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Correlation of *Moving with Math® Math-by-Topic* Grade 8 To Wisconsin Model Academic Standards

By the end of grade eighth, students will:

		Student Book	Skill Builders
A.8.1	Use reasoning abilities to		
	• evaluate information	DI: 9	
	• perceive patterns	DI: 4, 32, 33	
	• identify relationships	DI: 4, 12	
	• formulate questions for further exploration		47-2
	• evaluate strategies	DI: 52, 59, 61	
	• justify statements	DI: 11	
	• test reasonableness of results	DI: 5, 7, 45, 59, 60	
	• defend work	DI: 5, 7, 43	
A.8.2	Communicate logical arguments clearly to show why a result makes sense	DV: 18-20, 26, 27, 31, 32, 35, 36	
A.8.3	Analyze non-routine problems by modeling, illustrating, guessing, simplifying, generalizing, shifting to another point of view, etc.	DV: 76	
A.8.4	Develop effective oral and written presentations that include		
	• appropriate use of technology		
	• the conventions of mathematical discourse (e.g., symbols, definitions, labeled drawing)	Throughout	
	• mathematical language	Vocabulary words are part of the lesson plans	
	• clear organization of ideas and procedures	Journal writings	

		Student Book	Skill Builders
•	understanding of purpose and audience		
A.8.5	Explain mathematical concepts, procedures, and ideas to others who may not be familiar with them	Cooperative group lessons	
A.8.6	Read and understand mathematical texts and other instructional materials and recognize mathematical ideas as they appear in other contexts	Social studies word problems	
B.8.1	Read, represent, and interpret various rational numbers (whole numbers, integers, decimals, fractions, and percents) with verbal descriptions, geometric models, and mathematical notation (e.g., expanded, scientific, exponential)	DI: 20, 21, 28-31, 34-36 DII: 4, 10-12, 55, 57, 58 DIII: 4, 5, 7, 62 DIV: 31, 32 DV: 5-7, 11, 12	6-1, 6-2, 25-1, 25-2, 57-1 to 57-3
B.8.2	Perform and explain operations on rational numbers (add, subtract, multiply, divide, raise to a power, extract a root, take opposites and reciprocals, determine absolute value)	DI: 28-31, 34, 36, 41-64, 66-70 DII: 7, 8, 15, 17, 21, 23, 24, 32, 34-50, 79-102 DIII: 34-70 DIV: 31-34 DV: 17-22, 24-38, 57, 58, 61-66	1-1, 2-1, 6-2, 7-1, 7-2, 8-1, 8-2, 9-1, 9-2, 10-1 to 10-3, 12-4 to 12-6, 13-1 to 13-4, 14-1 to 14-3, 15-1, 16-1, 16-2, 17-1 to 17-3, 21-1, 21-2, 22-1 to 22-3, 23-1 to 23-4, 24-1, 24-2, 27-1 to 27-3, 28-1, 28-2, 43-1, 43-3 to 43-6, 44-1 to 44-4, 45-1, 45-2, 57-1 to 57-3, 58-1 to 58-5

		Student Book	Skill Builders
B.8.3	Generate and explain equivalencies among fractions, decimals, and percents	DII: 12-14, 16, 22, 23, 25-28, 55, 57, 70-77 DIII: 4, 5, 7-26, 40, 62, 67	11-1 to 11-3, 11-5, 20-1 to 20-3, 25-3, 25-4
B.8.4	Express order relationships among rational numbers using appropriate symbols (>,<)	DI: 24 DII: 5, 6, 29, 33, 56, 65 DV: 8, 9, 13, 68	11-4, 18-4, 48-2
B.8.5	Apply proportional thinking in a variety of problem situations that include, but are not limited to		
	<ul style="list-style-type: none"> ratios and proportions (e.g., rates, scale drawings, similarity) 	DIII: 32-36 DIV: 89-91	46-2, 46-3
	<ul style="list-style-type: none"> percents, including those greater than 100 and less than one (e.g. discounts, rate of increase or decrease, sales tax) 	DIII: 49-60	28-1, 28-2
B.8.6	Model and solve problems involving number-theory concepts such as		
	<ul style="list-style-type: none"> prime and composite numbers 	DI: 16-19	3-1
	<ul style="list-style-type: none"> divisibility and remainders 		10-1, 10-2
	<ul style="list-style-type: none"> greatest common factors 	DII: 14	12-1
	<ul style="list-style-type: none"> least common multiples 	DII: 23, 30, 31	12-2, 12-3
B.8.7	In problem-solving situations, select and use appropriate computational procedures with rational numbers such as		
	<ul style="list-style-type: none"> calculating mentally 	DI: 15	
	<ul style="list-style-type: none"> estimating 	DI: 65-68	44-1 to 44-4
	<ul style="list-style-type: none"> creating, using, and explaining algorithms 	DV: 17-20, 26, 27, 31, 32, 36	
	<ul style="list-style-type: none"> using technology (e.g., scientific calculators, spreadsheets) 		
C.8.1	Describe special and complex two- and three-dimensional figures (e.g., rhombus, polyhedron, cylinder) and their component parts (e.g., base, altitude, and slant height) by		
	<ul style="list-style-type: none"> naming, defining, and giving examples 	DIV: 8, 16-18	29-3, 31-1

		Student Book	Skill Builders
	<ul style="list-style-type: none"> comparing, sorting, and classifying them 	DIV: 9, 14, 15-18	31-3, 31-4
	<ul style="list-style-type: none"> identifying and contrasting their properties (e.g., symmetrical, isosceles, regular) 	DIV: 14, 15	31-2
	<ul style="list-style-type: none"> drawing and constructing physical models to specifications 	DIV: 16	31-1, 32-2
	<ul style="list-style-type: none"> explaining how these figures are related to objects in the environment 	DIV: 9	
C.8.2	Identify and use relationships among the component parts of special and complex two- and three-dimensional figures (e.g., parallel sides, congruent faces)	DIV: 17	29-4
C.8.3	Identify three-dimensional shapes from two-dimensional perspectives and draw two-dimensional sketches of three-dimensional objects preserving their significant features	DIV: 9	29-4, 41-3
C.8.4	Perform transformations on two-dimensional figures and describe and analyze the effects of the transformations on the figures	DIV: 20	32-4
C.8.5	Locate objects using the rectangular coordinate system	DIV: 15, 16	49-1, 49-2
D.8.1	Identify and describe attributes in situations where they are not directly or easily measurable (e.g., distance, area of an irregular figure, likelihood of occurrence)	DIV: 34, 52, 71, 74, 76, 85, 96	39-3, 41-3
D.8.2	Demonstrate understanding of basic measurement facts, principles, and techniques including the following		
	<ul style="list-style-type: none"> approximate comparisons between metric and US Customary units (e.g., a liter and a quart are about the same; a kilometer is about six-tenths of a mile) 		
	<ul style="list-style-type: none"> knowledge that direct measurement produces approximate, not exact, measures 		
	<ul style="list-style-type: none"> the use of smaller units to produce more precise measures 	DIV: 59	36-1

		Student Book	Skill Builders
D.8.3	Determine measurement directly using standard units (metric and US Customary) with these suggested degrees of accuracy		
	<ul style="list-style-type: none"> lengths to the nearest mm or 1/16 of an inch 	DIV: 45, 53	
	<ul style="list-style-type: none"> weight (mass) to the nearest 0.1 g or 0.5 ounce 	DIV T.G.: 58	
	<ul style="list-style-type: none"> liquid capacity to the nearest ml 	DIV T.G.: 57	
	<ul style="list-style-type: none"> angles to the nearest degree 	DIV: 10, 26	
	<ul style="list-style-type: none"> temperature to the nearest C or F 	DIV T.G.: 42	47-2
	<ul style="list-style-type: none"> elapsed time to the nearest second 	DIV T.G.: 40	
D.8.4	Determine measurements indirectly using		
	<ul style="list-style-type: none"> estimation 	DIV: 10, 11, 52-55	30-1, 36-1, 36-2
	<ul style="list-style-type: none"> conversion of units within a system (e.g., quarts to cups, millimeters to centimeters) 	DIV: 46, 54-58, 60-63, 77	35-1, 37-1, 37-2
	<ul style="list-style-type: none"> ratio and proportion (e.g., similarity, scale drawings) 	DIV: 86-91	46-1 to 46-3
	<ul style="list-style-type: none"> geometric formulas to derive lengths, areas, volumes of common figures (e.g., perimeter, circumference, surface area) 	DIV: 65-70, 72-85	38-1 to 38-3, 39-1 to 39-3, 40-1, 40-2, 41-1 to 41-3, 55-1, 55-2, 56-1 to 56-3
	<ul style="list-style-type: none"> the Pythagorean relationship 	DIV: 33, 34	54-2
	<ul style="list-style-type: none"> geometric relationships and properties for angle size (e.g., parallel lines and transversals; sum of angles of a triangle; vertical angles) 	DIV: 12, 13, 23-28	30-1, 33-1, 33-2, 52-1 to 52-3, 53-2
E.8.1	Work with data in the context of real-world situations by		
	<ul style="list-style-type: none"> formulating questions that lead to data collection and analysis 		47-2
	<ul style="list-style-type: none"> designing and conducting a statistical investigation 	DIV: 92-94	
	<ul style="list-style-type: none"> using technology to generate displays, summary statistics, and presentations 		

		Student Book	Skill Builders
E.8.2	Organize and display data from statistical investigations using		
	<ul style="list-style-type: none"> appropriate tables, graphs, and/or charts (e.g., circle, bar or line for multiple sets of data) 		47-1, 47-2
	<ul style="list-style-type: none"> appropriate plots (e.g., line, stem-and-leaf, box, scatter) 		
E.8.3	Extract, interpret, and analyze information from organized and displayed data by using		
	<ul style="list-style-type: none"> frequency and distribution, including mode and range 	DIV: 92	47-1
	<ul style="list-style-type: none"> central tendencies of data (mean and median) 	DIV: 92	47-2
	<ul style="list-style-type: none"> indicators of dispersion (e.g., outliers) 		
E.8.4	Use the results of data analysis to		
	<ul style="list-style-type: none"> make predictions 	DIV: 94	
	<ul style="list-style-type: none"> develop convincing arguments 	DIV: 94	
	<ul style="list-style-type: none"> draw conclusions 	DIV: 93	
E.8.5	Compare several sets of data to generate, test, and, as the data dictate, confirm or deny hypotheses	DIV: 96	
E.8.6	Evaluate presentations and statistical analysis from a variety of sources for		
	<ul style="list-style-type: none"> credibility of the source 		
	<ul style="list-style-type: none"> techniques of collection, organization, and presentation of data 		
	<ul style="list-style-type: none"> missing or incorrect data 		
	<ul style="list-style-type: none"> inferences 		
	<ul style="list-style-type: none"> possible sources of bias 		
E.8.7	Determine the likelihood of occurrence of simple events by		
	<ul style="list-style-type: none"> using a variety of strategies to identify possible outcomes (e.g., lists, tables, tree diagrams) 	DIV: 96, 97	
	<ul style="list-style-type: none"> conducting an experiment 	DIV: 95	
	<ul style="list-style-type: none"> designing and conducting simulations 		
	<ul style="list-style-type: none"> applying theoretical notions of probability (e.g., that four equally likely events have a 25% chance of happening) 	DIV: 95	47-3

		Student Book	Skill Builders
F.8.1	Work with algebraic expressions in a variety of ways, including		
	<ul style="list-style-type: none"> using appropriate symbolism, including exponents and variables 	DI: 28-31 DV: 39-43	
	<ul style="list-style-type: none"> evaluate expressions through numerical substitution 	DV: 63-65	
	<ul style="list-style-type: none"> generating equivalent expressions 	DV: 47, 53	
	<ul style="list-style-type: none"> adding and subtracting expressions 	DV: 43-45	
F.8.2	Work with linear and nonlinear patterns and relationships in a variety of ways, including		
	<ul style="list-style-type: none"> representing them with tables, with graphs, and with algebraic expressions, equations, and inequalities 	DV: 63, 66, 67, 76	
	<ul style="list-style-type: none"> describing and interpreting their graphical representations (e.g., slope, rate of change, intercepts) 		
	<ul style="list-style-type: none"> using them as models of real-world phenomena 		
	<ul style="list-style-type: none"> describing a real-world phenomenon that a given graph might represent 	Conversion of measurements	
F.8.3	Recognize, describe, and analyze functional relationships by generalizing a rule that characterizes the pattern of change among variables. These functional relationships include exponential growth and decay (e.g., cell division, depreciation)		
F.8.4	Use linear equations and inequalities in a variety of ways, including		
	<ul style="list-style-type: none"> writing them to represent problem situations and to express generalizations 	DV: 39-43	50-1
	<ul style="list-style-type: none"> solving them by different methods (e.g., informally, graphically, with formal properties, with technology) 	DV: 46, 48, 50-55, 69	50-2
	<ul style="list-style-type: none"> writing and evaluating formulas (including solving for a specified variable) 	DV: 42, 46, 48, 53	50-1, 59-2
	<ul style="list-style-type: none"> using them to record and describe solution strategies 	DV: 46	
F.8.5	Recognize and use generalized properties and relations, including		

		Student Book	Skill Builders
•	additive and multiplicative property of equations and inequalities	DV: 46,50	
•	commutatively and associatively of addition and multiplication	DI: 10, 11	2-1
•	distributive property	DI: 14, 15 DV: 59	2-3
•	inverse and identities for addition and multiplication	DI: 12, 13	2-2
	SUMMARY: 79/94 = 94%		