Amherst and Pelham Public Schools - Curriculum Map

Subject: Mathematics **Grade Level: Kindergarten**

(revised 6/08)

Unit Title	Time Frame	Unit Enduring Understanding	Unit Essential Questions	Unit Standards Student will:	Framework Standards
Developing Number Sense: **Investigations** materials: *Who Is In School Today?* *Counting and Comparing* *Measuring and Counting* *How Many Do You Have?*	16 weeks spread across the K year	Numbers are used to represent quantities or position Numbers can represent position in a set Quantities can be counted and compared using numbers, words, and numerals Quantities can be represented in a variety of ways Counting is a strategy for finding the answer to how many A fraction represents a part of a whole. Monetary values can be represented in a variety of ways. Real world problems can be solved using multiple strategies.	How are numbers used to name position? How can sets and numbers be compared and ordered? Why are numbers necessary? What makes a quantity odd or even? How can quantities be shown? How does finding patterns help in counting? What are some ways to find a number that is more than another number? Less than another number? Between numbers? How can ½ be represented? What are some ways an amount of money can be represented? What strategy is helpful to decide if a solution makes sense (is reasonable)?	A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems. Count by ones to at least 30. Match quantities up to at least 10 with numerals. Identify positions of objects in sequences (e.g., first, second) up to fifth. Represent quantities using concrete objects Compare sets of up to at least 10 concrete objects using appropriate language (e.g., none, more than, fewer than, same number of, one more than) and order numbers. Understand the concepts of whole and half. Identify U.S. coins by names (penny, nickel, dime, quarter). B. Understand meanings of operations and how they relate to one another.	K.N.1 K.N.2 K.N.3 K.N.4 K.N.5 K.N.6 K.N.7 K.N.8

		Quantities can be combined or taken apart.	How can counting strategies be used to compare and combine numbers? What questions can be answered using subtraction and/or addition?	Use objects and drawings to model and solve related addition and subtraction problems to ten. C. Compute fluently and make reasonable estimates. Estimate the number of objects in a group and verify results.	 K.N.9
Recognizing, Creating, and Extending Patterns **Investigations** materials: ***Who Is In School Today?*** ***What Comes Next?*** ***Sorting and Surveys*** ***Twos Fives and Tens***	7 weeks (split into four and three week sessions)	Objects can be sorted by similarities Patterns show order in the world. Patterns can be found in many different forms.	In what ways can objects be sorted? Where are patterns found? What is the repeating unit in the pattern? What is a pattern?	A. Understand patterns, relations, and functions. Identify the attributes of objects as a foundation for sorting and classifying, (e.g., a red truck, a red block, and a red ball share the attribute of being red; a square block, a square cracker, and a square book share the attribute of being square shaped). Sort and classify objects by color, shape, size, number, and other properties. Identify, reproduce, describe, extend, and create color, rhythmic, shape, number, and letter repeating patterns with simple attributes, (e.g., ABAB...) Explore skip counting by	K.P.1 K.P.2 K.P.3 K.P.4

				twos, fives and tens.	
Geometry **Investigations** materials: *Make a Shape, Build a Block* See Grade 1 for related content	5 weeks	Shapes can be described by their characteristics. Shapes can be described and compared using their attributes.	Where are shapes found in the world? How can shapes be described? How can a shape be described? What are some ways to decide if shapes are congruent?	A. Analyze characteristics and properties of two-and three-dimensional geometric shapes Name, describe, sort, and draw simple two-dimensional shapes (circles, squares, triangles, and rectangles). Describe attributes of two-dimensional shapes, (e.g., number of sides, number of corners). Name and compare three-dimensional shapes (cube, cone, sphere) B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems. Identify positions of objects in space, and use appropriate language (e.g., beside, inside, next to, close to, above, below, apart, under, over, behind, between) to describe and compare their relative positions. C. Apply transformations and use symmetry to analyze	K.G.1 K.G.2 K.G.3 K.G.4 K.G.5

				mathematical situations. Investigate symmetry of two-dimensional shapes and constructions. Reproduce a symmetrical figure with manipulatives. D. Use visualization, spatial reasoning, and geometric modeling to solve problems. Use manipulatives to solve geometric problems, (e.g., tangram puzzles, pattern blocks, geoboards, Inter-locking cubes, etc	K.G.6 K.G.7
Measuring **Investigtions** materials: *Counting and Comparing* *Measuring and Counting* *How Many Do You Have?*	4 weeks	Objects can be measured. Objects have distinct attributes that can be measured with appropriate tools. Objects can be compared	Why are objects measured? How can objects be measured? How are nonstandard units used to measure objects? How are measuring units selected? How is estimation helpful in measurement? How do measurements help	A. Understand measurable attributes of objects and the units, systems, and processes of measurement. -Recognize and compare the attributes of length, volume/capacity, weight, area, and time using appropriate language, (e.g., longer, taller, shorter, same length; heavier, lighter, same weight; hold more, holds less, holds the same amount). -Sequence and name pictures of events, (e.g., before, after, next, etc.).	K.M.1 K.M.2 K.M.3 K.M.4

		using the same attribute.	compare objects?	-Tell time to the hour on an analog clock. -Name the days of the week and seasons. B. Apply appropriate techniques, tools, and formulas to determine measurements. -Make and use estimates of measurements from everyday experiences. -Use nonstandard units to measure length, area, weight, and capacity.	K.M.5 K.M.6
Data Analysis **Investigations** materials: *Who Is In School Today?* *Sorting and Surveys*	4 weeks	Some questions generate data which can be organized to tell a story. Graphs convey data in a concise way.	What kinds of questions generate data? What are some ways to gather and record information? What information do bar graphs and pictographs show?	A. Select and use appropriate statistical methods to analyze data. -Collect, sort, organize, and draw conclusions about data using concrete objects, pictures, numbers, and graphs. -Read, understand, and construct object, picture, and bar graphs. B. Understand and apply basic concepts of probability. Perform basic probability activities (e.g. dice toss, coin toss), tally, and record results.	K.D.1 K.D.2 K.D.3