



# SuccessMaker®

**Alabama Mathematics Course of Study 2019  
Grade 4**

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

Alabama Mathematics Standards Code	Alabama Mathematics Course of Study 2019 Grade 4	SuccessMaker Item Description	Item ID
OA	Operations and Algebraic Thinking		
	Solve problems with whole numbers using the four operations.		
OA.1	Interpret and write equations for multiplicative comparisons.	Multiplication and Division Targeted Lesson 5: Comparison Situations	
		Interpret a multiplication equation by writing a comparison statement.	SMMA_LO_02025
		Multiplication and Division Targeted Lesson 6: Writing Comparison Situations	
		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
		Translate a verbal statement of a multiplicative comparison into a multiplication equation.	SMMA_LO_02008
OA.2	Solve word problems involving multiplicative comparison using drawings and write equations to represent the problem, using a symbol for the unknown number.	Multiplication and Division Targeted Lesson 5: Comparison Situations	
		Multiplication and Division Targeted Lesson 6: Writing Comparison Situations	
		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
OA.3	Determine and justify solutions for multi-step word problems, including problems where remainders must be interpreted.	Multiplication and Division Targeted Lesson 35: Interpreting Remainders	
		Act out the solution to multi-step problem in context (addends, minuends 1 to 4).	SMMA_LO_01538
		Make a picture to solve a multistep addition and multiplication problem in context.	SMMA_LO_01592

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OA.3.b	Determine reasonableness of answers for multi-step word problems, using mental computation and estimation strategies including rounding.	Identify the best estimate for a sum using data in a table (three- and four-digit addends).	SMMA_LO_01620
		Identify the most reasonable answer to a multiplication problem involving money.	SMMA_LO_01278
		Identify the most reasonable quantity for a context (order of magnitude differs).	SMMA_LO_01586
		Identify the expression that gives the best estimate for an addition or subtraction problem in context (two-digit numbers).	SMMA_LO_01566
		Determine the reasonableness of a sum or difference (two- and three-digit numbers).	SMMA_LO_01259
		Estimate the quotient in a long division problem (three-digit dividend, two-digit divisor, remainder).	SMMA_LO_00301
		Estimate the sum, product, or quotient in problems with fractions.	SMMA_LO_01095
		Identify the best estimate for a quotient (decimal divided by a whole number).	SMMA_LO_00238
		Identify the most reasonable answer to a division problem involving money.	SMMA_LO_01279
		Identify the probable error in a multiplication calculation with decimals.	SMMA_LO_00250
		Identify a reasonable answer for a division problem.	SMMA_LO_00246
		Estimate the product by rounding each factor (a two-digit number by a three-digit number)	SMMA_LO_01622
		Identify the best estimate of a sum, difference, or product.	SMMA_LO_00231
		Estimate the product of three factors (1,000 to 350,000).	SMMA_LO_01099
	Gain familiarity with factors and multiples.		

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OA.4	For whole numbers in the range 1 to 100, find all factor pairs, identifying a number as a multiple of each of its factors.	Determine three factors of a given number.	SMMA_LO_01107
		Identify numbers that are multiples of a given number.	SMMA_LO_01069
		Identify the number that is divisible by a given factor (numbers 2 to 81, factors 2 to 9).	SMMA_LO_01066
		Find the factors of a number and determine if the number is prime or composite (3 to 30).	SMMA_LO_01073
		Identify the complete set of factors for a number (2 to 25).	SMMA_LO_01071
OA.4.b	Determine whether a whole number in the range 1 to 100 is prime or composite.	Identify sets of prime and composite numbers.	SMMA_LO_01119
	Generate and analyze patterns.		
OA.5	Generate and analyze a number or shape pattern that follows a given rule.	Ratios and Equations Targeted Lesson 30: What's My Rule?	
		Find the missing decimal number in a pattern (addition).	SMMA_LO_00253
		Multiplication and Division Targeted Lesson 36: Repeating Shape Patterns	
		Generate a table of values given a rule.	SMMA_LO_01724
NBT	Operations with Numbers: Base Ten		
	Generalize place value understanding for multi-digit whole numbers.		
NBT.6	Using models and quantitative reasoning, explain that in a multi-digit whole number, a digit in any place represents ten times what it represents in the place to its right.	Addition and Subtraction Targeted Lesson 29: Place Value of Numbers Up to Six Digits	
		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
NBT.7	Read and write multi-digit whole numbers using standard form, word form, and expanded form.	Identify a number, model, or word with the same value (1 to 9).	SMMA_LO_00965

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		Match the word name with the decimal number (0.10 to 9.99).	SMMA_LO_00204
		Identify the number of objects for a word name. (1 to 9 objects).	SMMA_LO_00964
		Identify the number, model, word name, or expanded notation that has a different value (three-digit).	SMMA_LO_01018
		Match a decimal number to its word name (to thousandths).	SMMA_LO_00227
		Enter the number for a word name (1000 to 9999).	SMMA_LO_01065
		Enter the number for a word name (two-digit).	SMMA_LO_01001
		Identify a word name for a four-, five- or six-digit numbers.	SMMA_LO_01043
		Enter the number for a word name (100 to 999).	SMMA_LO_01042
		Identify a number from a spoken number (6 to 9).	SMMA_LO_00944
		Relate word names, expanded form, and numbers of four-digit numbers.	SMMA_LO_02214
		Identify a written number from a spoken number (two-digit).	SMMA_LO_00977
		Identify the number when given the word name (10,000 to 999,999).	SMMA_LO_01076
		Identify a number from a spoken number (1 to 5).	SMMA_LO_00937
		Identify the word name for a three-digit number.	SMMA_LO_01009
NBT.8	Use place value understanding to compare two multi-digit numbers using $>$ , $=$ , and $<$ symbols.	Identify the symbol ( $<$ or $>$ ) needed to complete the inequality.	SMMA_LO_00254
		Order four numbers from least to greatest (1,000 to 9,999).	SMMA_LO_01040
		Addition and Subtraction Targeted Lesson 28: Comparing Numbers to 1,000	
		Addition and Subtraction Targeted Lesson 27: Comparing Numbers to 100	
		Identify a number that is between two numbers, or before, after, or closer to a number (101 to 999).	SMMA_LO_01027

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		Identify a set of numbers between two numbers, or less than or greater than a given number (101 to 999).	SMMA_LO_01068
		Identify a two-digit number, model, or expression that has a different value.	SMMA_LO_00991
		Compare sums (two-digit addends, multiples of 10).	SMMA_LO_00334
		Compare products (products 2 x 2 to 9 x 9).	SMMA_LO_00350
		Identify a number that is greater than or less than a spoken number (1 to 9).	SMMA_LO_00946
		Order five numbers from least to greatest (three- to six-digit numbers).	SMMA_LO_01710
		Compare numbers (1,000 to 9,999).	SMMA_LO_01039
		Compare numbers using < or > symbols (1 to 19).	SMMA_LO_00325
		Addition and Subtraction Targeted Lesson 30: Rounding and Comparing Numbers Through Hundred Thousands	
		Compare differences (minuends 1 to 9).	SMMA_LO_00337
		Compare two whole numbers (three to seven-digit numbers).	SMMA_LO_01711
		Compare sums (sums 1 to 9).	SMMA_LO_00326
		Compare numbers using < or > symbols (20 to 99).	SMMA_LO_00328
NBT.9	Round multi-digit whole numbers to any place using place value understanding.	Round a three- to five-digit number to the nearest hundred.	SMMA_LO_01081
		Round four- five- and six-digit numbers to a given place.	SMMA_LO_01106
		Addition and Subtraction Targeted Lesson 30: Rounding and Comparing Numbers Through Hundred Thousands	
	Use place value understanding and properties of operations to perform multi-digit arithmetic with whole numbers.		

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NBT.10	Use place value strategies to fluently add and subtract multi-digit whole numbers and connect strategies to the standard algorithm.	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
		Use place value to determine the number that is 10 or 100 more or less than a given number.	SMMA_LO_02186
NBT.11	Find the product of two factors (up to four digits by a one-digit number and two two-digit numbers), using strategies based on place value and the properties of operations.	Multiply a two-digit number by a one-digit number (student choice, products 10 x 2 to 15 x 5).	SMMA_LO_00870
		Multiply a two-digit number by a two-digit number (student choice, products 16 x 11 to 19 x 99).	SMMA_LO_00901
		Multiplication and Division Targeted Lesson 32: Multiplying by Two-Digit Numbers	
		Multiply a two-digit number by a one-digit number (products 10 x 2 to 12 x 12).	SMMA_LO_00871
		Multiply (student choice, products 1000 x 20 to 9999 x 90, multiples of 10).	SMMA_LO_00906
		Multiply a four-digit number by a one-digit number (student choice, products 1000 x 2 to 9999 x 9).	SMMA_LO_00892
		Multiply a two-digit number by a one-digit number (student choice, products 16 x 6 to 19 x 9).	SMMA_LO_00876
		Use partial sums and arrays to solve a two-digit by a one-digit multiplication problem.	SMMA_LO_01716
		Multiply whole numbers (student choice, products 100 x 21 to 990 x 90, multiples of 10).	SMMA_LO_00905
		Multiply whole numbers (products 20 x 20 to 90 x 90, multiples of 10).	SMMA_LO_00889
		Multiply a one-digit number by a two-digit number (products 2 x 12 to 9 x 12).	SMMA_LO_00875
		Use an area model to solve a multiplication problem (two-digit factors).	SMMA_LO_01734

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		Solve a multiplication problem in context (one-, two-, and three-digit factors).	SMMA_LO_01604
		Multiply a 1-digit number by a 2-digit number (products 12 x 6 to 19 x 9).	SMMA_LO_00896
		Multiply a two-digit number by a one-digit number (student choice, products 21 x 2 to 99 x 9).	SMMA_LO_00880
		Multiply whole numbers (student choice, products 11 x 11 to 15 x 99).	SMMA_LO_00899
		Multiply a two-digit number by a one-digit number (student choice, products 10 x 6 to 15 x 9).	SMMA_LO_00874
		Multiply whole numbers (student choice, products 101 x 21 to 999 x 99).	SMMA_LO_00907
		Multiplication and Division Targeted Lesson 31: Multiplying Multi-digit Numbers	
		Multiply whole numbers (student choice, products 101 x 2 to 999 x 9).	SMMA_LO_00886
		Multiply whole numbers (student choice, products 21 x 11 to 99 x 99).	SMMA_LO_00903
		Multiply a two-digit number by a one-digit number (student choice, products 16 x 2 to 19 x 5).	SMMA_LO_00872
		Multiply a 1-digit number by a 2-digit number (products 13 x 1 to 19 x 5).	SMMA_LO_00894
		Multiply a two-digit number by a one-digit number (student choice, vertical, products 10 x 1 to 12 x 4).	SMMA_LO_00869
		Multiply a three-digit number by a one-digit number (student choice, products 100 x 2 to 990 x 9, multiples of 10).	SMMA_LO_00882
		Use place value to determine the number that is 10 or 100 more or less than a given number.	SMMA_LO_02186

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NBT.11.a	Illustrate and explain the product of two factors using equations, rectangular arrays, and area models.	Identify four arrays for a given product (products 6 to 30).	SMMA_LO_01858
		Identify equivalent arrays with different factors.	SMMA_LO_01715
		Multiplication and Division Targeted Lesson 3: Multiplication as Arrays	
		Create arrays for a given product (products 6 to 30).	SMMA_LO_01859
		Represent the product of 2 two-digit numbers using arrays, area models, or equations.	SMMA_LO_00884
NBT.12	Use strategies based on place value, properties of operations, and/or the relationship between multiplication and division to find whole-number quotients and remainders with one-digit divisors and up to four-digit dividends.	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
		Multiplication and Division Targeted Lesson 33: Relating Division to Multiplication	
		Divide (combinations 6 x 20 to 9 x 90).	SMMA_LO_00293
		Solve a one-step equation in context (division, two-digit whole numbers).	SMMA_LO_01747
		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_00292
		Divide (combinations 2 x 20 to 5 x 90, three-digit dividend, one or two-digit divisor, no remainder).	SMMA_LO_00291
		Divide using the long division algorithm (three-digit dividend, one-digit divisor, remainder).	SMMA_LO_00297
		Divide using the long division algorithm (one-digit divisor, remainder).	SMMA_LO_00295

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		Represent a quotient by using arrays, area models, or equations.	SMMA_LO_00300
		Divide using the long division algorithm (one-digit divisor, no remainder).	SMMA_LO_00290
		Solve a one-step equation in context (division, two-digit whole numbers).	SMMA_LO_01745
		Divide (combinations 5 x 9 to 6 x 12, no remainder).	SMMA_LO_00288
		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_00298
		Estimate the quotient to the nearest ten (three-digit dividends, one-digit divisors).	SMMA_LO_00314
		Divide (combinations 2 x 10 to 5 x 12, no remainder).	SMMA_LO_00286
NF	Operations with Numbers: Fractions		
	Extend understanding of fraction equivalence and ordering.		
NF.13	Using area and length fraction models, explain why one fraction is equivalent to another, taking into account that the number and size of the parts differ even though the two fractions themselves are the same size.	Find the missing numerator or denominator in an equivalent fraction (simplified fractions $\frac{1}{2}$ to $\frac{3}{4}$ ).	SMMA_LO_00451
		Fractions and Decimals Targeted Lesson 7: Equivalent Fraction Set Models	
		Find the missing numerator or denominator in an equivalent fraction (simplified fractions $\frac{1}{2}$ to $\frac{7}{8}$ ).	SMMA_LO_00453
NF.13.a	Apply principles of fraction equivalence to recognize and generate equivalent fractions.	Identify fractions that are equivalent to a given negative fraction.	SMMA_LO_02087
		Find a fraction equal to 1 (halves to eighths).	SMMA_LO_00427
		Compare fractions and recognize equivalent fractions to help decide if the bee population is getting shorter.	SMMA_LO_02502

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		Find the missing numerator or denominator in an equivalent fraction (simplified fractions $\frac{1}{2}$ to $\frac{3}{4}$ ).	SMMA_LO_00451
		Using models, find equivalent fractions (halves to twelfths).	SMMA_LO_00433
		Determine the equivalent fractions using the least common denominator of two given fractions.	SMMA_LO_00494
		Generate a table of equivalent fractions for a fraction in simplest form.	SMMA_LO_01791
		Fractions and Decimals Targeted Lesson 7: Equivalent Fraction Set Models	
		Model equivalent fractions; identify equivalent fractions on a number line.	SMMA_LO_02035
		Find an equivalent fraction of a simplified fraction (simplified fractions $\frac{1}{2}$ to $\frac{8}{9}$ ).	SMMA_LO_00457
		Identify two equivalent fractions for $\frac{1}{2}$ .	SMMA_LO_01708
		Find the missing numerator or denominator in an equivalent fraction (simplified fractions $\frac{1}{2}$ to $\frac{7}{8}$ ).	SMMA_LO_00453
		Using a model, rewrite a whole number as a fraction (halves to eighths).	SMMA_LO_00443
		Identify the fraction equivalent to the given fraction.	SMMA_LO_01793
		Fractions and Decimals Targeted Lesson 6: Equivalent Fraction Area Models	
		Find three equivalent fractions (simplified fractions $\frac{1}{2}$ to $\frac{8}{9}$ ).	SMMA_LO_00458
		Fractions and Decimals Targeted Lesson 9: Whole Number Fractions	
		Generate a table of equivalent fractions for a fraction not in simplest form.	SMMA_LO_01792

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NF.14	Compare two fractions with different numerators and different denominators using concrete models, benchmarks (0, $\frac{1}{2}$ , 1), common denominators, and/or common numerators, recording the comparisons with symbols $>$ , $=$ , or $<$ , and justifying the conclusions.	Use a model to compare two fractions (halves to eighths, unlike denominators).	SMMA_LO_00429
		Identify the greatest or least fraction in a problem (unlike denominators).	SMMA_LO_00482
		Identify the figures with the equivalent fractional parts shaded.	SMMA_LO_00483
		Using models, compare fractions (unlike denominators, halves to sixteenths).	SMMA_LO_00436
		Compare fractions to 1 (halves to sixteenths).	SMMA_LO_00448
		Compare fractions (unlike denominators, to ninths).	SMMA_LO_00495
		Compare decimals (to hundredths) to benchmark fractions.	SMMA_LO_00209
		Using models, compare fractions (unlike denominators, numerators equal to one, halves to sixteenths).	SMMA_LO_00435
		Compare fractions to 1 on the number line (halves to eighths).	SMMA_LO_00432
		Identify the fraction that is greater than a given fraction (unlike denominators, halves to eighths).	SMMA_LO_00437
		Compare fractions (unlike denominators).	SMMA_LO_00462
		Using models, compare fractions (unlike denominators, halves to eighths).	SMMA_LO_00438
NF.14.a	Explain that comparison of two fractions is valid only when the two fractions refer to the same whole.	Compare fractions to 1 (halves to sixteenths).	

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	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.		
NF.15	Model and justify decompositions of fractions and explain addition and subtraction of fractions as joining or separating parts referring to the same whole.	Use addition to find an equivalent fraction for $\frac{1}{2}$ .	SMMA_LO_01706
		Add two fractional parts of whole numbers in context.	SMMA_LO_01640
		Represent a fraction $\frac{a}{b}$ as a sum of fractions $\frac{1}{b}$ , where $a$ and $b$ are whole numbers and $b > 0$ , including when $a > b$ .	SMMA_LO_02191
		Subtract two fractions from a whole within a context.	SMMA_LO_01634
		Determine addition expressions that are equivalent to a given fraction.	SMMA_LO_02146
		Fractions and Decimals Targeted Lesson 13: Fractions and Mixed Numbers	
NF.15.a	Decompose a fraction as a sum of unit fractions and as a sum of fractions with the same denominator in more than one way using area models, length models, and equations.	Use addition to find an equivalent fraction for $\frac{1}{2}$ .	SMMA_LO_01706
		Represent a fraction $\frac{a}{b}$ as a sum of fractions $\frac{1}{b}$ , where $a$ and $b$ are whole numbers and $b > 0$ , including when $a > b$ .	SMMA_LO_02191
		Determine addition expressions that are equivalent to a given fraction.	SMMA_LO_02146
		Fractions and Decimals Targeted Lesson 13: Fractions and Mixed Numbers	

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NF.15.b	Add and subtract fractions and mixed numbers with like denominators using fraction equivalence, properties of operations, and the relationship between addition and subtraction.	Fractions and Decimals Targeted Lesson 15: Adding Fractions with Like Denominators	
		Use a model and an equation to solve word problems involving the addition of fractions with like denominators.	SMMA_LO_02004
		Add mixed numbers with like denominators in context; simplify if necessary.	SMMA_LO_01624
		Add mixed numbers; simplify if necessary (like denominators, halves to sixteenths).	SMMA_LO_00463
		Add mixed numbers within a context; simplify if necessary (like denominators).	SMMA_LO_00480
		Add mixed numbers; simplify if necessary (like denominators).	SMMA_LO_00484
		Add fractions with like denominators (no simplifying).	SMMA_LO_01709
		Add two fractional parts of whole numbers in context.	SMMA_LO_01640
		Using models, add fractions, no simplifying (like denominators, thirds to eighths).	SMMA_LO_00441
		Add mixed numbers; no simplifying (like denominators, thirds to twelfths).	SMMA_LO_00460
		Fractions and Decimals Targeted Lesson 18: Adding Mixed Numbers with Like Denominators	

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NF.15.c	Solve word problems involving addition and subtraction of fractions and mixed numbers having like denominators, using drawings, visual fraction models, and equations to represent the problem.	Fractions and Decimals Targeted Lesson 15: Adding Fractions with Like Denominators	
		Use a model and an equation to solve word problems involving the addition of fractions with like denominators.	SMMA_LO_02004
		Add mixed numbers with like denominators in context; simplify if necessary.	SMMA_LO_01624
		Add mixed numbers; simplify if necessary (like denominators, halves to sixteenths).	SMMA_LO_00463
		Add mixed numbers within a context; simplify if necessary (like denominators).	SMMA_LO_00480
		Add mixed numbers; simplify if necessary (like denominators).	SMMA_LO_00484
		Add fractions with like denominators (no simplifying).	SMMA_LO_01709
		Add two fractional parts of whole numbers in context.	SMMA_LO_01640
		Using models, add fractions, no simplifying (like denominators, thirds to eighths).	SMMA_LO_00441
		Add mixed numbers; no simplifying (like denominators, thirds to twelfths).	SMMA_LO_00460
		Fractions and Decimals Targeted Lesson 18: Adding Mixed Numbers with Like Denominators	
NF.16	Apply and extend previous understandings of multiplication to multiply a whole number times a fraction.	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
		Fractions and Decimals Targeted Lesson 21: Multiplying Fractions by Whole Numbers	
		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

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		Multiply a whole number by a proper fraction; no simplifying.	SMMA_LO_00470
		Multiply a fraction and a whole number; simplify.	SMMA_LO_00477
		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
		Using pictures, find a fractional amount of a whole number (product of halves to fourths and 2 to 16).	SMMA_LO_00428
		Multiply a fraction and a whole number; simplify first.	SMMA_LO_00478
NF.16.b	Extend previous understanding of multiplication to multiply a whole number times any fraction less than one.	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
		Fractions and Decimals Targeted Lesson 21: Multiplying Fractions by Whole Numbers	
		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
		Multiply a whole number by a proper fraction; no simplifying.	SMMA_LO_00470
		Multiply a fraction and a whole number; simplify.	SMMA_LO_00477
		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
		Using pictures, find a fractional amount of a whole number (product of halves to fourths and 2 to 16).	SMMA_LO_00428
		Multiply a fraction and a whole number; simplify first.	SMMA_LO_00478

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NF.16.c	Solve word problems involving multiplying a whole number times a fraction using visual fraction models and equations to represent the problem.	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
		Fractions and Decimals Targeted Lesson 21: Multiplying Fractions by Whole Numbers	
		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
		Multiply a whole number by a proper fraction; no simplifying.	SMMA_LO_00470
		Multiply a fraction and a whole number; simplify.	SMMA_LO_00477
		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
		Using pictures, find a fractional amount of a whole number (product of halves to fourths and 2 to 16).	SMMA_LO_00428
		Multiply a fraction and a whole number; simplify first.	SMMA_LO_00478
	Understand decimal notation for fractions and compare decimal fractions.		
NF.17	Express, model, and explain the equivalence between fractions with denominators of 10 and 100.	Express a fraction with denominator 10 as an equivalent fraction with denominator 100. Then, add that fraction to another fraction with denominator 100.	SMMA_LO_02007
NF.17.a	Use fraction equivalency to add two fractions with denominators of 10 and 100.	Express a fraction with denominator 10 as an equivalent fraction with denominator 100. Then, add that fraction to another fraction with denominator 100.	SMMA_LO_02007
NF.18	Use models and decimal notation to represent fractions with denominators of 10 and 100.	Fractions and Decimals Targeted Lesson 26: Representing Tenths and Hundredths	

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NF.19	Use visual models and reasoning to compare two decimals to hundredths (referring to the same whole), recording comparisons using symbols $>$ , $=$ , or $<$ , and justifying the conclusions.	Compare decimal numbers (0.1 to 9.9).	SMMA_LO_00191
		Compare two decimal numbers (10.01 to 99.99).	SMMA_LO_00216
		Fractions and Decimals Targeted Lesson 30: Comparing Decimals	
		Add and compare decimals to hundredths to decide whether customers will save money	SMMA_LO_02506
		Compare decimals (to hundredths) to benchmark fractions.	SMMA_LO_00209
		Find a decimal number that is either greater than or less than two decimal numbers.	SMMA_LO_01118
		Compare decimal numbers (to thousandths).	SMMA_LO_00225
DA	Data Analysis		
	Represent and interpret data.		
DA.20	Interpret data in graphs (picture, bar, and line plots) to solve problems using numbers and operations.	Read and interpret a line plot.	SMMA_LO_01764
		Identify data sets that match the data represented in a given box-and-whiskers plot.	SMMA_LO_01202
		Read and interpret data in a table to determine the wind chill temperature.	SMMA_LO_01314
		Read and interpret a line graph.	SMMA_LO_01206
		Given a chart of tree growth, infer which of two years there was more rainfall.	SMMA_LO_01305
		Read and interpret data in a table to determine the time it would take for skin to freeze.	SMMA_LO_01315
		Predict the effect of changing temperatures on the weather.	SMMA_LO_01312
		Identify box-and whiskers plot that matches a given set of data.	SMMA_LO_01201
		Identify all the towns with temperatures below 32 degrees Fahrenheit on a weather map.	SMMA_LO_01311

Alabama Mathematics Standards Code	Alabama Mathematics Course of Study 2019 Grade 4	SuccessMaker Item Description	Item ID
		Identify the value that is greater than one number and less than another in context.	SMMA_LO_01554
		Read and interpret data from a circle graph labeled with percents.	SMMA_LO_01208
		Complete and interpret a pictograph.	SMMA_LO_01207
		Graph and interpret rainfall data in a chart.	SMMA_LO_01328
DA.20.a	Create a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{8}$ ).	Choose a title for a line plot and label the units.	SMMA_LO_01643
DA.20.b	Solve problems involving addition and subtraction of fractions using information presented in line plots.	Subtract integers using a number line (differences -5 to 1).	SMMA_LO_01505
		Ratios and Equations Targeted Lesson 7: Subtracting Positive and Negative Numbers	
		Addition and Subtraction Targeted Lesson 2: Doubles and Near-Doubles	
		Ratios and Equations Targeted Lesson 6: Adding Positive and Negative Numbers	
M	Measurement		
	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.		
M.21	Select and use an appropriate unit of measurement for a given attribute (length, mass, liquid volume, time) within one system of units: metric - km, m, cm; kg, g, l, ml; customary - lb, oz; time - hr, min, sec.	Choose the appropriate customary units of liquid measure (cups, quarts, and gallons).	SMMA_LO_01674
		Select the appropriate standard unit of Measurement for length, capacity, and weight (metric).	SMMA_LO_00767
		Select the appropriate standard unit of Measurement for length, capacity, and weight (customary).	SMMA_LO_00729
		Identify the appropriate unit of measure (l, kl, g, kg, m, km).	SMMA_LO_01704
		Choose the appropriate unit of capacity (ounce, cup, pint, quart, and gallon).	SMMA_LO_01864

Alabama Mathematics Standards Code	Alabama Mathematics Course of Study 2019 Grade 4	SuccessMaker Item Description	Item ID
		Identify the appropriate unit of weight.	SMMA_LO_01730
		Identify distances or objects that would be measured in cm, m, or km.	SMMA_LO_01703
M.21.a	Within one system of units, express measurements of a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	Convert linear Measurements to the same unit in order to fill orders for solar panels.	SMMA_LO_02505
M.22	Use the four operations to solve measurement word problems with distance, intervals of time, liquid volume, mass of objects, and money.	Solve time and distance problems (whole numbers).	SMMA_LO_00842
		Measure two metric lengths, write an addition problem, and find the sum (sums 2 to 12 centimeters).	SMMA_LO_00756
		Estimate the distance by rounding ( $d = rt$ ).	SMMA_LO_01606
		Add metric Measurements with unlike units and express the sum in terms of the smaller unit.	SMMA_LO_00168
		Add metric Measurements with unlike units and express the sum in terms of the larger unit.	SMMA_LO_00172
		Fractions and Decimals Targeted Lesson 25: Fraction Operations Word Problems	
		Given a rate and a model, find a distance.	SMMA_LO_01575
		Multiply with fractions to calculate the weight in campers' backpacks.	SMMA_LO_02507
		Subtract metric length or weight Measurements expressed as decimals (to tenths, difference 1.2 to 8.9, regrouping).	SMMA_LO_00159
M.22.a	Solve measurement problems involving simple fractions or decimals.	Measure two metric lengths, write an addition problem, and find the sum (sums 2 to 12 centimeters).	SMMA_LO_00756
		Add metric measurements with unlike units and express the sum in terms of the smaller unit.	SMMA_LO_00168
		Add metric measurements with unlike units and express the sum in terms of the larger unit.	SMMA_LO_00172

Alabama Mathematics Standards Code	Alabama Mathematics Course of Study 2019 Grade 4	SuccessMaker Item Description	Item ID
		Fractions and Decimals Targeted Lesson 25: Fraction Operations Word Problems	
		Multiply with fractions to calculate the weight in campers' backpacks.	SMMA_LO_02507
		Subtract metric length or weight measurements expressed as decimals (to tenths, difference 1.2 to 8.9, regrouping).	SMMA_LO_00159
M.22.b	Solve measurement problems that require expressing measurements given in a larger unit in terms of a smaller unit.	Convert linear measurements to the same unit in order to fill orders for solar panels.	SMMA_LO_02505
M.22.c	Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	Multiply with fractions to calculate the weight in campers' backpacks.	SMMA_LO_02507
M.23	Apply area and perimeter formulas for rectangles in real-world and mathematical situations.	Given the length of one side of a rectangle, measure another side, and then find the perimeter.	SMMA_LO_00788
		Find the area of a rectangle using a formula.	SMMA_LO_00810
		Multiplication and Division Targeted Lesson 23: Counting and Calculating the Area of Rectangles	
		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
		Find the perimeter of a rectangle (24 to 48 customary or metric units).	SMMA_LO_00169
		Given the lengths of all sides, find the perimeter of a rectangle.	SMMA_LO_00821
		Multiply side lengths to find the area of a rectangle in a real-world context; use area to represent a whole-number product by arranging tiles in a rectangle.	SMMA_LO_02030
		Find the area of a rectangle (5 to 25 square centimeters).	SMMA_LO_00773

Alabama Mathematics Standards Code	Alabama Mathematics Course of Study 2019 Grade 4	SuccessMaker Item Description	Item ID
		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
		Find the area of a rectangle (36 to 144 customary or metric square units).	SMMA_LO_00173
	Geometric measurement: understand concepts of angle and measure angles.		
M.25	Use a protractor to measure angles in whole-number degrees and sketch angles of specified measure.	Measure an angle using the appropriate protractor.	SMMA_LO_00646
		Select the appropriate protractor to measure an angle.	SMMA_LO_00644
		Use a protractor to measure an angle.	SMMA_LO_00636
		Use a protractor to measure an angle.	SMMA_LO_00631
		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
		Determine the total one-degree angle measures of an angle.	SMMA_LO_02165
M.26	Decompose an angle into non-overlapping parts to demonstrate that the angle measure of the whole is the sum of the angle measures of the parts.	Find the measure of the missing angle in a diagram.	SMMA_LO_00674
M.26.a	Solve addition and subtraction problems on a diagram to find unknown angles in real-world or mathematical problems.	Find the measure of the missing angle in a diagram.	SMMA_LO_00674
		Solve a problem involving equal angle measures.	SMMA_LO_00677
G	Geometry		
	Draw and identify lines and angles, and identify shapes by properties of their lines and angles.		
G.27	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines, and identify these in two-dimensional figures.	Identify line segments in three- and four-sided figures.	SMMA_LO_00579

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		Identify parallel and perpendicular streets on a map.	SMMA_LO_00619
		Identify right, acute, and obtuse angles in polygons.	SMMA_LO_00630
		Identify the pairs of parallel line segments in a geometric drawing.	SMMA_LO_00639
G.28	Identify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.	Identify right, acute, and obtuse angles in polygons.	SMMA_LO_00630
G.28.a	Describe right triangles as a category, and identify right triangles.	Identify all triangles of a particular class (acute, right, or obtuse).	SMMA_LO_01774
		Identify acute, obtuse, and right triangles.	SMMA_LO_00655
G.29	Define a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts.	Identify lines that are lines of symmetry.	SMMA_LO_00623
		Identify the shape with a given number of lines of symmetry.	SMMA_LO_01773
		Identify the horizontal line of symmetry.	SMMA_LO_00597
		Identify the lines of symmetry in an object.	SMMA_LO_01699
		Identify the vertical line of symmetry.	SMMA_LO_00595
G.29.a	Identify line-symmetric figures and draw lines of symmetry.	Identify the shape with a given number of lines of symmetry.	SMMA_LO_01773
		Draw a vertical or horizontal line of symmetry.	SMMA_LO_00608