms of data collection (e.g., recording daily temperature, lunch count, attendance, favorite ice cream), using tables, picture graphs, and object graphs.	Given a chart of tree growth, infer which of two years there was more rainfall.	SMMA_LO_01305
1.15	The student will interpret information displayed in a picture or object graph, using the vocabulary more, less, fewer, greater than, less than, and equal to.	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
		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

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VA Standard	VA Standard Text	Item Description	Item ID
1.16	The student will sort and classify concrete objects according to one or more attributes, including color, size, shape, and thickness.	R: Match complex congruent figures in different orientations.	SMMA_LO_00581
1.18	The student will demonstrate an understanding of equality through the use of the equal sign.	Determine if equations involving addition and subtraction are true or false.	SMMA_LO_02024
2.1.a	The student will read, write, and identify the place value of each digit in a three-digit numeral, using numeration models.	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 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 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
		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
		2.1.b	The student will round two-digit numbers to the nearest ten.
Round a two-digit number to the nearest ten.	SMMA_LO_01028		
Estimate the number of objects to the nearest ten (21 to 49 objects).	SMMA_LO_01548		
Round two-digit numbers to the nearest ten.	SMMA_LO_01647		
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		
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		

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VA Standard	VA Standard Text	Item Description	Item ID
2.1.c	The student will compare two whole numbers between 0 and 999, using symbols ($>$, $<$, or $=$) and words (greater than, less than, or equal to).	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 differences (minuends 1 to 9).	SMMA_LO_00337
		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 two numbers within a range (1 to 9).	SMMA_LO_00963
		Find two numbers when given place value clues (two-digit).	SMMA_LO_00990
		Identify two numbers that make an inequality true (0 to 9).	SMMA_LO_00994
		Identify two numbers that make an inequality true (two-digit).	SMMA_LO_00997
		Find two numbers within a range (two-digit).	SMMA_LO_00998
		Identify the greatest or least number (two-digit).	SMMA_LO_00999
		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 four numbers that are in consecutive order (three-digit).	SMMA_LO_01021
		Identify whole numbers on a number line that satisfy the inequality (0 to 10).	SMMA_LO_01023
		Identify the greatest or least number (three-digit).	SMMA_LO_01026
		Identify four numbers that are in consecutive order (three-digit).	SMMA_LO_01029
		Identify a set of numbers between two numbers, or less than or greater than a given number (101	SMMA_LO_01068
		Identify the value that is greater than one number and less than another in context.	SMMA_LO_01554
R: Identify a number on a number line between two given numbers (1 to 9).	SMMA_LO_00993		
2.3.a	The student will identify the parts of a set and/or region that represent fractions for halves, thirds, fourths, sixths, eighths, and tenths.	Identify a model that represents a fraction (halves, thirds, fourths).	SMMA_LO_00404
		Count the fractional parts and total number of parts in a set (halves, thirds, fourths).	SMMA_LO_00412
		Identify the figure divided into equal parts (halves to eighths).	SMMA_LO_00417
		Identify the picture that shows one number is one-half of another number.	SMMA_LO_00418
		Count shaded parts and the total number of parts (halves to eighths).	SMMA_LO_00419
		R: Identify the figure showing the fraction of a set shaded (halves, thirds, fourths).	SMMA_LO_00413
		R: Count the shaded and total number of elements in a set (halves to eighths).	SMMA_LO_00423

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VA Standard	VA Standard Text	Item Description	Item ID
2.4.a	The student will count forward by twos, fives, and tens to 100, starting at various multiples of 2, 5, or 10.	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
		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
		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
		Find the missing number in a sequence, counting by 5's or 10's.	SMMA_LO_01231
2.4.c	The student will recognize even and odd numbers.	Identify an even or odd number (2 to 99).	SMMA_LO_01050
		Identify the expression whose sum is odd or even (basic facts).	SMMA_LO_01053
		Identify odd or even numbers (two- and three-digit).	SMMA_LO_01054
2.5	The student will recall addition facts with sums to 20 or less and the corresponding subtraction facts.	Add doubles (sums 4 to 18).	SMMA_LO_00019
2.6.b	The student, given two whole numbers whose sum is 99 or less, will find the sum, using various methods of calculation.	Add two multiples of 10 (student choice, sums 20 to 90).	SMMA_LO_00025
		Add two addends (one- and two-digit addends, sums 11 to 99, no regrouping).	SMMA_LO_00033
		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
		Add two addends (student choice, a one-digit and a two-digit addend, sums 20 to 98, regrouping).	SMMA_LO_00054
		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 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
		Explain how to solve an addition problem, either by using place value blocks or by rewriting the problem.	SMMA_LO_02012
		Mentally find 10 more or 10 less than a given two-digit number; model the solution with place value blocks.	SMMA_LO_02020

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VA Standard	VA Standard Text	Item Description	Item ID
2.7.b	The student, given two whole numbers, each of which is 99 or less, will find the difference, using various methods of calculation.	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 c in $a - b = c$ (minuends 20 to 99, regrouping).	SMMA_LO_00342
		Find the difference between two numbers (two-digit, presented as a sentence).	SMMA_LO_01000
		Subtract two multiples of 10 (student choice, minuends 20 to 90, subtrahends 10 to 80).	SMMA_LO_01426
		Subtract (student choice, minuends 21 to 95, subtrahends 1 to 9, no regrouping).	SMMA_LO_01428
		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 (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
		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 difference of two whole numbers (two-digit numbers, regrouping).	SMMA_LO_01488
		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
		Mentally find 10 more or 10 less than a given two-digit number; model the solution with place value blocks.	SMMA_LO_02020
2.8	The student will create and solve one- and two-step addition and subtraction problems, using data from simple tables, picture graphs, and bar graphs.	Solve an addition problem using data in a table (sums 100 to 198).	SMMA_LO_01595
		Read and interpret a table about temperature.	SMMA_LO_01646
		Read and interpret a table.	SMMA_LO_01695
		R: Solve a subtraction problem in context to find how much is left (two-digit numbers, no regrouping).	SMMA_LO_01561
		R: Solve a subtraction problem involving coins (two-digit numbers, no regrouping).	SMMA_LO_01579
2.9	The student will recognize and describe the related facts that represent and describe the inverse relationship between addition and subtraction.	Create a fact family (addition and subtraction).	SMMA_LO_01857

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2.10.a	The student will count and compare a collection of pennies, nickels, dimes, and quarters whose total value is \$2.00 or less.	Find equivalence of nickels and dimes (1 to 5 dimes).	SMMA_LO_00738
		Show another way to represent an amount of money (10 to 24 cents in pennies, nickels, and dimes).	SMMA_LO_00745
		Identify the set of coins that has greater value (16 to 75 cents in pennies, nickels, dimes, and quarters).	SMMA_LO_00765
		Find the total value of a group of quarters, dimes, nickels, and pennies (sums to \$1.65).	SMMA_LO_01611
		R: Identify items that can be purchased for a nickel.	SMMA_LO_01541
2.11.a	The student will estimate and measure length to the nearest centimeter and inch.	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 two lengths and find the sum (metric, sums 2 to 9).	SMMA_LO_00753
		Measure the length of an object to the nearest inch (1 to 6 inches).	SMMA_LO_00755
		Measure two metric lengths, write an addition problem, and find the sum (sums 2 to 12 centimeters).	SMMA_LO_00756
		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
		Measure the length of an object in cm and inches; relate the two measurements to the sizes of the units.	SMMA_LO_02003
		Measure two objects in inches; determine how much longer one object is than the other.	SMMA_LO_02015
		R: Identify a vertical distance (2 to 9 centimeters).	SMMA_LO_00758
		R: Select the appropriate ruler to measure vertical or horizontal lengths.	SMMA_LO_00812
		2.11.c	The student will estimate and measure liquid volume in cups, pints, quarts, gallons, and liters.
2.12	The student will tell and write time to the nearest five minutes, using analog and digital clocks.	Show time to 5-minute intervals using digital and analog clocks.	SMMA_LO_00744
		Match digital times with descriptions (e.g., quarter to or quarter past).	SMMA_LO_00806
2.13.b	The student will identify specific days and dates on a given calendar.	Enter the missing date on a calendar.	SMMA_LO_00700
2.14	The student will read the temperature on a Celsius and/or Fahrenheit thermometer to the nearest 10 degrees.	Read a thermometer to the nearest 10 degrees (Fahrenheit).	SMMA_LO_00768
2.15.a	The student will draw a line of symmetry in a figure.	Draw a vertical or horizontal line of symmetry.	SMMA_LO_00608
		Identify the lines of symmetry in an object.	SMMA_LO_01699

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2.15.b	The student will identify and create figures with at least one line of symmetry.	Identify the vertical line of symmetry.	SMMA_LO_00595
		Identify the horizontal line of symmetry.	SMMA_LO_00597
		Identify lines that are lines of symmetry.	SMMA_LO_00623
		Complete a symmetrical drawing.	SMMA_LO_00647
		Identify the shape with a given number of lines of symmetry.	SMMA_LO_01773
2.16	The student will identify, describe, compare, and contrast plane and solid geometric figures (circle/sphere, square/cube, and rectangle/rectangular prism).	Identify matching congruent geometric solids.	SMMA_LO_00567
		Identify similar three-dimensional figures.	SMMA_LO_00592
		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
		Sort two-dimensional and three-dimensional shapes.	SMMA_LO_01677
2.17	The student will use data from experiments to construct picture graphs, pictographs, and bar graphs.	Create a vertical bar graph from a table and interpret data in the graph.	SMMA_LO_01130
		Collect, tally, and graph the results generated by a spinner.	SMMA_LO_01144
		Create a bar graph using data from a chart of values.	SMMA_LO_01696
		R: Label the categories of a vertical bar graph based on data from a table.	SMMA_LO_01138
		R: Create a table based on data from a bar graph.	SMMA_LO_01645
2.19	The student will analyze data displayed in picture graphs, pictographs, and bar graphs.	Read and interpret a horizontal or vertical pictograph (four to six items).	SMMA_LO_00138
		Interpret the shorter or taller bar of a vertical bar graph as having fewer or more items.	SMMA_LO_01131
		Create a table from a vertical bar graph.	SMMA_LO_01132
		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 a vertical bar graph that represents data in a table.	SMMA_LO_01134
		Identify the vertical bar graph that shows a strictly increasing or decreasing trend.	SMMA_LO_01135
		Identify the table that represents the data in a vertical bar graph.	SMMA_LO_01136
		Construct a vertical bar graph based on data from a horizontal bar graph.	SMMA_LO_01146
		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
		Construct a horizontal bar graph based on data from a vertical bar graph.	SMMA_LO_01150
		Analyze a bar graph to find the number of bars that fall within a given range.	SMMA_LO_01154
		Complete and interpret a pictograph.	SMMA_LO_01207
		Read and interpret data about tree growth from a bar graph.	SMMA_LO_01302
		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		

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2.21	The student will solve problems by completing numerical sentences involving the basic facts for addition and subtraction. The student will create story problems, using the numerical sentences.	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
		R: Identify a two-digit number, model, or expression that has a different value.	SMMA_LO_00991
		R: Act out a problem to find the sum of three numbers (one-digit addends).	SMMA_LO_01249
3.1.a	The student will read and write six-digit numerals and identify the place value and value of each digit.	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
		Identify the value of a given digit in a four-digit number.	SMMA_LO_01062
		Enter the number for a word name (1000 to 9999).	SMMA_LO_01065
		Identify the digits in the period (hundreds, thousands, millions, and billions).	SMMA_LO_01083
		Express a number in expanded notation or determine the number from an expanded notation.	SMMA_LO_01097
3.1.b	The student will round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand.	Round a three-digit number to the nearest hundred.	SMMA_LO_01036
		Round a two-digit or three-digit number to the nearest ten.	SMMA_LO_01059
		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
3.1.c	The student will compare two whole numbers between 0 and 9,999, using symbols (>, <, or =) and words (greater than, less than, or equal to).	Identify a number that is between two numbers, or before, after, or closer to a number (101 to 999).	SMMA_LO_01027
3.2	The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. The student will use these relationships to solve problems.	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 (two addends, sums 20 to 98, regrouping).	SMMA_LO_00084
		Find the missing addend in a number sentence (two addends, sums 100 to 199, regrouping).	SMMA_LO_00086
		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

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3.2	The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. The student will use these relationships to solve problems.	Solve for a, b, or c in $a + b + c = d$ (sums 10 to 19).	SMMA_LO_00335
		Solve for a or b in $a + b = c$ (sums 10 to 108).	SMMA_LO_00336
		Solve for a or b in $a + b = c$ (sums 12 to 98).	SMMA_LO_00341
		Solve for a or b in $a - b = c$ (minuends 20 to 99, no regrouping).	SMMA_LO_00343
		Solve for a or b in $a + b = c$ (sums 101 to 199, no regrouping).	SMMA_LO_00345
		Solve for a or b in $a - b = c$ (minuends 21 to 99, subtrahends 1 to 9, no regrouping).	SMMA_LO_00347
		Solve for a or b in $a \times b = c$ (products 1×2 to 5×9).	SMMA_LO_00351
		Solve for a or b in $a \div b = c$ (combinations 6×6 to 9×9).	SMMA_LO_00354
		Find the missing factor (products 6×6 to 9×9).	SMMA_LO_00877
		Find the missing factor (products 2×2 to 12×12).	SMMA_LO_00881
		Identify a missing number in related addition and subtraction number sentences (two-digit sums, two-digit differences).	SMMA_LO_01060
		Work backwards to solve a problem with a missing number.	SMMA_LO_01266
		Identify an expression that can be used to solve a problem (inverse operations).	SMMA_LO_01275
		Work backward to solve a two-step problem.	SMMA_LO_01288
		Find the missing subtrahend in a subtraction number sentence (minuends 21 to 99).	SMMA_LO_01470
		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 missing minuend in a subtraction number sentence (minuends 20 to 98, subtrahends 11 to 89).	SMMA_LO_01491
		Solve an addition problem in context (two-digit addends, sums less than 100, no regrouping).	SMMA_LO_01656
		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
Identify the missing number (addend or sum) in an addition equation, for numbers 20 and less.	SMMA_LO_02010		
Identify the missing number (minuend, subtrahend, or difference) in a subtraction equation, for numbers 20 and less.	SMMA_LO_02014		

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VA Standard	VA Standard Text	Item Description	Item ID
3.2	The student will recognize and use the inverse relationships between addition/subtraction and multiplication/division to complete basic fact sentences. The student will use these relationships to solve problems.	Apply the Commutative Property of Multiplication as a strategy to multiply and divide whole numbers.	SMMA_LO_02036
		Represent a division problem as an unknown-factor problem; then find the missing factor.	SMMA_LO_02039
		R: Solve a problem in context by finding a missing addend (three addends, sums to 20).	SMMA_LO_01574
		R: Solve an addition problem in context (three addends, sums 9 to 18).	SMMA_LO_01576
3.3.a	The student will name and write fractions (including mixed numbers) represented by a model.	Identify a fraction that represents a model (halves, thirds, fourths).	SMMA_LO_00405
		Identify the fraction representing a shaded region (halves, thirds, fourths).	SMMA_LO_00410
		Identify the fraction representing shaded items in a set (halves, thirds, fourths).	SMMA_LO_00414
		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
		Using pictures, find a fractional amount of a whole number (product of halves to fourths and 2 to 16).	SMMA_LO_00428
		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
		R: Count the number of equal parts in a fractional model (2 to 8 parts).	SMMA_LO_00402
		R: Count the fractional parts and total number of parts in a region (halves, thirds, fourths).	SMMA_LO_00403
		R: 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
		3.3.b	The student will model fractions (including mixed numbers) and write the fractions' names.
Identify a fractional portion of a set (halves, thirds, fourths).	SMMA_LO_00415		
Identify a fractional portion of a set (halves to eighths).	SMMA_LO_00425		
Partition shapes into equal parts.	SMMA_LO_02000		
Model a fraction a/b by filling in a out of b sections in a fraction model.	SMMA_LO_02034		
Represent a unit fraction $1/b$ by partitioning a number line and then finding $1/b$ on it.	SMMA_LO_02148		
3.3.c	The student will compare fractions having like and unlike denominators, using words and symbols ($>$, $<$, or $=$).	Using a number line, compare fractions (like denominators, halves to sixteenths).	SMMA_LO_00434
		Compare fractions (like denominators, thirds to sixteenths).	SMMA_LO_00447

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VA Standard	VA Standard Text	Item Description	Item ID
3.4	The student will estimate solutions to and solve single-step and multistep problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping.	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 addends (100 and a three-digit number, sums 200 to 900).	SMMA_LO_00057
		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 1000 to 1899, regrouping).	SMMA_LO_00077
		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
		Add two addends (a two-digit and a three-digit addend, sums 111 to 899, regrouping).	SMMA_LO_00089
		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 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
Compare sums (two-digit addends, multiples of 10).	SMMA_LO_00334		
Solve for d in $a + b + c = d$ (one-digit addends, sums 20 to 27).	SMMA_LO_00339		

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VA Standard	VA Standard Text	Item Description	Item ID
3.4	The student will estimate solutions to and solve single-step and multistep problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping.	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
		Identify the best estimate for a sum of two numbers (two-digit addends, round to the nearest 10).	SMMA_LO_01052
		Determine the reasonableness of a sum or difference (two- and three-digit numbers).	SMMA_LO_01259
		Calculate the difference between the life spans of two animals (differences 2 to 59).	SMMA_LO_01310
		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 100 from a three-digit number presented in a sentence.	SMMA_LO_01459
		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

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3.4	The student will estimate solutions to and solve single-step and multistep problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping.	Find the difference of two three-digit numbers (student choice, regrouping from the tens to the ones place).	SMMA_LO_01487
		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
		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
		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		

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3.4	The student will estimate solutions to and solve single-step and multistep problems involving the sum or difference of two whole numbers, each 9,999 or less, with or without regrouping.	Solve a subtraction problem in context (two-digit minuends, one-digit subtrahends, no regrouping).	SMMA_LO_01560
		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 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
		Solve a problem in context that involves finding the difference of 2 three-digit numbers.	SMMA_LO_01610
3.5	The student will recall multiplication facts through the twelves table, and the corresponding division facts.	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
		Find the missing dividend or divisor (combinations 4 x 4 to 7 x 7).	SMMA_LO_00285
		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
		Complete fact families with four facts (products 2 x 3 to 8 x 9).	SMMA_LO_00344
		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 a or b in $a \times b = c$ (products 1 x 2 to 5 x 9).	SMMA_LO_00351
		Solve for a or b in $a \div b = c$ (combinations 1 x 2 to 5 x 5).	SMMA_LO_00352
		Solve for c in $a \times b = c$ (products 6 x 2 to 9 x 12).	SMMA_LO_00353
		Solve for a or b in $a \div b = c$ (combinations 6 x 6 to 9 x 9).	SMMA_LO_00354
		Compare quotients (combinations 2 x 2 to 9 x 9).	SMMA_LO_00355
		Multiply whole numbers (products to 5 x 5).	SMMA_LO_00855
		Find the missing factor (products to 5 x 5).	SMMA_LO_00856
		Multiply whole numbers (products 6 x 1 to 9 x 5).	SMMA_LO_00857
		Find the missing factor (products to 5 x 5).	SMMA_LO_00858
		Multiply whole numbers displayed horizontally (products 1 x 6 to 5 x 9).	SMMA_LO_00859
		Find the missing factor (products 1 x 6 to 5 x 9).	SMMA_LO_00860
		Multiply whole numbers (products 1 x 2 to 5 x 5).	SMMA_LO_00861
		Find the missing factor (products 1 x 6 to 5 x 9).	SMMA_LO_00862
		Multiply whole numbers (products 1 x 6 to 5 x 9).	SMMA_LO_00863
		Find the missing factor (products 1 x 6 to 9 x 5).	SMMA_LO_00864
Multiply whole numbers (products 6 x 2 to 9 x 5).	SMMA_LO_00865		

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3.5	The student will recall multiplication facts through the twelves table, and the corresponding division facts.	Find the missing factor (products 6×1 to 9×5).	SMMA_LO_00866
		Multiply whole numbers (products 6×6 to 9×9).	SMMA_LO_00867
		Multiply whole numbers displayed horizontally (products 6×6 to 9×9).	SMMA_LO_00868
		Multiply whole numbers (products 10×2 to 12×12).	SMMA_LO_00871
		Find the missing factor (products 6×6 to 9×9).	SMMA_LO_00873
		Multiply whole numbers (products 2×12 to 12×12).	SMMA_LO_00875
		Find the missing factor (products 6×6 to 9×9).	SMMA_LO_00877
3.6	The student will represent multiplication and division, using area, set, and number line models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.	Find the missing factor (products 2×2 to 12×12).	SMMA_LO_00881
		Divide using graphic models (combinations to 5×5).	SMMA_LO_00279
		Use repeated addition to multiply (products 2×2 to 5×5).	SMMA_LO_00852
		Solve addition and multiplication problems (products 2×1 to 2×5).	SMMA_LO_00853
		Solve addition and multiplication problems (products 2×6 to 2×9).	SMMA_LO_00854
		Find the missing numbers on a number line counting by 3's or 9's (3 to 81).	SMMA_LO_01034
		Make a picture to solve a multiplication problem (basic facts).	SMMA_LO_01237
		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
		Identify a picture that represents a multiplication problem (basic facts).	SMMA_LO_01246
		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 2×2 to 5×5).	SMMA_LO_01572
		Solve a multiplication problem in context (repeated addition feedback, products 2×2 to 5×5).	SMMA_LO_01578
		Use repeated subtraction to solve a division problem (dividends 4 to 24).	SMMA_LO_01664
		Identify equivalent arrays with different factors.	SMMA_LO_01715
		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

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3.6	The student will represent multiplication and division, using area, set, and number line models, and create and solve problems that involve multiplication of two whole numbers, one factor 99 or less and the second factor 5 or less.	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
		Represent a division problem as an unknown-factor problem; then find the missing factor.	SMMA_LO_02039
		R: Identify the number sentence that represents a division problem in context (model shown, dividends to 20).	SMMA_LO_01569
		R: 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 four arrays for a given product (products 6 to 30).	SMMA_LO_01858
		R: Create arrays for a given product (products 6 to 30).	SMMA_LO_01859
3.7	The student will add and subtract proper fractions having like denominators of 12 or less.	Determine addition expressions that are equivalent to a given fraction.	SMMA_LO_02146
3.8	The student will determine, by counting, the value of a collection of bills and coins whose total value is \$5.00 or less, compare the value of the bills and coins, and make change.	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
		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
		Identify the fraction of a dollar a coin is worth (penny to half-dollar).	SMMA_LO_00809
		Make a picture to find the change received from a purchase (change back from \$1.00).	SMMA_LO_01583
		Find the change from one dollar (item costs 55 to 99 cents).	SMMA_LO_01598
		Find the change from one dollar for two to four items (each 10, 15, or 20 cents).	SMMA_LO_01609
		3.9.a	The student will estimate and use U.S. Customary and metric units to measure length to the nearest 1/2-inch, inch, foot, yard, centimeter, and meter.
R: Select the appropriate standard unit of measurement for length, capacity, and weight (customary).	SMMA_LO_00729		
R: Select the appropriate standard unit of measurement for length, capacity, and weight (metric).	SMMA_LO_00767		
3.9.b	The student will estimate and use U.S. Customary and metric units to measure liquid volume in cups, pints, quarts, gallons, and liters.	Add units of capacity (pints, sums 2 to 6).	SMMA_LO_00764
		R: Select the appropriate standard unit of measurement for length, capacity, and weight (customary).	SMMA_LO_00729
		R: Add nonstandard units of capacity (sums 2 to 8).	SMMA_LO_00739
		R: Subtract nonstandard units of capacity (differences 0 to 3).	SMMA_LO_00742

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3.9.b	The student will estimate and use U.S. Customary and metric units to measure liquid volume in cups, pints, quarts, gallons, and liters.	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
3.9.c	The student will estimate and use U.S. Customary and metric units to measure weight/mass in ounces, pounds, grams, and kilograms.	R: Select the appropriate standard unit of measurement for length, capacity, and weight (customary).	SMMA_LO_00729
		R: Select the appropriate standard unit of measurement for length, capacity, and weight (metric).	SMMA_LO_00767
		R: Identify the reasonable weight of an object (ounces, pounds, and tons).	SMMA_LO_00787
3.10.a	The student will measure the distance around a polygon in order to determine perimeter.	Find the perimeter of a figure (3 to 10 nonstandard units).	SMMA_LO_00757
		Given the length of one side of a rectangle, measure another side, and then find the perimeter.	SMMA_LO_00788
		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
3.10.b	The student will count the number of square units needed to cover a given surface in order to determine area.	Count squares to find the area (2 to 8 units).	SMMA_LO_00706
		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
		Identify a unit square and what attribute it is used to measure.	SMMA_LO_02027
		Find the area of a plane figure made up of square units and halves of square units.	SMMA_LO_02028
3.11.a	The student will tell time to the nearest minute, using analog and digital clocks.	Show time to the minute using digital and analog clocks.	SMMA_LO_00771
		Identify another way to state the time (minutes before or after the hour).	SMMA_LO_00779
		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

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3.11.b	The student will determine elapsed time in one-hour increments over a 12-hour period.	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
		Find the time one to five hours before or after a given time (across 12 o'clock).	SMMA_LO_00162
		Determine elapsed time (1 to 6 hours, start and end times on the hour, can cross 12 o'clock).	SMMA_LO_00731
3.14	The student will identify, describe, compare, and contrast characteristics of plane and solid geometric figures (circle, square, rectangle, triangle, cube, rectangular prism, square pyramid, sphere, cone, and cylinder) by identifying relevant characteristics, including the number of angles, vertices, and edges, and the number and shape of faces, using concrete models.	Identify faces, edges, and vertices of solids.	SMMA_LO_00632
		Count the vertices, edges, or faces of a prism or pyramid.	SMMA_LO_00643
		Identify the set of faces for a geometric solid.	SMMA_LO_00664
		Classify and sort three-dimensional solids based on attributes using formal geometric language.	SMMA_LO_02138
3.16	The student will identify and describe congruent and noncongruent plane figures.	Determine whether two to six segments divide a figure into congruent parts.	SMMA_LO_00634
		Draw one to two segments to divide a figure into two to four congruent parts.	SMMA_LO_00640
		R: Identify the model that is divided into equal parts (2 to 8 parts).	SMMA_LO_00400
3.17.b	The student will construct a line plot, a picture graph, or a bar graph to represent the data.	Make a pictograph from a set of data.	SMMA_LO_00146
		Create a bar graph.	SMMA_LO_01769
3.17.c	The student will read and interpret the data represented in line plots, bar graphs, and picture graphs and write a sentence analyzing the data.	Read and interpret a horizontal pictograph with a scale of 2 (five items).	SMMA_LO_00140
		Analyze a line plot to find the total number of items that fall at, above, or below a given value.	SMMA_LO_01156
		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
3.18	The student will investigate and describe the concept of probability as chance and list possible results of a given situation.	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
3.20.a	The student will investigate the identity and the commutative properties for addition and multiplication.	Apply the Commutative Property of Multiplication as a strategy to multiply and divide whole numbers.	SMMA_LO_02036

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VA Standard	VA Standard Text	Item Description	Item ID
4.1.a	The student will identify orally and in writing the place value for each digit in a whole number expressed through millions.	Identify a number with a given digit in the thousands to hundred millions place.	SMMA_LO_01064
		Enter a number in a place-value chart (10,000 to 999,999).	SMMA_LO_01070
		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 number when given the word name (10,000 to 999,999).	SMMA_LO_01076
		R: Show a four-digit number with base-ten blocks.	SMMA_LO_01032
4.1.b	The student will compare two whole numbers expressed through millions, using symbols (>, <, or =).	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 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
4.1.c	The student will round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand.	Round a three- to five-digit number to the nearest hundred.	SMMA_LO_01081
		Round four- to five-digit numbers in context (to the nearest thousand).	SMMA_LO_01106
4.2.a	The student will compare and order fractions and mixed numbers.	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, numerators equal to one, halves to sixteenths).	SMMA_LO_00435
		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
		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: Using models, compare fractions (unlike denominators, halves to eighths).	SMMA_LO_00438

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VA Standard	VA Standard Text	Item Description	Item ID
4.2.b	The student will represent equivalent fractions.	Find a fraction equal to 1 (halves to eighths).	SMMA_LO_00427
		Using models, find equivalent fractions (halves to sixteenths).	SMMA_LO_00433
		Rewrite a fraction as a mixed number (halves to eighths).	SMMA_LO_00449
		Rewrite a mixed number as a fraction (fifths to ninths).	SMMA_LO_00450
		Find the missing numerator or denominator in an equivalent fraction (simplified fractions $1/2$ to $3/4$).	SMMA_LO_00451
		Determine if a fraction can be simplified; simplify if possible (simplified fractions $1/2$ to $3/4$).	SMMA_LO_00452
		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
		Determine the equivalent fractions using the least common denominator of two given fractions.	SMMA_LO_00494
		Identify two equivalent fractions for $1/2$.	SMMA_LO_01708
		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
		Model equivalent fractions; identify equivalent fractions on a number line.	SMMA_LO_02035
		4.2.c	The student will identify the division statement that represents a fraction.
Model a division word problem that results in a rational quotient; then express the word problem with an equation.	SMMA_LO_02047		
4.3.a	The student will read, write, represent, and identify decimals expressed through thousandths.	Mark the point on a number line that represents a decimal number (0.1 to 0.9).	SMMA_LO_00186
		Find the missing decimal number on a number line (tenths, 0.1 to 0.9).	SMMA_LO_00188
		Identify the decimal number with a 0 to 9 in the tenths or hundredths place.	SMMA_LO_00202
		Match the word name with the decimal number (0.10 to 9.99).	SMMA_LO_00204
		Enter a decimal number on a number line (1.11 to 9.89).	SMMA_LO_00213

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VA Standard	VA Standard Text	Item Description	Item ID
4.3.a	The student will read, write, represent, and identify decimals expressed through thousandths.	Find the missing decimal number on a number line (1.0 to 9.89).	SMMA_LO_00215
		Match a decimal number to its word name (to thousandths).	SMMA_LO_00227
		Identify the place value of a digit in a decimal number (tenths to ten thousandths).	SMMA_LO_00241
		Match a decimal number to a model (thousandths).	SMMA_LO_00242
		Enter a decimal number in a place-value chart (tenths to thousandths).	SMMA_LO_01089
		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
4.3.b	The student will round decimals to the nearest whole number, tenth, and hundredth.	Round a decimal to the nearest tenth, hundredth, or whole number.	SMMA_LO_00230
4.3.c	The student will compare and order decimals.	Compare decimal numbers (0.1 to 9.9).	SMMA_LO_00191
		Compare two decimal numbers (10.01 to 99.99).	SMMA_LO_00216
		Order three decimal numbers (tenths to hundredths).	SMMA_LO_00218
		Compare decimal numbers (to thousandths).	SMMA_LO_00225
		Order three decimals from least to greatest (to thousandths).	SMMA_LO_00236
		Identify a list of decimal numbers ordered from least to greatest.	SMMA_LO_01103
4.3.d	The student will given a model, write the decimal and fraction equivalents.	R: Find a missing number on a number line (0 to 9).	SMMA_LO_00961
		Determine the fraction and decimal that represent a model (base-ten blocks, tenths, 0.1 to 0.9).	SMMA_LO_00185
4.4.a	The student will estimate sums, differences, products, and quotients of whole numbers.	Estimate the quotient in a long division problem (three-digit dividend, two-digit divisor, remainder).	SMMA_LO_00301
		Estimate the quotient to the nearest ten (three-digit dividends, one-digit divisors).	SMMA_LO_00314
		Choose the best estimate for a long division problem (three-digit dividends, two-digit divisors).	SMMA_LO_00315
		Estimate the product of two numbers (factors 101 to 949).	SMMA_LO_00912
		Estimate the product of three factors (1,000 to 350,000).	SMMA_LO_01099
		Estimate the sum, difference, product or quotient to solve a problem in context (round to the nearest thousand).	SMMA_LO_01109
		Identify the best estimate for a quotient or a product using compatible numbers (factors less than 10 with two to four decimal places, divisors less than 10 with two to three decimal places).	SMMA_LO_01123
		Identify the expression that gives the best estimate for an addition or subtraction problem in context (two-digit numbers).	SMMA_LO_01566

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VA Standard	VA Standard Text	Item Description	Item ID
4.4.a	The student will estimate sums, differences, products, and quotients of whole numbers.	Estimate the sum or difference in a money problem by rounding to the nearest 10 (two-digit sums and differences).	SMMA_LO_01580
		Estimate the product by rounding the second factor.	SMMA_LO_01603
		Estimate the difference of 2 four-digit numbers to the nearest thousand.	SMMA_LO_01614
		Estimate the sum by rounding to the nearest 10 (two-digit addends).	SMMA_LO_01615
		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_01621
		Estimate the product by rounding each factor.	SMMA_LO_01622
		Estimate the sum by rounding to the nearest hundred (three-digit addends).	SMMA_LO_01675
		Estimate the difference (three-digit, differences 100 to 800).	SMMA_LO_01676
4.4.b	The student will add, subtract, and multiply whole numbers.	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 displayed horizontally (one-digit addends, sums 20 to 27).	SMMA_LO_00062
		Add three addends (student choice, one-digit addends, sums 20 to 27).	SMMA_LO_00069
		Add three addends (student choice, one-digit and two-digit addends, sums 21 to 99, no regrouping).	SMMA_LO_00079
		Find the missing addend in a number sentence (three addends, sums 20 to 27, regrouping).	SMMA_LO_00082
		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
		Add three addends (student choice, three-digit addends, sums 311 to 2997, regrouping in all places).	SMMA_LO_00098
		Multiply a two-digit number by a one-digit number (products 10 x 1 to 12 x 4).	SMMA_LO_00869
		Multiply whole numbers (student choice, products 10 x 2 to 15 x 5).	SMMA_LO_00870
		Multiply whole numbers (student choice, products 16 x 2 to 19 x 5).	SMMA_LO_00872

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VA Standard	VA Standard Text	Item Description	Item ID
4.4.b	The student will add, subtract, and multiply whole numbers.	Multiply whole numbers (student choice, products 10 x 6 to 15 x 9).	SMMA_LO_00874
		Multiply whole numbers (student choice, products 16 x 6 to 19 x 9).	SMMA_LO_00876
		Multiply whole numbers (student choice, products 20 x 2 to 90 x 9, multiples of 10).	SMMA_LO_00878
		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 (products 2 x 20 to 90 x 9, multiples of 10).	SMMA_LO_00885
		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
		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 (products 10,000 x 2 to 99,999 x 9).	SMMA_LO_00900
		Multiply whole numbers (student choice, products 16 x 11 to 19 x 99).	SMMA_LO_00901
		Multiply whole numbers (student choice, products 100 x 20 to 990 x 90, multiples of 10).	SMMA_LO_00902
		Multiply whole numbers (student choice, products 21 x 11 to 99 x 99).	SMMA_LO_00903
		Multiply whole numbers (student choice, products 101 x 20 to 999 x 90, multiples of 10).	SMMA_LO_00904
		Multiply whole numbers (student choice, products 100 x 21 to 990 x 90, multiples of 10).	SMMA_LO_00905
		Multiply (student choice, products 1000 x 20 to 9999 x 90, multiples of 10).	SMMA_LO_00906
		Multiply whole numbers (student choice, products 101 x 21 to 999 x 99).	SMMA_LO_00907
		Multiply by a multiple of 10 (student choice, 10,000 x 20 to 99,999 x 90).	SMMA_LO_00908
		Multiply whole numbers (student choice, products 1000 x 21 to 9999 x 99).	SMMA_LO_00909
		Multiply whole numbers (student choice, 10,000 x 21 to 99,999 x 99).	SMMA_LO_00910
		Multiply whole numbers (multiples of 10 or 100).	SMMA_LO_00911
		Multiply one- to five-digit whole numbers by powers of ten (10 to 100,000).	SMMA_LO_01078
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		

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VA Standard	VA Standard Text	Item Description	Item ID
4.4.b	The student will add, subtract, and multiply whole numbers.	Use logical reasoning to complete an addition puzzle with two three-digit addends.	SMMA_LO_01261
		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
4.4.c	The student will divide whole numbers, finding quotients with and without remainders	Divide using the long division algorithm (one-digit divisor, no remainder).	SMMA_LO_00290
		Divide (combinations 2 x 20 to 5 x 90).	SMMA_LO_00291
		Divide using the long division algorithm (one-digit divisor, remainder).	SMMA_LO_00292
		Divide (combinations 6 x 20 to 9 x 90).	SMMA_LO_00293
		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
		Multiply multiples of 10 using mental math (20 x 20 to 90 x 90).	SMMA_LO_00299
		Divide using the long division algorithm (four-digit dividend, one-digit divisor, remainder).	SMMA_LO_00300
		Divide using the long division algorithm (three-digit number, two-digit divisor, remainder).	SMMA_LO_00304
		Find the quotient of b divided by a (combinations 6 x 13 to 9 x 19).	SMMA_LO_00312
		Find the missing factor (products 20 x 11 to 90 x 99, multiples of 10).	SMMA_LO_00891
4.4.d	The student will solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.	Find the missing dividend or divisor (combinations 20 x 20 to 90 x 90).	SMMA_LO_00303
		Identify the missing information needed to solve a two-step problem; then solve the problem.	SMMA_LO_01274
		Read weights from a chart; choose two weights that equal a given total (sums to 1,500).	SMMA_LO_01301
		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 in context (3 three-digit addends, regrouping).	SMMA_LO_01597
		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

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4.4.d	The student will solve single-step and multistep addition, subtraction, and multiplication problems with whole numbers.	R: Identify extra information in a problem.	SMMA_LO_01272
		R: Use a picture to solve an addition problem with three addends.	SMMA_LO_01286
		R: Choose a method to solve a two-step problem.	SMMA_LO_01289
4.5.a	The student will determine common multiples and factors, including least common multiple and greatest common factor of up to two fractions.	Identify a common factor of two numbers (4 to 81).	SMMA_LO_01088
		Identify the common multiples for two to three numbers (2 to 20).	SMMA_LO_01096
		Given the prime factorization of two numbers, find the common multiple.	SMMA_LO_01108
		Find the greatest common factor for two to three numbers.	SMMA_LO_01110
		Find the least common multiple of two or three numbers.	SMMA_LO_01112
		R: Identify the number that is divisible by a given factor (numbers 2 to 81, factors 2 to 9).	SMMA_LO_01066
		R: Identify numbers that are multiples of a given number.	SMMA_LO_01069
		R: Identify the complete set of factors for a number (2 to 25).	SMMA_LO_01071
		R: Find the factors of a number and determine if the number is prime or composite (3 to 30).	SMMA_LO_01073
		R: Using a factor tree, find the prime factors of a number (2 to 32).	SMMA_LO_01087
		R: Identify which numbers are divisible by another number (divisors 2 to 10).	SMMA_LO_01101
R: Determine three factors of a given number.	SMMA_LO_01107		
4.5.b	The student will add and subtract fractions having like and unlike denominators that are limited to 2, 3, 4, 5, 6, 8, 10, and 12, and simplify the resulting fractions, using common multiples and factors.	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
		Using a model, rewrite a whole number as a fraction (halves to eighths).	SMMA_LO_00443
		Identify the difference when a fraction is subtracted from 1 (fourths to twelfths).	SMMA_LO_00445
		Using a model, rewrite a mixed number as a fraction (halves to eighths).	SMMA_LO_00446
		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
		R: Determine the least common denominator of two fractions.	SMMA_LO_00493

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4.5.c	The student will add and subtract with decimals.	Subtract metric length or weight measurements expressed as decimals (to tenths, difference 1.2 to 8.9, regrouping).	SMMA_LO_00159
		Add two decimal numbers (tenths, sums 1.0 to 2.0, regrouping).	SMMA_LO_00192
		Add two decimal numbers using mental math (sums 1.1 to 9.9, no regrouping).	SMMA_LO_00193
		Subtract decimal numbers using mental math (minuends and subtrahends 0.1 to 9.9, no regrouping).	SMMA_LO_00195
		Add two decimal numbers using mental math (sums 10.1 to 99.9, no regrouping).	SMMA_LO_00196
		Subtract decimal numbers using mental math (minuends and subtrahends 10.1 to 99.9, no regrouping).	SMMA_LO_00197
		Subtract decimal numbers (minuends 2.0 to 9.9, subtrahends 0.1 to 0.9, regrouping).	SMMA_LO_00198
		Add decimal numbers (sums less than 10.0, regrouping).	SMMA_LO_00199
		Add two decimal numbers (sums 1.0 to 98.9, regrouping).	SMMA_LO_00201
		Subtract decimal numbers (minuends and subtrahends 0.1 to 99.9, with or without regrouping).	SMMA_LO_00203
		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
		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
		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
		Identify the symbol (< or >) needed to complete the inequality.	SMMA_LO_00254
		Find a decimal number that is either greater than or less than two decimal numbers.	SMMA_LO_01118
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		

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4.5.d	The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and with decimals.	Solve an addition problem by finding the total cost of two items (prices expressed as decimals, total < \$0.50, no regrouping).	SMMA_LO_00181		
		Subtract mixed numbers in context; simplify if necessary (like denominators).	SMMA_LO_00481		
		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 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		
		Estimate the difference by rounding to the nearest dollar (minuends \$5.00 to \$20.00, subtrahends \$3.00 to \$15.00).	SMMA_LO_01669		
		Add fractions with like denominators (no simplifying).	SMMA_LO_01709		
		Read and interpret a line graph.	SMMA_LO_01764		
		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		
		4.6.a	The student will estimate and measure weight/mass and describe the results in U.S. Customary and metric units as appropriate.	Identify the reasonable mass for an object (grams and kilograms).	SMMA_LO_00807
				Identify the appropriate unit of measure (l, kl, g, kg, m, km).	SMMA_LO_01704
Identify the appropriate unit of weight.	SMMA_LO_01730				
4.6.b	The student will identify equivalent measurements between units within the U.S. Customary system (ounces, pounds, and tons) and between units within the metric system (grams and kilograms).	Convert between customary units of weight (ounces and pounds).	SMMA_LO_00797		
		Compare unlike customary units of weight and identify the correct statement (ounces and pounds).	SMMA_LO_00801		
4.7.a	The student will estimate and measure length, and describe the result in both metric and U.S. Customary units.	Identify the reasonable length of an object (inches, feet, and yards).	SMMA_LO_00780		
		Identify the reasonable length, width, or height of an object (millimeters, centimeters, and meters).	SMMA_LO_00803		
		Measure the length of a bar to the nearest 1/4 inch or 0.5 cm.	SMMA_LO_00822		
		Identify distances or objects that would be measured in cm, m, or km.	SMMA_LO_01703		

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VA Standard	VA Standard Text	Item Description	Item ID
4.7.b	The student will identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards; yards and miles) and between units within the metric system (millimeters and centimeters; centimeters and meters; and millimeters and meters).	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
		Convert customary units of length (inches, feet, and yards).	SMMA_LO_00791
		Compare unlike customary units of length (inches, feet, and yards).	SMMA_LO_00792
		Convert metric units of length (mm, cm, m, and km; whole numbers).	SMMA_LO_00814
4.8.a	The student will estimate and measure liquid volume and describe the results in U.S. Customary units.	Identify the reasonable customary capacity of an object (cups, pints, quarts, and gallons).	SMMA_LO_00794
		Identify the reasonable capacity of an object (milliliters and liters).	SMMA_LO_00811
		Choose the appropriate unit of capacity (ounce, cup, pint, quart, and gallon).	SMMA_LO_01864
4.8.b	The student will identify equivalent measurements between units within the U.S. Customary system (cups, pints, quarts, and gallons).	Convert customary units of capacity (cups, pints, quarts, and gallons).	SMMA_LO_00796
		Compare unlike customary units of capacity (cups, pints, quarts, and gallons).	SMMA_LO_00799
4.9	The student will determine elapsed time in hours and minutes within a 12-hour period.	Find the time one to twelve hours and ten to fifty-five minutes from a starting time.	SMMA_LO_00175
		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 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
		Convert units of time (seconds, minutes, hours, days, weeks, months, and years).	SMMA_LO_00837
		Given the ending time and the elapsed time, find the starting time.	SMMA_LO_01613
		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
4.10.a	The student will identify and describe representations of points, lines, line segments, rays, and angles, including endpoints and vertices.	Identify line segments.	SMMA_LO_00605
		Match the labeled angles to the correct angle notation.	SMMA_LO_00617
		Draw a line segment using a ruler (to 1/4 inch and 0.5 cm).	SMMA_LO_00800
4.10.b	The student will identify representations of lines that illustrate intersection, parallelism, and perpendicularity.	Predict whether or not lines will intersect.	SMMA_LO_00598
		Identify parallel and perpendicular streets on a map.	SMMA_LO_00619
		Count the points of intersection of two or more lines (0 to 5 intersection points).	SMMA_LO_00635
		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

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4.12.b	The student will identify polygons with 10 or fewer sides.	Identify a shape with positive and negative tests.	SMMA_LO_00578
		Identify the quadrilaterals in a set of figures.	SMMA_LO_00615
		Identify polygons and circles (pentagons, hexagons, octagons, parallelograms).	SMMA_LO_00627
4.13.a	The student will predict the likelihood of an outcome of a simple event.	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
		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
		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 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
4.13.b	represent probability as a number between 0 and 1, inclusive.	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
		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

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4.14	The student will collect, organize, display, and interpret data from a variety of graphs.	Graph and interpret rainfall data in a chart.	SMMA_LO_01328
		R: Read and interpret data in a table to determine the time it would take for skin to freeze.	SMMA_LO_01314
		R: Read and interpret data in a table to determine the time it would take for skin to freeze.	SMMA_LO_01315
		R: Choose a title for a line plot and label the units.	SMMA_LO_01643
4.15	The student will recognize, create, and extend numerical and geometric patterns.	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
		Extend a 1-2-1-2 pattern of geometric figures.	SMMA_LO_00520
		Extend a 1-1-2-2 pattern of geometric figures.	SMMA_LO_00522
		Match patterns of geometric figures.	SMMA_LO_00539
		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
		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
		Look for a pattern to solve a problem.	SMMA_LO_01276
		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 subtraction (minuends 30 to 50, subtrahends 2 to 5).	SMMA_LO_01654
		Describe the relationship between two sets of numbers in a relation or function using multiplication (factors 2 - 5).	SMMA_LO_01655
		Extend a geometric pattern.	SMMA_LO_01691
		Extend an iterative pattern.	SMMA_LO_01754
		R: Extend a 1-2-1-2 pattern of pictures.	SMMA_LO_00519
		R: Extend a 1-1-2-2 pattern of pictures.	SMMA_LO_00521
		R: Extend a 1-2-2 pattern of pictures.	SMMA_LO_00556
R: Identify the missing picture in a 1-2-3-1-2-3 pattern.	SMMA_LO_00607		
4.16.a	The student will recognize and demonstrate the meaning of equality in an equation.	Identify the missing operation in a subtraction or addition number sentence (basic facts).	SMMA_LO_01031
		Identify the missing operation (sums 20 to 99, differences 10 to 70).	SMMA_LO_01055
		Identify the missing operation in a number sentence (all operations).	SMMA_LO_01074
4.16.b	The student will investigate and describe the associative property for addition and multiplication.	Use the commutative and associative properties of addition to find the missing number.	SMMA_LO_01090
		Apply the Associative Property of Multiplication as a strategy to multiply whole numbers.	SMMA_LO_02037
		Apply the Associative Property of Addition to add three numbers.	SMMA_LO_02135

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5.1	The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth.	Compare the difference of two times to a given time (1 to 24 hours, across 12 o'clock).	SMMA_LO_00155
		Round a decimal to the nearest tenth, hundredth, or whole number.	SMMA_LO_00230
5.2.a	The student will recognize and name fractions in their equivalent decimal form and vice versa.	Match a fraction to a decimal (tenths, 0.1 to 0.9).	SMMA_LO_00184
		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
		Match a decimal number to an equivalent fraction (tenths to thousandths).	SMMA_LO_00224
5.3.a	The student will identify and describe the characteristics of prime and composite numbers.	Identify prime and composite numbers (one- or two-digit).	SMMA_LO_01105
		Identify sets of prime and composite numbers.	SMMA_LO_01119
		R: Identify the prime factorization of a two-digit number.	SMMA_LO_01093
5.3.b	The student will identify and describe the characteristics of even and odd numbers.	Identify if a sum or difference of two numbers is odd or even (one- or two-digit numbers).	SMMA_LO_01079
		Identify if the sum, difference, or product of two numbers is even or odd.	SMMA_LO_01086
5.4	The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.	Identify a reasonable answer for a division problem.	SMMA_LO_00246
		Find the missing factor (products 20 x 20 to 90 x 90, multiples of 10).	SMMA_LO_00893
		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
		Identify the missing information needed to solve a multiplication problem in context; then solve the problem.	SMMA_LO_01283
		Find the missing information needed to solve a problem; then solve.	SMMA_LO_01293
		Identify all the towns with temperatures below 32 degrees Fahrenheit on a weather map.	SMMA_LO_01311
		Predict the effect of changing temperatures on the weather.	SMMA_LO_01312
		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 with extra information.	SMMA_LO_01589
		Identify and solve an expression that represents a multiplication problem in context (products 3 x 4 to 9 x 9).	SMMA_LO_01590
		Solve a problem using data in a table (twice, half, three times, or four times an amount).	SMMA_LO_01593
		Solve a one-step division problem (math facts 2 x 2 to 9 x 9).	SMMA_LO_01600

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5.4	The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.	Identify the expression that represents a division problem in context; then solve the problem (dividends 12 to 81).	SMMA_LO_01605
		Solve a two-step multiplication and addition problem in context.	SMMA_LO_01633
		Use a model to represents a word problem involving multiplicative comparison. Then, use an equation to represent the solution to the word problem.	SMMA_LO_02009
5.5.a	The student will find the sum, difference, product, and quotient of two numbers expressed as decimals through thousandths (divisors with only one nonzero digit).	Subtract money amounts (sums less than \$17.00, regrouping).	SMMA_LO_00208
		Find the missing factor and quotient in two related number sentences (products 0.2×2 to 0.9×5).	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 (0.02×2 to 0.09×5).	SMMA_LO_00221
		Multiply two decimals or multiply a decimal by a whole number (tenths to hundredths).	SMMA_LO_00223
		Multiply decimals displayed horizontally (0.2×0.6 to 0.9×0.12).	SMMA_LO_00232
		Multiply decimals (to thousandths \times hundredths).	SMMA_LO_00234
		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
		Determine the missing factor in the multiplication number sentence (decimals, to ten-thousandths).	SMMA_LO_00240
		Divide decimals (0.3×0.3 to 0.9×0.09).	SMMA_LO_00245
		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
		Move the decimal point in the divisor and dividend in a long division problem; then find the quotient.	SMMA_LO_00249
		Divide decimals (0×2 to 2×5).	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
		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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5.5.b	The student will create and solve single-step and multistep practical problems involving decimals.	Identify the most reasonable answer to a multiplication problem involving money.	SMMA_LO_01278
		Identify the most reasonable answer to a division problem involving money.	SMMA_LO_01279
		Determine the number of dollar bills needed to buy three to five items.	SMMA_LO_01623
		Find the number of dollar bills needed to buy two to four items (each \$1.79 to \$3.99 each).	SMMA_LO_01629
		Add the decimal numbers provided on a data table.	SMMA_LO_01785
		Subtract the decimal numbers provided on a data table.	SMMA_LO_01786
		Solve a one-step equation with decimals in context (addition and subtraction).	SMMA_LO_01799
5.6	The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.	Add mixed numbers within a context; simplify if necessary (like denominators).	SMMA_LO_00480
		Subtract mixed numbers; simplify if necessary (like denominators).	SMMA_LO_00485
		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
		Estimate the sum, product, or quotient in problems with fractions.	SMMA_LO_01095
		Add mixed numbers with like denominators in context; simplify if necessary.	SMMA_LO_01624
		Subtract two fractions from a whole within a context.	SMMA_LO_01634
		Add two fractional parts of whole numbers in context.	SMMA_LO_01640
		Use addition to find an equivalent fraction for $\frac{1}{2}$.	SMMA_LO_01706
		R: Subtract a fraction from 1; simplify (halves to sixteenths).	SMMA_LO_00464
		R: Add fractions; no simplifying (unlike denominators).	SMMA_LO_00465
		R: Subtract fractions; no simplifying (unlike denominators).	SMMA_LO_00466
		R: Add fractions; no simplifying (unlike denominators).	SMMA_LO_00467
		R: Subtract fractions; no simplifying (unlike denominators).	SMMA_LO_00468
		R: Add fractions; simplify if necessary (unlike denominators).	SMMA_LO_00471
		R: Subtract fractions; simplify if necessary (unlike denominators).	SMMA_LO_00472
		R: Add fractions; simplify if necessary (unlike denominators).	SMMA_LO_00473
R: Subtract fractions; simplify if necessary (unlike denominators).	SMMA_LO_00474		
R: Add mixed numbers; simplify if necessary (like denominators).	SMMA_LO_00484		

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5.6	The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.	R: Add mixed numbers; simplify if necessary (unlike denominators).	SMMA_LO_00499
		R: Subtract mixed numbers; simplify if necessary (unlike denominators).	SMMA_LO_00500
		R: Add mixed numbers; simplify if necessary (unlike denominators).	SMMA_LO_00504
		R: Subtract mixed numbers; simplify if necessary (unlike denominators).	SMMA_LO_00505
		R: 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
5.7	The student will evaluate whole number numerical expressions, using the order of operations limited to parentheses, addition, subtraction, multiplication, and division.	Evaluate an expression using the order of operations.	SMMA_LO_01091
5.8.a	The student will find perimeter, area, and volume in standard units of measure.	Find the perimeter of a rectangle (24 to 48 customary or metric units).	SMMA_LO_00169
		Find the area of a rectangle (36 to 144 customary or metric square units).	SMMA_LO_00173
		Determine the volume of a box given the height, width, and length (60 to 480 customary or metric cubic units).	SMMA_LO_00174
		Find the area of a triangle (2 to 72 square inches).	SMMA_LO_00176
		Find the perimeter of a polygon (decimal numbers, metric units).	SMMA_LO_00790
		Find the area of a rectangle using a formula.	SMMA_LO_00810
		Identify the expression for the perimeter of a figure.	SMMA_LO_00818
		Given the lengths of all sides, find the perimeter of a rectangle.	SMMA_LO_00821
		Identify rectangles that have equal areas, but different dimensions.	SMMA_LO_00823
		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
		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
		R: Find the volume of a rectangular solid by counting cubes.	SMMA_LO_00829
		R: Find the volume of a rectangular solid by counting cubes.	SMMA_LO_00833
		R: Find the volume of a prism by packing the prism with unit cubes.	SMMA_LO_02042

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5.8.b	The student will differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.	Determine if the perimeter, area, or volume is needed to solve the problem.	SMMA_LO_00826
		Identify a unit cube and what attribute it is used to measure.	SMMA_LO_02041
5.8.c	The student will identify equivalent measurements within the metric system.	Add metric measurements with unlike units and express the sum in terms of the larger unit.	SMMA_LO_00172
		Compare unlike metric units and identify the correct statement (mm, cm, m, km; mL, L; mg, g, kg).	SMMA_LO_00820
5.9	The student will identify and describe the diameter, radius, chord, and circumference of a circle.	Identify parts of a circle (center, radius, and diameter).	SMMA_LO_00633
		Identify a part of a circle (center, radius, chord, or diameter).	SMMA_LO_00653
5.11	The student will measure right, acute, obtuse, and straight angles.	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
		Identify the better estimate for an angle measure.	SMMA_LO_00657
		Measure angles in degrees using a protractor.	SMMA_LO_00663
		R: Select the appropriate protractor to measure an angle.	SMMA_LO_00644
5.12.a	The student will classify angles as right, acute, obtuse, or straight.	Identify an angle as acute, right, or obtuse.	SMMA_LO_00628
		Identify right, acute, and obtuse angles in polygons.	SMMA_LO_00630
		Classify and sort two-dimensional geometric figures by properties and attributes.	SMMA_LO_01728
		R: Determine whether an angle is larger than, smaller than, or the same size as a right angle.	SMMA_LO_00624
5.12.b	The student will classify triangles as right, acute, obtuse, equilateral, scalene, or isosceles.	Identify acute, obtuse, and right triangles.	SMMA_LO_00655
		Identify equilateral, isosceles, and scalene triangles.	SMMA_LO_00658
		Identify all triangles of a particular class (acute, right, or obtuse).	SMMA_LO_01774
5.13.a	The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), will develop definitions of these plane figures.	Identify line segments in three- and four-sided figures.	SMMA_LO_00579
		Identify parallelograms, rhombuses, and trapezoids.	SMMA_LO_00620
		In a set of quadrilaterals, identify all the parallelograms.	SMMA_LO_00621
		Identify the set of vertices on a grid can be connected to form a figure (triangle, quadrilateral, rectangle, or square).	SMMA_LO_00625
		Identify the quadrilaterals that are trapezoids or rhombuses.	SMMA_LO_00659

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5.14	The student will make predictions and determine the probability of an outcome by constructing a sample space.	Given a graphical representation of a spinner, count the number of possible outcomes and complete a list of all the outcomes.	SMMA_LO_01209
		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
		Given a graphical representation of two spinners, select the spinner for which a given event has the highest probability of occurring.	SMMA_LO_01216
		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
		Given a graphical representation of two spinners, count all the possible outcomes for spinning each spinner once.	SMMA_LO_01665
		Determine the number of arrangements that can be made from two groups with two items.	SMMA_LO_01717
		Determine the arrangements that can be made with a group of two and a group of three items.	SMMA_LO_01718
		R: Determine the number of routes between two locations on a map.	SMMA_LO_01737
5.15	The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs.	Find the amount of increase or decrease between two points in a line graph.	SMMA_LO_01178
		Identify the value of a data item on a stem-and-leaf plot.	SMMA_LO_01186
		Find the frequency of a single data item on a stem-and-leaf plot.	SMMA_LO_01188
		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
		Create a line graph using data from a table.	SMMA_LO_01697
		Create a line graph.	SMMA_LO_01771
5.16.c	The student will find the mean, median, mode, and range of a set of data.	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
		Find the range of a set of data.	SMMA_LO_01166
		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 equal.	SMMA_LO_01169
		Identify the median of a data set with an even number of items and the two middle values are not equal.	SMMA_LO_01170

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5.16.c	The student will find the mean, median, mode, and range of a set of data.	Determine the range of a set of data represented in a line graph.	SMMA_LO_01176
		Determine the range, mean, median, and mode (one-digit numbers).	SMMA_LO_01210
		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 mode of a set of data.	SMMA_LO_01765
		Determine the range of a set of data.	SMMA_LO_01766
		Determine the median of a set of data.	SMMA_LO_01768
		R: Identify the mode of a set of data.	SMMA_LO_01164
		R: Solve a problem in context by finding the average (mean) of three to seven numbers.	SMMA_LO_01619
5.17	The student will describe the relationship found in a number pattern and express the relationship.	Identify the rule for an iterative pattern.	SMMA_LO_01840
5.18.b	The student will write an open sentence to represent a given mathematical relationship, using a variable.	Identify related multiplication and division number sentences that can be used to solve a problem.	SMMA_LO_01080
		R: Identify a number sentence that could be used to solve a multiplication problem.	SMMA_LO_01270
5.18.d	The student will create a problem situation based on a given open sentence, using a single variable.	Apply mathematical process standards to use equations and represent situations.	SMMA_LO_02140
5.19	The student will investigate and recognize the distributive property of multiplication over addition.	Apply the Distributive Property as a strategy to multiply whole numbers.	SMMA_LO_02038
		Apply the properties of operations to generate equivalent expressions.	SMMA_LO_02059
6.1	The student will describe and compare data, using ratios, and will use appropriate notations, such as a/b , a to b , and $a:b$.	Identify the ratio.	SMMA_LO_01712
		Write a ratio in three different forms.	SMMA_LO_01825
		Identify two unit rates for a given word problem.	SMMA_LO_02114
6.2.a	The student will investigate and describe fractions, decimals, and percents as ratios.	Express a fraction as a percent (denominator is 100).	SMMA_LO_01714
6.2.b	The student will identify a given fraction, decimal, or percent from a representation.	Determine the percent (100 total items).	SMMA_LO_01713
6.2.c	The student will demonstrate equivalent relationships among fractions, decimals, and percents.	Find an equivalent mixed number for a decimal (tenths to ten thousandths).	SMMA_LO_00255
		Determine the decimal and percent that is represented by a model (base-ten blocks, hundredths).	SMMA_LO_00256
		Divide to convert from a fraction to a decimal equivalent.	SMMA_LO_00258
		Determine the equivalent fraction for a decimal (the denominator is a factor of 100).	SMMA_LO_00259
		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

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VA Standard	VA Standard Text	Item Description	Item ID
6.2.c	The student will demonstrate equivalent relationships among fractions, decimals, and percents.	Identify equivalent representations of numbers.	SMMA_LO_01114
		Identify a number not equivalent to four others.	SMMA_LO_01116
		Express a fraction as a percent (denominator is 100).	SMMA_LO_01714
		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
6.2.d	The student will compare and order fractions, decimals, and percents.	Compare hundredths to multiples of $\frac{1}{4}$.	SMMA_LO_00209
6.3.a	The student will identify and represent integers.	Locate the missing integer on a number line (-3 to -12).	SMMA_LO_00101
		Read the temperature on a thermometer to nearest degree (-10 to 10 degrees).	SMMA_LO_00804
		Identify absolute value as a distance from zero on a number line.	SMMA_LO_01823
		Use positive and negative numbers together to represent quantities having opposite directions or values.	SMMA_LO_02066
6.3.b	The student will order and compare integers.	Determine the least or greatest integer (-10 to 10).	SMMA_LO_01102
6.3.c	The student will identify and describe absolute value of integers.	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
		Compare the absolute values of positive and negative quantities in a real-world situation.	SMMA_LO_02111
		R: Describe situations that can be represented by opposite quantities.	SMMA_LO_02086
6.4	The student will demonstrate multiple representations of multiplication and division of fractions.	Determine the sale price of an item when the price is reduced by one-half, one-third, or one-fourth.	SMMA_LO_01285
		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
		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
		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
		Determine whether multiplying a number by a factor results in scaling the number up or down.	SMMA_LO_02051
		Model the division of a unit fraction by a nonzero whole number, and compute the quotient.	SMMA_LO_02052

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VA Standard	VA Standard Text	Item Description	Item ID
6.4	The student will demonstrate multiple representations of multiplication and division of fractions.	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
6.5	The student will investigate and describe concepts of positive exponents and perfect squares.	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
6.6.a	The student will multiply and divide fractions and mixed numbers.	Multiply fractions; no simplifying.	SMMA_LO_00469
		Multiply a whole number by a proper fraction; no simplifying.	SMMA_LO_00470
		Multiply fractions; simplify.	SMMA_LO_00475
		Multiply fractions; simplify first.	SMMA_LO_00476
		Multiply a fraction and a whole number; simplify.	SMMA_LO_00477
		Multiply a fraction and a whole number; simplify first.	SMMA_LO_00478
		Divide fractions; simplify if necessary.	SMMA_LO_00487
		Divide a fraction by a whole number; simplify if necessary.	SMMA_LO_00489
		Divide a fraction by a mixed number; simplify if necessary.	SMMA_LO_00491
		Divide a whole number by a fraction.	SMMA_LO_00492
		Find a fractional part of a fraction.	SMMA_LO_00498
		Multiply mixed numbers; simplify if necessary.	SMMA_LO_00501
		Divide a mixed number by a whole number; simplify if necessary.	SMMA_LO_00502
		Multiply three fractions; simplify if necessary.	SMMA_LO_00506
		Divide fractions; simplify.	SMMA_LO_00512
		Divide a whole number by a fraction; simplify if necessary.	SMMA_LO_01787
		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
		Determine whether multiplying a number by a factor results in scaling the number up or down.	SMMA_LO_02050
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		
6.6.b	The student will estimate solutions and then solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions.	Find the fractional part of a recipe (multiply a fraction and a mixed number).	SMMA_LO_00835
		Estimate the difference of two fractions.	SMMA_LO_01707
		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

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VA Standard	VA Standard Text	Item Description	Item ID
6.6.b	The student will estimate solutions and then solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of fractions.	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: Estimate the missing factor in a number sentence (round to the nearest ten, products 2,010 to 81,090).	SMMA_LO_00913
6.7	The student will solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of decimals.	Interpret quotients of rational numbers by describing real-world contexts.	SMMA_LO_02088
		R: Subtract decimals with regrouping (to ten-thousandths).	SMMA_LO_00243
		R: Multiply decimals (to ten-thousandths x ten-thousandths).	SMMA_LO_00244
6.8	The student will evaluate whole number numerical expressions, using the order of operations.	Evaluate an expression using the order of operations.	SMMA_LO_01091
6.10.b	The student will solve practical problems involving circumference and area of a circle, given the diameter or radius.	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: Find the circumference, given the length of the diameter or the radius ($\pi = 3.14$).	SMMA_LO_00828
		R: Measure the diameter of a circle, and then determine the circumference.	SMMA_LO_01779
		R: Measure the radius of a circle, and then determine the circumference.	SMMA_LO_01780
		R: Measure the diameter of a circle, and then determine the area.	SMMA_LO_01781
		R: Measure the radius of a circle, and then determine the area.	SMMA_LO_01783
6.10.c	The student will solve practical problems involving area and perimeter.	Multiply mixed numbers to determine the area of a rectangle or triangle; simplify if necessary.	SMMA_LO_00508
		Find the perimeter of a polygon (decimal numbers, metric units).	SMMA_LO_00805
		Given a perimeter, mark equilateral polygons with the same side measures.	SMMA_LO_00849
		Find the area of a rectilinear figure in a context by decomposing it into two rectangles.	SMMA_LO_02032
6.10.d	The student will describe and determine the volume and surface area of a rectangular prism.	Choose the best estimate for the volume of a rectangular prism.	SMMA_LO_00848
		Compute the volume of right rectangular prisms using formulas.	SMMA_LO_02043
6.11.a	The student will identify the coordinates of a point in a coordinate plane.	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
6.11.b	The student will graph ordered pairs in a coordinate plane.	Identify a point on a coordinate grid given the ordered pair.	SMMA_LO_01092
		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

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VA Standard	VA Standard Text	Item Description	Item ID
6.11.b	The student will graph ordered pairs in a coordinate plane.	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
		Graph points on a coordinate plane based on a real-world context.	SMMA_LO_02112
6.12	The student will determine congruence of segments, angles, and polygons.	Identify congruent figures on a geoboard.	SMMA_LO_00606
		R: Identify the figure that is the same size and shape as a given figure.	SMMA_LO_00600
		R: Identify congruent angles.	SMMA_LO_00637
6.14.b	The student, given a problem situation, will draw conclusions and make predictions, using circle graphs.	Select a circle graph whose sectors are in the same proportions as the data displayed in a given table.	SMMA_LO_01160
		Select a table that contains data that are in the same proportions as the sectors of a graph.	SMMA_LO_01162
		Read and interpret data from a circle graph labeled with percents.	SMMA_LO_01208
6.16.b	The student will determine probabilities for dependent and independent events.	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 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
		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
		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
		Write a fraction to express the probability of an event.	SMMA_LO_01667
6.18	The student will solve one-step linear equations in one variable involving whole number coefficients and positive rational solutions.	Solve for a or b in $a \times b = c$ (products 6×2 to 9×12).	SMMA_LO_00357
		Solve for a or b in $a \times b = x$ (products 2×10 to 12×12).	SMMA_LO_00363
		Solve for a or b in $a \times b = x$ (products 2×20 to 12×90 , 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

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6.18	The student will solve one-step linear equations in one variable involving whole number coefficients and positive rational solutions.	Solve for a or b in $a \times b = c$ (products from 0.2×0.6 to 0.9×0.9).	SMMA_LO_00369
		Solve for a or b in $a \div b = c$ (combinations 0.6×0.6 to 0.9×0.9).	SMMA_LO_00370
		Solve a one-step equation (multiplication).	SMMA_LO_01690
		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
		R: Solve a one-step equation (division).	SMMA_LO_01692
7.1.b	The student will determine scientific notation for numbers greater than zero.	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
7.1.c	The student will compare and order fractions, decimals, percents, and numbers written in scientific notation.	Compare numbers written in scientific notation.	SMMA_LO_02072
		Compare rational numbers in real-world contexts.	SMMA_LO_02109
		Complete statements of order for rational numbers in real-world contexts.	SMMA_LO_02110
7.1.d	The student will determine square roots.	Find the square root of a number using a calculator (numbers to 4000).	SMMA_LO_01120
7.2	The student will describe and represent arithmetic and geometric sequences, using variable expressions.	Find a missing number in an arithmetic sequence (-200 to 200, intervals 3 to 8).	SMMA_LO_01115
		Find a missing number in a geometric sequence (first number 1 to 5, factors 2 to 5).	SMMA_LO_01117
		R: Extend an arithmetic sequence for three more terms.	SMMA_LO_01803
7.3.a	The student will model addition, subtraction, multiplication, and division of integers.	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
7.3.b	The student will add, subtract, multiply, and divide integers.	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
		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

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7.3.b	The student will add, subtract, multiply, and divide integers.	Add two integers using addition facts (addends -10 to 10, sums -20 to 20).	SMMA_LO_00109
		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
		Identify $-(a + b)$ as equivalent to $-a - b$, where a and b are 1 to 9.	SMMA_LO_00118
		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
		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
		Evaluate $-(a + b)$, where $9 < a < 19, 1 < b < 9$.	SMMA_LO_00127
		Evaluate $-(a + b)$, where $1 < a, b < 9$.	SMMA_LO_00128
		Divide integers (combinations 6×10 to -9×12 , dividend or divisor is negative).	SMMA_LO_00316
		Divide integers (combinations 4×6 to 12×12).	SMMA_LO_00317
		Divide integers (combinations 6×13 to 9×19 , all signs).	SMMA_LO_00319
		Multiply a negative integer by a positive integer (products -144 to -4).	SMMA_LO_00914
		Multiply two negative integers (products 4 to 144).	SMMA_LO_00915
		Multiply a negative integer by a positive integer (products $-(20 \times 2)$ to $-(90 \times 9)$).	SMMA_LO_00917
		Multiply three integers (one-digit factors with absolute values 2 to 10).	SMMA_LO_00920
		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
		Subtract integers (minuends -20 to 20, subtrahends 0 to -20).	SMMA_LO_01516

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7.3.b	The student will add, subtract, multiply, and divide integers.	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
		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
		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
		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
		Identify fractions that are equivalent to a given negative fraction.	SMMA_LO_02087
		R: Determine if the sum is positive or negative (one- and two-digit addends).	SMMA_LO_00106
		R: Identify an equivalent expression of commutativity for addition of integers.	SMMA_LO_00114
		R: Identify an equivalent expression with integers (four one-digit addends).	SMMA_LO_00117
		R: Determine the sign of the products of two integers (one and two-digit integers).	SMMA_LO_00916
		R: Determine the sign of the product of four factors.	SMMA_LO_00919
		R: Identify $a - b$ as equivalent to $a + (-b)$, where a and b are 1 to 20.	SMMA_LO_01514
		R: Identify $-a - b$ as equivalent to $-a + (-b)$ (minuends -20 to -1).	SMMA_LO_01515
		R: Identify $a - (-b)$ as equivalent to $a + b$ (minuends 1 to 10).	SMMA_LO_01517
		R: Evaluate the expression $-(-a)$, where a has values 1 to 99.	SMMA_LO_01518
		R: Identify $-a - (-b)$ as equivalent to $-a + b$ (minuends and subtrahends -9 to 9).	SMMA_LO_01521
R: Identify $-(a - b)$ as equivalent to $-a + b$ (a and b from 1 to 9).	SMMA_LO_01523		
R: Identify $-(-a - b)$ as equivalent to $a + b$ (a and b from 1 to 9).	SMMA_LO_01524		
7.4	The student will solve single-step and multistep practical problems, 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
		Find the unit price of an item (products 2×6 to 25×32).	SMMA_LO_00830
		Solve time and distance problems (whole numbers).	SMMA_LO_00842
		Interpret scale drawings (metric and customary units of length).	SMMA_LO_00846

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7.4	The student will solve single-step and multistep practical problems, using proportional reasoning.	Make predictions based on a sample.	SMMA_LO_01223
		Solve a proportion problem in context.	SMMA_LO_01284
		Identify an equation that can be used to solve a two-step problem in context.	SMMA_LO_01297
		Determine the number of calories in multiple servings given data in a chart.	SMMA_LO_01333
		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
		Given the rate and time, find the distance.	SMMA_LO_01575
		Estimate the distance by rounding ($d = rt$).	SMMA_LO_01606
		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
		Identify the correct proportion for the context, and then solve.	SMMA_LO_01826
		Determine the fraction needed to complete the proportion.	SMMA_LO_01827
		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
		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
		Find missing values in a table that represents a proportional relationship, and plot the pairs of values on the coordinate plane.	SMMA_LO_02115
		Complete a comparison statement based on the ratios in two tables.	SMMA_LO_02116
		Convert measurement units either by making a table or by multiplying by a unit rate.	SMMA_LO_02117
7.5.b	The student will solve practical problems involving the volume and surface area of rectangular prisms and cylinders.	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
		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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7.6	The student will determine whether plane figures - lquadrilaterals and triangles - are similar and write proportions to express the relationships between corresponding sides of similar figures.	Identify similar polygons.	SMMA_LO_00610
		Identify the polygon that is not similar to the others.	SMMA_LO_00645
		Identify the example that is a counterexample to a statement.	SMMA_LO_00649
		Form a proportion that can be used to solve for the height of an object.	SMMA_LO_00660
		Identify similar triangles or rectangles on a geoboard.	SMMA_LO_00847
		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
		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 two figures as being similar, congruent, or neither.	SMMA_LO_00618
		R: Match the corresponding sides or angles of two similar figures.	SMMA_LO_00673
7.7	The student will compare and contrast the following quadrilaterals based on properties: parallelogram, rectangle, square, rhombus, and trapezoid.	Identify the true statement about a relationship among quadrilaterals.	SMMA_LO_00656
7.8	The student, given a polygon in the coordinate plane, will represent transformations (reflections, dilations, rotations, and translations) by graphing in the coordinate plane.	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
		R: 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
		R: 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
7.9	The student will investigate and describe the difference between the experimental probability and theoretical probability of an event.	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
7.10	The student will determine the probability of compound events, using the Fundamental (Basic) Counting Principle.	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
7.10	The student will determine the probability of compound events, using the Fundamental (Basic) Counting Principle.	Identify the probability of two independent outcomes, and then determine the probability of the combination of the two outcomes occurring simultaneously.	SMMA_LO_01224

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		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
7.12	The student will represent relationships with tables, graphs, rules, and words.	Identify the addition or subtraction rule of the function.	SMMA_LO_01682
		Identify the multiplication or division rule of the function.	SMMA_LO_01684
		Identify the one-step rule in the relation or function (addition and subtraction).	SMMA_LO_01722
		Identify the one-step rule in the relation or function (multiplication and division).	SMMA_LO_01723
		Generate a table of values given a rule.	SMMA_LO_01724
		Identify an expression to describe the pattern generated by a table.	SMMA_LO_01741
		Identify an expression to describe the pattern generated by a table.	SMMA_LO_01742
		Complete an input/output table given a two-step rule; then plot the ordered pairs on coordinate grid.	SMMA_LO_01758
		Find missing values in a table that represents a proportional relationship, and plot the pairs of values on the coordinate plane.	SMMA_LO_02115
		Make a table and a graph when given a rule in the form $y = ax$ or $y = x + a$.	SMMA_LO_02139
		7.13.a	The student will write verbal expressions as algebraic expressions and sentences as equations and vice versa.
Identify the equation that translates the written phrase ($ax + b = c$).	SMMA_LO_00386		
Identify the expression that is a translation of the written phrase.	SMMA_LO_01759		
Identify the written phrase that is a translation of a expression or inequality.	SMMA_LO_01815		
Translate an expression into a written phrase (two-step).	SMMA_LO_01816		
Identify the inequality translated from a written phrase.	SMMA_LO_01853		
Identify the written phrase translated from an inequality.	SMMA_LO_01869		
Identify the written phrase translated from an inequality.	SMMA_LO_01870		
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		
Write expressions that record operations with numbers and variables.	SMMA_LO_02056		

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VA Standard	VA Standard Text	Item Description	Item ID
7.13.a	The student will write verbal expressions as algebraic expressions and sentences as equations and vice versa.	Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient).	SMMA_LO_02057
		Write an expression to represent a real-world problem, using variables to represent numbers.	SMMA_LO_02062
		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
7.13.b	The student will evaluate algebraic expressions for given replacement values of the variables.	Determine whether the given values for x and y satisfy $y = ax + b$.	SMMA_LO_00398
		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
		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
		Write an expression to represent a real-world problem, using variables to represent numbers.	SMMA_LO_02062
7.14.a	The student will solve one- and two-step linear equations in one variable.	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 b in $a \div b = c$ (combinations $2 \div 10$ to $5 \div 12$).	SMMA_LO_00359
		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 b in $a \div b = c$ (combinations $6 \div 10$ to $9 \div 12$).	SMMA_LO_00361
		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
		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 , b , or c in $a \times b/c = d/e$ (combinations to 12×12).	SMMA_LO_00371
		Solve for a , b , c , or d in $a/b \times c/d = e/f$ (combinations to 12×12).	SMMA_LO_00372
		Solve for a 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 , b , or c in $a/b \div c = d/e$ (combinations to 12×12).	SMMA_LO_00375
		Solve for a or b in $a \times b = c$ (products from 0.02×0.13 to 0.09×0.19).	SMMA_LO_00376
		Solve for a , b , c , or d in $a/b \div c/d = e/f$.	SMMA_LO_00377

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7.14.a	The student will solve one- and two-step linear equations in one variable.	Complete the steps to solve for a in $a + b = c$ or $a - b = c$ in steps (sums and differences 2 to 20).	SMMA_LO_00379
		Solve for x in $ax = c$ in steps (products 4×4 to 9×10).	SMMA_LO_00380
		Complete the steps to solve for a in $a \div b = c$ (combinations 4×4 to 9×10).	SMMA_LO_00381
		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
		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
		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 a one-step equation (subtraction).	SMMA_LO_01688
		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
		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 12×12).	SMMA_LO_01798
		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
		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, multiplication and division).	SMMA_LO_01847

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VA Standard	VA Standard Text	Item Description	Item ID
7.14.a	The student will solve one- and two-step linear equations in one variable.	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
		Solve a one-step equations (fractions, addition and subtraction).	SMMA_LO_01868
		R: Find the missing dividend or divisor (combinations 2 x 13 to 5 x 19).	SMMA_LO_00309
		R: Finding the missing dividend or divisor (combinations 6 x 13 to 9 x 19).	SMMA_LO_00310
		R: Find the missing dividend or divisor in a number sentence (combinations 7 x 13 to 9 x 19, all signs).	SMMA_LO_00320
		R: Find the missing positive or negative factor in a number sentence.	SMMA_LO_00918
		R: Find the missing subtrahend in a number sentence (minuends 0 to 10, subtrahends 2 to 11, negative differences).	SMMA_LO_01509
		R: Find the missing subtrahend in a number sentence (minuends -9 to 0, differences -9 to 0).	SMMA_LO_01512
R: Solve for a two-step equation in context.	SMMA_LO_01638		
7.14.b	The student will solve practical problems requiring the solution of one- and two-step linear equations.	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
		R: Rewrite an expression from context by factoring and combining like terms.	SMMA_LO_02150
7.15.a	The student will solve one-step inequalities in one variable.	R: Write an inequality of the form $x > c$ or $x < c$ to represent a constraint in a real-world problem.	SMMA_LO_02064
7.15.b	The student will graph solutions to inequalities on the number line.	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
		Solve an inequality of the form $px + q > r$ or $px + q < r$; then graph the solution on a number line.	SMMA_LO_02084
7.16.a	The student will apply the following properties of operations with real numbers: the commutative and associative properties for addition and multiplication.	Use the commutative and associative properties of addition to find the missing number.	SMMA_LO_01090
7.16.b	The student will apply the following properties of operations with real numbers: the distributive property.	Identify an equivalent variable expression $(-a + b) = -a + (-b)$.	SMMA_LO_00124
		Identify an equivalent expression for $a \times (b + c)$ with variables.	SMMA_LO_00129
		Identify $a \times (b - c)$ as equivalent to $(a \times b) - (a \times c)$.	SMMA_LO_00130

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7.16.b	The student will apply the following properties of operations with real numbers: the distributive property.	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
		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
7.16.d	The student will apply the following properties of operations with real numbers: the additive and multiplicative inverse properties.	Find the missing one-digit addend in a number sentence (positive or negative integers, sums are 0).	SMMA_LO_00102
8.1.a	The student will simplify numerical expressions involving positive exponents, using rational numbers, order of operations, and properties of operations with real numbers.	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
8.1.b	The student will compare and order decimals, fractions, percents, and numbers written in scientific notation.	Compare numbers written in scientific notation.	SMMA_LO_02072
8.3.a	The student will solve practical problems involving rational numbers, percents, ratios, and proportions.	Find the total cost, given an amount and the sales tax percentage.	SMMA_LO_00178
		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
		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
8.3.b	The student will determine the percent increase or decrease for a given situation.	Find the percent of increase.	SMMA_LO_00278
8.4	The student will apply the order of operations to evaluate algebraic expressions for given replacement values of the variables.	Evaluate an algebraic expression with exponents (integers -10 to 10).	SMMA_LO_01818
8.6.a	The student will verify by measuring and describe the relationships among vertical angles, adjacent angles, supplementary angles, and complementary angles.	Measure complementary or supplementary angles and find the sum of the angle measures.	SMMA_LO_00661
		Establish that vertical angles are congruent.	SMMA_LO_00670
		Establish that alternate interior angles are congruent for parallel lines.	SMMA_LO_00672

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8.6.a	The student will verify by measuring and describe the relationships among vertical angles, adjacent angles, supplementary angles, and complementary angles.	Find the measure of the missing angle in a diagram.	SMMA_LO_00674
		Arrange statements to write a proof of a fact about either the angle sum or the exterior angle of a triangle.	SMMA_LO_02126
		R: Solve a problem involving equal angle measures.	SMMA_LO_00677
8.7.a	The student will investigate and solve practical problems involving volume and surface area of prisms, cylinders, cones, and pyramids.	Use a formula to find the volume of a cylinder.	SMMA_LO_00839
		R: Complete sentences about bases, faces, edges, and vertices of geometric solids.	SMMA_LO_00652
		R: Identify geometric solids (prisms, pyramids, cones, or spheres).	SMMA_LO_00667
		R: Identify the net for a geometric solid.	SMMA_LO_00675
		R: Find the volume of a rectangular or triangular prism.	SMMA_LO_00838
		R: Identify the net that forms a three-dimensional solid.	SMMA_LO_01772
		R: Generalize a figure for surface area, and then use that formula to find the surface area of a given figure.	SMMA_LO_02144
8.8.a	The student will apply transformations to plane figures.	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
		Reflect a figure, find the coordinates of the reflected figure, and describe the effect of the reflection on the coordinates.	SMMA_LO_02125
		R: Identify a set of geometric figures that show a reflection (flip).	SMMA_LO_00648
		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
8.8.b	The student will identify applications of transformations.	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
		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: Identify a figure as a slide, reflection (flip), or turn of another figure.	SMMA_LO_00599
8.10.a	The student will verify the Pythagorean Theorem.	Explain a proof of the Pythagorean Theorem.	SMMA_LO_02131

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8.10.b	The student will apply the Pythagorean Theorem.	Find the measurement of the hypotenuse using the Pythagorean theorem. (2D)	SMMA_LO_01854
		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
		Explain a proof of the converse of the Pythagorean Theorem.	SMMA_LO_02132
8.13.b	The student will construct and analyze scatterplots.	Identify positive, negative, or no association for sets of actual data.	SMMA_LO_01222
		Choose an approximation based on a trend line for bivariate data.	SMMA_LO_02143
8.14	The student will make connections between any two representations (tables, graphs, words, and rules) of a given relationship.	Given a table of values for x and y, identify a true equation.	SMMA_LO_00399
		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
		Identify the one-step equation that is a translation of the written phrase within a context.	SMMA_LO_01813
		Identify the two-step equation that is a translation of the written phrase within a context.	SMMA_LO_01814
		Identify the equation translated from a written phrase.	SMMA_LO_01852
8.15.a	The student will solve multistep linear equations in one variable with the variable on one and two sides of the equation.	Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	SMMA_LO_02061
		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
8.15.b	The student will solve two-step linear inequalities and graph the results on a number line.	Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	SMMA_LO_02061
8.16	The student will graph a linear equation in two variables.	Complete an input/output table given a one-step rule; then plot the ordered pairs on a coordinate grid.	SMMA_LO_01757
		Complete a table of values and graph the equation of a linear function.	SMMA_LO_01837

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