Teacher: Core Math4 Year: 2011-12

Course: Math Grade 4 Month: All Months

September

NECAP Review ~ Nonconsecutive days, 1st three weeks of September
EXAMPLE: Week 1 MWF NECAP and T,TH regular 4th grade curriculum
Week 2 T TH NECAP and MWF regular 4th grade curriculum

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabular
		NECAP review		Website Resources (go to links) NECAP WEAKNESS-Sample Lesson Sept.	NECAP review packet Teacher Resources **Additional Web Sites:** //ed.sc.gov/agency/offices/assessment/pact/PACT.ReleaseItems.html (In order to access the above, go to //ed.sc.gov, click on "other links",go to Testing Resources, click on "PACT resouces") www.k12.wa.us(In order to access the abov, go to Resource Tools, Click on "Grade Level Resources", click on "Mathematics", click on "On-line Grade Level" **Additional Books:** Test Ready Plus Mathematics, Book 3, Curriculum Association, Inc. Uncovering Student	NECAP Vocabular analyze classify compute customary vs metric units determine level of accuracy distinguis draw a conclusio evaluate expressio vs equatio formulate infer interpret

					Thinking in Mathematics, 25 Formative Assessment Probes, C. Rose,L. Minton, C. A	justify model notation predict produce reason record relate relationsh represent response rule for a pattern simplify solution trends unit of measure

Rational Numbers (0 to 999,999) ~ Four Weeks - (Last week of September & First three weeks of Octobe

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.01.NO.04.02-Demonstrates understanding of the relative magnitude of numbers from 0		Equivalency Composition Decomposition Place Value Order of Whole	Composes and decomposes whole numbers in equivalent forms and	NECAP WEAKNESS-Sample Lesson Sept 2	Everyday Counts Calendar (ECC) Problem Solving	NECAP Vocabulary (see Sept.) **Common Vocabulary** place value

	to 999,999 by ordering or comparing whole numbers; and ordering, comparing, or identifying equivalent proper positive fractional numbers; or decimals using models, number lines, or explanations. M.01.NO.04.04- Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.) M.NO.4.1.1- Demonstrates conceptual understanding of rational numbers with		Numbers Comparison of Whole Numbers Rounding (review)	represents numbers in standard, word, and expanded form Demonstrates conceptual understanding of place value as powers of ten grow using models, explanations, or other representations Compares and orders whole numbers Rounds numbers to a specific place value		Strategies (PS) SF Teacher's Edition Text (TE) 2-1, 2-2, 2-5, 2-6, 2-7	digit addend sum difference communativ property associative property estimate rounding

	respect to: whole numbers from 0 to 999,999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and positive fractional numbers (benchmark fractions: a/2, a/3, a/4, a/5, a/6, a/8, or a/10, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in are, set, or linear models where the number of parts in the whole are equal to , and a multiple or factor of the denominator; and decimals as hundredths within the context of money ,or tenths within the context of metric measurements (e.g., 2.3 cm)						

	using models, explanations, or other representations. M.NO.4.1.8- Applies properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.							
	M.01.NO.04.04- Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.)		Addition	Estimates sums using appropriate strategies Mentally adds whole number facts through 20 Mentally adds ***(two-digit whole numbers)*** Mentally adds 2-digit and 3-digit whole numbers that are multiples of ten, and ***4-digit whole numbers that are multiples of 100*** Accurately adds up to	NECAP WEAKNESS- Sample Lesson Sept 3		TE 3-1, 3-3, 3-5, 3-6

	M.NO.4.1.6- Mentally adds and subtracts whole number facts through 20; multiplies whole number facts to a product of 100, and calculates related division facts; adds two-digit whole numbers, combinations of two-digit and 3-digit whole numbers that are multiples of ten, and 4-digit whole numbers that are multiples of 100 (limited to two addends) and subtracts a one-digit whole number from a two-digit whole number and subtracts combinations of two-digit and three-digit whole numbers that are multiples of ten M.NO.4.1.7- Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate			***four*** digits Accurately solves problems, ***including multiple operations***			

	method of estimation, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands. M.NO.4.1.8-Applies properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.						
	M.01.NO.04.04-Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2		Subtraction	Estimates differences using appropriate strategies Mentally subtracts whole number facts through 20 Mentally ***subtracts combinations of 2-digit and 3-digit whole numbers that are multiples of ten*** Accurately			TE 3-1, 3-3, 3-7, 3-8

	digits by 2 digits, and division limited to 1 digit divisors.) M.NO.4.1.6- Mentally adds and subtracts whole number facts through 20; multiplies whole number facts to a product of 100, and calculates related division facts; adds two-digit whole numbers, combinations of two-digit and 3-digit whole numbers that are multiples of ten, and 4-digit whole numbers that are multiples of 100 (limited to two addends) and subtracts a one-digit whole number from a two-digit whole number and subtracts combinations of two-digit and three-digit whole numbers that are multiples of ten M.NO.4.1.7- Makes estimates in a given situation by			subtracts up to ***four*** digits (with regrouping) Accurately solves problems, ***including multiple operations***			

	identifying when estimation is appropriate, selecting the appropriate method of estimation, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands. M.NO.4.1.8- Applies properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.						

October

Patterns ~ Last week of October

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.03.FA.04.01- Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables or sequences; and writes a		Linear and ***Nonlinear*** Patterns Using Models Linear Patterns Using Tables Linear Patterns Using Sequences	Demonstrates conceptual understanding of linear and non-linear patterns Identifies patterns Extends sequences	NECAP WEAKNESS- Sample Lesson Oct	Input/Output Machine PS TE 1-11, 3-16, 5-13	NECAP Vocabulary (see Sept.) **Common Vocabulary**: pattern linear pattern rate

	rule in words orsc symbols to find the next case.			***Writes a rule in words or symbols to find the next case***				
	M.FA.4.1.2- Demonstrates conceptual understanding of linear relationships (y = kx) as a constant rate of change by identifying, describing, or comparing situations that represent constant rates of change.		***Linear Relationships as a Constant Rate of Change***	Identifies, describes, and compares linear situations that represent constant rates of change. (y = kx) Compare Identifies				
November	Multiplication ~ Five weeks • 3 digit by 1 digit & 2 digit by 2 digit.							
	Standards	**Enduring Understandings**	**Content**	**Skills**	**Lessons**	**Resources**	**Vocabulary**	
	M.NO.4.1.6- Mentally adds and subtracts whole number facts through 20; multiplies whole number facts to a product of 100, and calculates related division facts; adds two-digit whole numbers, combinations of two-digit		Review multiplication facts (0-10)	Demonstrates knowledge of multiplication facts ***through 10*** Mentally computes multiplication facts ***through 10*** ***Mentally multiplies multiplication facts through 10, to a product of 100, and calculates***		Hundreds Chart TE 4-1, 4-2, 4-3, 4-4, 5-1, 5-3	NECAP Vocabulary (see Sept.) **Common Vocabulary:** array product factors commutative property associative property square number composite number prime numbe	

	and 3-digit whole numbers that are multiples of ten, and 4-digit whole numbers that are multiples of 100 (limited to two addends) and subtracts a one-digit whole number from a two-digit whole number and subtracts combinations of two-digit and three-digit whole numbers that are multiples of ten M.NO.4.1.7- Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.			***related division facts*** Making estimates using knowledge of multiplication Makes estimates using knowledge of multiplication			

	M.01.NO.04.04- Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.) M.NO.4.1.8- Applies properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.		**Properties of Factors and Multiples** Properties of Numbers - Odd, Even, ***Multiplicative Property of Zero, identity*** Multiplication of whole numbers. Word problems	Accurately solves problems involving the use of ***properties of factors and multiples*** Applies properties of numbers to solve problems and simplify computations Uses properties of numbers (odd and even) to determine if computation makes sense Multiplies ***1-digit numbers by 2-digit numbers*** Multiplies ***1 digit numbers by 3-digit numbers*** Multiplies ***2-digit numbers by 2-digit numbers*** Accurately solves problems on whole numbers, ***including***	NECAP WEAKNESS- Sample Lesson Nov	TE 4-2, 4-14, 5-2, 5-14 EEC		

			multiple operations					
M.NO.4.1.8- Applies properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.		***Commutative Property Associative Property***	Applies properties of numbers to solve problems Applies the ***commutative and associative properties***	NECAP WEAKNESS- Sample Lesson Nov 1	TE Glossary			
M.03.FA.04.03- Demonstrates conceptual understanding of algebraic expressions by using letters or symbols to represent unknown quantities to write simple linear algebraic expressions involving any one of the four operations; or by evaluating simple linear algebraic expressions using whole numbers. M.03.FA.04.04- Demonstrates conceptual understanding of equality by		***Algebraic expression using letters*** ***Algebraic expression using symbols*** Equality	Uses letters or symbols to represent unknown quantities Writes simple linear algebraic expressions involving any one of the 4 operations Evaluates simple linear algebraic expressions using whole numbers Shows equivalence between two expressions using models	NECAP WEAKNESS- Sample Lesson Nov 2	TE 1-11, 3-15, 10-12			

	showing equivalence between two expressions using models or different representations of the expressions, by simplifying numerical expressions where left to right computations may be modified only by the use of parentheses (expressions consistent with the parameters of M(F&A)â€“4â€“3), and by solving one-step linear equations of the form ax = c, x Â± b = c, where a, b, and c are whole numbers with a ? 0.			Shows equivalency by using different representation of expressions using parenthesis [eg. 14-(2x5) =4 is the same as 14-10=4] Solves problems using order of operations where ***left to right operations are only modified by the use of parenthesis***			

D e c e m b e r	Division ~ Five weeks (2nd week Dec. through 3rd week Jan.) â€¢ Division limited to one digit divsiors						
	Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
	M.01.NO.04.03-Demonstrates conceptual understanding of mathematical operations by describing or illustrating the relationship between repeated subtraction and division (no remainders); the		***Division*** ***Relationship between subtraction and division with no remainders Inverse relationship between multiplication and division of whole***	Demonstrates understanding by describing and illustrating the relationship between division and other operations Demonstrates understanding	NECAP WEAKNESS-Sample Lesson Dec	TE 4-7, 4-8, 4-9, 4-10, 4-11, 4-12, 7-1, 7-2	NECAP Vocabulary (see Sept.) **Common Vocbulary**: divisor dividend quotient remainders factors

	inverse relationship between multiplication and division of whole numbers; or the addition or subtraction of positive fractional numbers with like denominators using models, number lines, or explanations. M.01.NO.04.04- Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.) M.NO.4.1.7- Makes estimates in a given situation by identifying		***numbers***	by illustrating Demonstrates understanding of ***division as repeated subtraction*** Demonstrates conceptual understanding of the ***inverse relationship between multiplication and division of whole numbers*** Solves problems using order of operations Estimates quotients using an appropriate strategy			

	when estimation is appropriate, selecting the appropriate method of estimation, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.						
	M.01.NO.04.03- Demonstrates conceptual understanding of mathematical operations by describing or illustrating the relationship between repeated subtraction and division (no remainders); the inverse relationship between multiplication and division of whole numbers; or the addition or subtraction of positive fractional numbers with like denominators using models, number lines, or explanations. M.01.NO.04.04- Accurately		***Long division without remainders*** ***Long division with remainders*** ***Remainders***	Demonstrates understanding, eg. 32 divided by 8 and 67 divided by 9 Accurately solves division problems limited to ***1-digit divisors***, without remainders Accurately solves division problems limited to ***1-digit divisors*** with remainders Applies the understanding of the interpretation of ***remainders*** to solve problems.			TE 7-3, 7-4, 7-5, 7-6, 7-7, 7-8, Quotient Game pg. 324

	solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.) M.NO.4.1.8- Applies properties of numbers (odd, even, multiplicative property of zero, and remainders) and field properties (commutative, associative, and identity) to solve problems and to simplify computations.							
	M.03.FA.04.01- Identifies and extends to specific cases a variety of patterns (linear and nonlinear)		***Algebraic expression using symbols Algebraic expression***	Writes simple linear algebraic expressions involving any one of the 4				

	represented in models, tables or sequences; and writes a rule in words orsc symbols to find the next case. M.03.FA.04.04- Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions, by simplifying numerical expressions where left to right computations may be modified only by the use of parentheses (expressions consistent with the parameters of M(F&A)â€“4â€“3), and by solving one-step linear equations of the form ax = c, x Â± b = c, where a, b, and c are whole numbers with a ? 0. M.FA.4.1.2- Demonstrates conceptual understanding of linear relationships (y = kx) as a constant rate of change by		***using letters*** Equality	operations Evaluates simple linear algebraic expressions using whole numbers Show equivalence between two expressions using models Simplifies expressions using order of operations computing ***left to right modified only by parenthesis*** Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of expressions Solves problems using order of operations Shows equivalency by using different representation of expressions using parentheses				

	identifying, describing, or comparing situations that represent constant rates of change.			[eg. 24/(3x4) =2 is the same as 24/12=2] Write simple linear algebraic expressions ***Solves one-step linear equations in the form ax = c*** reinforcing the concept of the inverse relationship of multiplication and division				

January	Two-dimensional shapes ~	One week (last week January) • Triangles, squares, rectangles, rhombi, trapezoid octagons and circles

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.02.GM.04.01- Uses properties or attributes of angles (number of angles) or sides (number of sides, length of sides, parallelism, or perpendicularity) to identify, describe, or distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, or octagons; or classify angles relative to 90o as more than, less		2-Dimensional polygons, triangles, squares, rectangles, rhombi, trapezoids, hexagons, and **octagons** Properties or attributes (number of sides) of regular and irregular ***octagons*** Properties or attributes (length of sides) **Properties or attributes (parallelism)** ***Properties or attributes (perpendicularity)***	Identify Uses properties or attributes of angles (number of angles), sides (number and length), ***parallelism, and perpendicularity*** to identify, describe, or distinguish among polygons Demonstrates conceptual understanding of spatial reasoning and visualization by copying, comparing, and drawing models	NECAP WEAKNESS- Sample Lesson Jan NECAP WEAKNESS- Sample Lesson Jan 1	TE 8-1, 8-2, 8-3, 8-7, 8-8, 8-9, 9-1, 9-4	NECAP Vocabulary (see Sept.) **Common Vocabular** plane figur polygon quadrilater rhombi trapezoid hexagon octagon congruent rotation (tu) translation (slide) reflection (flip) similar symmetry

than, or equal to. M.GM.4.1.10- Demonstrates conceptual understanding of spatial reasoning and visualization by copying, comparing, and drawing models of triangles, squares, rectangles, rhombi, trapezoids, hexagons, octagons, and circles; and builds models of rectangular prisms from two- or three-dimensional representations.		Point symmetry Line symmetry	of triangles, squares, rectangles, rhombi, trapezoids, hexagons, ***octagons***, and circles Describe Creates symmetrical figures Distinguish among				
M.02.GM.04.04- Demonstrates conceptual understanding of congruency by matching congruent figures using reflections, translations, or rotations (flips, slides, or turns), or as the result of composing or decomposing shapes using models or explanations.		Congruent shapes Congruency using reflections (slide) Congruency using translations (flip) Congruency using rotations (turns)	Compose using models or explanations Decompose using models or explanations Demonstrates understanding of congruency by matching		TE 8-5, 8-6, 8-8		
M.02.GM.04.05- Demonstrates conceptual		Similar shapes	Demonstrates conceptual understanding		TE 8-6		

	understanding of similarity by applying scales on maps, or applying characteristics of similar figures (same shape but not necessarily the same size) to identify similar figures, or to solve problems involving similar figures. Describes relationships using models orsc explanations.			of similarity by applying characteristics of similar figures (same shape but not necessarily same size) Identify similar figures such as two triangles different sizes ***Solve problems*** (May need to use order of operations) Describes relationships using models or explanations Demonstrates conceptual understanding of similarity by applying scales on maps. Solves problems (May need to use order of operations)				

Feburary

Angles ~ 1 week (1st week of Feb.)

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.02.GM.04.01-Uses properties or attributes of angles (number of angles) or		Properties or attributes of angles	Identifies within two-dimensional shapes as being greater	NECAP WEAKNESS-Sample Lesson Feb	TE 8-3,8-4, 8-5,8-6	NECAP Vocabulary (see Sept.) **Common Vocabulary:**

sides (number of sides, length of sides, parallelism, or perpendicularity) to identify, describe, or distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, or octagons; or classify angles relative to 90o as more than, less than, or equal to.			than or less than 90° ***Classifies angles relative to 90 degrees*** Uses a protractor to measure angles as greater or less than 90 degrees			greater than, less than 90° protractor

Three dimensional shapes ~ 1 week (2nd week of Feb.) • (Rectangular prisms, triangular prisms, cylinders, and cones)

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.02.GM.04.03- Uses properties or attributes (shape of bases or number of lateral faces) to identify, compare, or describe three-dimensional shapes (rectangular prisms, triangular prisms, cylinders, or spheres). M.GM.4.1.10- Demonstrates conceptual		Three dimensional shapes; rectangular prisms, triangular prisms, ***cylinders, spheres*** Properties or attributes	Use properties or attributes (shape of bases or number of lateral faces) to identify, compare, and describe 3-dimensional shapes Compare using properties or attributes Describe using properties or attributes Build model of rectangular prisms from	NECAP WEAKNESS- Sample Lesson Feb 1	TE 8-1, ECC	NECAP Vocabulary (see Sept.) **Common Vocabulary** solid figure rectangular prism triangular prism cylinder sphere face edge vertex

understanding of spatial reasoning and visualization by copying, comparing, and drawing models of triangles, squares, rectangles, rhombi, trapezoids, hexagons, octagons, and circles; and builds models of rectangular prisms from two- or three-dimensional representations.			***two*** or three dimensional representations			

Perimeter and Area ~ 3rd week Feb. and first two weeks March

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.02.GM.04.06-Demonstrates conceptual understanding of perimeter of polygons, and the area of rectangles, polygons or irregular shapes on grids using a variety of models, manipulatives, or formulas. Expresses all measures using appropriate units. M.NO.4.1.4-Accurately		***Perimeter of polygons***	Demonstrates conceptual understanding of perimeter of polygons using models, manipulatives, or ***formulas*** Demonstrates understanding using models Demonstrates understanding using manipulatives ***Demonstrates understanding using formulas*** ***Solves***	NECAP WEAKNESS-Sample Lesson Feb 2	TE 8-11	NECAP Vocabulary (see Sept.) **Common Vocabulary** area perimeter square units

	solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.)			***problems*** (May need to use order of operations) Expresses all measures using appropriate units				
	M.02.GM.04.06- Demonstrates conceptual understanding of perimeter of polygons, and the area of rectangles, polygons or irregular shapes on grids using a variety of models, manipulatives, or formulas. Expresses all measures using appropriate units.		Area of rectangles ***Area of polygons Area of irregular shapes on grids***	Demonstrates conceptual understanding of area of rectangles or polygons using models, manipulatives, or ***formulas*** Demonstrates conceptual understanding of area of irregular shapes on grids using models, manipulatives, or ***formulas Demonstrates understanding using***		TE 8-12, 8-14, dot paper, grid paper, geoboards, pattern blocks, A flair for design		

				formulas Solves problems (May need to use order of operations) Expresses all measures using appropriate units				

March

Measurement - Time/Temperature ~ Five weeks • 3 digit by 1 digit & 2 digit by 2 digit.

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.GM.4.1.7- Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands. M.NO.4.1.7- Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, and evaluating the reasonableness		Time: Hour (to 5 min interval) Time: ***Seconds in a minute, minutes in an hour***, hours in a day, days in a week, days in a year Temperature: C and F degree (to 1 degree) Elapsed time	Reads accurately Converts within systems when solving problems, eg. 120 seconds is how many minutes? Solves problems involving elapsed time	NECAP WEAKNESS- Sample Lesson Mar	TE 2-9, 2-10, 2-11, 2-12, 11-10, 11-12, 11-13,11-15	NECAP Vocabulary (see Sept.) **Common Vocabulary:** elapsed time Fahrenheit Celsius

of solutions appropriate to grade level GLEs across content strands.						

Graphing ~ 3 weeks (Last week March and first two weeks April)

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.04.DSP.04.02- Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using measures of central tendency (median or mode), or range.		***Median*** ***Mode*** ***Range*** ***Mean (average)***	Analyzes patterns, trends or distributions in data in a variety of contexts by determining or using ***measures of central tendency (median or mode) or range***			NECAP Vocabulary (see Sept.) **Common Vocabulary** mean (average) median mode range line plot bar graph pictograph stem and lea plot circle graph coordinate grid ordered pairs TE 1-10
M.04.DSP.04.01- Interprets a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to		***Line plots***, tables, bar graphs, ***pictographs***, or ***circle*** graphs	Use and analyze data to answer questions, formulate or ***justify*** conclusions, make predictions, and solve problems. Make predictions Collect and	NECAP WEAKNESS- Sample Lesson Mar 1		TE 1-1, 1-2, 1-3, 1-4, 1-5, 1-8, 1-9

	make predictions, or to solve problems. M.DSP.4.1.3-Organizes and displays data using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems. M.DSP.4.1.6-In response to a teacher or student generated question or hypothesis, groups decide the most effective method to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate			interpret data Organize and display data using tables, ***line plots***, bar graphs, and ***pictographs*** Analyze data including ***making connections to real world situations*** ***Solve problems*** (May need to use order of operations)			

makes predictions; and asks new questions and makes connections to real world situations. M.GM.4.1.7- Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands.							
M.GM.4.1.9- Demonstrates understanding of spatial relationships using location and position by interpreting and giving directions between locations on a map or coordinate grid (first quadrant); plotting points in the first quadrant in context and finding the horizontal and vertical		Coordinate grid	Interpret ***Plot points (1st quadrant)*** Give directions between locations (map or coordinate grid) ***Find distance between points (vertical and horizontal) in 1st quadrant***			TE 1-2	

	distances between points on a coordinate grid in the first quadrant.						

April

Decimals ~ Three weeks (3rd week April and first two weeks of May)

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.01.NO.04.01- Demonstrates conceptual understanding of rational numbers with respect to: whole numbers from 0 to 999,999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and positive fractional numbers (benchmark fractions: a/2, a/3, a/4, a/5, a/6, a/8, or a/10, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area, set, or linear models		Decimal Concepts Place value of decimals to ***hundredths***	Demonstrates an understanding of decimals as part of a whole ***Compare using models, number lines, or explanations*** Names decimals using place value terminology ***Identify using models, number lines or explanations*** Represents decimals with and without models Identifies and writes equivalent decimals ***Identifies, orders and compares decimals using models, number lines or***	NECAP WEAKNESS- Sample Lesson Apr	TE 11-1, 11-2, 11-4, 11-5	NECAP Vocabulary (see Sept.) **Common Vocabulary:** decimal tenths hundredths gram liter meter stick

	where the number of parts in the whole are equal to, and a multiple or factor of the denominator; and decimals as hundredths within the context of money, or tenths within the context of metric measurements (e.g., 2.3 cm) using models, explanations, or other representations. M.01.NO.04.02- Demonstrates understanding of the relative magnitude of numbers from 0 to 999,999 by ordering or comparing whole numbers; and ordering, comparing, or identifying equivalent proper positive fractional numbers; or decimals using models, number lines, or explanations. M.NO.4.1.1- Demonstrates conceptual understanding			***explanations Demonstrates understanding of tenths (eg. metric measurement) Demonstrates understanding of hundredths (eg. money)***			

	of rational numbers with respect to: whole numbers from 0 to 999,999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and positive fractional numbers (benchmark fractions: a/2, a/3, a/4, a/5, a/6, a/8, or a/10, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in are, set, or linear models where the number of parts in the whole are equal to , and a multiple or factor of the denominator; and decimals as hundredths within the context of money ,or tenths within the context of metric							

	measurements (e.g., 2.3 cm) using models, explanations, or other representations.							
	M.01.NO.04.04-Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.)		***Addition of decimals Subtraction of decimals***	***Solve problems*** (May need to use order of operations) Demonstrates conceptual understanding of decimal operations (addition and subtraction) Estimates decimal sums and differences Adds and subtracts decimals correctly aligning decimal points Solves problems (May need to use order of operations)		TE 11-3, 11-8, 11-9 PS		
	M.GM.4.1.5-Demonstrates conceptual understanding of similarity by applying scales on maps, or applying characteristics of similar		***Metric Measurement:*** ***Length: Centimeter (to .5); Meter (to.5); Kilometer (as used in scale);*** ***Convert :***	Estimates measurements Measures accurately and reads Converts within systems to equivalent measures, eg.		11-10, 11-12, 11-13, 11-14, EEC		

	figures (same shape but not necessarily the same size) to identify similar figures, or to solve problems involving similar figures. Describes relationships using models or explanations. M.GM.4.1.7- Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands. M.NO.4.1.7- Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, and evaluating the		***Centimeters to Meters*** ***Mass: Kilogram (to whole kg), Gram (to whole g)***	Three meters = how many centimeters? Applies scales to maps				

	reasonableness of solutions appropriate to grade level GLEs across content strands.							

May

Fractions ~ Five weeks • 3 digit by 1 digit & 2 digit by 2 digit.

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.01.NO.04.01- Demonstrates conceptual understanding of rational numbers with respect to: whole numbers from 0 to 999,999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and positive fractional numbers (benchmark fractions: a/2, a/3, a/4, a/5, a/6, a/8, or a/10, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area, set, or		Proper fractions in an area model - using words, numbers, and pictures. Proper fractions in a set model - using words, numbers, and pictures ***Proper fractions in linear models - using words, numbers, and pictures*** Benchmark fractions a/2, a/3, a/4, **a/5**, a/6, a/8, **a/10** where "a" is less than the denominator (proper fraction)	Demonstrates conceptual understanding of fractions as a part to whole relationship in area, set, and ***linear*** models ***Identifies, compares, and orders proper fractional numbers using models, number lines or explanations Compare using models, number lines or explanations*** Demonstrates conceptual understanding of fractional numbers in a part to whole relationship where the		TE 9-1, 9-2, 9-6, 9-7, 9-9, 9-10	NECAP Vocabulary (see Sept.) **Common Vocabulary:** numerator denominator quart gallon

	linear models where the number of parts in the whole are equal to, and a multiple or factor of the denominator; and decimals as hundredths within the context of money, or tenths within the context of metric measurements (e.g., 2.3 cm) using models, explanations, or other representations. M.01.NO.04.02-Demonstrates understanding of the relative magnitude of numbers from 0 to 999,999 by ordering or comparing whole numbers; and ordering, comparing, or identifying equivalent proper positive fractional numbers; or decimals using models, number lines, or explanations.			number of parts in the whole are equal to and a ***multiple or a factor of the denominator*** (making an equivalent fraction) Identifies equivalent fractions from any model				
	M.01.NO.04.03-Demonstrates		***Addition with like***	Describes or illustrates		TE 10-1,10-3		

	conceptual understanding of mathematical operations by describing or illustrating the relationship between repeated subtraction and division (no remainders); the inverse relationship between multiplication and division of whole numbers; or the addition or subtraction of positive fractional numbers with like denominators using models, number lines, or explanations. M.01.NO.04.04- Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators.		***denominators Subtraction with like denominators***	understanding of addition and subtraction of fractions Solves problems using models, number lines or explanations				

(Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.)								
M.GM.4.1.5- Demonstrates conceptual understanding of similarity by applying scales on maps, or applying characteristics of similar figures (same shape but not necessarily the same size) to identify similar figures, or to solve problems involving similar figures. Describes relationships using models or explanations. M.GM.4.1.7- Measures and uses units of measures appropriately and consistently, and makes conversions within systems		Length: Inch ***(to 1/4)***, Foot, ***Yard, Mile (as used in scale)***, Convert: Inches to Feet, ***Feet to Yards, Inches to Yards,*** Capacity: Quarts, Gallons	Measures accurately Estimates measurements Converts to equivalent measures within system when problem solving ex. 72 inches equal how many yards? Applies scales to maps		TE 9-11, 9-12, 9-13, 10-8, 10-9, EEC		

	when solving problems across the content strands. M.NO.4.1.7- Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.							

June

Probability ~ 2nd and 3rd week June

Standards	Enduring Understandings	Content	Skills	Lessons	Resources	Vocabulary
M.01.NO.04.04- Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper		Combinations Simple permutations Counting techniques	Solves problems using counting techniques: organized lists, tables, tree diagrams, handshake problems, menu ordering & clothes matching			NECAP Vocabulary (see Sept.) **Common Vocabulary** organized lists handshake problems menu ordering clothes matching likely unlikely

	fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.) M.04.DSP.04.04-Uses counting techniques to solve problems in context involving combinations or simple permutations using a variety of strategies.						predicitions fair TE 12-11 PS
	M.04.DSP.04.05-For a probability event in which the sample space may or may not contain equally likely outcomes, determines the theoretical probability of an event and expresses the result as part to whole.		Probability events with equally likely or not equally likely outcomes	Expresses probability as a ***part to whole relationship*** ***Determines the theoretical probability (parts to whole)*** Tests predictions Determines if a game is fair			TE 12-6, 12-7, 12-8, 12-9, 12-10