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MARYLAND MATHEMATICS VOLUNTARY CURRICULUM CORRELATED TO *MOVING WITH MATH®* EXTENSIONS KINDERGARTEN

		Student Book	Skill Builders
	STANDARD 1: KNOWLEDGE OF PATTERNS, ALGEBRA AND FUNCTIONS		
	Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships		
	A. Patterns and Functions		
1.	**Identify and copy numeric patterns**		
a)	Use manipulatives with numeric qualities to build patterns	12	
2.	Identify, copy, describe, create, and extend non-numeric patterns		
a)	Represent patterns kinesthetically such as: clap/snap/clap		
b)	Represent and analyze repeating patterns using no more than 3 objects in the core of the pattern	7, 12	
c)	Sort a collection of objects according to a rule		
d)	Identify patterns in real life situations		
e)	Recognize the difference between patterns and non-patterns		
f)	Continue patterns	17	4-1, 15-1,
	B. Expressions, Equations and Inequalities		
1.	**Write and identify expressions**		
a)	Represent numeric quantities using concrete and pictorial representations to model addition expressions with a value of no more than 10		
2.	**Identify equations and inequalities**		
a)	Represent relationships by comparing groups of no more than 10 objects to determine more or less	3, 2, 8, 54, 56	8-1
b)	Model and name the value of the missing part in a part-part-whole situation using no more than 10 manipulatives	3	
c)	Describe addition using terms such as: and, add, plus, join, equal		
	C. Numeric and Graphic Representations of Relationships		
1.	Locate points on a number line		
a)	Identify and represent whole numbers up to 10 on a number line using manipulatives, symbols, and one-to-one correspondence	9	2-1

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	STANDARD 2: KNOWLEDGE OF GEOMETRY		
	Students will apply the properties of one-, two-, or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects.		
	A. Plane Geometric Figures		
1.	**Recognize and describe the attributes of plane geometric figures**		
a)	Sort and regroup everyday objects and geometric figures according to attributes such as: shape, color, size	13-16	15-1
b)	Describe plane figures and their attributes such as shape, color, size	13-16	15-1
c)	Identify triangles, circles, squares, and rectangles	13-16	15-1
d)	Compare, trace, and reproduce triangles, circles, squares, and rectangles		
	B. Solid Geometric Figures		
1.	**Recognize, describe, and use the attributes of solid geometric figures**		
a)	Match, sort, and regroup objects according to attributes	1, 18, 19	1-1
b)	Describe solid figures	18, 19	
c)	Identify solid geometric figures in the environment	18, 19	
	D. Congruence		
1.	**Recognize congruent objects**		
a)	Identify everyday objects which have the same size and shape	5	13-1, 16-1
	E. Transformations		
1.	**Begin to recognize a transformation**		
a)	Use position words such as: over, under, above, on, next to, below, beside, behind	4	12-1
b)	Use spatial reasoning to solve simple puzzles		
c)	Demonstrate slides using simple objects		
2.	**Analyze geometric figures and pictures**		
a)	Recognize the concept of symmetry using pictures		
	STANDARD 3: KNOWLEDGE OF MEASUREMENT		
	Students will identify attributes, units, or systems of measurement or apply a variety of techniques, formulas, tools, or technology for determining measurement		
	A. Measurement Units		
1.	**Explore measurement units**		
a)	Order, compare, and describe objects by attributes such as: length/height, weight, capacity	6, 37, 40	14-1, 20-1

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b)	Recognize time by identifying days of the week and by using term such as: yesterday, today, tomorrow, morning, afternoon, night, before, after	31, 64	19-1, 11-1, 18-1,
c)	Compare and describe temperature such as: temperature in January as compared to temperature in July	42	
	B. Measurement Tools		
1.	**Measure in non-standard units**		
a)	Measure length of objects and pictures of objects	38, 39	20-2
b)	Explore and compare the capacity of containers	41	
c)	Explore and compare weight of objects	40	21-1
	STANDARD 4: KNOWLEDGE OF STATISTICS		
	Students will collect, organize, display, analyze, or interpret data to make decisions or predictions		
	A. Data Displays		
1.	**Collect, organize, and display data**		
a)	Collect data by answering a question	2	
b)	Organize and display data to make real graphs	2	
c)	Organize and display data to make picture graphs		
	B. Data Analysis		
1.	**Analyze data**		
a)	Compare and describe data from real graphs to answer a question		
b)	Compare and describe data from a picture graph to answer a question		
	STANDARD 6: KNOWLEDGE OF NUMBER RELATIONSHIPS AND COMPUTATIONAL ARITHMETIC		
	Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil, or technology		
	A. Knowledge of Number and Place value		
1.	Apply knowledge of whole numbers and place value		
a)	Extend concept of number	20	5-1, 5-2, 6-1, 6-2, 11-1
b)	Construct relationships between and among quantities using language such as: more than, less than, fewer than, as many as, one more, one less	9-11, 25, 28, 43, 54, 56	2-1, 3-1, 8-1, 28-1,
c)	Demonstrate cardinality by answer of how many	55	30-1
d)	Build meaningful relationships by using 5 and 10 frames		
e)	Use concrete materials to build set 0 to 10		
f)	Use concrete materials to compose and decompose quantities up to 10		
g)	Match a numeral to a set	20, 21, 55	5-1, 6-1

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h)	Count to 31	21, 23-25, 27, 61-63	5-1, 5-2, 6-1, 6-2, 10-1, 10-2, 29-
I)	Count backward from 10	26	7-1, 7-2
j)	Use ordinal numbers to indicate position such as: first, second, third, fourth, fifth	8, 22	17-1, 19-1
2.	**Recognize fractions**		
a)	Show initial awareness of fractional parts (halves) using concrete materials	59, 60	22-1, 22-2, 23-1
3.	**Recognize and use money**		
a)	Identify and name the value of pennies, nickels, and dimes	32-36	24-1, 24-2, 25-1
b)	Choose the coin named from a given set of mixed coins	34, 36	24-1, 24-2, 25-1
c)	Use money in real-world situations such as a classroom store	33, 35, 52, 53	25-1
	C. Number Computation		
1.	**Analyze number relations and compute**		
a)	Model addition by combining sets of concrete objects and describe the results using words an pictures	44-46	26-1, 26-2
b)	Model subtraction by separating sets of concrete objects and describe the results using words and pictures	1, 47-50, 57	1-1, 27-1, 27-2, 28-1
c)	Solve a given story problem cooperatively that is based on the combining and separating of models	51	28-1, 29-1
	STANDARD 7: PROCESSES OF MATHEMATICS		
	Students demonstrate the processes of mathematics by making connections and applying reasoning to solve and to communicate their findings.		
	A. Problem Solving		
1.	**Apply a variety of concepts, processes, and skills to solve problems**		
a)	Identify the question in the problem		
b)	Decide if enough information is present to solve the problem		
c)	Make a plan to solve a problem		
d)	Apply a strategy, I.e., draw a picture, guess and check, finding a pattern, writing an equation		
e)	Select a strategy, I.e., draw a picture, guess and check, finding a pattern, writing an equation		
f)	Identify alternative ways to solve a problem		
g)	Show that a problem might have multiple solutions or no solution		
h)	Extend the solution of a problem to a new problem situation		
	B. REASONING		
1.	**Justify ideas or solutions with mathematical concepts or proofs**		
a)	Use inductive or deductive reasoning	3	

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b)	Make or test generalizations		
c)	Support or refute mathematical statements or solutions		
d)	Use methods of proof, I.e., direct, indirect, paragraph, or contradiction		
	Communication		
1.	**Present mathematical ideas using words, symbols, visual displays, or technology**		
a)	Use multiple representations to express concepts or solutions		
b)	Express mathematical ideas orally		
c)	Explain mathematically ideas in written form		
d)	Express solutions using concrete materials		
e)	Express solutions using pictorial, tabular, graphical, or algebraic methods		
f)	Explain solutions in written form		
g)	Ask questions about mathematical ideas or problems		
h)	Give or use feedback to revise mathematical thinking		
	D. Connections		
1.	**Relate or apply mathematics within the discipline, to other disciplines, and to life**		
a)	Identify mathematical concepts in relationship to other mathematical concepts		
b)	Identify mathematical concepts in relationship to other disciplines		
c)	Identify mathematical concepts in relationship to life		
d)	Use the relationship among mathematical concepts to learn other mathematical concepts		