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MARYLAND MATHEMATICS STATE CURRICULUM CORRELATED TO *MOVING WITH MATH®* MATH-BY-TOPIC LEVEL C GRADE 5

		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 and functions**		
a)	Interpret and write a rule for a one-operation (+, -, x, ÷ with no remainders) function table •**Assessment limit:** Use whole numbers or decimals with no more than 2 decimal places (0 - 1000)	**CI:** 72	
b)	Create a one-operation (, ÷ with no remainders) function table to solve a real world problem	**CI:** 72	
c)	Complete a one-operation function table •**Assessment limit:** Use whole numbers with +, -,x, ÷ (with no remainders) or use decimals with no more than two decimal places with +, - (0 - 200)	**CI:** 72, 73	
d)	Apply a given two operation rule for a pattern •**Assessment limit:** Use two operations (+, -, x) and whole numbers (0 - 100)	**CI:** 74	
	B. Expressions, Equations, and Inequalities		
1.	**Write and identify expressions**		
a)	Represent unknown quantities with one unknown and one operation (+, -, x, ÷ with no remainders) •**Assessment limit:** Use whole numbers (0 - 00) or money ($0 - $100)	**CI:** 68, 72	45-5
b)	Determine the value of algebraic expressions with one unknown and one-operation •**Assessment limit:** Use +, - with whole numbers (0 - 1000) or x, ÷ (with no remainders) with whole numbers (0 - 100) and the number for the unknown is no more than 9		45-5
c)	Use parenthesis to evaluate a numeric expression.	**CI:** 25, 74	5-2
2.	**Identify, write, solve, and apply equations and inequalities**		

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a)	Represent relationships using the appropriate relational symbols (>, <, =) and one operational symbol (+, -, x, ÷ with no remainders) on either side •**Assessment limit:** Use whole numbers (0 - 400)	**CI:** 11, 68, 72	2-3, 45-5
b)	Find the unknown in an equation use one operation (+, -, x, ÷ with no remainders) •**Assessment limit:** Use whole numbers (0 - 2000)	**CI:** 24, 68	5-1
	C. Numeric and Graphic Representations of Relationships		
1.	**Locate points on a number line and in a coordinate grid**		
a)	Represent decimals and mixed numbers on a number line •**Assessment limit:** Use decimals with no more than two decimal places (0 - 100) or mixed numbers with denominators of 2, 3, 4, 5, 6, 8, or 10 (0-10)	**CII:** 17, 66	14-3
b)	Create a graph in a coordinate plane •**Assessment limit:** Use the first quadrant and ordered pairs of whole numbers (0-50)	**CI:** 73	
	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.	**Analyze the properties of plane geometric figures**		
a)	Identify and describe relationships of lines and line segments in geometric figures or pictures •**Assessment limit:** Use parallel or perpendicular lines and line segments	**CIII:** 6, 8-11, 24	31-1, 32-1, 32-2, 35-2
b)	Identify polygons within a composite figure •**Assessment limit:** Use polygons with no more than 8 sides as part of a composite figures comprised of triangles or quadrilaterals		
c)	Identify and describe the radius and diameter of a circle.	**CIII:** 22, 23	35-1
2.	**Analyze geometric relationships**		
a)	Compare and classify quadrilaterals by length of sides and types of angles (include the angle symbol <ABC) ***Assessment limit:** Use squares, rectangles, rhombi, parallelograms, and trapezoids	**CIII:** 17	34-3
b)	Compare triangles by sides	**CIII:** 15	34-2
	B. Solid Geometric Figures		
1.	**Analyze the properties of solid geometric figures**		

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a)	Identify and classify pyramids and prisms by the number of edges, faces, or vertices •**Assessment limit:** Use triangular pyramids, rectangular pyramids, triangular prisms, or rectangular prisms	**CIII:** 20, 21	34-5
b)	Identify and classify pyramids and prisms by the base •**Assessment limit:** Use triangular prisms and pyramids or rectangular prisms and pyramids	**CIII:** 20, 21	34-5
2.	**Analyze the relationship between plane geometric figures and faces of solid geometric figures**		
a)	Compare a plane figure to faces of solid geometric figure •**Assessment limit:** Analyze and identify the number or arrangement of rectangles needed to make a rectangular prism, number of triangles/rectangles needed to make a triangular prism, and the number of circles/rectangles needed to make a cylinder	**CIII:** 20, 21	34-5
	C. Representation of Geometric Figures		
1.	**Represent plane geometric figures**		
a)	Identify, describe, and draw angles, parallel line segments, and perpendicular line segments •**Assessment limit:** Provide their dimensions as whole numbers or angle measurements	**CIII:** 7, 10, 11, 13	31-1, 31-2, 32-1, 32-2, 33-1, 37-1
	D. Congruence and Similarity		
1.	**Analyze similar figures to**		
a)	Identify or describe geometric figures as similar •**Assessment limit:** Use same shape and different size		
	E. Transformations		
1.	**Analyze a transformation**		
a)	Identify and describe the results of translations, reflections, and rotations of geometric figures •**Assessment limit:** Use translation along a vertical line, reflection over a horizontal line, or rotation 90 degrees or 180 degrees around a given point		
	STANDARD 3: KNOWLEDGE OF MEASUREMENT		
	Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.		
	A. Measurement Units		
1.	**Read customary and metric measurement units**		
a)	Estimate and determine weight or mass •**Assessment limit:** Use the nearest ounce for weight and the nearest gram for mass	**CIII:** 54, 55	41-1, 41-2

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b)	Estimate and determine capacity •**Assessment limit:** Use the nearest ounce	**CIII:** 56, 57	42-1, 42-2
	B. Measurement Tools		
1.	**Measure in customary and metric units**		
a)	Select and use appropriate tools and units •**Assessment limit:** Measure length to 1/8 inch with a ruler	**CIII:** 28-32, 34	36-1 to 36-5, 42-3
2.	**Measure angles**		
a)	Measure a single angle and angles in regular polygons •**Assessment limit:** Measure an angle between 0 and 180 to the nearest degree	**CIII:** 36, 38	37-1, 37-2
	C. Applications in Measurement		
1.	**Estimate and apply measurement formulas**		
a)	Determine perimeter •**Assessment limit:** Use polygons with no more than 8 sides and whole numbers (0-500)	**CIII:** 39, 40, 45	38-1, 38-2, 38-6
b)	Determine area •**Assessment limit:** Use rectangles and whole numbers (0-200)	**CIII:** 41-46	38-3, 38-4, 38-6
c)	Find the area and perimeter of any closed figure on a grid •**Assessment limit:** Use whole and partial units (0-50)	**CIII:** 42, 45	38-5
d)	Estimate and determine volume by counting	**CIII:** 47, 48	39-1, 39-2, 39-3
2.	**Calculate equivalent measurements**		
a)	Determine start, elapsed, and end time •**Assessment limit:** Use the nearest minute	**CIII:** 53	
b)	Determine equivalent units of measurement •**Assessment limit:** Use seconds, minutes, and hours or pints, quarts, and gallons	**CIII:** 56	40-2, 42-1
	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 conducting surveys to answer a question	**CI:** 59	47-1, 47-3
b)	Organize and display data in stem-and-leaf plots •**Assessment limit:** Use no more than 20 data points and whole numbers (0-100)		
c)	Organize and display data in line plots •**Assessment limit:** Use no more than 20 pieces of data with a range of no more than 20 and whole numbers (0-200)		

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d)	Organize and display data in double bar graphs •**Assessment limit:** Use no more than 4 categories and intervals of 1, 2, 5 or 10 and whole numbers (0-100)		
e)	Organize and display data in line graphs •**Assessment limit:** Use y-axis with intervals of 1, 2, 4, 5 or 10 and x-axis with no more than 10 time intervals and whole numbers (0-100)	**CIII:** 66, 67, 70	48-1
f)	Determine the appropriate type of graph to effectively display data		
	B. Data Analysis		
1.	**Analyze data**		
a)	Interpret and compare data in stem-and-leaf plot •**Assessment limit:** Use no more than 20 data points and whole numbers (0-100)		
b)	Interpret and compare data in line plots •**Assessment limit:** Use no more than 20 pieces of data with a range of no more than 20 and whole numbers (0-100)		
c)	Interpret and compare data in double bar graphs •**Assessment limit:** Use no more than 4 categories and intervals of 1, 2, 5, or 10 and whole numbers (0-1000)		
d)	Interpret and compare data in double line graphs •**Assessment limit:** Use y-axis with intervals of 1, 2, 5, or 10 and x-axis with no more than 10 time intervals and whole numbers (0-100)		
e)	Read circle graphs •**Assessment limit:** Use no more than 4 categories and data in whole numbers or percents which are multiples of 5 and whole numbers (0-100)	**CIII:** 68, 69	48-2
2.	**Describe a set of data (mean, median, mode)**		
a)	Determine the mean of a given data set or data display •**Assessment limit:** Use no more than 8 pieces of data and whole numbers without remainders (0-1000)	**CI:** 58	46-1, 46-2
b)	Apply the range and measures of central tendency to solve a problem or answer a question		
	STANDARD 5: KNOWLEDGE OF PROBABILITY		
	Students will use experimental methods or theoretical reasoning to determine probabilities to make predictions or solve problems about events whose outcomes involve a random variation		
	A. Sample Space		
1.	**Identify possible outcomes**		

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a)	Determine possible outcomes of independent events •**Assessment limit:** Use two independent events with no more than 4 outcomes each and an organized list or tree diagram		47-4
	B. Theoretical Probability		
1.	Determine the probability of one simple event comprised of equally likely outcomes		47-4
a)	Make predictions and express the probability as a fraction •**Assessment limit:** Use a sample space of no more than 20 outcomes		47-4
	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 fractions, decimals, and place value**		
a)	Read, write, and represent fractions or mixed numbers using symbols, models, and words •**Assessment limit:** Use denominators that are factors of 24 and number (0-200)	**CII:** 4, 5, 13	11-1 to 11-4
b)	Read, write, and represent decimals using symbols, words, or models •**Assessment limit:** Use no more than 3 decimal places (0-100)	**CII:** 64, 65, 67-71	21-1 to 21-3, 22-1, 22-2, 23-1 to 23-3
c)	Identify and determine equivalent forms of proper fractions •**Assessment limit:** Use denominators that are factors of 100, decimals, or percents (0-200)	**CII:** 18-21, 23-26	12-1 to 12-4
d)	Compare and order fractions with or without using the symbols (<, >, or =) •**Assessment limit:** Use no more than 4 factions or mixed numbers with denominators that are factors of 100 and numbers (0-100)	**CII:** 16, 28	13-1, 13-2
e)	Compare, order, and describe decimals with or without using the symbols (<, >, or =) •**Assessment limit:** Use no more than 4 decimals with no more than 3 decimal places and numbers (0-100)	**CII:** 72-74	24-1, 24-2
	B. Number Theory		
1.	**Apply number relationships**		
a)	Identify or describe numbers as prime or composite •**Assessment limit:** Use whole numbers (0-100)	**CI:** 18	4-1, 4-2

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b)	Identify and use rules of divisibility •**Assessment limit:** Use rules for 2, 3, 5, 9, or 10 and whole numbers (0-10,000)	**CI:** 19	
c)	Identify the greatest common factor •**Assessment limit:** Use 2 numbers whose GCF is no more than 10 and whole numbers (0-100)	**CI:** 17 **CII:** 22	12-5
d)	Identify a common multiple and the least common multiple •**Assessment limit:** Use no more than 4 single digit whole numbers	**CI:** 42 **CII:** 41	13-3, 17-4
	C. Number computation		
1.	**Analyze number relations and compute**		
a)	Multiply whole numbers •**Assessment limit:** Use a 3-digit factor by another factor with no more than 2-digits and whole numbers (0-10,000)	**CI:** 43-50	8-1 to 8-5
b)	Divide whole numbers •**Assessment limit:** use a dividend with no more than 4-digits by a 2-digit divisor and whole numbers (0-9,999)	**CI**: 55-57	9-1 to 9-4, 10-1 to 10-8
c)	Interpret quotients and remainders mathematically and in the context of a problem •**Assessment limit:** Use dividend with no more than a 3-diits by a 1 or 2-digit divisor and whole numbers (0-000)	**CI:** 52, 67	9-1
d)	Add and subtract proper fractions and mixed numbers with answers in simplest form •**Assessment limit:** Use denominators as factors of 24 and numbers (0-20)	**CII:** 30-39, 42-45	15-1 to 15-5, 16-1 to 16-4, 17-1 to 17-3, 18-1, 18-2
e)	Add decimals including money •**Assessment limit:** Use no more than 4 addends and no more than 3 decimal places in each addend and numbers (0-1000)	**CII**: 77, 79	26-1, 26-3
f)	Subtract decimals including money •**Assessment limit:** Use no more than 4 addends and no more than 3 decimal places in each addend and numbers (0-1000)	**CII:** 78, 79	26-2, 26-3
g)	Multiply decimals •**Assessment limit:** Use a minuend and subtrahend with no more than 3 decimal places and numbers •**Assessment limit:** Use a decimal in monetary notation by a single digit whole number and numbers (0-100)	**CII:** 81-86	27-1, 27-2, 27-3
h)	Divide decimals by whole numbers	**CII:** 87, 88, 91, 93, 94	28-1
2.	**Estimation**		

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a)	Determine the approximate sum and difference of decimals •**Assessment limit:** Use no more than 3 addends with no more than 3 decimal places in each addend or the difference of a minuend and subtrahend with no more than 3 decimal places and numbers (0-1000)	**CII**: 80	
b)	Determine approximate product and quotient of whole numbers •**Assessment limit:** Use a 1-digit factor with the other factor having no more than 3 digits or a dividend having no more than 3 digits and a 1-digit divisor and whole numbers (0-5000)	**CI:** 51, 62	50-1 to 50-4
c)	Determine the approximate product of decimals •**Assessment limit:** Use a decimal in monetary notation and a single digit with whole numbers (0-100)	**CII**: 92	
	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	**CI:** 39-41, 68-71, 75, 76 **CII:** 56-58, 80 **CIII:** 60	45-1 to 45-13
b)	Decide if enough information is present to solve the problem	**CI:** 39-41, 68-71, 75, 76 **CII:** 56-58, 80 **CIII:** 60	45-1 to 45-13
c)	Make a plan to solve a problem	**CI:** 39-41, 68-71, 75, 76 **CII:** 56-58, 80 **CIII:** 60	45-1 to 45-13
d)	Apply a strategy, i.e., draw a picture, guess and check, finding a pattern, writing an equation	**CI:** 39-41, 68-71, 75, 76 **CII:** 56-58, 80 **CIII:** 60	45-1 to 45-13
e)	Select a strategy, i.e., draw a picture, guess and check, finding a pattern, writing an equation	**CI:** 39-41, 68-71, 75, 76 **CII:** 56-58, 80 **CIII:** 60	45-1 to 45-13

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f)	Identify alternative ways to solve a problem	**CI:** 39-41, 68-71, 75, 76 **CII:** 56-58, 80 **CIII:** 60	45-1 to 45-13
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		
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		
	C. 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	**CII:** 51, 90 **CIII:** 60, 64	45-2 to 45-13
d)	Use the relationship among mathematical concepts to learn other mathematical concepts		

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	CI: *Numeration, Whole Numbers*		
	CII: *Fractions, Decimals, Percent*		
	CIII: *Geometry, Measurement*		