

# Math Learning Continuum Plan for 2005-06

This plan does not encompass all that needs to be taught at each level, but rather the Investigations/Connected Math Units that we will focus on completing. The units selected flow along the Number Sense and Geometry strands, the other 3 strands (Probability/Statistics, Measurement, and Algebra) will still need to be covered, either with other resources you are using or with the other units in this program.

## Kindergarten

Collecting, Counting and Measuring	(Developing Number Sense)
Making Shapes and Building Blocks	(Exploring Geometry)
How Many in All?	(Counting and the Number System)

## 1<sup>st</sup> Grade

Building Number Sense	(The Number System)
Quilt Squares and Block Towns	(2-D and 3-D Geometry)
Number Games and Story Problems	(Addition and Subtraction)

## 2<sup>nd</sup> Grade

Coins, Coupons, and Combinations	(The Number System)
Shapes, Halves and Symmetry	(Geometry and Fractions)
Putting Together and Taking Apart	(Addition and Subtraction)

## 3<sup>rd</sup> Grade

Landmarks in the Hundreds	(The Number System)
Flips, Turns, and Area	(2-D Geometry)
Combining and Comparing	(Addition and Subtraction)
Things That Come in Groups	(Multiplication and Division)
Fair Shares	(Fractions)
Exploring Solids and Boxes	(3-D Geometry)

## 4<sup>th</sup> Grade

Landmarks in the Thousands	(The Number System)
Arrays and Shares	(Multiplication and Division)
Seeing Solids and Silhouettes	(3-D Geometry)
Different Shapes, Equal Pieces	(Fractions and Area)
Money, Miles, and Large Numbers	(Addition and Subtraction)
Sunken Ships and Grid Patterns	(2-D Geometry)
Packages and Groups(if time allows)	(Multiplication and Division)

**5<sup>th</sup> Grade (CMP Units)**

Prime Time	(Number Sense)
Bits and Pieces I	(Number Sense)
Shapes and Designs	(Geometry)
Covering and Surrounding	(Measurement)
Between Never and Always	(Probability) Investigations Unit

**6<sup>th</sup> Grade (CMP Units)**

Bits and Pieces I	(Number Sense)
Shapes and Designs	(Geometry)
Covering and Surrounding	(Measurement)
Data About Us	(Statistics)
Hands-On Algebra	(Algebraic Sense)
How Likely Is It?	(Probability)

**7<sup>th</sup> Grade (CMP Units)**

Bits and Pieces II	(Number Sense)
Variables and Patterns	(Algebraic Sense)
Stretching and Shrinking	(Geometry)
Accentuate the Negative	(Number Sense)
Filling and Wrapping	(Measurement)
What do you Expect?	(Probability)
Data Around Us	(Statistics)

**8<sup>th</sup> Grade (CMP Units)**

Comparing and Scaling	(Number Sense)
Moving Straight Ahead	(Measurement and Algebraic)
Looking For Pythagoras	(Geometric Sense)
Growing, Growing, Growing	(Number Sense)
Samples and Populations	(Statistics)
Kaleidoscopes, Hubcaps, and Mirrors	(Geometric Sense)

## Resource Alignment to GLEs for Investigations/Connected Math

Grade	GLEs for Number Sense	Unit Taught
<b>K</b>		
	1.1.1 Understands the concept of number	Collecting, Counting, and Measuring, How Many in All?
	1.1.2 Understands sequential relationships among whole numbers (to 20)	
	1.1.5 Understands the meaning of addition	
	<b>GLEs for Measurement</b>	
	1.2.1 Understand and applies appropriate words to compare attributes	Collecting, Counting, Measuring, How Many in All?
	1.2.4 Understand and apply procedures to measure w/non-standard units	
	<b>GLEs for Geometry</b>	
	1.3.2 Know the characteristics of familiar objects (big, small, like a box)	Making Shapes and Building Blocks
	1.3.3 Understand the relative position of objects in the environment	
	<b>GLEs for Probability and Statistics</b>	
	1.4.3 Understands how data can be collected and organized	Counting Ourselves and Others
	1.4.5 Understands how a display provides information	
	<b>GLEs for Algebra</b>	
	1.5.1 Know how to recognize patterns	Pattern Trains and Hopscotch Paths
	1.5.3 Understand the concepts of equality and inequality (same, more,less)	

Grade	GLEs for Number Sense	Unit Taught
<b>1</b>		
	1.1.1 Understand different representations of whole numbers (100=10 10s)	Building Number Sense, Number Games & Story Problems
	1.1.2 Understands sequential relationships among whole numbers (to 100)	
	1.1.5 Understands the meaning of subtraction	
	1.1.6 Understand and apply procedures for addition of #s with fluency	
	1.1.7 Understand and apply strategies and appropriate tools for adding whole #	
	1.1.8 Understand and apply estimation strategies to determine reasonable answers	

	<b>GLEs for Measurement</b>	
	1.2.1 Understand and apply attributes to describe and compare objects	Bigger, Taller, Heavier, Smaller
	1.2.4 Understand and apply procedures to measure w/non-standard or standard units	
	<b>GLEs for Geometry</b>	
	1.3.2 Understand how to compare figures based on their characteristics.	Quilt Squares & Block Towns
	1.3.3 Understand the locations of numbers on a positive number line (to 100)	
	<b>GLEs for Probability and Statistics</b>	
	1.4.3 Understands how data can be organized and displayed	Survey Questions and Secret Rules
	1.4.5 Understands how a display provides information	
	<b>GLEs for Algebra</b>	
	1.5.1 Understand the concept of patterns	Survey Questions and Secret Rules, Number Games and Story Problems
	1.5.3 Understand the meaning of symbols and labels used to represent equality	

Grade	GLEs for Number Sense	Unit Taught
<b>2</b>		
	1.1.1 Understand place value in whole numbers (to 1000)	Putting Together and Taking Apart, Coins, Coupons, and Combinations
	1.1.2 Understand sequential relationships among whole numbers (to 1000)	
	1.1.5 Understand the meaning of addition and subtraction and how they relate	
	1.1.6 Understand and apply procedures for addition and subtraction of # w/fluency	
	1.1.7 Understand&apply strategies and appropriate tools for adding&subtracting w/whole #s	
	1.1.8 Understand&apply estimation strategies to predict answers&determine reasonableness	
	<b>GLEs for Measurement</b>	
	1.2.1 Understand and apply attributes to measure objects and time	How Long, How Far?
	1.2.4 Understand and apply procedures to measure w/non-standard or standard units	
	1.2.6 Understand how to estimate in measurement situations	
	<b>GLEs for Geometry</b>	
	1.3.2 Understand characteristics of 2-D geometric figures	Shapes, Halves, & Symmetry, Coins, Coupons, and

	1.3.3 Understand the locations of numbers on a positive number line (to 1000)	Coins, Coupons, and Combinations
<b>GLEs for Probability and Statistics</b>		
	1.4.3 Understand the organization of a graph	How Many Pockets, How Many Teeth? Does it Walk, Crawl, or Swim?
	1.4.5 Understand how a display provides information about a question	
<b>GLEs for Algebra</b>		
	1.5.1 Understand how patterns are generated	Timelines and Rhythm Patterns, Coins, Coupons, and Combinations
	1.5.3 Understand the meaning of symbols and labels used to represent situations	
	1.5.6 Understand and apply strategies to solve for the unknown using addition and subtraction	

Grade	GLEs for Number Sense	Unit Taught
3	W 1.1.1 Understand concept of whole numbers (representing and decomposing #s to 10,000)	Things That Come in Groups, Combining and Comparing, Fair Shares, Landmarks in the Hundreds,
	W 1.1.2 Understand the relative values of whole numbers (to 10,000)	
	W 1.1.3 Understand and apply the commutative and identity properties of addition and subtraction	
	W 1.1.5 Understand the meaning of multiplication and division on whole numbers	
	W 1.1.6 Understand and apply procedures for addition and subtraction of # w/fluency	
	W 1.1.7 Understand and apply strategies and appropriate tools for tasks involving adding and subtracting	
	W 1.1.8 Understand & apply est. strategies to determine reasonableness of answers in + and -	
	<b>GLEs for Measurement</b>	
W	1.2.1 Understand how different attributes (length, perimeter, time, money, weight, and temp) are used to describe objects	From Paces to Feet, Combining and Comparing
	1.2.2 Understand the differences between non-standard and standard units of measurement for length and weight in US or metric	
	1.2.3 Understand how measurement units of length & capacity are organized into systems	
	1.2.4 Understand and apply systematic procedures to measure length, time, weight, money value, and temperature	
	1.2.6 Understand and apply strategies to obtain reasonable estimates of length, time, weight, and temperature measurements	
<b>GLEs for Geometry</b>		
W	1.3.1 Understand the concept of congruence.	Flips, Turns, and Area, Exploring Boxes and Solids, Up and Down the Number Line
	1.3.2 Understand and apply attributes and properties to 2-D geometric shapes and figures	
	1.3.3 Understand the relative locations including intervals of numbers on a positive number line (to 1000)	

<b>GLEs for Probability and Statistics</b>		
W	1.4.3 Understand how to use data collection and display methods to obtain desired info.	From Paces to Feet, Combining and Comparing
W	1.4.4 Understand and apply mode to describe a set of data	
W	1.4.5 Understand representations of data from tables, charts, and bar graphs	
<b>GLEs for Algebra</b>		
W	1.5.1 Understand patterns of objects including number patterns with a single addition or subtraction operation	Things That Come in Groups, Landmarks in the Hundreds, Up and Down the Number Line, Combining and Comparing
W	1.5.3 Apply understanding of the concept of mathematical equality	
W	1.5.4 Understand and apply operational and relational symbols and notations to write equations involving addition and subtraction	
W	1.5.6 Understand and apply strategies to solve equations that include addition or subtraction	

<b>Grade</b>	<b>GLEs for Number Sense</b>	<b>Unit Taught</b>
4	W 1.1.1 Understand concept of decimals (money) and fractions	Different Shapes, Equal Pieces, Landmarks in the Thousands, Arrays and Shares, Packages and Groups, Money, Miles, and Large #, Three out of four like Spaghetti
	W 1.1.2 Understand the relative values of fractions and decimals (money)	
	W 1.1.3 Understand and apply the associative property of addition and multiplication and the commutative, identity and zero properties of multiplication on whole numbers.	
	W 1.1.5 Understand the meaning of addition and subtraction on like-denominator fractions	
	W 1.1.6 Apply procedures for multiplication and division on whole # w/fluency	
	W 1.1.7 Understand and apply strategies and appropriate tools for tasks involving multiplication and division on whole numbers	
	W 1.1.8 Understand and apply estimation strategies to determine the reasonableness of answers in situations involving multiplication and division on whole numbers	
<b>GLEs for Measurement</b>		
	W 1.2.1 Understand the concept of area	Arrays and Shares, Landmarks in the Thousands, Different Shapes Equal Pieces
	W 1.2.2 Understand the differences between length units and area units in US or metric	
	W 1.2.3 Understand how measurement units of time and weight are organized into systems	
	W 1.2.4 Understand and apply systematic procedures to determine the area of figures composed of rectangles	
	W 1.2.6 Understand and apply strategies to obtain reasonable estimates of area measurements for irregular figures	
<b>GLEs for Geometry</b>		
	W 1.3.1 Understand the concept of parallel and perpendicular lines and line symmetry in 2-D shapes and figures	Sunken Ships and Grid Patterns, Seeing Solids and Silhouettes, Different Shapes, Equal Pieces,
	W 1.3.2 Apply understanding of congruence to 2-D geometric shapes and figures	
	W 1.3.3 Apply understanding of the location of points on a coordinate grid in the first quadrant	

W	1.3.4 Understand and apply single transformations using a translation or reflection	
<b>GLEs for Probability and Statistics</b>		
W	1.4.1 Understand when events are certain or impossible and more likely, less likely, or equally likely	Ten Minute Math-likely or unlikely, The Shape of the Data, Changes Over Time, Three out of Four Like Spaghetti
W	1.4.3 Understand and apply data collection methods to obtain the desired information	
W	1.4.4 Understand and apply median and range to describe a set of data	
W	1.4.5 Understand representations of data from line plots and pictographs	
<b>GLEs for Algebra</b>		
W	1.5.1 Understand patterns of objects including number patterns using addition, subtraction, or multiplication based on a single arithmetic operation	Landmarks in the Thousands, Arrays and Shares, Packages and Groups, Changes over Time
W	1.5.2 Understand a pattern to develop a rule describing the pattern which may include a single arithmetic operation.	
W	1.5.3 Apply understanding of the concept of mathematical inequality	
W	1.5.4 Understand and apply operational and relational symbols and notations to write expressions and equations involving multiplication and division	
W	1.5.5 Understand and apply a variety of strategies to evaluate expressions with addition, subtraction, or multiplication	
W	1.5.6 Understand and apply strategies to solve equations that include multiplication	

Grade	GLEs for Number Sense	Unit Taught
5	W 1.1.1 Understand concepts of fractions and decimals	Prime Time Bits and Pieces I
W	1.1.2 Understand the relative values of non-negative fractions and decimals	
W	1.1.3 Understand and apply the concept of divisibility	
W	1.1.5 Understand the meaning of addition&subtraction on non-negative decimals&fractions	
W	1.1.6 Apply procedures of + and - with fluency on non-negative decimals and like-denominator fractions	
	1.1.7 Understand and apply strategies and appropriate tools for tasks involving addition and subtraction of non-negative, like-denominator fractions, or decimals	
W	1.1.8 Understand and apply estimation strategies to determine the reasonableness of answers in situations involving + and - on non-neg. decimals and like-denominator fractions	
<b>GLEs for Measurement</b>		
W	1.2.1 Understand the concept of angle measurement	Shapes and Designs Covering and Surrounding
W	1.2.2 Understand degrees as units of measure for angles	
W	1.2.3 Understand how measurement units of capacity, weight, and length are organized in the metric system	

W	1.2.4 Understand and apply systematic procedures to determine the area of rectangles and right triangles	
W	1.2.5 Understand and apply formulas to measure area and perimeter of rectangles and right triangles	
W	1.2.6 Understand and apply strategies to obtain reasonable estimates of angles and area measurements for rectangles and triangles.	
<b>GLEs for Geometry</b>		
W	1.3.1 Understand the properties of angles and polygons	Shapes and Designs Bits and Pieces I
W	1.3.2 Apply understanding of the properties of parallel and perpendicular and line symmetry to two-dimensional shapes and figures	
W	1.3.3 Apply understanding of the location of non-negative rational numbers on a positive number line	
W	1.3.4 Apply understanding of translations(slides) or reflections(flips) to congruent figures	
<b>GLEs for Probability and Statistics</b>		
W	1.4.1 Understand the likelihood (chance) of events occurring	Between Never and Always, Kids, Cats, and Ads
W	1.4.2 Understand and apply the Fundamental Counting Principle to situations (3 shirts and 2 pants could be combined in $3 \times 2 = 6$ ways)	
W	1.4.3 Understand how different collection methods or different questions affect the results	
W	1.4.4 Understand and apply the mean to a set of data	
W	1.4.5 Apply strategies to organize, display, and interpret data	
<b>GLEs for Algebra</b>		
W	1.5.1 Understand patterns of objects including relationships between two sets of numbers based on a single arithmetic operation	Patterns of Change, Building on Numbers You Know
W	1.5.2 Apply understanding of a pattern to develop a rule describing the pattern including combinations of two arithmetic operations	
W	1.5.3 Apply understanding of the concept of mathematical inequality	
W	1.5.4 Understand how to represent situations involving one operation or two alternating arithmetic operations.	
W	1.5.5 Understand and apply a variety of strategies to evaluate expressions with division	
W	1.5.6 Understand and apply strategies to solve equations that include division	

Grade	GLEs for Number Sense	Unit Taught
6	W 1.1.1 Understand concepts of integers as the set of natural numbers, their opposites, and 0	Hands on Algebra
	W 1.1.2 Understand the relative values of integers and non-negative rational numbers	Bits and Pieces II
	W 1.1.3 Apply properties of addition and multiplication to non-negative rational numbers	
	W 1.1.4 Understand the concept of ratio and percent	

W	1.1.5 Understand the meaning of multiplication and division on non-negative rational numbers	
W	1.1.6 Apply computational procedures of + and - with fluency on non-negative rational #s	
	1.1.7 Understand and apply strategies and appropriate tools for tasks involving addition and subtraction of non-negative rational numbers	
W	1.1.8 Apply estimation strategies to predict or determine the reasonableness of answers in situations involving addition and subtraction on non-negative rational numbers	
	<b>GLEs for Measurement</b>	
W	1.2.1 Understand the concept of volume and extend the concept of area to surface area of rectangular prisms	Filling and Wrapping
W	1.2.2 Understand the differences between square and cubic units	
W	1.2.4 Understand and apply systematic procedures to volume and capacity for solid shapes	
W	1.2.6 Understand and apply strategies to obtain reasonable estimates of volume or capacity	
	<b>GLEs for Geometry</b>	
W	1.3.1 Understand the characteristics of circles and rectangular prisms	Stretching and Shrinking
W	1.3.2 Apply understanding of angles and polygons	
W	1.3.3 Understand the relative location of integers on a number line	
W	1.3.4 Apply understanding of rotations(turns) to two-dimensional figures	
	<b>GLEs for Probability and Statistics</b>	
W	1.4.1 Understand probability as a ratio between and including 0 and 1	How Likely is it? Data About Us
W	1.4.2 Understand various ways to determine outcomes of events or situations	
W	1.4.3 Understand how data collection methods affect the data collected	
W	1.4.4 Apply measures of central tendency to interpret a set of data (mead, median, mode)	
W	1.4.5 Understand how to organize, display, and interpret data in text from single line graphs and scatter plots	
W	1.4.6 Evaluate a data set to determine how it can be, or has been, used to support a point of view.	
	<b>GLEs for Algebra</b>	
W	1.5.1 Apply rules for number patterns based on two arithmetic operations.	Hands on Algebra
W	1.5.2 Apply understanding of patterns involving two arithmetic operations to develop a rule	
W	1.5.3 Apply understanding of equalities and inequalities to interpret and represent relationships between quantities	
W	1.5.4 Apply understanding of tables, graphs, expressions, equations, or inequalities to represent situations involving two arithmetic operations	
W	1.5.5 Understand and apply procedures to evaluate expressions and formulas	
W	1.5.6 Understand and apply a variety of strategies to solve one-step equations	