

New Mexico Expanded Grade Band Expectations Math: Grades 3 and 4

Strand: NUMBER AND OPERATIONS

Standard I: Students will understand numerical concepts and mathematical operations.

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
ENGAGEMENT	Student	GLPS		GLPS		GLPS
	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of numbers</i>	3.1 3.2 4.1	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of math operations</i>	3.1 4.2	1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of math computation and estimation	3.1 3.4 4.2 4.4
	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners involving numbers</i>	3.1 3.2 4.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners involving math operations</i>	3.1 4.2	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve math computation and estimation</i>	3.1 3.4 4.2 4.4
	<i>2-b maintains interactions with others during math activities involving numbers</i>	3.1 3.2 4.1	<i>2-b maintains interactions with others during math activities involving math operations</i>	3.1 4.2	<i>2-b maintains interactions with others during math activities that involve math computation and estimation</i>	3.1 3.4 4.2 4.4

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
PRE-SYMBOLIC	Student	GLPS		GLPS		GLPS
	<i>3-a shows beginning meaning of number in countdowns (e.g., hits switch on count of 3)</i>	3.2 4.2	<i>3-a matches identical objects that represent math operations (e.g., +, –)</i>	3.3 3.7 4.2 4.4	<i>3-a matches identical objects that represent math computation and estimation (e.g., +, –)</i>	3.4 4.4
	<i>3-b groups similar math objects that represent numerals together</i>	3.2 3.3 3.5 4.1 4.2	<i>3-b matches math objects that represent operations to pictures of the objects</i>	3.1 3.7 4.2 4.4	<i>3-b matches math objects that represent operations to pictures of the objects</i>	3.4 4.4
	<i>3-c repeats a simple pattern using concrete math objects that represent numerals</i>	3.3 3.4 3.5 4.1 4.3	<i>3-c groups similar math objects that represent operations together</i>	3.1 3.4 4.2	<i>3-c groups similar math objects that represent operations together</i>	3.2 3.3 4.2 4.3
	<i>3-d identifies same and different among concrete math objects that represent numerals</i>	3.1 3.4 4.1 4.2 4.3 4.4	<i>3-d repeats a simple pattern using concrete math objects that represent operations</i>	3.3 4.2	<i>3-d repeats a simple pattern using concrete math objects that represent operations</i>	3.1 3.3 4.1 4.2

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
	<i>3-e creates another set of math objects using 1:1 correspondence</i>	3.1 3.2 3.4 4.1 4.2 4.3 4.4	<i>3-e creates another set of math objects using 1:1 correspondence</i>	3.3 3.4 4.2 4.4	<i>3-e creates another set of objects using 1:1 correspondence</i>	3.1 3.3 4.1 4.2
	<i>4-a demonstrates an understanding of relationship between number symbols 1–9 and concrete objects</i>	3.2 3.3 4.3 4.4	<i>4-a demonstrates an understanding of relationship between number symbols 1–9 and concrete objects</i>	3.3 3.4 4.2 4.4	<i>4-a demonstrates an understanding of relationship between number symbols 1–9 and concrete objects</i>	3.1 3.3 3.4 4.3
	<i>4-b counts from 1–10 in appropriate order</i>	3.1 3.2 3.3 4.1 4.2	<i>4-b compares sets of objects by counting</i>	3.1 3.2 3.3 3.4 4.1 4.2 4.5	<i>4-b counts from 1–10 in appropriate order</i>	3.1 3.3 3.4 4.2 4.4
	<i>4-c identifies numerals from 1–9</i>	3.1 3.3 4.1	<i>4-c identifies larger and smaller quantities of objects</i>	3.2 3.3 4.2 4.3	<i>4-c identifies numerals from 1–9</i>	3.1 3.3
	<i>4-d places objects in order (serialization)</i>	3.1 4.1			<i>4-d compares sets of objects by counting</i>	3.1 3.3 4.3
	<i>4-e recognizes money as a unit of exchange</i>	3.7 4.1 4.3			<i>4-e identifies larger and smaller quantities of objects</i>	3.4 4.4

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
					<i>4-f recognizes money as a unit of exchange</i>	3.1 3.3 3.4 4.3 4.4
					4-g matches coins with coins and bills with bills	3.1 3.3 3.4 4.3 4.4

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
SYMBOLIC	Student	GLPS		GLPS		GLPS
	<i>5-a counts from 1–20 in appropriate order</i>	3.1 3.2 3.3 4.1 4.2	<i>5-a distinguishes quantities of objects (e.g., equal, more, less, fewer)</i>	3.2 3.5 3.6 3.7 4.1 4.2	<i>5-a counts from 1–20 in appropriate order</i>	3.1 3.3 4.3
	<i>5-b recognizes money in different forms</i>	3.7 4.1 4.3	<i>5-b recognizes that the last number in the count represents the total number of objects (enumeration and cardinality)</i>	3.2 3.4 3.7 4.2 4.3 4.5	<i>5-b distinguishes quantities of objects (e.g., equal, more, less, fewer)</i>	3.1 3.4 4.4
	<i>5-c uses correct number to identify quantities of objects up to 10</i>	3.1 3.2 3.5 4.1 4.2	<i>5-c adds one more to a set of objects up to 10</i>	3.1 3.2 3.3 3.7 4.1 4.2 4.3	<i>5-c uses correct numbers to identify quantities of objects up to 10</i>	3.2 3.4 4.1 4.2
	<i>5-d places numerals up to 10 in order</i>	3.1 3.2 3.3 3.6 4.1 4.2 4.3	<i>5-d uses numbers to indicate concrete preference</i>	3.1 3.3 3.7 4.2	<i>5-d places numerals up to 10 in order</i>	3.3 4.2

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
	<i>5-e recognizes that the last number in the count represents the total number of objects (enumeration and cardinality)</i>	3.1 3.2 3.4 4.2 4.4	<i>5-e places numerals up to 10 in order</i>	3.2 3.3 3.7 4.2	<i>6-a provides correct quantity of up to 10 objects upon request</i>	3.2 3.3 4.1 4.4
	<i>6-a demonstrates that objects counted later in a sequence represent greater quantities than the objects counted earlier</i>	3.1 3.2 3.3 4.1 4.2	<i>6-a demonstrates that objects counted later in a sequence represent greater quantities than the objects counted earlier</i>	3.2 3.3 3.5 3.6 4.1 4.2	<i>6-b identifies which numerals are greater or less than other numerals</i>	3.2 3.4 4.3 4.4
	<i>6-b acknowledges that the number of items in a set is the same even though rearranged</i>	3.1 3.2 3.5 4.1 4.2 4.4	<i>6-b identifies which numerals are greater or less than other numerals</i>	3.2 3.3 3.5 3.6 4.3	<i>6-c uses a variety of forms of money in relevant settings</i>	3.1 3.4 4.3 4.4
	<i>6-c uses a variety of forms of money in relevant settings</i>	3.7 4.1 4.3	<i>6-c matches sets with the same number of objects</i>	3.4 3.5 4.2 4.4	<i>6-d estimates quantities (e.g., number of objects, cost of items) for relevant purposes</i>	3.2 4.3 4.4
	<i>6-d generates a simple number pattern, using a written or verbal description</i>	3.1 3.2 3.3 4.3	<i>6-d understands the symbol + means “add, combine, put together” and the symbol – means “subtract, take away”</i>	3.1 3.2 3.3 4.1 4.2	<i>6-e recognizes that sets of coins can be exchanged for bills</i>	3.1 3.3 3.4 4.3 4.4

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
	<i>6-e provides correct quantity of up to 10 objects upon request</i>	3.2 3.5 4.1 4.3			<i>6-f differentiates coins by attributes (e.g., color, size, weights, texture)</i>	3.1 3.3 3.4 4.3 4.4
	<i>6-f identifies which numerals are greater or less than other numerals</i>	3.1 3.5 3.6 4.2 4.3				
	<i>6-g matches sets with the same number of objects</i>	3.2 3.4 3.6 4.2 4.4				

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
EXTENDED SYMBOLIC	Student	GLPS		GLPS		GLPS
	<i>7-a uses numbers to give abstract information</i>	3.1 3.2 3.4 3.5 4.2 4.3 4.4	<i>7-a calculates and solves problems involving addition and subtraction of whole numbers</i>	3.1 3.2 3.3 4.4	7-a identifies and/or estimates a little more, a little less, or about the same	3.1 3.4 3.6 4.1 4.2 4.4
	<i>7-b constructs a number line demonstrating positive numbers up to 20</i>	3.1 3.4 3.5 3.6 4.1 4.3 4.4	7-b selects the appropriate operation(s) to perform in a given problem (e.g., addition, subtraction, multiplication)	3.2 3.3 3.7 4.2 4.3	7-b accurately estimates necessary monetary forms (e.g., bills, coins) in order to complete a transaction	3.1 3.2 3.4 3.7 4.1 4.2 4.4
	<i>7-c generates a simple number pattern, following a written or verbal description</i>	3.3 3.5 4.1 4.3	7-c solves problems using proportional relationships (e.g., selects Cuisenaire rod that is twice as long)	3.4 3.5 3.6 3.7 4.2 4.3	<i>7-c generates a simple number pattern, following a written or verbal description</i>	3.1 3.2 4.4
	<i>8-a demonstrates that the order of objects counted does not change the sum</i>	3.1 4.1	<i>8-a understands the symbol \times means “multiply” and the symbol \div means “divide”</i>	3.1 3.2 3.3 4.1 4.2 4.3	7-d solves problems using proportional relationships (e.g., selects Cuisenaire rod that is twice as long)	3.1 3.4 4.1 4.4

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
	<i>8-b demonstrates that math concepts can be represented in more than one way (e.g., numeric, graphic)</i>	3.1 3.2 3.5 4.2	<i>8-b identifies that the number of groups and the number of items in each group equal a sum</i>	3.4 3.5 3.6 4.1	7-e uses different bill amounts to show equivalence (e.g., five \$1 bills = \$5)	3.1 3.3 3.4 4.3 4.4
	<i>8-c organizes parts (fractions) into a whole (unit)</i>	3.5 3.6 3.7 4.2 4.3	<i>8-c demonstrates that addition and subtraction are opposite operations</i>	3.1 3.3 3.5 3.6 4.2 4.3	<i>7-f rounds amount to the next dollar to make a purchase</i>	3.1 3.3 3.4 4.3 4.4
	<i>8-d recognizes equivalent representations of the same number</i>	3.1 3.5 4.1 4.4			<i>8-a estimates, calculates, and solves problems involving addition and subtraction of whole numbers</i>	3.1 3.3 3.4 3.5 4.1 4.2
	<i>8-e locates and labels numbers on a number line up to 20</i>	3.1 3.2 4.1 4.2			<i>8-b compares estimations with actual calculations</i>	3.4 4.3 4.4

	K–4 Benchmark 1: Understand numbers, ways of representing numbers, relationships among numbers, and number systems		K–4 Benchmark 2: Understand the meaning of operations and how they relate to one another		K–4 Benchmark 3: Compute fluently and make reasonable estimates	
					<i>8-c accurately estimates the necessary amount of money to make a purchase</i>	3.1 3.2 3.4 3.7 4.1 4.2 4.3 4.4
					<i>8-d estimates sums by grouping</i>	3.2 3.3 3.4 4.3 4.4
					<i>8-e counts out a sufficient sum of money to make a purchase</i>	3.1 3.3 3.4 4.3 4.4
					<i>8-f estimates how much more money is needed when funds are insufficient</i>	3.1 3.3 3.4 4.3 4.4
					<i>8-g estimates what change should be returned</i>	3.1 3.3 3.4 4.3 4.4

Strand: Algebra
Standard II: Students will understand algebraic concepts and applications.

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
ENGAGEMENT	Student	GLPS		GLPS		GLPS		GLPS
	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of math patterns</i>	3.6 4.1	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of algebraic symbols</i>	3.1 4.1	<i>1-a attends to mathematical models that involve sensory input (e.g., sight, sound, feel) of quantity</i>	3.3 4.2	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of change</i>	3.1 4.1 4.2
	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of math patterns</i>	3.6 4.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of algebraic symbols</i>	3.1 4.1	<i>2-a maintains and shifts attention between two or more mathematical models, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of quantity</i>	3.3 4.2	<i>2-a maintains and shifts attention between two or more mathematical models, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of change</i>	3.1 4.1 4.2

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of math patterns</i>	3.6 4.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of algebraic symbols</i>	3.1 4.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of quantity</i>	3.3 4.2	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of change</i>	3.1 4.1 4.2

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
PRE-SYMBOLIC	Student	GLPS		GLPS		GLPS		GLPS
	<i>3-a matches patterns and textures among concrete math objects</i>	3.6 3.7 4.1 4.2	<i>3-a matches graphic or textural algebraic symbols</i>	3.1 4.1 4.4	<i>3-a uses numbers to indicate concrete quantitative preference</i>	3.3 4.1	<i>3-a recognizes cause/effect relationship between items (e.g., hitting a switch, and a number appears on a screen)</i>	3.1 4.2
	<i>3-b matches algebraic objects to pictures (visual or tactile)</i>	3.1 3.3 3.4 4.1 4.3 4.4	<i>3-b matches algebraic objects to pictures of the algebraic symbols (visual or tactile)</i>	3.1 4.1 4.4	<i>3-b creates another set of math objects using 1:1 correspondence</i>	3.2 4.1	<i>3-b indicates observed changes within the environment</i>	3.1 4.1
	<i>4-a completes a simple pattern using algebraic objects</i>	3.6 4.2	<i>4-a arranges graphics, pictures, symbols, and tangible objects in correct physical orientation (e.g., top to bottom for visual schedule, left to right for picture symbols, but not necessarily in correct sequence)</i>	3.2 4.1	<i>4-a represents a quantity using a set of math objects</i>	3.1 3.2 3.3	<i>3-c matches graphic or textural algebraic symbols</i>	4.4

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
			<i>4-b produces appropriate algebraic pictures, graphic or textural symbols, and numbers on request</i>	3.1 4.1	<i>4-b matches identical numerals</i>	3.3 3.4 4.1 4.3	<i>4-a recognizes that things in the environment grow and change</i>	3.1 4.1 4.2 4.4
			<i>4-c uses graphics, pictures, symbols, and tangible math objects for meaningful purposes</i>	3.1 4.1 4.5			<i>4-b uses written symbols (e.g., graphics, pictures, symbols, tangible objects) for meaningful purpose</i>	4.4
			<i>4-d identifies larger and smaller math objects</i>	3.1 4.1				

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
SYMBOLIC	Student	GLPS		GLPS		GLPS		GLPS
	<i>5-a sorts math pictures and objects into sets</i>	3.2 3.6 4.1 4.2	<i>5-a arranges written algebraic symbols in correct sequential order</i>	3.2 4.1	<i>5-a appropriately matches a numeral to a quantity up to 10</i>	3.1 3.3 4.1 4.3	<i>5-a derives meaning from multiple or combined graphic symbols</i>	4.3
	<i>5-b identifies first and last of math objects in series</i>	3.3 3.6 3.7 4.1	<i>5-b places numerals up to 10 in order</i>	3.2 4.1	<i>5-b discriminates numerals from other printed symbols</i>	3.1 3.3 4.1 4.3	<i>5-b describes how things grow and change</i>	4.4
	<i>5-c uses tools to follow sequenced activities (e.g., visual schedule)</i>	3.3 3.5 4.1	<i>5-c produces numbers 1–10 when prompted</i>	3.2 4.1	<i>6-a groups quantities in sets of 10</i>	3.2 3.3 4.1	<i>5-c communicates observed patterns</i>	4.3
	<i>6-a identifies the attributes (measurable) of objects and uses attributes to determine patterns</i>	3.1 3.6 4.1 4.2	<i>5-d uses correct number to identify quantities of objects up to 10</i>	3.1 4.1	<i>6-b uses quantitative labels (e.g., numerals, more, less, lots) when making an estimate</i>	3.1 3.3 4.2	<i>5-d collects data (information) about the environment</i>	4.1 4.3
	<i>6-b arranges sets of objects in terms of measurable attributes (e.g., least to most, smallest to largest)</i>	3.3 3.6 3.7 4.1	<i>5-e distinguishes quantities of objects (e.g., equal, more, less, fewer)</i>	3.1 4.1			<i>6-a describes the cause of an observed reaction</i>	3.1 4.1

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
			<i>6-a uses a model to produce a simple math equation using any mathematical symbols</i>	3.3 4.3 4.4 4.5			<i>6-b explains how things change over time</i>	3.1 4.1 4.2 4.4
			<i>6-b compares numeral values using the concepts of equal, larger, and smaller</i>	3.1 4.1 4.4			<i>6-c indicates predicted reaction to an action</i>	3.1 4.2
			<i>6-c identifies numerals 1–20</i>	3.3 4.1 4.2			<i>6-d recognizes that tables, charts, and graphs contain information that he or she can use</i>	4.3
							<i>6-d describes basic cause/effect relationships between two math objects (e.g., a greater quantity of ingredients will result in more snacks)</i>	3.1 4.1 4.2

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
EXTENDED SYMBOLIC	Student	GLPS		GLPS		GLPS		GLPS
	<i>7-a identifies attributes (measurable) of sets that are the same or different</i>	3.6 4.1 4.2	<i>7-a writes math symbols (e.g., +, -, =) on request</i>	3.1 3.2 4.1 4.3 4.4 4.5	<i>7-a recognizes the use of placeholders (e.g., □)</i>	3.4 4.1 4.3	<i>7-a compares how things change over time</i>	3.1 4.1 4.2 4.4
	<i>8-a explains similarities and differences among measurable attributes of sets</i>	3.6 4.1 4.2	<i>7-b calculates and solves problems involving addition and subtraction of whole numbers</i>	3.1 3.2 3.3 4.2 4.4	<i>7-b finds or identifies the missing component in a number sentence, using symbols or objects</i>	3.3 3.4 4.1 4.3	<i>7-b demonstrates how things grow and change over time</i>	3.1 4.1 4.2 4.4
	<i>8-b describes a pattern using measurable attributes in order to solve a problem</i>	3.2 3.6 3.7 4.1 4.2	<i>7-c selects appropriate operation(s) to perform in a given problem</i>	3.3 4.4	<i>7-c recognizes that multiple items cost more than one item</i>	3.1 3.2 3.3 4.1	<i>7-c recognizes and indicates patterns in tables, charts, and graphs</i>	4.3
			7-d understands the symbol + means “add” and the symbol – means “subtract”	3.1 4.1 4.5	<i>8-a demonstrates that addition and subtraction are opposite operations</i>	3.3 4.2 4.3	<i>7-d describes numerical changes in various contexts (e.g., size, growth)</i>	3.1 4.1 4.2 4.4

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
			8-a writes simple math equation on request (e.g., “write seven plus eight equals fifteen”)	3.1 4.3	<i>8-b identifies the tens-place and ones-place of two-digit numbers on request</i>	3.2 3.3 4.3	<i>8-a identifies how change in one variable may change a second variable</i>	3.1 4.2
			<i>8-b performs simple mathematical operations with whole numbers (e.g., +, –) using a calculator</i>	3.1 3.3 4.2 4.4	<i>8-c use comparisons to estimate (e.g., estimating number of jelly beans in a large jar using information about number in a smaller container)</i>	3.2 4.1	<i>8-b describes patterns in tables, charts, and graphs</i>	4.3
			8-c understands the symbol \times means “multiply” and the symbol \div means “divide”	3.1 3.2 3.3 4.2 4.4	<i>8-d uses placeholders (e.g., _ or) in simple one- and two-digit number sentences</i>	3.3 3.4 4.2 4.3	<i>8-c describes how local weather changes in measurable terms (e.g., temperature, precipitation) throughout the year</i>	3.1 4.1 4.2 4.4

	K–4 Benchmark 1 Understand patterns, relations, and functions		K–4 Benchmark 2: Represent and analyze mathematical situations and structures using algebraic symbols		K–4 Benchmark 3: Use mathematical models to represent and understand quantitative relationships		K–4 Benchmark 4 Analyze changes in various contexts	
			<i>8-d uses placeholders (e.g., _ or) in simple one- and two-digit number sentences</i>	3.1 4.1 4.4	<i>8-e appropriately labels an empty set (e.g., none, zero, nothing)</i>	3.3 4.3	<i>8-d explains different characteristics of each stage of the life cycle for a variety of living things</i>	3.1 4.1 4.2 4.4
			<i>8-e appropriately labels an empty set (e.g., none, zero, nothing)</i>	3.3 4.2				

Strand: Geometry

Standard III: Students will understand geometric concepts and applications.

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
ENGAGEMENT	Student	GLPS	Student	GLPS	Student	GLPS	Student	GLPS
	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of geometric shapes and solids</i>	3.1 4.1	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of spatial relationships</i>	3.1 4.1	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of symmetry</i>	3.2	<i>1-a attends to mathematical models and materials that involve sensory input (e.g., sight, sound, feel) of spatial relationships</i>	3.1 3.7 4.1

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of geometric shapes and solids</i>	3.1 4.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of spatial relationships</i>	3.1 4.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of symmetry</i>	3.2	<i>2-a maintains and shifts attention between two or more mathematical models, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of spatial relationships</i>	3.1 3.7 4.1

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of geometric shapes and solids</i>	3.1 4.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of spatial relationships</i>	3.1 4.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of symmetry</i>	3.2	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of spatial relationships</i>	3.1 3.7 4.1
PRE-SYMBOLIC	Student	GLPS		GLPS		GLPS		GLPS
	3-a matches two-dimensional shapes and/or manipulatives that are in similar spatial orientations	3.1 4.2	<i>3-a responds to changes in spatial arrangement of objects in familiar environments</i>	3.1 4.1	3-a matches two-dimensional shapes and/or manipulatives that are in similar spatial orientations	3.1 4.1	<i>3-a manipulates and combines simple shapes</i>	3.1 3.2 3.7 4.3
	<i>3-b reproduces two-dimensional shapes (e.g., traces with pencil, finger)</i>	3.1 4.1	<i>3-b locates items or objects of interest</i>	3.2 4.2	<i>3-b matches identical symmetrical objects</i>	3.1 4.1	<i>4-a manipulates and combines simple shapes to create a new, complex shape</i>	3.1 3.3 3.5 4.3

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	4-a sorts two-dimensional shapes and/or manipulatives by attributes	3.1 4.1 4.2	<i>3-c distinguishes between different physical environments</i>	3.1 4.1	<i>3-c arranges blocks in symmetrical orientation</i>	3.2 4.2		
	4-b identifies simple two-dimensional shapes	3.1 4.1 4.2	<i>4-a follows directions to locate items or objects in familiar settings</i>	3.2	<i>4-a matches similar two-dimensional shapes by various attributes (e.g., number of sides, faces)</i>	3.1 4.1		
	<i>4-c matches three-dimensional shapes and/or manipulatives in similar positions</i>	3.1 4.1 4.2	<i>4-b comprehends basic prepositions (e.g., in, out)</i>	3.1 4.1	<i>4-b comprehends basic prepositions (e.g., in, out)</i>	3.1 4.1		
	<i>4-d matches similar two-dimensional shapes by various attributes (e.g., number of sides, faces)</i>	3.1 4.1 4.2			<i>4-c investigates the symmetry of two dimensional shapes (e.g., by folding paper, using mirrors)</i>	3.1 3.2 4.2		

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>4-e matches three-dimensional shapes in similar orientations</i>	3.1 4.1 4.2						
SYMBOLIC	Student	GLPS		GLPS		GLPS		GLPS
	<i>5-a labels two-dimensional shapes</i>	3.1 4.1 4.2	<i>5-a labels locations in the school setting (e.g., hall, cafeteria)</i>	3.1 4.1	<i>5-a describes like objects using specific attributes (e.g., sides, faces, corners)</i>	3.1 4.1 4.2	<i>5-a uses appropriate measurements of geometric shapes to solve problems</i>	3.4 3.7 4.3
	<i>5-b describes simple two-dimensional shapes</i>	3.1 4.1 4.2	<i>5-b follows simple directions to locations in familiar settings</i>	3.1 3.2 4.1 4.2	<i>5-b creates symmetrical shapes (e.g., folding paper in half)</i>	3.1 3.2 4.1 4.2	<i>5-b manipulates, combines, or takes apart simple shapes to create new shapes and to describe the results</i>	3.2 3.5 3.7 4.3
	<i>5-c sorts two-dimensional shapes and/or manipulatives by attributes</i>	3.1 4.1 4.2	<i>5-c uses prepositions to describe position of objects (e.g., in, out)</i>	3.1 3.2 4.1 4.2	<i>5-c identifies three-dimensional shapes</i>	3.2	<i>5-c recognizes geometric shapes and structures in the environment and specifies their location</i>	3.3 4.1

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>5-d traces three-dimensional shapes</i>	3.1 4.1 4.2	<i>6-a describes locations within the school or community using relational terms (e.g., down the street, near the cafeteria)</i>	3.1 4.1	<i>6-a matches three-dimensional objects with similar attributes and orientations</i>	3.2 4.1	<i>6-a estimates number of shapes needed to cover a space</i>	3.2 4.1 4.3
	<i>5-e draws two-dimensional shapes</i>	3.1 4.1 4.2						
	<i>5-f identifies three-dimensional objects (e.g., cube, sphere)</i>	3.1 4.1 4.2						
	<i>6-a sorts simple three-dimensional shapes (e.g., cube, sphere) using attributes (e.g., number of edges, faces)</i>	3.1						

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>6-b matches three-dimensional shapes of various attributes and orientations</i>	3.1 4.1 4.2						

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
EXTENDED SYMBOLIC	Student	GLPS		GLPS		GLPS		GLPS
	<i>7-a identifies faces, edges, and bases of simple three-dimensional objects (e.g., cube, sphere)</i>	3.1 4.1 4.2	7-a uses a map to find a location	3.2 3.3 4.2 4.3	<i>7-a uses manipulatives to separate, fold, and combine two-dimensional shapes</i>	3.1 3.2 4.1 4.2	<i>7-a manipulates, combines, or takes apart simple shapes to replicate a model</i>	3.4 3.5 3.6 4.1
	<i>7-b compares two different two-dimensional shapes and describes or demonstrates how they are both similar and different</i>	3.1	<i>7-b gives simple directions to known locations within the school or community</i>	3.1 4.1	<i>7-b labels simple three-dimensional shapes (e.g., cube, sphere)</i>	3.2	<i>7-b manipulates simple and complex two- and three-dimensional shapes to create a visual model</i>	3.1 3.2 3.5 3.6 4.1 4.3
	<i>7-c matches shapes with corresponding symbols and shapes in the environment (e.g., stop sign)</i>	3.1	7-c uses appropriate vocabulary for spatial relationships (e.g., left, right, above, below)	3.1 4.1	<i>8-a describes the results of moving, using specific vocabulary (e.g., sliding, flipping, turning)</i>	3.1 4.1 4.2	<i>7-c demonstrates that a whole (e.g., circle) can be divided into parts (e.g., arcs, sections)</i>	3.2 3.5 3.7 4.2

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>7-d demonstrates that a whole (e.g., circle) can be divided into parts (e.g., arcs, sections)</i>	3.1	8-a describes movement using common language and geometric vocabulary (e.g., direction, distance, location)	3.1 4.1	<i>8-b matches three-dimensional shapes of various attributes and orientations</i>	3.2 4.2	<i>7-d measures geometric shapes (two-dimensional) to solve problems (e.g., is this a square? Does this triangle have equal sides?)</i>	4.2
	<i>7-e labels three-dimensional shapes</i>	3.1 4.1 4.2	<i>8-b uses a map to move from one place to another</i>	3.2 3.3 4.2 4.3	<i>8-c identifies shapes in the environment in atypical orientations (e.g., upside-down stop sign)</i>	3.1 4.2	<i>8-a measures geometric solids (three-dimensional) to solve problems (e.g., is this a regular solid?)</i>	4.2
	<i>8-a draws three-dimensional shapes</i>	3.1 4.1 4.2	<i>8-c draws a map of a typical environment</i>	3.1 4.1			<i>8-b recognizes that different two-dimensional figures can have different areas with the same perimeter and vice versa</i>	3.4 4.3

	K–4 Benchmark 1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		K–4 Benchmark 2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems		K–4 Benchmark 3: Apply transformations and use symmetry to analyze mathematical situations		K–4 Benchmark 4: Use visualization, spatial reasoning, and geometric modeling to solve problems	
	<i>8-b describe differences between two- and three-dimensional shapes</i>	3.1 4.1 4.2 4.3					<i>8-c creates three-dimensional shapes using two-dimensional representations</i>	3.5 4.1

Strand: Measurement

Standard IV: Students will understand measurement systems and applications.

	K–4 Benchmark 1: Understand measurable attributes of objects and the units, systems, and process of measurement		K–4 Benchmark 2: Apply appropriate techniques, tools, and formulas to determine measurements	
ENGAGEMENT	The student	GLPS		GLPS
	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of measurable attributes of objects</i>	3.1 3.2 4.1 4.2	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of measurement tools</i>	3.1 4.3
	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of measurable attributes of objects</i>	3.1 3.2 4.1 4.2	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of measurement tools</i>	3.1 4.3
	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of measurable attributes of objects</i>	3.1 3.2 4.1 4.2	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of measurement tools</i>	3.1 4.3
PRE-SYMBOLIC	The student	GLPS		GLPS
	<i>3-a identifies same and different among concrete math objects</i>	3.5 3.6 4.1	<i>3-a responds to changes in quantity</i>	3.3 4.3 4.5
	<i>3-b matches identical objects with measurable attributes</i>	3.5 4.1	<i>3-b follows an established routine</i>	3.3 4.3 4.5
	<i>3-c matches math objects to pictures (visual or tactile)</i>	3.5 4.1	<i>3-c associates objects in the sky with time of day (e.g., sun with day; moon with night)</i>	3.2 4.3 4.5

	K–4 Benchmark 1: Understand measurable attributes of objects and the units, systems, and process of measurement		K–4 Benchmark 2: Apply appropriate techniques, tools, and formulas to determine measurements	
	<i>3-d follows an established routine</i>	3.3 3.4	<i>4-a anticipates and responds to the passage of time (e.g., today, tomorrow, yesterday)</i>	3.2 4.3 4.5
	<i>3-e reacts to changes in the environment that signal predictable events (e.g., school bell indicating passing period)</i>	3.3 3.4		
	<i>4-a identifies larger and smaller math objects</i>	3.5 4.1 4.2		
	<i>4-b places math objects in order (seriation)</i>	3.2 4.2		
	<i>4-c indicates differences in length or width of math objects</i>	3.2 4.1 4.2		
SYMBOLIC	The student	GLPS		GLPS
	<i>5-a responds to the passage of time on the basis of environmental cues (seasons, birthdays, holidays)</i>	3.3 3.4 4.1	<i>5-a uses vocabulary related to time (e.g., before, after, soon, tomorrow, yesterday)</i>	3.2 4.3 4.5
	5-b distinguishes quantities of objects (e.g., more, less)	3.3 3.4 3.5 4.1 4.2	<i>5-b predicts which activities come next in an established routine</i>	4.3 4.5
	6-a compares sets of objects by attributes (e.g., length, height, width)	3.2 4.1	<i>5-c uses tools to follow sequenced activities (e.g., visual schedule)</i>	3.2 4.3 4.5
	<i>6-b recites days of the week in appropriate order</i>	3.4 4.2	5-d distinguishes quantities of objects (e.g., more, less)	4.3

	K–4 Benchmark 1: Understand measurable attributes of objects and the units, systems, and process of measurement		K–4 Benchmark 2: Apply appropriate techniques, tools, and formulas to determine measurements	
	<i>6-c tells birth date</i>	3.4 4.2	<i>6-a identifies tools associated with measurement</i>	3.1 3.3 4.6
	<i>6-d recites months of the year in appropriate order</i>	3.4 4.2	<i>6-b compares times using relative terms (e.g., shorter, longer, faster, slower)</i>	3.5 4.5
	<i>6-e labels seasonal changes (e.g., summer, fall, winter, spring)</i>	3.4	<i>6-c compares objects using relative terms (e.g., longer, shorter, taller, bigger, smaller)</i>	3.3 4.1 4.2 4.3
	<i>6-f sequences events using a timeline</i>	3.3 3.4	<i>6-d compares temperatures using relative terms (e.g., hotter, colder)</i>	4.3
			<i>6-e compares distances using relative terms (e.g., farther, nearer)</i>	3.3 4.1 4.3
			<i>6-f compares weights using relative terms (e.g., heavier, lighter)</i>	3.2 3.3 4.3

	K–4 Benchmark 1: Understand measurable attributes of objects and the units, systems, and process of measurement		K–4 Benchmark 2: Apply appropriate techniques, tools, and formulas to determine measurements	
EXTENDED SYMBOLIC	The student	GLPS		GLPS
	<i>7-a tells time to the hour, using a digital clock</i>	3.3 3.4 4.1 4.2	7-a uses appropriate tools to measure space (length, width, height)	3.1 3.3 4.6
	<i>7-b uses different bill amount to show equivalence (e.g., five \$1 bills = \$5)</i>	3.1 3.6 4.2 4.6	<i>7-b tells time to the hour, using a digital clock</i>	4.3 4.5
	<i>8-a tells analog and/or digital time by the hour</i>	3.3 3.4 4.1 4.2	<i>7-c reads temperature on a thermometer</i>	4.3
	<i>8-b compares properties of objects by measuring attributes (e.g., length, volume, weight, time)</i>	3.1 3.2 3.6 4.3 4.6	7-d uses appropriate tools to measure quantity (e.g., teaspoons, cups)	3.3 4.6
	<i>8-b defines units of measurement (e.g., inch, foot, yard, teaspoon, tablespoon, pound, ounce)</i>	3.1 3.2 3.5 4.2 4.6	7-e uses appropriate tools that measure time to determine appropriate actions (e.g., set a time when baking)	4.3 4.5

	K–4 Benchmark 1: Understand measurable attributes of objects and the units, systems, and process of measurement		K–4 Benchmark 2: Apply appropriate techniques, tools, and formulas to determine measurements	
			<i>8-a uses clock to follow sequenced activities</i>	4.3 4.5
			<i>8-b finds the area of rectangles using a model</i>	3.1 3.2 3.3 4.1 4.2 4.3
			<i>8-c tells analog and/or digital time by the hour</i>	4.3 4.5
			<i>8-d defines units of measurement (e.g., inch, foot, yard, teaspoon, tablespoon, pound, ounce)</i>	3.3 4.3

Strand: Data Analysis and Probability

Standard V: Students will understand how to formulate questions, analyze data, and determine probabilities.

	K–4 Benchmark 1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		K–4 Benchmark 2: Select and use appropriate statistical methods to analyze data		K–4 Benchmark 3: Develop and evaluate inferences and predictions that are based on data		K–4 Benchmark 4: Understand and apply basic concepts of probability	
ENGAGEMENT	The student	GLPS		GLPS		GLPS		GLPS
	1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of data collection and displays	3.1 3.2 4.1	1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of data collection and displays	3.1 4.1	1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of data collection and displays	3.1	<i>1-a attends to mathematical stimuli and materials that involve sensory input (e.g., sight, sound, feel) of probability</i>	3.1 3.2 4.1

	K–4 Benchmark 1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		K–4 Benchmark 2: Select and use appropriate statistical methods to analyze data		K–4 Benchmark 3: Develop and evaluate inferences and predictions that are based on data		K–4 Benchmark 4: Understand and apply basic concepts of probability	
	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of data collection and displays</i>	3.1 3.2 4.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of data collection and displays</i>	3.1 4.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of data collection and displays</i>	3.1	<i>2-a maintains and shifts attention between two or more mathematical objects, activities, or classroom partners that involve sensory input (e.g., sight, sound, feel) of probability</i>	3.1 3.2 4.1
	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of data collection and displays</i>	3.1 3.2 4.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of data collection and displays</i>	3.1 4.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of data collection and displays</i>	3.1	<i>2-b maintains interactions with others during math activities that involve sensory input (e.g., sight, sound, feel) of probability</i>	3.1 3.2 4.1

	K–4 Benchmark 1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		K–4 Benchmark 2: Select and use appropriate statistical methods to analyze data		K–4 Benchmark 3: Develop and evaluate inferences and predictions that are based on data		K–4 Benchmark 4: Understand and apply basic concepts of probability	
PRE-SYMBOLIC	The student	GLPS		GLPS		GLPS		GLPS
	<i>3-a anticipates an action resulting from specific conditions (cause and effect)</i>	3.3	<i>3-a collects identical objects</i>	3.1 4.1 4.3	3-a matches objects to pictures (visual or tactile)	3.1 4.1 4.2	<i>3-a reacts to changes in the environment that signal predictable events (e.g., school bell indicating passing period)</i>	3.1 3.2 3.3. 4.1
	<i>3-b indicates observed changes within the environment</i>	3.2 4.1	3-b matches objects to pictures (visual or tactile)	3.1 4.1 4.3	<i>3-b tracks visual or tactile information horizontally and vertically</i>	3.1 4.1 4.2	<i>3-b anticipates an action resulting from specific conditions (cause and effect)</i>	3.1 3.2 4.1
	<i>3-c matches graphic or textural symbols</i>	3.2 4.1	<i>3-c matches identical objects</i>	3.1 4.1 4.3	<i>4-a uses visual, auditory, or tactile information for information-gathering purposes</i>	3.1 4.1 4.2	<i>4-a follows a schedule of routine events</i>	3.1 3.2 4.1
	3-d matches math objects to pictures (visual or tactile)	3.2 4.1	<i>4-a identifies objects based on measurable attributes</i>	3.1 4.1 4.2	<i>4-b matches graphic representations of data</i>	3.1 4.1 4.2	<i>4-b continues the next step in a familiar routine</i>	3.1 3.2 4.1

	K–4 Benchmark 1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		K–4 Benchmark 2: Select and use appropriate statistical methods to analyze data		K–4 Benchmark 3: Develop and evaluate inferences and predictions that are based on data		K–4 Benchmark 4: Understand and apply basic concepts of probability	
	<i>4-a recognizes patterns in the physical world (e.g., change of seasons)</i>	3.3	<i>4-b uses visual, auditory, or tactile information for information-gathering purposes</i>	3.1 4.3	<i>4-c recognizes patterns in the physical world (e.g., change of seasons)</i>	3.1 4.1	<i>4-c recognizes patterns in the physical world (e.g., change of seasons)</i>	3.1 3.2 4.1
	<i>4-b uses visual, auditory, or tactile information for information gathering purposes</i>	3.1 3.3	<i>4-c places math objects in order (seriation)</i>	3.1 4.2 4.2	<i>4-d continues the next step in a familiar routine</i>	3.1 4.1		
			<i>4-d compares sets of math objects by counting</i>	4.1	<i>4-e follows a schedule of routine events</i>	3.1 4.1 4.2		

	K–4 Benchmark 1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		K–4 Benchmark 2: Select and use appropriate statistical methods to analyze data		K–4 Benchmark 3: Develop and evaluate inferences and predictions that are based on data		K–4 Benchmark 4: Understand and apply basic concepts of probability	
SYMBOLIC	The student	GLPS		GLPS		GLPS		GLPS
	<i>5-a asks questions to gain information</i>	3.1	<i>5-a asks questions to gain information</i>	3.1	5-a predicts the next logical event in a sequence	3.1 4.1	<i>5-a communicates observations about the world</i>	3.3 4.1
	<i>5-b collects data (information) about the physical world around him or her</i>	3.1 3.3 3.4	<i>5-b distinguishes quantities of objects (e.g., more, less)</i>	3.1 4.1 4.2 4.3	5-b demonstrates the understanding that graphic information (pictures, print, tactile symbols) has meaning	3.1 4.1 4.2	<i>5-b collects data (information) about the physical world around him or her</i>	3.2
	5-c demonstrates the understanding that graphic information (pictures, print, tactile symbols) has meaning	3.2 4.1 4.2	<i>5-c sorts and organizes objects, pictures, or manipulatives</i>	3.1 4.3	<i>5-c derives meaning from multiple or combined graphic math symbols</i>	3.1 4.1 4.2	<i>5-c describes basic cause and effect</i>	3.2 4.1
	5-d communicates observations about the world	3.1 4.1	<i>5-d identifies first and last</i>	3.1 4.1 4.2	<i>5-d predicts which activities come next in an established routine</i>	3.1 4.1	<i>6-a records data related to a problem or observation (e.g., classroom attendance)</i>	3.3 4.1

	K–4 Benchmark 1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them		K–4 Benchmark 2: Select and use appropriate statistical methods to analyze data		K–4 Benchmark 3: Develop and evaluate inferences and predictions that are based on data		K–4 Benchmark 4: Understand and apply basic concepts of probability	
	<i>5-e uses writing tools (pictures, graphic symbols, written text) to convey specific information (e.g., choices) in a way that people who are familiar with the student can understand</i>	3.1 4.1	<i>5-e determines which category has the most</i>	3.1 4.1 4.2	6-a predicts events in novel situations (next logical step)	3.1 4.1	<i>6-b predicts events in new situations and stories (next logical step)</i>	3.1 3.2 4.1
	<i>6-a records data related to a problem or observation (e.g., classroom attendance)</i>	3.1 3.3 4.2	5-f communicates observations about the world	3.1 4.3	6-b recognizes that tables, charts, and graphs contain information that he or she can use	3.1 4.1 4.2		
	6-b recognizes that tables, charts, and graphs contain information that he or she can use	3.2 4.2	<i>5-g applies a numeral to a quantity</i>	3.1 4.2	<i>6-c recognizes information presented in simple (bar, line, pie chart) graphs</i>	3.1 4.1 4.2		

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	<i>6-c arranges categories of data in an ordered manner</i>	3.1 4.1	<i>6-a provides correct quantity of up to 10 objects upon request</i>	3.1 4.1	<i>6-d compares data sets using comparative concepts (e.g., equal, larger, smaller)</i>	3.1 4.1		
	<i>6-d recognizes information presented in simple (bar, line, pie chart) graphs</i>	3.2 4.2	<i>6-b identifies tools associated with measurement</i>	3.1 3.3				
			6-c records data related to a problem or observation (e.g., classroom attendance)	3.1				
			6-d recognizes that tables, charts, and graphs contain information that he or she can use	4.3				

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			<i>6-e compares data sets using comparative concepts (e.g., equal, larger, smaller)</i>	4.1				
EXTENDED SYMBOLIC	The student	GLPS		GLPS		GLPS		GLPS
	<i>7-a uses available tools to collect data (e.g., maps, clocks, rulers, thermometers, etc.)</i>	3.1	<i>7-a answers questions on the basis of the results of data collection</i>	4.3	<i>7-a makes a prediction about what should happen in a given situation and compares it with what did happen</i>	3.1 4.1	<i>7-a estimates whether an event (outcome) is impossible or possible</i>	3.1 3.2 4.1
	<i>7-b recognizes and indicates patterns in tables, charts, and graphs</i>	3.2 4.2	<i>7-b describe characteristics of related data sets</i>	4.1 4.2 4.3	<i>7-b uses language indicating prediction (e.g., likely, unlikely, maybe)</i>	3.1 4.1	<i>7-b uses language indicating prediction (e.g., likely, unlikely, maybe)</i>	3.1 4.1

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	<i>8-a communicates findings by completing a table/chart</i>	3.2 3.3 4.2	<i>7-c recognizes and indicates patterns in tables, charts, and graphs</i>	4.3	<i>7-c recognizes and indicates patterns in tables, charts, and graphs</i>	3.1 4.1 4.2	<i>7-c determines whether predicted reaction occurred (e.g., lightning and thunder are followed by rain)</i>	3.2 4.1
	<i>8-b explains information provided in a table, chart, or graph</i>	3.3 4.1	<i>7-d identifies attributes of sets that are the same or different</i>	4.1	<i>8-a determines whether the data collected answers the question posed</i>	3.1 4.1	<i>7-d tests possible solutions to prediction problems (e.g., flips a coin)</i>	3.2 4.1
	<i>8-c describes data by constructing a graph, chart, or other physical display</i>	3.2 3.3 4.2	<i>7-e determines which data point is in the middle</i>	4.2	<i>8-b makes decisions on the basis of analysis of available data</i>	3.1 4.1 4.2	<i>7-e predicts an outcome based on available information (e.g., if, then statements)</i>	3.2 4.1

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			<i>8-a describes patterns in tables, charts, and graphs</i>	4.3	<i>8-c explains information provided in a table, chart, or graph</i>	3.1 4.1	<i>8-a predicts an outcome of a chance event (e.g., head-tails)</i>	3.2 4.1
			<i>8-b recognizes appropriate conclusion on the basis of results of data collection</i>	3.1 4.2 4.3				
			<i>8-c demonstrates that math concepts can be represented in more than one way (e.g., numeric, graphic)</i>	3.1 4.3				