Teach4Mastery's Correlations for Peceptions Blue

Multiplication, Division, & Fractions

Unit 2

Alaska Content Standards

Grade: **K** - Adopted: **2012**

AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.K.CC.	Counting and Cardinality							
	Know number names and the count sequence.							
K.CC.3.	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).	7						
AK.K.OA.	Operations and Algebraic Thinking							
	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.							
K.OA.1.	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps) acting out situations, verbal explanations, expressions, or equations.	7						
K.OA.2.	Add or subtract whole numbers to 10 (e.g., by using objects or drawings to solve word problems).	7						
K.OA.3.	Decompose numbers less than or equal to10 into pairs in more than one way (e.g., by using objects or drawings, and record each decomposition by a drawing or equation). For example, 5 = 2 + 3 and 5 = 4 + 1.	7	8	9			12	
K.OA.4.	For any number from 1- 4, find the number that makes 5 when added to the given number and, for any number from 1-9, find the number that makes 10 when added to the given number (e.g., by using objects, drawings or 10 frames) and record the answer with a drawing or equation.	7	8	9			12	

-Grade K Continued-

AK.K.NBT.	Number and Operations in Base Ten							
	Work with numbers 11-19 to gain foundations for place value.							
K.NBT.1.	Compose and decompose numbers from 11 to 19 into ten ones and some further ones (e.g., by using objects or drawings) and record each composition and decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight or nine ones.	7	8	9			12	

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Unit 2

Alaska Content Standards

Grade: **1** - Adopted: **2012**

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AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.1.OA.	Operations and Algebraic Thinking							
	Represent and solve problems involving addition and subtraction.							
1.OA.1.	Use addition and subtraction strategies to solve word problems (using numbers up to 20), involving situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions, using a number line (e.g., by using objects, drawings and equations). Record and explain using equation symbols and a symbol for the unknown number to represent the problem.	7						
	Understand and apply properties of operations and the relationship between addition and subtraction.							
1.OA.3.	Apply properties of operations as strategies to add and subtract. (Students need not know the name of the property.) For example: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (Commutative property of addition). To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12 (Associative property of addition). Demonstrate that when adding zero to any number, the quantity does not change (Identity property of addition).	7						

-Grade 1 Continued-

	Add and subtract using numbers up to 20.							
1.OA.6.	**Add and subtract using numbers up to 20, demonstrating fluency for addition and subtraction up to 10. Use strategies such as**							
1.OA.6.a.	**Counting on**	7						
1.OA.6.b.	**Making ten (8 + 6 = 8 + 2 + 4 = 10 + 4 = 14)**	7						
1.OA.6.c.	**Decomposing a number leading to a ten (13 - 4 = 13 - 3 -1 = 10 - 1 = 9)**	7	8	9			12	
1.OA.6.e.	**Creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).**	7						
AK.1.NBT.	**Number and Operations in Base Ten**							
	Extend the counting sequence.							
1.NBT.1.	**Count to 120. In this range, read, write and order numerals and represent a number of objects with a written numeral.**	7						
	Understand place value.							
1.NBT.2.	**Model and identify place value positions of two digit numbers. Include:**							
1.NBT.2.a.	**10 can be thought of as a bundle of ten ones, called a "ten".**	7		9			12	13
1.NBT.2.b.	**The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight or nine ones.**	7		9			12	13
1.NBT.2.c.	**The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90, refer to one, two, three, four, five, six, seven, eight or nine tens (and 0 ones).**	7		9			12	13
	Use place value understanding and properties of operations to add and subtract.							
1.NBT.4.	**Add using numbers up to 100 including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10.**							
1.NBT.4.a.	**Use concrete models or drawings and strategies based on place value; properties of operations; and/or relationship between addition and subtraction.**	7						
1.NBT.4.b.	**Relate the strategy to a written method and explain the reasoning used.**	7						
1.NBT.4.c.	**Demonstrate in adding two-digit numbers, tens and tens are added, ones and ones are added and sometimes it is necessary to compose a ten from ten ones.**	7						
1.NBT.6.	**Subtract multiples of 10 up to 100.**							
1.NBT.6.a.	**Use concrete models or drawings; strategies based on place value; properties of operations; and/or the relationship between addition and subtraction.**	7						
1.NBT.6.b.	**Relate the strategy to a written method and explain the reasoning used.**	7						

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Unit 2

Alaska Content Standards

Grade: **2** - Adopted: **2012**

AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.2.OA.	Operations and Algebraic Thinking							
	Represent and solve problems involving addition and subtraction.							
2.OA.1.	Use addition and subtraction strategies to estimate, then solve one- and two-step word problems (using numbers up to 100) involving situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions (e.g., by using objects, drawings and equations). Record and explain using equation symbols and a symbol for the unknown number to represent the problem.	7						
	Work with equal groups of objects to gain foundations for multiplication.							
2.OA.4.	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns. Write an equation to express the total as repeated addition (e.g., array of 4 by 5 would be 5 + 5 + 5 + 5 = 20).	7	8	9	10	11	12	13
AK.2.NBT.	Number and Operations in Base Ten							
	Understand place value.							
2.NBT.1.	Model and identify place value positions of three digit numbers. Include:							
2.NBT.1.a.	100 can be thought of as a bundle of ten tens --called a "hundred".	7	8	9			12	13
2.NBT.1.b.	The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	7	8				12	13
	Understand place value.							
2.NBT.3.	Read, write, order up to 1000 using base-ten numerals, number names and expanded form.	7	8	9			12	

-Grade 2 Continued-

	Use place value understanding and properties of operations to add and subtract.							
2.NBT.5.	**Fluently add and subtract using numbers up to 100.**							
2.NBT.5.a.	**Use strategies based on place value; properties of operations; and/or the relationship between addition and subtraction.**	7						
	Use place value understanding and properties of operations to add and subtract.							
2.NBT.6.	**Add up to four two-digit numbers using strategies based on place value and properties of operations.**	7						
	Use place value understanding and properties of operations to add and subtract.							
2.NBT.7.	**Add and subtract using numbers up to 1000.**							
2.NBT.7.a.	**Use concrete models or drawings and strategies based on place value; properties of operations; and/or relationship between addition and subtraction.**	7						
2.NBT.7.b.	**Relate the strategy to a written method and explain the reasoning used.**	7						
AK.2.MD.	**Measurement and Data**							
	Measure and estimate lengths in standard units.							
2.MD.1.	**Measure the length of an object by selecting and using standard tools such as rulers, yardsticks, meter sticks, and**	7	8	9	10	11	12	13
AK.2.G.	**Geometry**							
	Reason with shapes and their attributes.							
2.G.2.	**Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.**	7	8	9	10	11	12	13

Teach4Mastery's Correlations for Peceptions Blue

Multiplication, Division, & Fractions

Unit 2

Alaska Content Standards

Grade: **3** - Adopted: **2012**

AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.3.OA.	Operations and Algebraic Thinking							
	Represent and solve problems involving multiplication and division.							
3.OA.1.	Interpret products of whole numbers (e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each). For example, show objects in rectangular arrays or describe a context in which a total number of objects can be expressed as 5 × 7.	7						
3.OA.2.	Interpret whole-number quotients of whole numbers (e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each). For example, deconstruct rectangular arrays or describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.				10	11		13
3.OA.3.	Use multiplication and division numbers up to 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).	7	8	9	10	11	12	13
	Understand properties of multiplication and the relationship between multiplication and division.							
3.OA.5.	Make, test, support, draw conclusions and justify conjectures about properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.)							
3.OA.5.a.	Commutative property of multiplication: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known.	7						
3.OA.5.c.	Distributive property: Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56.	7						

-Grade 3 Continued-

	Understand properties of multiplication and the relationship between multiplication and division.							
3.OA.6.	**Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.**	7			10	11		13
	Multiply and divide up to 100.							
3.OA.7.	**Fluently multiply and divide numbers up to 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 ×5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.**	7	8	9	10	11	12	13
	Solve problems involving the four operations, and identify and explain patterns in arithmetic.							
3.OA.8.	**Solve and create two-step word problems using any of the four operations. Represent these problems using equations with a symbol (box, circle, question mark) standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.**	7	8	9	10	11	12	13
AK.3.NBT.	**Number and Operations in Base Ten**							
	Use place value understanding and properties of operations to perform multi-digit arithmetic.							
3.NBT.2.	**Use strategies and/or algorithms to fluently add and subtract with numbers up to 1000, demonstrating understanding of place value, properties of operations, and/or the relationship between addition and subtraction.**	7						
3.NBT.3.	**Multiply one digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 x 80, 10 x 60) using strategies based on place value and properties of operations.**						12	
AK.3.MD.	**Measurement and Data**							
	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.							
3.MD.9.	**Relate area to the operations of multiplication and addition.**							
3.MD.9.b.	**Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.**	7	8	9	10	11	12	13
3.MD.9.c.	**Use area models (rectangular arrays) to represent the distributive property in mathematical reasoning. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c.**	7						

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Multiplication, Division, & Fractions

Unit 2

Alaska Content Standards

Grade: **4** - Adopted: **2012**

AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.4.OA.	Operations and Algebraic Thinking							
	Use the four operations with whole numbers to solve problems.							
4.OA.2.	Multiply or divide to solve word problems involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem or missing numbers in an array). Distinguish multiplicative comparison from additive comparison.	7	8	9	10	11	12	13
4.OA.3.	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using	7	8	9	10	11	12	13
	Gain familiarity with factors and multiples.							
4.OA.4.	Find all factor pairs for a whole number in the range 1–100. Explain the correlation/differences between multiples and factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.				10	11	13	
AK.4.NBT.	Number and Operations in Base Ten							
	Generalize place value understanding for multi-digit whole numbers.							
4.NBT.1.	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.	7	8	9			12	13
4.NBT.2.	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on the value of the digits in each place, using >, =, and < symbols to record the results of comparisons.	7	8	9			12	

-Grade 4 Continued-

	Use place value understanding and properties of operations to perform multi-digit arithmetic.							
4.NBT.4.	**Fluently add and subtract multi-digit whole numbers using any algorithm. Verify the reasonableness of the results.**	7						
4.NBT.5.	**Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.**	7	8	9	10	11	12	13
4.NBT.6.	**Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.**				10	11		

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Unit 2

Alaska Content Standards

Grade: **5** - Adopted: **2012**

AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.5.OA.	Operations and Algebraic Thinking							
	Write and interpret numerical expressions.							
5.OA.1.	Use parentheses to construct numerical expressions, and evaluate numerical expressions with these symbols.	7						
5.OA.2.	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as 2 x (8 + 7). Recognizing that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.	7						
	Understand the place value system.							
5.NBT.1.	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	7	8	9			12	13
5.NBT.2.	Explain and extend the patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain and extend the patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.						12	

-Grade 5 Continued-

	Perform operations with multi-digit whole numbers and with decimals to hundredths.							
5.NBT.5.	**Fluently multiply multi-digit whole numbers using a standard algorithm.**		8	9			12	
5.NBT.6.	**Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, number lines, real life situations, and/or area models.**				10	11		13
AK.5.NF.	**Number and Operations –Fractions**							
	Apply and extend previous understandings of multiplication and division to multiply and divide fractions.							
5.NF.5.	**Interpret multiplication as scaling (resizing), by:**							
5.NF.5.a.	**Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.**		8	9			12	

Teach4Mastery's Correlations for Peceptions Blue

Multiplication, Division, & Fractions

Unit 2

Alaska Content Standards

Grade: **6** - Adopted: **2012**

AK.MP.	Mathematical Practices	Unit 2						
MP.1.	Make sense of problems and persevere in solving them.	7	8	9	10	11	12	13
MP.2.	Reason abstractly and quantitatively.	7	8	9	10	11	12	13
MP.3.	Construct viable arguments and critique the reasoning of others.	7	8	9	10	11	12	13
MP.4.	Model with mathematics.	7	8	9	10	11	12	13
MP.5.	Use appropriate tools strategically.	7	8	9	10	11	12	13
MP.6.	Attend to precision.	7	8	9	10	11	12	13
MP.7.	Look for and make use of structure.	7	8	9	10	11	12	13
MP.8.	Look for and express regularity in repeated reasoning.	7	8	9	10	11	12	13
AK.6.NS.	The Number System							
	Compute fluently with multi-digit numbers and find common factors and multiples.							
6.NS.2.	Fluently multiply and divide multi-digit whole numbers using the standard algorithm. Express the remainder as a whole number, decimal, or simplified fraction; explain or justify your choice based on the context of the problem.	7	8	9	10	11	12	13
6.NS.4.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2).	7						
AK.6.EE.	Expressions and Equations							
	Apply and extend previous understandings of arithmetic to algebraic expressions.							
6.EE.2.	Write, read, and evaluate expressions in which letters stand for numbers.							
6.EE.2.a.	Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation “Subtract y from 5” as 5 – y.	7						

-Grade 6 Continued-

AK.6.EE.	Expressions and Equations							
	Apply and extend previous understandings of arithmetic to algebraic expressions.							
6.EE.3.	Apply the properties of operations to generate equivalent expressions. Model (e.g., manipulatives, graph paper) and apply the distributive, commutative, identity, and inverse properties with integers and variables by writing equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x.	7						
	Reason about and solve one-variable equations and inequalities.							
6.EE.6.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	7						
6.EE.7.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.	7						