Tennessee Mathematics Standards Correlated to Moving with Math Extensions Grade 5

		Student Book	Skill Builders
	STANDARD 1: MATHEMATICAL PROCESSES		
	Grade Level Expectations:		
GLE 0506.1.1	Use mathematical language, symbols, and definitions while developing mathematical reasoning.	1, 9	
GLE 0506.1.2	Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.	26	45-1
GLE 0506.1.3	Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.	journal prompts	
GLE 0506.1.4	Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.	19, 24	
GLE 0506.1.5	Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, setup and solve problems and interpret solutions.	27, 63	
GLE 0506.1.6	Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.	journal prompts	
GLE 0506.1.7	Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.	1, 64	
GLE 0506.1.8	Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.	9, 18	
	Formative/Summative Assessment:		
0506.1.1	Make and test conjectures about geometric properties and develop logical arguments to justify conclusions.	54	
0506.1.2	Make reasonable estimates of fraction and decimal sums or differences using models.		

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0506.1.3	Explore different methods of estimation including rounding and truncating.	4-6, 18	3-1, 3-2
0506.1.4	Explore problems in different contexts to interpret the meaning of remainders as discrete values or not.		
0506.1.5	Solve problems in more than one way and explain why one process may be more effective than another/	26	
0506.1.6	Communicate answers in correct verbal and numerical form; including use of mixed numbers or fractions and use of units.	33, 37	
0506.1.7	Organize and consolidate verbal statements involving fractions and mixed numbers into diagrams, symbols, and numerical expressions.	30, 31	
0506.1.8	Use patterns, models, and relationships as contexts for writing inequalities and simple equations.		
0506.1.9	Use age-appropriate books, stories, and videos to convey ideas of mathematics.	49	
	State Performance Indicators:		
SPI 0506.1.1	Given a series of geometric statements, draw a conclusion about the figure described.	52 (T.G.)	
SPI 0506.1.2	Estimate fraction and decimal sums or differences.		
SPI 0506.1.3	Recognize the unit associated with the remainder in a division problem or the meaning of the fractional part of a whole given in either decimal or fraction form.		
SPI 0506.1.4	Identify missing information and/or too much information in contextual problems.	13	45-3
	STANDARD 2: NUMBER AND OPERATIONS		
	Grade Level Expectations:		
GLE 0506.2.1	Extend the understanding of place value through millions and millionths in various contexts and representations.	1, 2, 42, 43	1-1, 23-1
GLE 0506.2.2	Write natural numbers (to 50) as a product of prime factors and understand that this is unique (apart from order).		
GLE 0506.2.3	Develop fluency with division of whole numbers. Understand the relationship of divisor, dividend, and quotient in terms of multiplication and division.	19	9-1
GLE 0506.2.4	Develop fluency with addition and subtraction of proper and improper fractions and mixed numbers; explain and model the algorithm.	33-38	15-2, 15-3, 16-1, 17-1

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GLE 0506.2.5	Develop fluency in solving multi-step problems using whole numbers, fractions, mixed numbers, and decimals.	49	45-5
	Formative/Summative Assessment:		
0506.2.1	Identify prime numbers up to 50.		4-1
0506.2.2	Use the prime factorization of two whole numbers to determine the greatest common factor and the least common multiple.	36	
0506.2.3	Use visual models, benchmarks, and equivalent forms to add and subtract commonly used fractions and decimals.	33-38	15-1, 17-1, 26-1
0506.2.4	use divisibility rules to factor numbers.		
0506.2.5	Make reasonable estimates of fraction and decimal sums and differences.		
0506.2.6	Add and subtract mixed numbers.	35	
0506.2.7	Understand the placement of the decimal point in calculations of multiplication and long division, including the placement in the estimation of the answer.		
0506.2.8	Understand that division by zero is undefined.	19 (T.G.)	
0506.2.9	Explore numbers less than 0 by extending the number line through familiar applications (e.g., temperatures below zero, owing money, measuring elevation below sea level).		
0506.2.10	Use exponential notation to represent repeated multiplication of whole numbers.		
	State Performance Indicators:		
SPI 0506.2.1	Read and write numbers from millions to millionths in various contexts.	1, 42	22-1
SPI 0506.2.2	Write the prime factorization of numbers through 50 using both exponential and standard notation.		
SPI 0506.2.3	Select a reasonable solution to a real-world division problem in which the remainder must be considered.		
SPI 0506.2.4	Solve problems involving the division of two- and three-digit whole numbers by one- and two-digit whole numbers.	20, 24	9-1, 10-1
SPI 0506.2.5	Solve addition and subtraction problems involving both fractions and decimals.	35, 47	
SPI 0506.2.6	Add and subtract proper and improper fractions as well as mixed numbers.	33-38	15-2, 15-3, 16-1
SPI 0506.2.7	Recognize equivalent representations for the same number.	31	14-1
SPI 0506.2.8	Write terminating decimals in the form of fractions or mixed numbers.	41, 45	25-1

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SPI 0506.2.9	Compare whole numbers, decimals and fractions using the symbols <, >, and =.	3, 32, 44	2-1, 24-1
	STANDARD 3: ALGEBRA		
	Grade Level Expectation:		
GLE 0506.3.1	Understand and use the order of operations.		
GLE 0506.3.2	Develop and apply the concept of variable.		45-5
GLE 0506.3.3	Understand and apply the substitution property.		
GLE 0506.3.4	Solve single-step linear equations and inequalities.		
	Formative/Summative Assessment:		
0506.3.1	Evaluate an expression by substituting non-negative rational number values for letter variables in the expression.		
0506.3.2	Use variables appropriately to represent numbers whose values are not yet known.		45-5
0506.3.3	Solve single-step linear equations using inverse operations.		
0506.3.4	Solve single-step linear inequalities and graph solutions on a number line.		
0506.3.5	Determine if a given value is a solution to a linear equation/inequality.		
0506.3.6	Recognize there are many numbers between any two whole numbers on the number line.		
	State Performance Indicators:		
SPI 0506.3.1	Evaluate algebraic expressions involving decimals and fractions using order of operations.		
SPI 0506.3.2	Evaluate multi-step numerical expressions involving fractions using order of operations.		
SPI 0506.3.3	Find the unknown in single-step equations involving fractions and mixed numbers.		
SPI 0506.3.4	Given a set of values, identify those that make an inequality a true statement.		
	STANDARD 4: GEOMETRY AND MEASUREMENT		
	Grade Level Expectations:		
GLE 0506.4.1	Use basic formulas and visualization to find the area of geometric figures.	58	38-2
GLE 0506.4.2	Describe polyhedral solids and analyze their properties, including volume and surface area.		

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GLE 0506.4.3	Describe length/distance relationships using the first quadrant of the coordinate system.		
GLE 0506.4.4	Solve problems that require attention to both approximation and precision of measurement.		37-1
	Formative/Summative Assessment:		
0506.4.1	Develop the formula for the area of a triangle as it relates to the area of a parallelogram/rectangle.		
0506.4.2	Find the area of a convex polygon by decomposing it into triangles/rectangles.	58	
0506.4.3	Build, draw, and work with prisms by means of orthogonal views, projective views, and nets.		
0506.4.4	Describe and identify the five regular (Platonic) solids and their properties with respect to faces, shapes of faces, edges, and vertices.		
0506.4.5	Quantify total volume as filling space with same-sized units of volume without gaps or overlap.	59	39-1
0506.4.6	Decompose prisms to calculate surface area and volume.		
0506.4.7	Understand, select and use units of appropriate size and type to measure angles, lengths/distances, area, surface area and volume.	55, 56, 59	33-1, 36-1
0506.4.8	Identify characteristics of the set of points that define vertical and horizontal line segments.		
0506.4.9	Correctly interpret significant digits in the accuracy of measurements and associated calculations.		
0506.4.10	Recognize that measurements are never exact.	56	
0506.4.11	Understand the usefulness of approximations.	56	
0506.4.12	Develop strategies for choosing correct tools of measurement.	56	36-1
0506.4.13	Recognize and use measures of weight and temperature.	61	41-1
	State Performance Indicators:		
SPI 0506.4.1	Solve contextual problems that require calculating the area of triangles and parallelograms.		
SPI 0506.4.2	Decompose irregular shapes to find perimeter and area.		
SPI 0506.4.3	Identify a three-dimensional object from two-dimensional representations of that object and vice versa.		
SPI 0506.4.4	Solve problems involving surface area and volume of rectangular prisms and polyhedral solids.	59	

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SPI 0506.4.5	Find the length of vertical or horizontal line segments in the first quadrant of the coordinate system, including problems that require the use of fractions and decimals.		
SPI 0506.4.6	Record measurements in context to reasonable degree of accuracy using decimals and/or fractions.	56	
	STANDARD 5: DATA, PROBABILITY AND STATISTICS		
	Grade Level Expectations:		
GLE 0506.5.1	Make, record, display and interpret data and graphs that include whole numbers, decimals, and fractions.	22	48-1
GLE 0506.5.2	Describe the shape and important features of a set of data using the measures of central tendency.		
	Formative/Summative Assessment:		
0506.5.1	Construct and analyze double bar and line graphs.		48-1
0506.5.2	Represent data using ordered pairs in the first quadrant of the coordinate system.		44-2
0506.5.3	Design investigations to address a question and consider how data collection methods affect the nature of the data set.		
0506.5.4	Recognize the differences in representing categorical and numerical data.		
0506.5.5	Evaluate how different measures of central tendency describe data.		
0506.5.6	Identify outliers and determine their effect on mean, median, mode and range.		
	State Performance Indicators:		
SPI 0506.5.1	Depict data using various representations, including decimal and/or fractional data.	22	
SPI 0506.5.2	Make predictions based on various data representations, including double bar and line graphs.	22	
SPI 0506.5.3	Calculate measures of central tendency to analyze data.	21	46-1, 46-2