New Paltz Central School District
Mathematics
Kindergarten

Time	Essential Questions/Content	Standards/Skills	Assessments
Throughout the Year	**Unit: Number Talks and Discussions** • How can I clearly explain my math thinking? • How can I restate the math thinking of my classmates? • How can I learn new strategies through restating the math thinking of my classmates? • How can I recognize arrangements of dots without counting? -- • Subitizing arrangements of dots • Explaining mathematical thinking • Restating the explanations of others	• Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$). • For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. • Fluently add and subtract within 5.	• Individual assessment • Teacher observation

Time	Essential Questions/Content	Standards/Skills	Assessments
September	**Unit 1: Introduction to Math Materials and Routines** • What is math? -- • Know number names and the count sequence. • Count to tell the number of objects.	• Count to 100 by ones. • Count forward beginning from a given number within the known sequence (instead of having to begin at 1). • Identify and write numbers from 0 to 5. Represent a number of objects with a written numeral 0-5 (with 0 representing a count of no objects). • Understand the relationship between numbers and quantities; connect counting to cardinality. o When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	• Baseline formative assessment • Teacher observation

October - November	**Unit 2: Counting**
	 • How can I accurately find out how many objects there are in a collection?
	 • How can I make a collection of a particular number of objects?
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	 • Creating a collection of a particular quantity
	 • Keep track while counting
	 • Knowing that the last number named tells how many in the collection (remembering how many there are after counting)
	 • Counting objects by groups (2s, 5s, 10s)
		• Count to 100 by ones.
		 • Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
		 • Identify and write numbers of objects with a written numeral 0-10 (with 0 representing a count of no objects).
		 • Understand the relationship between numbers and quantities; connect counting to cardinality.
		  o When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
		  o Understand that the last number name tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
		  o Understand that each successive number name refers to a quantity that is one larger.
			• Kathy Richardson, *Assessing Math Concepts: Counting Objects (Book 1)* - Concept 1, task 1 and task 2.Reassess throughout the year to check growth in facility with counting (e.g., ELP for math)
			 • Teacher observation

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		• Count to answer "how many?" questions about as many as 10 things arranged in a line, a rectangular array, or a circle, or as many as 5 things in a scattered configuration; given a number from 1-10, count out that many objects. • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	
December - January	**Unit 3: Geometry** • What shapes do you see around you? ------------------------------------ • Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). • Analyze, compare, create, and compose shapes.	• Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind,* and *next to.* • Correctly name shapes regardless of their orientations or overall size. • Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). • Analyze and compare two-and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/ "corners") and other attributes (e.g., having sides of equal length). • Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. • Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	• Geometry unit assessment • Teacher observation • Student discussion

Time	Essential Questions/Content	Standards/Skills	Assessments

January - February	**Unit 4: Counting and Cardinality II/Operations and Algebraic Thinking**
	• Why do we count things?
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	• Know number names and the count sequence.
	• Count to tell the number of objects.
	• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
		• Count to 100 by ones.
		• Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
		• Identify and write numbers 0 to 15. Represent a number of objects with a written numeral 0-15 (with 0 representing a count of no objects).
		• Understand the relationship between numbers and quantities; connect counting to cardinality.
		   o When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
		   o Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they are counted.
		   o Understand that each successive number name refers to a quantity that is one larger.
		• Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
		• Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
		• Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).
		• Fluently add and subtract within 5.
			• Unit assessment
			• Teacher observation
			• Student discussion

Time	Essential Questions/Content	Standards/Skills	Assessments
March	**Unit 5: Measurement and Data** • Why do we measure? • What attributes of an object can I measure? • How can I compare two objects I have measured? • What rules/attributes can I sort by? --------------------------------------- • Describe and compare measurable attributes. • Classify objects and count the number of objects in each category.	• Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. • Directly compare two objects with a measurable attribute in common, to see which object has "more of" / "less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.* • Classify objects and count the number of objects in each category and sort the categories by count.	• Measurement unit assessment • Teacher observation • Student discussion

April	**Unit 6: Counting and Cardinality III**
	• Why do we count things?
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	• Know number names and the count sequence.
	• Count to tell the number of objects.
	• Compare numbers.
		• Count to 100 by ones and by tens.
		• Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
		• Identify and write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
		• Understand the relationship between numbers and quantities; connect counting to cardinality.
		    o When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
		    o Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
		    o Understand that each successive number name refers to a quantity that is one larger.
			• Teacher observation
			• Student discussion

Time	Essential Questions/Content	Standards/Skills	Assessments
		• Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects. • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. • Compare two numbers between 1 and 10 presented as written numerals. • Develop understanding of ordinal numbers (first through tenth) to describe the relative position and magnitude of whole numbers.	
May - June	**Unit 7: Fluently Add and Subtract Within Five** • What is addition? • What is subtraction? • How can I learn the numbers that add up to five? • How can I learn the subtraction facts within five? -------------------------------------- • Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. • Composing and decomposing numbers within five • The commutative property of addition • Retelling story problems/determining whether the problem requires addition or subtraction	• Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. • Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. • Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$). • For any number from 1 to 4, find the number that makes 5 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. • Fluently add and subtract within 5.	• Practicing Combinations, page 67, *How to Assess While You Teach Math*; reassess throughout the unit to check growth • Teacher observation