



Math Teachers Press, Inc.

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CP 4/06

Wisconsin Model Academic Standards Correlated to Moving with Math® MIDDLE/HIGH (MH) Grade 8

		MH1 <i>Number Sense, Reasoning & Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions & Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent & Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry & Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
	By the end of grade eighth, students will:					
A.8.1	Use reasoning abilities to					
•	evaluate information	77	17	42	11	26
•	perceive patterns	31-33	3, 5	12	23	16, 18
•	identify relationships	61, 74	46	4, 11	7	22, 29
•	formulate questions for further exploration	SB: 45-6		66		
•	evaluate strategies	10	44	6, 33	67	20
•	justify statements	75	11	20		20
•	test reasonableness of results	48	22	31	49	
•	defend work	67	66	20		5
A.8.2	Communicate logical arguments clearly to show why a result makes sense	journal prompts throughout	journal prompts throughout	journal prompts throughout	journal prompts throughout	journal prompts throughout

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A.8.3	Analyze non-routine problems by modeling, illustrating, guessing, simplifying, generalizing, shifting to another point of view, etc.	53, 54 SB: 43-8, 43-9	72	66	17	68
A.8.4	Develop effective oral and written presentations that include	class discussions and group activities throughout	class discussions and group activities throughout	class discussions and group activities throughout	class discussions and group activities throughout	class discussions and group activities throughout
•	appropriate use of technology					
•	the conventions of mathematical discourse (e.g., symbols, definitions, labeled drawing)					
•	mathematical language					
•	clear organization of ideas and procedures					
•	understanding of purpose and audience					
A.8.5	Explain mathematical concepts, procedures, and ideas to others who may not be familiar with them	11	12	4	72	29
A.8.6	Read and understand mathematical texts and other instructional materials and recognize mathematical ideas as they appear in other contexts	throughout	throughout	throughout	throughout	throughout

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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)	6-8, 29, 30 SB: 1-3, 4-2, 57-1	2-6, 42-45, 55 SB: 11-4, 18-1, 18-3	7 SB: 25-4		2, 3, 26, 27 SB: 48-1, 58-8
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)	9, 10, 22, 23, 35-54 SB: 6-1, 7-1, 9-2, 10-1	13-20, 24, 31, 32, 56-65 SB: 12-3, 12-4, 14-1, 17-3, 21-1, 21-2, 22-1	2-5		8-10, 13-24, 28-31 SB: 48-4, 58-1 to 58-7
B.8.3	Generate and explain equivalencies among fractions, decimals, and percents		5, 46, 52, 53 SB: 20-1	6, 8-14 SB: 25-1, 25-3		
B.8.4	Express order relationships among rational numbers using appropriate symbols ($>$, $<$)	3 SB: 4-4	9, 11, 44, 47 SB: 11-2, 18-4			5 SB: 48-2
B.8.5	Apply proportional thinking in a variety of problem situations that include, but are not limited to					
•	ratios and proportions (e.g., rates, scale drawings, similarity)		37, 38, 68, 69 SB: 46-1, 46-2	21-27 SB: 26-2		

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<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) 				35-39, 49-51 SB: 28-5, 43-3		
B.8.6	Model and solve problems involving number-theory concepts such as					
<ul style="list-style-type: none"> prime and composite numbers 		19, 20 SB: 3-1				
<ul style="list-style-type: none"> divisibility and remainders 		SB: 3-4				
<ul style="list-style-type: none"> greatest common factors 			7 SB: 12-1			
<ul style="list-style-type: none"> least common multiples 			10 SB: 12-2			
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 		38	64			
<ul style="list-style-type: none"> estimating 		39, 43 SB: 44-1, 44-2	22, 23, 34	30		
<ul style="list-style-type: none"> creating, using, and explaining algorithms 		36, 37, 40, 41	23, 35	31		
<ul style="list-style-type: none"> using technology (e.g., scientific calculators, spreadsheets) 		15 (T.G.)		33		

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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					
•	naming, defining, and giving examples				9, 10, 36, 37 SB: 31-2, 31-3	
•	comparing, sorting, and classifying them				10, 11, 36	
•	identifying and contrasting their properties (e.g., symmetrical, isosceles, regular)				10, 11, 36 SB: 29-3	
•	drawing and constructing physical models to specifications				9, 37 SB: 32-5	
•	explaining how these figures are related to objects in the environment				2	
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)				11, 37, 38 SB: 62-1	

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C.8.3	Identify three-dimensional shapes from two-dimensional perspectives and draw two-dimensional sketches of three-dimensional objects preserving their significant features			37, 38 SB: 62-2	
C.8.4	Perform transformations on two-dimensional figures and describe and analyze the effects of the transformations on the figures			14 SB: 32-4, 49-1	
C.8.5	Locate objects using the rectangular coordinate system				11, 12 SB: 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)			70 SB: 46-2	
D.8.2	Demonstrate understanding of basic measurement facts, principles, and techniques including the following				
•	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)			46	

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<ul style="list-style-type: none"> knowledge that direct measurement produces approximate, not exact, measures the use of smaller units to produce more precise measures 				44	
<p>D.8.3 Determine measurement directly using standard units (metric and US Customary) with these suggested degrees of accuracy</p> <ul style="list-style-type: none"> lengths to the nearest mm or 1/16 of an inch weight (mass) to the nearest 0.1 g or 0.5 ounce liquid capacity to the nearest ml angles to the nearest degree temperature to the nearest C or F elapsed time to the nearest second 				44	
<p>D.8.4 Determine measurements indirectly using</p> <ul style="list-style-type: none"> estimation conversion of units within a system (e.g., quarts to cups, millimeters to centimeters) 				43, 45 SB: 34-2 54, 55 53 5 42 SB: 34-3 41 SB: 34-1 46 SB: 36-1 47, 48, 53, 55 SB: 37-1	

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	<ul style="list-style-type: none"> ratio and proportion (e.g., similarity, scale drawings) geometric formulas to derive lengths, areas, volumes of common figures (e.g., perimeter, circumference, surface area) the Pythagorean relationship geometric relationships and properties for angle size (e.g., parallel lines and transversals; sum of angles of a triangle; vertical angles) 				26-32 SB: 46-2, 46-3 61-75 SB: 38-1, 40-2, 41-1 34, 35 SB: 54-2 17-23 SB: 33-2, 52-2	
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 designing and conducting a statistical investigation using technology to generate displays, summary statistics, and presentations 	77 (T.G.) SB: 68-4 77 (T.G.) SB: 68-7				
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) 	62 SB: 45-5, 45-6				

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<ul style="list-style-type: none"> appropriate plots (e.g., line, stem-and-leaf, box, scatter) 		71-76 SB: 68-6, 70-1				
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 		56, 57 SB: 45-2, 45-4	76 SB: 45-1			
<ul style="list-style-type: none"> central tendencies of data (mean and median) 		55, 57, 60 SB: 45-2	76 SB: 45-1			
<ul style="list-style-type: none"> indicators of dispersion (e.g., outliers) 		58				
E.8.4	Use the results of data analysis to					
<ul style="list-style-type: none"> make predictions 		SB: 68-4				
<ul style="list-style-type: none"> develop convincing arguments 		SB: 68-4				
<ul style="list-style-type: none"> draw conclusions 		63-68				
E.8.5	Compare several sets of data to generate, test, and, as the data dictate, confirm or deny hypotheses					
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 		77 SB: 67-4				
<ul style="list-style-type: none"> missing or incorrect data 						
<ul style="list-style-type: none"> inferences 						

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		77				
<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) 		78	69, 71 SB: 66-1, 66-2			
<ul style="list-style-type: none"> conducting an experiment 		78	66, 74 SB: 47-6			
<ul style="list-style-type: none"> designing and conducting simulations 		78	66			
<ul style="list-style-type: none"> applying theoretical notions of probability (e.g., that four equally likely events have a 25% chance of happening) 		78 SB: 47-1	61-74 SB: 47-1 to 47-6			
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 		17, 18 SB: 59-3				32-35 SB: 50-1
<ul style="list-style-type: none"> evaluate expressions through numerical substitution 						58, 59 SB: 59-2
<ul style="list-style-type: none"> generating equivalent expressions 						36, 37, 42 SB: 59-3, 59-4, 59-5
<ul style="list-style-type: none"> adding and subtracting expressions 						38 SB: 59-4

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F.8.2	Work with linear and nonlinear patterns and relationships in a variety of ways, including					
•	representing them with tables, with graphs, and with algebraic expressions, equations, and inequalities	61 SB: 42-3, 60-1				61, 62 SB: 60-1
•	describing and interpreting their graphical representations (e.g., slope, rate of change, intercepts)					68, 77
•	using them as models of real-world phenomena					64
•	describing a real-world phenomenon that a given graph might represent	62 SB: 68-1				
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)	61 SB: 42-3, 60-1				60
F.8.4	Use linear equations and inequalities in a variety of ways, including					

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•	writing them to represent problem situations and to express generalizations					35
•	solving them by different methods (e.g., informally, graphically, with formal properties, with technology)					41-45, 54, 55 SB: 50-2, 50-3, 50-5
•	writing and evaluating formulas (including solving for a specified variable)					65, 66 SB: 60-2
•	using them to record and describe solution strategies					65, 66
F.8.5	Recognize and use generalized properties and relations, including					
•	additive and multiplicative property of equations and inequalities					42
•	commutatively and associatively of addition and multiplication	11 SB: 2-1	SB: 2-1			
•	distributive property	12 SB: 2-2				49 SB: 59-5
•	inverse and identities for addition and multiplication	13 SB: 2-3				