

**3rd Grade
Math Pacing Guide (2010-2011)**

Timeline	Topics	Indicators	Benchmarks	Aligned Instructional Resources	Assessments
8/18/10 to 9/14/10 (19 days)	Addition combinations up to 10 + 10 Add & subtract multiples of 10 from two and three digit (small) numbers Decomposition of two & three digit numbers	N1. Identify and generate equivalent forms of whole numbers; e.g., 36, 30 + 6, 9 x 4, 46 - 10, number of inches in a yard.	NB. Recognize and generate equivalent representations for whole numbers, fractions and decimals.	Investigations Unit 1 <i>Trading Stickers, Combining Coins</i>	End-of-Unit (Common Assessment)
		N2. Use place value concepts to represent whole numbers and decimals using numerals, words, expanded notation and physical models. For example: a. Recognize 100 means "10 tens" as well as a single entity (1 hundred) through physical models and trading games. b. Describe the multiplicative nature of the number system; e.g., the structure of 3205 as 3 x 1000 plus 2 x 100 plus 5 x 1. c. Model the size of 1000 in multiple ways; e.g., packaging 1000 objects into 10 boxes of 100, modeling a meter with centimeter and decimeter strips, or gathering 1000 pop-can tabs. d. Explain the concept of tenths and hundredths using physical models, such as metric pieces, base ten blocks, decimal squares or money.	NA. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals		
		N4. Count money and make change using coins and paper bills to ten dollars.	NF. Count money and make change using both coins and paper bills.		
		N7. Recognize and use decimal and fraction concepts and notations as related ways of representing parts of a whole or a set; e.g., 3 of 10 marbles are red can also be described as 3/10 and 3 tenths are red.	NB. Recognize and generate equivalent representations for whole numbers, fractions and decimals.		
		N11. Model and use the commutative and associative properties for addition and multiplication.	NG. Model and use commutative and associative properties for addition and multiplication.		
		N12. Add and subtract whole numbers with and without regrouping.	NK. Analyze and solve multistep problems involving addition, subtraction, multiplication and division of whole numbers.		
		N15. Evaluate the reasonableness of computations based upon operations and the numbers involved; e.g., considering relative size, place value and estimates.	NJ. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness.		
		M1. Identify and select appropriate units for measuring: a. length – miles, kilometers and other units of measure as appropriate; b. volume (capacity) – gallons; c. weight – ounces, pounds, grams, or kilograms; d. temperature – degrees (Fahrenheit or Celsius).	MA. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using: • objects of uniform size; • U.S. customary units; e.g., mile, square inch, cubic inch, second, degree Fahrenheit, and other units as appropriate; • metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate.		
		M2. Establish personal or common referents to include additional units; e.g., a gallon container of milk; a postage stamp is about a square inch.	MC. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.		
		M4. Read thermometers in both Fahrenheit and Celsius scales.	MD. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.		
		P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	PE. Use variables to create and solve equations representing problem situations.		
		P5. Write, solve and explain simple mathematical statements, such as $7 + \quad > 8$ or $+ 8 = 10$.	PC. Write and solve open sentences and explain strategies.		
		P8. Identify and describe quantitative changes, especially those involving addition and subtraction; e.g., the height of water in a glass becoming 1 centimeter lower each week due to evaporation.	PG. Describe how a change in one variable affects the value of a related variable		
D7. Analyze and interpret information represented on a timeline.	DB. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions.				

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9/15/10 to 10/15/10 (23 days)	<p>Organize, represent, and describe categorical data</p> <p>Interpret a bar graph</p> <p>Make a line plot</p> <p>Describe the shape of data represented in a graph</p>	<p>N1. Identify and generate equivalent forms of whole numbers; e.g., 36, 30 + 6, 9 x 4, 46 - 10, number of inches in a yard.</p> <p>M5. Estimate and measure length, weight and volume (capacity), using metric and U.S. customary units, accurate to the nearest 1/2 or 1/4 unit as appropriate.</p> <p>M6. Use appropriate measurement tools and techniques to construct a figure or approximate an amount of specified length, weight or volume (capacity); e.g., construct a rectangle with length 2 1/2 inches and width 3 inches, fill a measuring cup to the 3/4 cup mark.</p> <p>P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.</p> <p>D1. Collect and organize data from an experiment, such as recording and classifying observations or measurements, in response to a question posed.</p> <p>D2. Draw and interpret picture graphs in which a symbol or picture represents more than one object.</p> <p>D3. Read, interpret and construct bar graphs with intervals greater than one.</p> <p>D4. Support a conclusion or prediction orally and in writing, using information in a table or graph.</p> <p>D5. Match a set of data with a graphical representation of the data.</p> <p>D6. Translate information freely among charts, tables, line plots, picture graphs and bar graphs; e.g., create a bar graph from the information in a chart.</p> <p>D8. Identify the mode of a data set and describe the information it gives about a data set.</p> <p>D9. Conduct a simple experiment or simulation of a simple event, record the results in a chart, table or graph, and use the results to draw conclusions about the likelihood of possible outcomes.</p> <p>D10. Use physical models, pictures, diagrams and lists to solve problems involving possible arrangements or combinations of two to four objects.</p>	<p>NB. Recognize and generate equivalent representations for whole numbers, fractions and decimals.</p> <p>MC. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.</p> <p>MD. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.</p> <p>PE. Use variables to create and solve equations representing problem situations.</p> <p>DA. Gather and organize data from surveys and classroom experiments, including data collected over a period of time.</p> <p>DD. Read, interpret and construct graphs in which icons represent more than a single unit or intervals greater than one; e.g., each = 10 bicycles or the intervals on an axis are multiples of 10</p> <p>DB. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions.</p> <p>DC. Construct charts, tables and graphs to represent data, including picture graphs, bar graphs, line graphs, line plots and Venn diagrams.</p> <p>DE. Describe data using mode, median and range.</p> <p>DF. Conduct a simple probability experiment and draw conclusions about the likelihood of possible outcomes.</p> <p>DG. Identify and represent possible outcomes, such as arrangements of a set of up to four members and possible combinations from several sets, each containing 2 or 3 members.</p>	<p>Investigations Unit 2 <i>Surveys and Line Plots</i></p>	<p>Oct. 4 to Oct. 8... Math Benchmark</p> <p>End-of-Unit (Common Assessment)</p>
10/18/10 to 11/23/10 (27 days)	<p>Read, write, sequence numbers up to 1,000</p> <p>Identify value of digits in a 3-digit number</p> <p>Identify how many groups of 10 are in a 3-digit number</p> <p>Solve addition & subtraction problems with 2- and 3-digit numbers</p>	<p>N2. Use place value concepts to represent whole numbers and decimals using numerals, words, expanded notation and physical models. For example: a. Recognize 100 means "10 tens" as well as a single entity (1 hundred) through physical models and trading games. b. Describe the multiplicative nature of the number system; e.g., the structure of 3205 as 3 x 1000 plus 2 x 100 plus 5 x 1. c. Model the size of 1000 in multiple ways; e.g., packaging 1000 objects into 10 boxes of 100, modeling a meter with centimeter and decimeter strips, or gathering 1000 pop-can tabs. d. Explain the concept of tenths and hundredths using physical models, such as metric pieces, base ten blocks, decimal squares or money.</p> <p>N3. Use mathematical language and symbols to compare and order; e.g., less than, greater than, at most, at least, <, >, =, ≤, ≥.</p>	<p>NA. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals.</p> <p>NA. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals. ND. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.</p>	<p>Investigations Unit 3 <i>Collections and Travel Stories</i></p>	<p>End-of-Unit (Common Assessment)</p>

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		N8. Model, represent and explain multiplication; e.g., repeated addition, skip counting, rectangular arrays and area model. For example: a. Use conventional mathematical symbols to write equations for word problems involving multiplication. b. Understand that, unlike addition and subtraction, the factors in multiplication and division may have different units; e.g., 3 boxes of 5 cookies each.	NL. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers.		
10/18/10 to 11/23/10 (Con't.)	Read, write, sequence numbers up to 1,000 Identify value of digits in a 3-digit number Identify how many groups of 10 are in a 3-digit number Solve addition & subtraction problems with 2- and 3-digit numbers	N9. Model, represent and explain division; e.g., sharing equally, repeated subtraction, rectangular arrays and area model. For example: a. Translate contextual situations involving division into conventional mathematical symbols. b. Explain how a remainder may impact an answer in a real-world situation; e.g., 14 cookies being shared by 4 children. N10. Explain and use relationships between operations, such as: a. relate addition and subtraction as inverse operations; b. relate multiplication and division as inverse operations; c. relate addition to multiplication (repeated addition); d. relate subtraction to division (repeated subtraction). N11. Model and use the commutative and associative properties for addition and multiplication. N12. Add and subtract whole numbers with and without regrouping. N15. Evaluate the reasonableness of computations based upon operations and the numbers involved; e.g., considering relative size, place value and estimates. M3. Tell time to the nearest minute and find elapsed time using a calendar or a clock. P3. Use patterns to make predictions, identify relationships, and solve problems. P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	NL. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers. NH. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication. NG. Model and use commutative and associative properties for addition and multiplication. NK. Analyze and solve multistep problems involving addition, subtraction, multiplication and division of whole numbers. NJ. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness. ME. Tell time to the nearest minute. PB. Recognize and generate equivalent representations for whole numbers, fractions and decimals. PE. Use variables to create and solve equations representing problem situations.	Investigations Unit 3 Collections and Travel Stories (Con't.)	End-of-Unit (Common Assessment)
11/29/10 to 1/6/11 (19 days)	Identify & measure perimeter using metric and customary measures Identify and find area of figures (by counting squares) Characterize triangles as a closed figure having 3 angles and 3 vertices Identify right angles and recognize others as being larger or smaller than it.	M4. Read thermometers in both Fahrenheit and Celsius scales. M2. Establish personal or common referents to include additional units; e.g., a gallon container of milk; a postage stamp is about a square inch. M5. Estimate and measure length, weight and volume (capacity), using metric and U.S. customary units, accurate to the nearest 1/2 or 1/4 unit as appropriate.	MA. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using: • objects of uniform size; • U.S. customary units; e.g., mile, square inch, cubic inch, second, degree Fahrenheit, and other units as appropriate; * metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate. MD. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature. MC. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates. MA. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using: • objects of uniform size; • U.S. customary units; e.g., mile, square inch, cubic inch, second, degree Fahrenheit, and other units as appropriate; • metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate.	Investigations Unit 4 Perimeter, Angles, and Area	Dec. 6 to Dec. 10... Math Benchmark End-of-Unit (Common Assessment)

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		M6. Use appropriate measurement tools and techniques to construct a figure or approximate an amount of specified length, weight or volume (capacity); e.g., construct a rectangle with length 2 1/2 inches and width 3 inches, fill a measuring cup to the 3/4	MD. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.		
		M7. Make estimates for perimeter, area and volume using links, tiles, cubes and other models.			
		G1. Analyze and describe properties of two-dimensional shapes and three-dimensional objects using terms such as vertex, edge, angle, side and face.	GA. Provide rationale for groupings and comparisons of two-dimensional figures and three-dimensional objects. GE. Use attributes to describe, classify and sketch plane figures and build solid objects.		
11/29/10 to 1/6/11 (Con't.)	Identify & measure perimeter using metric and customary measures Identify and find area of figures (by counting squares) Characterize triangles as a closed figure having 3 angles and 3 vertices Identify right angles and recognize others as being larger or smaller than it.	G2. Identify and describe the relative size of angles with respect to right angles as follows: a. Use physical models, like straws, to make different sized angles by opening and closing the sides, not by changing the side lengths. b. Identify, classify and draw right, acute, obtuse and straight angles. G3. Find and name locations on a labeled grid or coordinate system; e.g., a map or graph. G4. Draw lines of symmetry to verify symmetrical two-dimensional shapes. P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	GD. Identify and draw right, obtuse, acute and straight angles. GG. Find and name locations in coordinate systems. GH. Identify and describe line and rotational symmetry in two-dimensional shapes and designs. PE. Use variables to create and solve equations representing problem situations.	Investigations Unit 4 <i>Perimeter, Angles, and Area</i> (Con't.)	Dec. 6 to Dec. 10... Math Benchmark End-of-Unit (Common Assessment)
1/7/11 to 2/10/11 (24 days)	Understand multiplication and division as involving groups of equal sized groups Solve simple multiplication & division problems (by skip counting or using known mult. combinations)	N3. Use mathematical language and symbols to compare and order; e.g., less than, greater than, at most, at least, $<$, $>$, $=$, \leq , \geq . N8. Model, represent and explain multiplication; e.g., repeated addition, skip counting, rectangular arrays and area model. For example: a. Use conventional mathematical symbols to write equations for word problems involving multiplication. b. Understand that, unlike addition and subtraction, the factors in multiplication and division may have different units; e.g., 3 boxes of 5 cookies each. N9. Model, represent and explain division; e.g., sharing equally, repeated subtraction, rectangular arrays and area model. For example: a. Translate contextual situations involving division into conventional mathematical symbols. b. Explain how a remainder may impact an answer in a real-world situation; e.g., 14 cookies being shared by 4 children. N10. Explain and use relationships between operations, such as: a. relate addition and subtraction as inverse operations; b. relate multiplication and division as inverse operations; c. relate addition to multiplication (repeated addition); d. relate subtraction to division (repeated subtraction). N11. Model and use the commutative and associative properties for addition and multiplication. N13. Demonstrate fluency in multiplication facts through 10 and corresponding division facts. N14. Multiply and divide 2- and 3-digit numbers by a single-digit number, without remainders for division. P1. Extend multiplicative and growing patterns, and describe the pattern or rule in words.	NA. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals. ND. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them. NL. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers. NH. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication. NG. Model and use commutative and associative properties for addition and multiplication. NI. Demonstrate fluency in multiplication facts with factors through 10 and corresponding divisions. NK. Analyze and solve multistep problems involving addition, subtraction, multiplication and division of whole numbers. PA. Analyze and extend patterns, and describe the rule in words.	Investigations Unit 5 <i>Equal Groups</i>	End-of-Unit (Common Assessment)

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		<p>P2. Analyze and replicate arithmetic sequences with and without a calculator.</p> <p>P3. Use patterns to make predictions, identify relationships, and solve problems.</p> <p>P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.</p> <p>P5. Write, solve and explain simple mathematical statements, such as $7 + > 8$ or $+ 8 = 10$.</p> <p>P7. Create tables to record, organize and analyze data to discover patterns and rules.</p>	<p>P2. Analyze and extend patterns, and describe the rule in words.</p> <p>PB. Use patterns to make predictions, identify relationships, and solve problems.</p> <p>PE. Use variables to create and solve equations representing problem situations.</p> <p>PC. Write and solve open sentences and explain strategies.</p> <p>PF. Construct and use a table of values to solve problems associated with mathematical relationships.</p>		
2/11/11 to 3/9/11 (17 days)	<p>Interpret graphs of change over time</p> <p>Relate temperatures to seasons, clothing, activities, etc.</p> <p>Create a table of values with a constant rate of change</p> <p>Interpret graphs, tables, and sequences representing constant rates of change</p>	<p>M1. Identify and select appropriate units for measuring: a. length – miles, kilometers and other units of measure as appropriate; b. volume (capacity) – gallons; c. weight – ounces, pounds, grams, or kilograms; d. temperature – degrees (Fahrenheit or Celsius).</p> <p>M2. Establish personal or common referents to include additional units; e.g., a gallon container of milk; a postage stamp is about a square inch.</p> <p>M4. Read thermometers in both Fahrenheit and Celsius scales.</p>	<p>MA. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using: • objects of uniform size; • U.S. customary units; e.g., mile, square inch, cubic inch, second, degree Fahrenheit, and other units as appropriate; • metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate.</p> <p>MC. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.</p> <p>MA. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using: • objects of uniform size; • U.S. customary units; e.g., mile, square inch, cubic inch, second, degree Fahrenheit, and other units as appropriate; • metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate.</p> <p>PA. Analyze and extend patterns, and describe the rule in words.</p> <p>PB. Use patterns to make predictions, identify relationships, and solve problems.</p> <p>PE. Use variables to create and solve equations representing problem situations.</p> <p>PF. Construct and use a table of values to solve problems associated with mathematical relationships.</p> <p>PG. Describe how a change in one variable affects the value of a related variable.</p> <p>DB. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions.</p>	<p>Investigations Unit 6 <i>Stories, Tables, and Graphs</i></p>	<p>Mar. 1 to Mar. 4... Math Benchmark</p> <p>End-of-Unit (Common Assessment)</p>
		<p>N5. Represent fractions and mixed numbers using words, numerals and physical models.</p> <p>N6. Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than $1/2$), and equivalent forms using physical or visual models.</p>	<p>NC. Represent commonly used fractions and mixed numbers using words and physical models.</p> <p>ND. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.</p>		

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3/10/11 to 4/6/11 (15 days)	Divide a whole into equal parts and name them using fractions or mixed numbers Identify equivalent fractions Find combinations of fractions that equal 1 ($3/6 + 1/2 = 1$)	N7. Recognize and use decimal and fraction concepts and notations as related ways of representing parts of a whole or a set; e.g., 3 of 10 marbles are red can also be described as $3/10$ and 3 tenths are red.	NB. Recognize and generate equivalent representations for whole numbers, fractions and decimals.	Investigations Unit 7 <i>Finding Fair Shares</i>	End-of-Unit (Common Assessment)
		N9. Model, represent and explain division; e.g., sharing equally, repeated subtraction, rectangular arrays and area model. For example: a. Translate contextual situations involving division into conventional mathematical symbols. b. Explain how a remainder may impact an answer in a real-world situation; e.g., 14 cookies being shared by 4 children.	PL. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers.		
		P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	PE. Use variables to create and solve equations representing problem situations.		
		P6. Express mathematical relationships as equations and inequalities.	PC. Write and solve open sentences and explain strategies.		
		P7. Create tables to record, organize and analyze data to discover patterns and rules.	PF. Construct and use a table of values to solve problems associated with mathematical relationships.		
4/7/11 to 4/27/11 (13 days)	Identify & compare 3-D solids Find the number of cubes that will fit into a box with a given pattern Design patterns for boxes that will hold a given number of cubes	M7. Make estimates for perimeter, area and volume using links, tiles, cubes and other models.	MD. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.	Investigations Unit 9 <i>Solids and Boxes</i>	Apr. 25 to May 3... OAA State Testing End-of-Unit (Common Assessment)
		G1. Analyze and describe properties of two-dimensional shapes and three-dimensional objects using terms such as vertex, edge, angle, side and face.	GA. Provide rationale for groupings and comparisons of two-dimensional figures and three-dimensional objects. GE. Use attributes to describe, classify and sketch plane figures and build solid objects.		
		G3. Find and name locations on a labeled grid or coordinate system; e.g., a map or graph.	GG. Find and name locations in coordinate systems.		
		G5. Build a three-dimensional model of an object composed of cubes; e.g., construct a model based on an illustration or actual object.	E. Use attributes to describe, classify and sketch plane figures and build solid objects.		
		P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	PE. Use variables to create and solve equations representing problem situations.		
4/28/11 to 5/26/11 (21 days)	Add and subtract multiples of 10 & 100 from any 3-digit number (by decomposing, adding up, etc.) Demonstrate fluency w/multiplication combinations for products up to 50	N2. Use place value concepts to represent whole numbers and decimals using numerals, words, expanded notation and physical models. For example: a. Recognize 100 means "10 tens" as well as a single entity (1 hundred) through physical models and trading games. b. Describe the multiplicative nature of the number system; e.g., the structure of 3205 as 3×1000 plus 2×100 plus 5×1 . c. Model the size of 1000 in multiple ways; e.g., packaging 1000 objects into 10 boxes of 100, modeling a meter with centimeter and decimeter strips, or gathering 1000 pop-can tabs. d. Explain the concept of tenths and hundredths using physical models, such as metric pieces, base ten blocks, decimal squares or money.	NA. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals.	Investigations Unit 8 <i>How Many Hundreds?</i> <i>How Many Miles?</i>	Apr. 25 to May 3... OAA State Testing End-of-Unit (Common Assessment)
		N3. Use mathematical language and symbols to compare and order; e.g., less than, greater than, at most, at least, $<$, $>$, $=$, \leq , \geq .			
		N7. Recognize and use decimal and fraction concepts and notations as related ways of representing parts of a whole or a set; e.g., 3 of 10 marbles are red can also be described as $3/10$ and 3 tenths are red.	NB. Recognize and generate equivalent representations for whole numbers, fractions and decimals.		
		N11. Model and use the commutative and associative properties for addition and multiplication.	NG. Model and use commutative and associative properties for addition and multiplication.		
		N12. Add and subtract whole numbers with and without regrouping.	NK. Analyze and solve multistep problems involving addition, subtraction, multiplication and division of whole numbers.		
N13. Demonstrate fluency in multiplication facts through 10 and corresponding division facts.	NI. Demonstrate fluency in multiplication facts with factors through 10 and corresponding divisions.				

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		N15. Evaluate the reasonableness of computations based upon operations and the numbers involved; e.g., considering relative size, place value and estimates.	NJ. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness.		
		P1. Extend multiplicative and growing patterns, and describe the pattern or rule in words.			
		P2. Analyze and replicate arithmetic sequences with and without a calculator.	PA. Analyze and extend patterns, and describe the rule in words.		
		P3. Use patterns to make predictions, identify relationships, and solve problems.	PB. Use patterns to make predictions, identify relationships, and solve problems.		
		P4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	PE. Use variables to create and solve equations representing problem situations.		
		P5. Write, solve and explain simple mathematical statements, such as $7 + \quad > 8$ or $\quad + 8 = 10$.	PC. Write and solve open sentences and explain strategies.		
		P6. Express mathematical relationships as equations and inequalities.			