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Jan. 06

MARYLAND MATHEMATICS VOLUNTARY CURRICULUM CORRELATED TO *MOVING WITH MATH®* EXTENSIONS GRADE 1

	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, describe, extend, and create numeric patterns		
a) Represent and analyze numeric patterns using skip counting by multiples of 2 and 10, starting with any whole number, and using manipulatives and the 100 chart	35, 36	30-1
b) Represent and analyze numeric patterns using skip counting backward by 10's starting with a multiple of 10, and using manipulatives		
2. Identify, copy, describe, create and extend non-numeric patterns		
a) Represent and analyze growing patterns kinesthetically, such as: clap/snap, clap/snap/snap, clap/snap/snap/snap...		
b) Represent and analyze repeating patterns using no more than 3 different objects in the core of the pattern	6	9-1, 14-1
c) Transfer a repeating pattern from one medium to a different medium using no more than 3 different objects in the core of the pattern		
d) Identify patterns in real-world situations		
B. Expressions, Equations, and Inequalities		
1. Write and identify expressions		
a) Represent numeric quantities using concrete and pictorial representations and operational symbols (+, -) and whole numbers to 25	1, 13, 19-21	1-1, 7-1, 8-1, 15-2, 16-1 to 16-3
2. Identify, write, and solve equations and inequalities		
a) Represent relationships using the terms greater than, less than, and equal to for quantities up to 100	2-5	2-1, 3-1, 10-1, 11-1, 12-1
b) Find the missing number (unknown) in a number sentences using operational symbols (+, -) with whole numbers to 20 using pictures and manipulatives	13, 19-21, 26	15-1, 15-2, 16-1 to 16-3

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C. Numeric and Graphic Representations of Relationships		
1. Locate points on a number line		
a) Identify and represent whole numbers up to 50 on a number line using manipulatives and symbols	12, 21, 42	16-3
STANDARD 2: KNOWLEDGE OF GEOMETRY		
Students will apply the properties of one-, two-, or three-dimensional geometric figure to describe, reason, or solve problems about shape, size, position, or motion of objects		
A. Plane Geometric Figures		
1. Recognize and apply the properties/attributes of plane geometric figures		
a) Identify, name, and compare triangles, circles, squares, rectangles, and rhombi by their attributes		
b) Create models of triangles, circles, squares, and rectangles with varied materials		
c) Combine and subdivide squares and triangles		
B. Solid Geometric Figures		
1. Recognize and use the attribute of solid geometric figures		
a) Identify and compare cubes, spheres, cylinders, pyramids, cones, and rectangular prisms		
C. Representation of Geometric Figures		
1. Represent plane geometric figures		
a) Sketch triangles, circles, squares, rectangles, and rhombi		
D. Congruence		
1. Identify congruent figures		
a) Match congruent figures		
E. Transformations		
1. Recognize a transformation		
a) Use the direction, location, and position words right and left		
b) Apply spatial reasoning in activities such as: pattern block		
c) Identify and demonstrate slides and flips using manipulatives		
2. Analyze geometric figures and pictures		
a) Demonstrate symmetry in basic shapes and pictures by paper folding and drawing a line of symmetry		
STANDARD 3: KNOWLEDGE OF MEASUREMENT		

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Students identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools, or technology for determining measurement		
A. Measurement Units		
1. Read measurement units		
a) Read a calendar to identify days of the week and months of the year		
b) Tell time in intervals of hours and half-hours using an analog clock	62	49-1 to 49-3
c) Compare the same time on analog and digital clocks		
d) Read a thermometer to tell temperature to the nearest 10 degrees Fahrenheit		
e) Compare and order objects by weight using a spring scale and a bathroom scale		
B. Measurement Tools		
1. Measure in customary units		
a) Measure length of objects and pictures of objects to the nearest inch using a ruler	61	50-1
b) Identify and compare units of capacity using cups and gallons		
c) Compare and order objects by weight in pounds using a spring scale and a bathroom scale		
d) Describe the attributes of length, weight, and capacity		
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 conducting surveys	63	50-2, 50-3
b) Collect data on tally charts	63	50-2, 50-3
c) Organize and display data to make picture graphs		
d) Organize and display data to make single bar graphs	63	50-2, 50-3
B. Data Analysis		
1. Analyze data		
a) Interpret data contained in tables		
b) Interpret data contained in picture graphs using a variety of categories with 1:1 intervals		
c) Interpret data contained in single bar graphs		
STANDARD 5: KNOWLEDGE OF PROBABILITY		

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Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve random variation		
A. Sample Space		
1. Identify possible outcomes		
a) Recognize that a real life situation may have more than one outcome such as a coin having heads or tails		
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) Use concrete materials to compose and decompose quantities up to 20	1, 30	1-1, 7-1, 8-1
b) Identify multiple representations for a number, such as: 12, 6 + 6, dozen	1, 30	1-1, 7-1, 8-1
c) Demonstrate instant recognition of quantities in patterned sets	37	4-1, 31-1
d) Use the numbers of 5 and 10 as anchors in relationship to other numbers	35, 37	4-1, 31-1
e) Read, write, and represent whole numbers up to 100 and beyond using models, symbols, and words		
f) Express whole numbers up to 99 using expanded form	38	4-2
g) Identify the place value of a digit in a whole number up to 99	29, 39	4-3
h) Compare and order whole numbers up to 99 using terms such as: greater than, less than, equal to	2-5, 31	2-1, 3-1, 10-1, 11-1, 12-1
i) Estimate quantities up to 50 and use the term "about"		
j) Count to 100	1, 25, 32, 33	1-1, 7-1, 8-1, 9-2
k) Count forward and backward starting with numbers other than	3, 26, 34	6-1, 6-2
l) Use ordinal numbers to indicate position: first through tenth	7	13-1
2. Apply knowledge of fractions		
a) Read, write, and represent fractions as parts of a single region using symbols and models with denominators of 2 or 4	69	41-1, 42-1
b) Read, write, and represent halves as parts of a set using pictures and models	69	41-1, 42-1
3. Apply knowledge of money		
a) Determine the value of a given set of same currency up to \$1	8, 9, 40, 41, 60	46-1, 46-2, 47-1, 48-1
b) Demonstrate monetary value using real or play coins	41	

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c) Compare the value of 2 sets of mixed currency up to \$1.00		
C. Number Computation		
1. Analyze number relations and compute		
a) Develop strategies for addition and subtraction basic facts such as : counting on, counting back, making ten, doubles, and doubles plus one	10-16, 18-21, 23, 24, 27, 28, 43-50, 55-57	15-1, 15-2, 16-1 to 16-3, 17-1, 18-1 to 18-3, 19-1 to 19-3, 20-1, 21-1, 22-1 to 22-3, 25-1 to 25-3
b) Solve a given word problem based on addition or subtraction situation	43, 46, 51-54, 58, 59	20-1, 22-1 to 22-3, 27-1, 28-1, 28-2, 29-1
c) identify the concept of inverse operation to addition and subtraction	22	
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		
Apply a variety of concepts, processes, and skills to solve problems		
1. Identify the question in the problem		
a) Decide if enough information is present to solve the problem	10, 11, 17, 51-55	15-1, 27-1, 28-1, 29-1
b) Make a plan to solve a problem	10, 11, 17, 51-55	15-1, 27-1, 28-1, 29-1
c) Apply a strategy, i.e., draw a picture, guess and check, finding a pattern, writing an equation	10, 11, 17, 51-55	15-1, 27-1, 28-1, 29-1
d) Select a strategy, i.e., draw a picture, guess and check, finding a pattern, writing an equation	10, 11, 17, 51-55	15-1, 27-1, 28-1, 29-1
e) Identify alternative ways to solve a problem	10, 11, 17, 51-55	15-1, 27-1, 28-1, 29-1
f) Show that a problem might have multiple solutions or no solution		
g) Extend the solution of a problem to a new problem situation		
h)		
B. REASONING		
Justify ideas or solutions with mathematical concepts or proofs		
1. Use inductive or deductive reasoning		
a) Make or test generalizations		
b) Support or refute mathematical statements or solutions		
c) Use methods of proof, i.e., direct, indirect, paragraph, or contradiction		

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