

## Pre-K Math

Month / Year	Essential Questions	Content	Skills	Assessment
August 2008 May 2009				Teacher observations, informal assessments, projects, child demonstrations, small group activities, games
	How do we use numbers?	Numbers	Count orally to 50.	
			Recognize numerals 0 -20.	
			Write numerals 0 - 20.	
			Match objects using one-to-one correspondence.	
			Count 1-10 objects.	
			Count backwards from 10-1.	
			Use numbers and pictures to describe how many objects are in a set.	
			Represent quantities with concrete materials, pictures, and numerals.	
			Compare two or more sets, identifying which is equal to, more than, or less than (up to 10 objects in each set).	
	How many ways can we count objects?		Count by 10s to 100 (can use number chart or concrete materials).	
			Count by 5s to 20 (can use number chart or concrete materials).	
			Count by 2s to 20 (can use number chart or concrete materials).	
			Describe relative position (before/after) in a sequence of whole numbers up to 10 or more (number neighbors)(can use number line).	
			Use concrete materials to represent fractional parts of a whole.	
	What happens when we put sets together?	Addition and Subtraction	Group objects in sets of 2 or more.	

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	What happens when we remove things from a set?		Demonstrate and describe the effect of putting together and taking apart sets of objects (Example: 3 cubes and 4 cubes is 7 cubes; have 8 M&Ms and eat 3 so 5 are left).	
			Create and act out number stories using objects (uses correct operation to solve the problem),	
	Is there more than one way to describe a number?		Use concrete materials to represent equivalent forms of the same number up to 10 or more (Example: $1+4$ and $2+3$ both represent 5).	
	How do we use addition and subtraction in our everyday lives?		Demonstrate an awareness of addition/subtraction in everyday activities (use concrete objects and drawings).	
	How many different ways can we measure time?	Measurement	Describe events in terms of time of occurrence (daytime/nighttime).	
			Estimate and measure the time of day (day/night; morning/afternoon/evening; yesterday/today/tomorrow).	
			Know which of two daily activities takes more or less time.	
			Understand order of events (before/after; sequence of events).	
			Order events in terms of duration (long/short time; longer or shorter time).	
	How do we weigh things?		Weigh objects to explore concepts of heavier and lighter.	
			Compare and order classroom objects by their weights (which weighs more, less, or about the same).	
	How do we measure the length of things?		Use side-by-side comparisons to sort and order objects by their length (direct comparison).	
			Use non-standard objects to measure classroom objects (Example: measure a table using crayons or pencils).	

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			Use uniform non-standard units to measure common classroom objects (understand the need for uniform unit of measure).	
			Know how to communicate measurement concepts.	
	What is estimation?		Estimate with non-standard units and verify by measuring (Example: estimate number of pennies in a jar and check).	
			Choose non-standard units appropriately. (Select best one to measure with when given choices.)	
			Indirectly compare objects that cannot be physically compared (Example: compare heights of counters by using string).	
			Identify various measuring tools for measuring length, weight, or capacity (scale, ruler, measuring cups).	
			Understand concept of time using calendars (days, weeks, months, days of the week).	
			Describe concepts of temperature (hot and cold).	
			Compare and demonstrate concept of capacity.	
			Measure lengths of objects and distance using non-standard material.	
	Why do we need money?		Recognize coins.	
			Identify coin values.	
			Recognize features of a clock and basics of telling time (numbers 1-12; hands and face; time to the hour).	
	What shapes do we see in our everyday lives?	Shapes	Identify two-dimensional shapes and describe similarities and differences.	
			Sort two-dimensional objects by geometric shapes.	

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			Sort two-dimensional objects by varied attributes.
	What are attributes?		Identify attributes of circles, squares, triangles, and rectangles.
			Identify three-dimensional shapes and describe similarities and differences (sphere, cylinder, cone, and cube).
			Sort three-dimensional objects by varied attributes (round, square, sides, corners, etc.)
			Recognize, compare, and sort real world objects or models (Example: sort groceries by geometric shape).
		Positioning and Relationships	Understand spacial relationships (relationship between).
			Match objects to outlines of their shapes.
			Follow directions to move or place an object in relation to another (next to, left/right of, below/above).
			Locate numbers on a number line (0-10 or more).
			Recognize symmetry in the environment.
			Use concrete materials to make symmetrical figures (Example: folded paper, paint blot, etc.).
			Identify left and right hand.
			Use concrete objects to explore slides and turns.
	Do you see patterns in everyday activities?	Pre-Algebraic Concepts	Identify simple patterns of sounds, movement, and concrete objects.
			Sort and classify by color, shape, size, or kind.
			Identify objects that do not belong to a particular group.
			Predict and extend existing patterns using concrete materials.

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			Use concrete objects to create a pattern.
			Use one-to-one matching to determine if two groups are equal.
			Use informal methods and role playing to solve real-world problems (such as pictures/concrete materials).
			Recognize that symbols can be used to represent missing or unknown quantities (Example: 5,6,__, 8).
	What kind of information can we get from a graph?	Graphing and Prediction	Display answers to a simple question on a graph or chart.
			Participate in games or activities that depend on chance.
			Identify the likelihood of a given situation occurring (Example: knows the likelihood of a lion coming to school).
			Interpret data exhibited in concrete or pictorial graphs.
			Describe data displayed concretely or pictorially.
			Collect and display data. Make generalizations.
	What kind of information could we put on a graph?		Determine, through class discussion, questions for a simple two choice survey.
			Know appropriate methods to display the information (make graphs/charts).

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